

**Republic of Armenia: Report on the Observance of Standards and Codes—
Data Module, Response by the Authorities, and Detailed Assessment Using the
Data Quality Assessment Framework (DQAF)**

This Report on the Observance of Standards and Codes on Data Module for the Republic of Armenia was prepared by a staff team of the International Monetary Fund as background documentation for the periodic consultation with the member country. It is based on the information available at the time it was completed on January 23, 2009. The views expressed in this document are those of the staff team and do not necessarily reflect the views of the government of the Republic of Armenia or the Executive Board of the IMF.

The Response by the Authorities to this report, and the Detailed Assessments Using the Data Quality Assessment Framework (DQAF) are also included.

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REPUBLIC OF ARMENIA

Report on the Observance of Standards and Codes (ROSC)—Data Module

Volume I

Prepared by the Statistics Department

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The Report on the Observance of Standards and Codes (ROSC)—Data Module provides an assessment of the Republic of Armenia's macroeconomic statistics against the Special Data Dissemination Standard (SDDS) complemented by an assessment of data quality based on the IMF's Data Quality Assessment Framework (DQAF) July 2003. The DQAF lays out internationally accepted practices in statistics, ranging from good governance in data-producing agencies to practices specific to datasets.

The datasets covered in this report are national accounts, consumer and producer price indices, government finance, monetary and balance of payments statistics. The agencies that compile the datasets assessed in this report are the Central Bank of Armenia (CBA), the Ministry of Finance and Economy of the Republic of Armenia (MFE), and the National Statistical Service of the Republic of Armenia (NSS).

The datasets to which this report pertains can be accessed in print and on the Internet:

CBA (<http://www.cba.am>)

NSS (<http://www.armstat.am>)

MFE (<http://www.mfe.am>)

This report is based on information provided prior to and during a staff mission from April 14–25, 2008 and publicly available information. The mission team was headed by Mr. Kimberly Zieschang, and comprised Mr. Jose Maria Cartas, Mr. Thomas Elkjaer, Ms. Maria Mantcheva, Ms. Nolvía Saca Saca, Ms. Shelley Winston (all IMF Statistics Department), and Ms. Catherine Braganza (Staff Assistant).

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ACRONYMS

<i>1993 SNA</i>	<i>System of National Accounts 1993</i>
<i>BPM5</i>	<i>Balance of Payments Manual</i> , fifth edition
CBA	Central Bank of Armenia
COICOP	Classification of Individual Consumption by Purpose
CPI	Consumer price index
DQAF	Data Quality Assessment Framework
DSBB	Dissemination Standards Bulletin Board
GDDS	General Data Dissemination System
GDP	Gross domestic product
<i>GFSM 1986</i>	<i>A Manual of Government Finance Statistics</i> , 1986
<i>GFSM 2001</i>	<i>Government Finance Statistics Manual 2001</i>
HBS	Household Budget Survey
<i>MFSM</i>	<i>Monetary and Financial Statistics Manual</i>
MFE	Ministry of Finance and Economy of the Republic of Armenia
NACE	Statistical Classification of Economic Activities in the European Communities
NSS	National Statistical Service of the Republic of Armenia
OKOHX	The All-Union Classification of Branches of the National Economy
PPI	Producer price index
PRODCOM	List of Products of the European Communities
ROSC	Report on the Observance of Standards and Codes
SCS	State Council on Statistics
SDDS	Special Data Dissemination Standard
STA	IMF Statistics Department

I. OVERALL ASSESSMENT

1. Armenia subscribed to the Special Data Dissemination Standard (SDDS) and started posting its metadata on the Dissemination Standards Bulletin Board (DSBB) on November 7, 2003. Armenia is in observance of the SDDS, meeting the specifications for coverage, periodicity, timeliness, and the dissemination of advance release calendars. Appendix I provides an overview of Armenia's dissemination practices compared to the SDDS. Armenia exceeds SDDS requirements for both periodicity and timeliness in releases of data on unemployment, general government operations, analytical accounts of the central bank, merchandise trade, international investment position, and population. Armenia meets periodicity and exceeds timeliness on production index, employment, wages, consumer price index (CPI), producer price index (PPI), and central government operations, analytical accounts of the central bank, and merchandise trade.

2. In applying the IMF's Data Quality Assessment Framework (DQAF), the remainder of this section presents the mission's main conclusions on the quality of the five macroeconomic datasets, using the IMF's Data Quality Assessment Framework (DQAF July 2003). The presentation is done at the level of the DQAF's quality dimensions, by agency for the first two dimensions and across datasets for the remaining four. Section II provides a summary assessment by agency and dataset based on a four-part scale. This is followed by staff recommendations in Section III. This report assesses these datasets against the requirements of the SDDS using the July 2003 version of the DQAF. It is a reassessment of the data module of the Report on the Observance of Standards and Codes (ROSC) for Armenia conducted during August 30 to September 11, 2000 against the recommendations of the General Data Dissemination System (GDDS) on the basis of the prototypical version of the DQAF available in that year. The authorities' response to this report and a volume of detailed assessments are presented in separate documents.

3. The 2000 data ROSC noted that Armenia's data dissemination practices met or, in many cases, exceeded the recommendations of the GDDS. In the interval since the last assessment, Armenia began participation in the GDDS on March 28, 2001, and subscribed to the SDDS in 2003, as noted above. Practices have been strengthened in all dimensions of the July 2003 DQAF. The report contains the following main observations. In general, the statistical agencies comprising Armenia's statistical system show relative strengths in most elements of the Prerequisites of Quality and Assurances of Integrity dimensions of the DQAF. All of the datasets considered showed strengths in concepts and definitions, assessment of source data, assessment and validation of intermediate data and statistical outputs, revision studies, periodicity and timeliness, consistency, revision policy and practice, and assistance to users. It is notable that the government finance statistics show substantial accomplishment in meeting, by 2008, the classification requirements of the *Government Finance Statistics Manual 2001 (GFSM 2001)* for central government. The plans for improvement of the Ministry of Finance and Economy (MFE) envisage further significant progress within the next two years in implementing the *GFSM 2001* classification for local government in 2009 and in accrual recording for all units of general government in 2010. The commendably high cross-dataset consistency of the system means that a few instances of incomplete implementation of concepts in one dataset propagate to the others,

and makes more critical the need for all sector datasets to adhere closely to the most recent international statistical standards.

4. **Prerequisites of quality.** The Armenian data-producing agencies rely on a well-designed legal and institutional framework providing a solid foundation for the datasets assessed in this report. Since the 2000 data ROSC, the *Law On Official Statistics* of 2002, as amended since, clearly positions the National Statistical Service (NSS) as the country's central executive statistical agency. As such, the NSS has the leading role in coordinating the activities of other producers of official statistics, including the MFE and the Central Bank of Armenia (CBA), primarily through a three-year program of statistical development and annual statistical plans that are embedded in the budgetary process as part of a 2004 Government Decree. The NSS is experiencing higher than desirable staff turnover as a result of low compensation levels. Budgeted resources for the MFE and CBA are broadly commensurate with the existing statistical programs for the data categories under review. The Armenian statistical system maintains relevance through wide consultation by the NSS of some 100 major users of statistics in drafting the medium-term and annual statistical programs. User communities also have an established consultative role through the State Council on Statistics (SCS), whose members represent the various fields for which the NSS produces statistics.

5. **Assurances of Integrity.** Professionalism is supported through six-year terms for the NSS President and the SCS, exceeding the five-year term of the President of the Republic, who has appointment authority for these positions. This supports the independence of the NSS from political influence over its technical decisions. Independence of the statistical functions of the MFE and CBA are protected in the *Budget System Law* of 1997 and *Treasury System Law* of 2002, respectively, as well as the 1996 *Law of the Central Bank*. Staff are well qualified and trained. They are exposed to international statistical fora, except the staff compiling balance of payments. The CBA human resource policy is particularly notable. Transparency is assured by public access to the text of legislation governing the statistical system on the NSS, MFE, and CBA websites, a strict simultaneous data-release policy prescribing early releases to officials outside the compiling agencies, and proper attribution of statistics to the responsible agency in all government publications. Ethical standards for the staff are prescribed in the 2002 *Civil Service Law* for the NSS and MFE, and in the CBA's *Code for Employees*.

6. **Methodological Soundness.** All evaluated datasets adhere closely to internationally standard concepts and definitions. Inclusion of one bank headquarters as well as Armenian banks' branches in Karabagh causes the scope of the economic territory used for financial corporations in the monetary statistics to differ from that of the other datasets. This affects not only monetary and financial statistics, but also the government finance, national accounts, and balance of payments statistics. Classification and sectorization follow international guidelines. Exceptions to this are that implementation of the Classification of Products by Activity for the producer price index (PPI) is still in progress and the chart of accounts of local governments will not follow the *GFSM 2001* until 2009. The cash basis for recording of general government transactions differs from the recommended accrual basis, affecting the national accounts, government finance, and balance of payments aggregates. General government statistics on an accrual basis are planned for 2010.

7. **Accuracy and Reliability.** Source data meet the requirements of statistical outputs for all datasets except national accounts, which use some sources compiled cumulatively through the year, rather than discretely, period by period. There also is insufficient coverage in the balance of payments sources on financial assets issued by non residents and held by residents, both domestically and abroad. All agencies follow good practice in assessing source data for measurement and compilation errors. Statistical techniques follow good international practice, except for the national accounts, CPI, and balance of payments. The statistical techniques used in the national accounts for owner-occupied housing, consumption of fixed capital, agricultural work in progress, and volume of net exports could be improved. CPI techniques for estimating prices and weights for the housing expenditures of owner occupants need improvement. Balance of payments uses out of date c.i.f./f.o.b. factors for merchandise trade. Assessment and validation of intermediate data and statistical outputs and use of revision studies to inform data source development, statistical techniques, and compilation methods meet requirements for all datasets except there are no revision studies for government finance statistics.

8. **Serviceability.** Periodicity and timeliness meet or exceed SDDS requirements for all datasets. Datasets are generally consistent internally, over time, and between institutional sectors. All datasets have a well-defined and consistently implemented revision policy, except balance of payments statistics, where only a brief explanation of revisions is provided.

9. **Accessibility.** Data disseminated in Armenian use formats, including well-labeled tables and charts, that facilitate interpretation. Although users broadly considered the CBA website easy to navigate and as having adequate content, the existing NSS site was seen as difficult to search. NSS was testing a substantially improved website at the time of the data ROSC, however. Metadata accessibility was considered adequate on all websites, with the exception of balance of payments on the NSS website, where metadata were considered insufficiently comprehensive. All agencies do a good job of assisting users across all of the evaluated datasets.

II. ASSESSMENT BY AGENCY AND DATASET

10. Assessment of the quality of six macroeconomic datasets—national accounts, CPI, PPI, government finance, monetary, and balance of payments statistics—were conducted using the DQAF, July 2003 version. In this section, the results are presented at the level of the DQAF elements and using a four-point rating scale (Table 1). Assessments of the prerequisites of data quality and the assurances of integrity (Dimensions “0” and “1” of the DQAF) are presented in Tables 2a–c. For each dataset, the assessment of methodological soundness, accuracy and reliability, serviceability, and accessibility (Dimensions “2” to “5” of the DQAF) are shown in Tables 3a–f.

Table 1. Armenia: Data Quality Assessment Framework (July 2003)—Summary Results

Key to symbols: O = Practice Observed; LO = Practice Largely Observed; LNO = Practice Largely Not Observed; NO = Practice Not Observed; NA = Not Applicable

Dimensions/Elements \ Datasets	National Accounts	Consumer Price Index	Producer Price Index	Government Finance Statistics	Monetary Statistics	Balance of Payments Statistics
0. Prerequisites of quality						
0.1 Legal and institutional environment	O	O	O	O	O	O
0.2 Resources	LO	LO	LO	O	O	LO
0.3 Relevance	O	O	O	LO	O	O
0.4 Other quality management	O	O	O	O	O	O
1. Assurances of integrity						
1.1 Professionalism	O	O	O	O	O	O
1.2 Transparency	O	O	O	O	O	O
1.3 Ethical standards	O	O	O	O	O	O
2. Methodological soundness						
2.1 Concepts and definitions	O	O	O	O	O	O
2.2 Scope	LO	O	O	LO	LO	LO
2.3 Classification/sectorization	O	O	LO	LO	O	O
2.4 Basis for recording	LO	O	O	LO	O	O
3. Accuracy and reliability						
3.1 Source data	LO	O	O	O	O	LO
3.2 Assessment of source data	O	O	O	O	O	O
3.3 Statistical techniques	LO	LO	O	O	O	LO
3.4 Assessment and validation of intermediate data and statistical outputs	O	O	O	O	O	O
3.5 Revision studies	O	O	O	LO	O	O
4. Serviceability						
4.1 Periodicity and timeliness	O	O	O	O	O	O
4.2 Consistency	O	O	O	O	O	O
4.3 Revision policy and practice	O	O	O	O	O	LO
5. Accessibility						
5.1 Data accessibility	LO	O	O	LO	O	LO
5.2 Metadata accessibility	O	O	O	O	O	LO
5.3 Assistance to users	O	O	O	O	O	O

Practice observed: Current practices generally meet or achieve the objectives of DQAF internationally accepted statistical practices without any significant deficiencies. **Practice largely observed:** Some departures, but these are not seen as sufficient to raise doubts about the authorities' ability to observe the DQAF practices. **Practice largely not observed:** Significant departures and the authorities will need to take significant action to achieve observance. **Practice not observed:** Most DQAF practices are not met. **Not applicable:** Used only exceptionally when statistical practices do not apply to a country's circumstances.

Table 2a. Armenia: Assessment of Data Quality—Dimensions 0 and 1—National Statistical Service

0. Prerequisites of quality	1. Assurances of integrity
<p>Legal and institutional environment The National Statistical Service (NSS) is responsible for compiling and disseminating national accounts (NA), consumer (CPI) and producer (PPI) price indices, and balance of payments statistics. The compilation and dissemination of these statistics are governed by the terms and conditions of the <i>Law On State Statistics of the Republic of Armenia</i>, which was approved by the National Assembly of the Republic of Armenia on April 4, 2000. This law serves as the legal basis for the organization and order of the NA, CPI, PPI, and balance of payments statistics in Armenia. This law also regulates the relations involving collection, processing, accumulation, summarizing, storing, analysis, and exchange of the mentioned statistics data.</p> <p>Resources The NSS is experiencing higher than desirable staff turnover as a result of low compensation levels, affecting its ability to undertake the current work programs for compiling NA, CPI, PPI, and balance of payments statistics. Balance of payments staff rarely participate in international seminars or courses. Computer hardware does not match data processing needs.</p> <p>Relevance With the aim of studying users’ needs, the state statistical work programs (three-year and annual) are posted on the NSS’s website (at http://www.armstat.am) and are submitted to a selected sample of about 100 users (government, scientific and educational institutions, judicial bodies, banking system, business, nongovernmental and international organizations, and mass media) for comments and recommendations.</p> <p>In accordance with the <i>Law On State Statistics</i>, the annual program includes statistical information on the economic, demographic, social, and environmental situation of Armenia, and is developed based on the study of users’ needs.</p> <p>The Annual Statistical Program takes account of availability of resources, burdens on respondents, cost-effectiveness, and comparability of Armenia’s indicators. The program is based on international standards, periodicity of statistics indicators, and the harmonization with the resources annually allocated to the NSS.</p> <p>Other quality management Internal procedures for ensuring quality, depending on their character, are implemented by several units of the NSS. New reporting forms and instructions are discussed with the Methodology Division and approved by Armenia’s State Council on Statistics (SCS).</p>	<p>Professionalism According to the <i>Law on State Statistics</i>, the NSS is independent from state and local government bodies of Armenia.</p> <p>Article 5 of the <i>Law on State Statistics</i> requires that Armenia’s official statistics be governed by the principles of objectivity, reliability, and integrity. It states that official statistics should observe international methodological standards as well as internationally accepted practices on accessibility and dissemination of statistical data. Article 9 states that the choice of the President of the NSS must be a citizen of Armenia and cannot be appointed simultaneously to any other position in the public or private sector, or accept other paid work besides scientific, pedagogical and creative. The President’s tenure may be shortened only by (1) his (her) resignation, (2) discontinuing his (her) citizenship of Armenia, (3) being rendered incapable or of diminished capacity to perform his (her) duties by a court decision or conviction, or (4) his (her) death. The President of the Service nominates his (her) deputies for appointment by the SCS.</p> <p>Professionalism is actively encouraged for all staff, including those producing NA, CPI, PPI, and balance of payments.</p> <p>Transparency The <i>Law on Statistics</i> is available on the website of the NSS. In addition, the data collection instruments refer to the law and advise respondents about their rights and responsibilities under the law.</p> <p>There is no internal access to the statistics prior to their release. The products of the NSS are clearly identified by name. When the NSS conducts exercises with other government agencies, the NSS is clearly identified as a contributor.</p> <p>In addition to agency’s work plans, the NSS provides advance notice of changes in methodology, source data, and statistical techniques.</p> <p>Ethical standards Staff behavior is guided by the Law on Civil Service and the Resolution of the Civil Service Board from 2002.</p>

Table 2b. Armenia: Assessment of Data Quality—Dimensions 0 and 1—Ministry of Finance and Economy

0. Prerequisites of quality	1. Assurances of integrity
<p>Legal and institutional environment The government finance statistics (GFS) data are compiled by the Ministry of Finance and Economy (MFE) and disseminated by the National Statistical Service (NSS). The compilation and dissemination of the data are governed by the terms and conditions of the <i>Budget System Law</i> that specifies accounting procedures and reporting requirements for all government units. The law requires the Minister of Finance and Economy to prepare a final statement of accounts to be presented to the Parliament before May 1 of the following year. Coordination is assured among producing agencies by the Government Decree N1354-N of August 19, 2004, which defines types of data and provision deadlines among the MFE, the NSS, and the Central Bank of Armenia (CBA).</p> <p>Resources Within the structure of the MFE, ten civil servants of the Treasury are responsible for compilation and processing of GFS data, using the Treasury Integrated Electronic Information System; five civil servants are responsible for the migration to the <i>Government Finance Statistics Manual 2001 (GFSM 2001)</i> methodology action plan; and four civil servants of the Cash Flow Management Unit are responsible for dissemination of the data. There are at least 10 staff who are well trained in GFS concepts and practices. In addition there are about 100 staff that have received internal training of GFS methodology. All staff have university degrees in economics and statistics, including Master and Ph.D degrees. Computer hardware and software are adequate.</p> <p>Relevance Users are mainly policymakers. GFS appears to be an integral part of the budget process and are used by the authorities. There is no facility for users to provide feedback to GFS compilers on perceived problems with the quality or usefulness of published data.</p> <p>Other quality management Current monitoring of the accounts is done by the MFE (as stated in the <i>Budget System Law</i>), and the audit is carried out by the Supervisory House of the Parliament. According to the <i>Treasury System Law</i> (Article 18), the Treasury evaluates the accuracy of information provided by the State agencies. Internal procedures for ensuring quality are also in place. Order Decree No. 5N by the MFE and the amendment to the <i>Budget System Law</i> state that the State budget (central government) and the local governments must migrate to <i>GFSM 2001</i>.</p>	<p>Professionalism The “Republic of Armenia 2002 Civil Service Law” supports professional independence and states clearly the importance of professional independence in carrying out statistical functions.</p> <p>Transparency The <i>Budget System Law</i> (in Armenian), the state budget, and report on budgetary execution after Parliamentary approval are published in the <i>Official Bulletin</i>, as well as posted on the MFE’s website (http://www.mfe.gov.am/). Release is simultaneous to all users, without circulation prior to release.</p> <p>Ethical standards Guidelines for the MFE staff behavior are set by the “Republic of Armenia 2002 Civil Service Law” (published in the <i>Official Bulletin of the Republic of Armenia</i>, No. 1 (176), of January 09, 2002); and Resolution of the Republic of Armenia Civil Service Board No. 13-N, “On Approval of the Guidelines for the Civil Servants’ Ethics” of May 31, 2002 (published in the <i>Bulletin of Departmental Regulatory Acts of the Republic of Armenia</i>, No. 18 (104) in August 1, 2002).</p>

Table 2c. Armenia: Assessment of Data Quality—Dimensions 0 and 1—Central Bank of Armenia

0. Prerequisites of quality	1. Assurances of integrity
<p>Legal and institutional environment</p> <p>Provisions for compiling and disseminating monetary statistics by the Central Bank of Armenia (CBA) are included in Article 5 of the Law 69 of 1996 (<i>Law of the Central Bank of the Republic of Armenia</i>). Article 36 of the same law empowers the CBA to define reporting formats, time frames, and enforce penalties and sanctions, if needed. Article 55 of the Law 68 of 1996 (<i>Law on Banks and Banking</i>) deals with the obligation of banks to report data to the CBA, and indicates that the CBA may establish the frequency for the submission of the information. The confidentiality of the personal data provided by the banks to the CBA is protected under Articles 4 and 9 of the Law 80 of 1996 (<i>Law on Bank Secrecy</i>). Sanctions are contemplated in case of breach of confidentiality.</p> <p>Resources</p> <p>Staff and computing resources are adequate to compile and disseminate monetary statistics. All 13 professional staff have a university degree, and three have completed post-graduate studies. Most of them have participated in courses and training programs offered by the IMF and other international organizations. Their salaries are comparable to those in the banking sector, and considerably higher than in other official institutions. Annual work programs at the department, division, and individual levels are used for planning, monitoring, and evaluating resource utilization and outputs.</p> <p>Relevance</p> <p>CBA staff participate regularly in statistical meetings and seminars organized by international and national organizations. Regular consultations take place with other data-producing agencies—National Statistical Service (NSS) and the Ministry of Finance and Economy—to discuss new data requirements. The CBA has also posted on its website a questionnaire requesting feedback from users of monetary statistics. The CBA has set up a Statistical Committee, with the aim to improve the methodology of monetary and financial statistics, and the production and dissemination of statistical publications. In the near future, one staff of the NSS will become a permanent member of this Committee.</p> <p>Other quality management</p> <p>The vision statement of the CBA commits the institution to collecting and processing financial information according to international best practices. Actions to improve data quality are reflected in annual work programs. Furthermore, the CBA has published on its website a <i>Statistical Code of Practice</i>, detailing six dimensions for compiling and disseminating monetary and financial data. New and existing data collection requirements are subject to cost-benefit assessments and periodic reviews.</p>	<p>Professionalism</p> <p>By law, the CBA is independent from the state authorities (Article 1, <i>Law of the Central Bank of the Republic of Armenia</i>), ensuring the professional independence of the CBA staff and that macroeconomic statistics are being compiled following strict technical criteria without outside interference. The human resources policy of the CBA is based on the one of De Nederlandsche Bank, with a salary scale that takes into account working experience, responsibilities, and job performance. Recruitment and promotions are based on relevant skills and expertise in the relevant areas. Professionalism is further promoted through participation in seminars and workshops, training courses, and visits to other central banks. CBA staff is actively involved in organizing seminars and discussion groups within and outside the institution. The Press Office of the CBA monitors media coverage of all its activities, including the dissemination of statistics. If needed, comments and clarifications are provided to the media.</p> <p>Transparency</p> <p>No government officials outside the CBA have access to the published data before their release to the public. Laws and legislative acts related to monetary statistics are available on the CBA’s website. All data compiled by the CBA are clearly identified as CBA’s products, and the CBA publications are recognizable by its name, logo, and insignia. Major changes in the conceptual framework, source data, or statistical techniques are announced in different publications of the CBA. A comprehensive manual on the methodology for compiling monetary statistics, which closely follows the IMF’s <i>Monetary and Financial Statistics Manual</i>, is available on the CBA’s website, together with a detailed appendix tailored to the Armenian financial sector.</p> <p>Ethical standards</p> <p>The CBA’s <i>Code for Employees</i>, available on its intranet, spells out norms of conduct and ethical standards for the staff. The <i>Code</i> is distributed to all employees and seminars are conducted for new staff. Staff who deal with confidential information must sign an agreement preventing them from disclosing confidential information.</p>

Table 3a. Armenia: Assessment of Data Quality—Dimensions 2 to 5—National Accounts

2. Methodological soundness	3. Accuracy and reliability	4. Serviceability	5. Accessibility
<p>Concepts and definitions The national accounts (NA) are compiled in accordance with the <i>System of National Accounts 1993 (1993 SNA)</i>.</p> <p>Scope The National Statistical Service (NSS) compiles and disseminates (i) annual and quarterly GDP at current and constant prices by activity; (ii) annual and quarterly expenditures of GDP at current and constant prices; (iii) components of annual value added by activity at current prices; (iv) a sequence of annual accounts for the total economy and by institutional sectors (up to financial accounts); and (v) annual rest of the world account. The production, economic, and the asset boundary are broadly in accordance with the <i>1993 SNA</i>, with the exception of some nonresident financial sector units that are included in the scope of GDP.</p> <p>Classification/sectorization Institutional units, transactions, and other flows are classified according to the <i>1993 SNA</i>. The activity and the functional classifications are consistent with international standards.</p> <p>Basis for recording Market prices are used for valuation of stocks and flows. Recording is done on an accrual basis, with the exception of government transactions and some rest of the world transactions.</p>	<p>Source data The NA are compiled from comprehensive annual and quarterly data collection programs based on a statistical register, developed and maintained by the NSS. However, some quarterly data are collected on a cumulative rather than discrete basis.</p> <p>Assessment of source data Source data are adequately checked for coverage, sampling, and nonsampling errors.</p> <p>Statistical techniques These are basically sound, with production approach estimates made from sufficiently detailed data of activities, and expenditure estimates made independently. The statistical techniques for owner-occupied dwellings, consumption of fixed capital, work-in-progress in agriculture, and volume measure of net exports do not fully comply with international standards. Constant price estimates for 1999–2006 are compiled in average prices of 1998, and since 2007, in average prices of 2005.</p> <p>Assessment and validation of intermediate data and statistical output Statistical discrepancies in intermediate data are assessed and investigated. The GDP estimates at current and constant prices are balanced through the supply and use framework.</p> <p>Revision studies Studies of revisions are carried out and documented routinely.</p>	<p>Periodicity and timeliness. Periodicity and timeliness of the NA data comply with the prescriptions of the Special Data Dissemination Standard.</p> <p>Consistency The statistical difference between the GDP by activity and by expenditure is shown explicitly. Consistent annual and quarterly time series are available since 1990.</p> <p>Revision policy and practice The revision cycle is disseminated on the website and in the NA publications. Preliminary data are clearly identified. Revised data are disseminated with an analysis explaining the difference with the preliminary data.</p>	<p>Data accessibility Data are disseminated in hardcopy publications and on the website of the NSS. NA data are presented in a clear manner. The release schedule is preannounced. NA are made available to all users at the same time. However, long time series with a fixed reference period are available only on request.</p> <p>Metadata accessibility Detailed metadata on concepts, definitions, and sources are available in hardcopy publications and on the website. The level of details of metadata meets the user requirements.</p> <p>Assistance to users A catalog of publications and information on the contact person for NA is available to the users.</p>

Table 3b. Armenia: Assessment of Data Quality—Dimensions 2 to 5—Consumer Price Index

2. Methodological soundness	3. Accuracy and reliability	4. Serviceability	5. Accessibility
<p>Concepts and definitions Concepts and definitions are broadly in line with the international standards, guidelines, or good practices in the <i>System of National Accounts 1993 (1993 SNA)</i> and the <i>Consumer Price Index Manual (CPI Manual)</i>. Armenia's consumer price index (CPI) is based on the consumption concept.</p> <p>Scope All resident households are included in the CPIs for Armenia as well as Yerevan and ten regions (marzes), one of which includes two towns. Informal activity and the consumption of nonmonetary goods such as own-produced agriculture products and goods provided by employers as income-in-kind are included.</p> <p>Classification/sectorization The CPI is classified according to the Classification of Individual Consumption by Purpose, which conforms to the guidelines of the <i>1993 SNA</i>, the International Labor Organization, and the <i>CPI Manual</i>.</p> <p>Basis for recording The valuation rules used for recording flows and stocks are in accordance with the <i>1993 SNA</i>. Prices are market (purchaser's) prices paid by households (including taxes on products and trade and transportation margins).</p>	<p>Source data The data collection programs employed to compile the CPI are adequate. The household budget surveys (HBS) are collected annually; though the CPI is reweighted every two years.</p> <p>Assessment of source data Prices collected are verified according to established procedures for checking price quotations. The weights emerging from the HBS are assessed against other source data (retail trade, imports, etc).</p> <p>Statistical techniques Prices for temporarily missing and seasonal products for the CPI are estimated using the cluster or cell mean approach. Implicit and/or explicit quality adjustment techniques are conducted for new and noncomparable replacement products. CPI sources and methods do not deal with owner-occupied dwellings except for maintenance and repair expenditures.</p> <p>Assessment and validation of intermediate data and statistical outputs Information about standard errors or coefficients of variation for the CPI surveys is monitored on a regular basis.</p> <p>Revision studies. Studies on the impact of updating weights, outlets, and items studies are disseminated in the National Statistical Service (NSS) annual work plan.</p>	<p>Periodicity and timeliness The CPI is monthly index and disseminated one day after the reference month, respectively meeting and exceeding the Special Data Dissemination Standard (SDDS) periodicity and timeliness requirements.</p> <p>Consistency The CPI aggregation structure is consistent from the cell level to the item level, the item level to the group level, and the group level indices to higher levels of expenditure classes and the all-item level. Additionally, city and regional aggregation is consistent. In addition, aggregated historical time-series data are available from 2003.</p> <p>Revision policy and practice The <i>Law On State Statistics</i>, Article 11, State Statistical Work Program, Annual, provides the revision policy for weight revision, long-term trends, studies of sources of errors, and the explanation of methodology. Documentation and findings in the Annual Program are approved by the State Statistical Council (SCS) and published.</p>	<p>Data accessibility CPI data are widely disseminated in Armenian, Russian and English. The CPI charts and tables are disseminated with long- and short-term data series to facilitate the analysis. Release calendars for statistical publications (data) appear in the Annual Program approved by the SCS. The Armenian version of the Annual Program for 2005 is posted on the NSS website, http://www.armstat.am/arm/Law/SR_06/index.html.</p> <p>An advance release calendar that gives notice of the precise data release dates one quarter in advance is also disseminated on the IMF's Dissemination Standards Bulletin Board (DSBB) (http://dsbb.imf.org).</p> <p>Metadata accessibility Documentation on concepts, scope, classification, data sources, and methods of the CPI are available on the IMF's DSBB. In addition, there are CPI methodological notes in the NSS Statistical Yearbook, which is posted on the NSS website.</p> <p>Assistance to users A contact person is identified in the SDDS metadata, which is linked to the NSS website. Likewise, contact points for the CPI are publicized in official publications.</p>

Table 3c. Armenia: Assessment of Data Quality—Dimensions 2 to 5—Producer Price Index

2. Methodological soundness	3. Accuracy and reliability	4. Serviceability	5. Accessibility
<p>Concepts and definitions The National Statistical Service’s (NSS) key concepts and definitions for the producer price index (PPI) follow the <i>System of National Accounts 1993 (1993 SNA)</i> and <i>Producer Price Index Manual</i>.</p> <p>Scope The PPI covers 11 main branches of industry in total and by activity. Additional PPIs are produced for the agricultural, construction, and freight industries.</p> <p>Classification/sectorization. The PPI’s activity and product classification is the nonstandard All-Union Classification of Branches of the National Economy (OKOHX). However, the NSS is in the advanced stages of reclassifying the PPI according to internationally recommended Statistical Classification of Economic Activities in the European Communities (NACE) industry and Classification of Products by Activities (CPA) product classifications.</p> <p>Basis for recording The timing and valuation rules used for recording flows accord with the <i>1993 SNA</i>. Output in the PPI weights and the corresponding product prices are valued at either basic or producer prices.</p>	<p>Source data The PPI product weights are based on sample surveys selected from a comprehensive and up-to-date business register. The NSS reviews the register to identify new enterprises and products to be included and defunct units to be deleted, as well as to take account of mergers and changes of ownership. Large and medium enterprises are selected into the sample with certainty. Small enterprises are selected with a rotating panel sample design to limit response burden.</p> <p>Assessment of source data Information on sampling and nonsampling errors is monitored on a monthly basis for each survey. Information on weights, price relatives, unit classification, and outliers are routinely checked. The relationships established between the staff of the statistical authorities and the enterprises make nonresponse uncommon. Misclassified units are reclassified and errors in prices are corrected within a one month revision period.</p> <p>Statistical techniques Internationally accepted techniques are used for missing observations. New products are introduced only when the base year is changed.</p> <p>Assessment and validation of intermediate data and statistical outputs PPI data and outputs are routinely assessed.</p> <p>Revision studies. Studies on the impact of updating weights, establishments, and items are disseminated in the NSS annual work plan.</p>	<p>Periodicity and timeliness The PPI is monthly and disseminated one month after the reference month, meeting the Special Data Dissemination Standard (SDDS) periodicity and timeliness requirements.</p> <p>Consistency The PPI series are consistent in aggregation.</p> <p>Revision policy and practice The <i>Law on State Statistics</i>, Article 11, State Statistical Work Program, Annual, establishes a framework for the revision policy for weight revision, long-term trends, studies of sources of errors, and the explanation of methodology. Documentation and findings in the Annual Program are discussed and approved by the SCS and published.</p>	<p>Data accessibility An advance release calendar that gives one quarter advance notice of the precise release dates is disseminated on the IMF’s Dissemination Standards Bulletin Board (DSBB) (http://dsbb.imf.org).</p> <p>Metadata accessibility Short documentation on concepts, scope, classification, data sources, and methods of the PPI is available on the IMF’s DSBB. In addition, there are PPI methodological notes in the NSS Statistical Yearbook, which is posted on the NSS website.</p> <p>Assistance to users A contact person is mentioned in the SDDS metadata, which is linked to the NSS website. Likewise, contact points for the PPI are publicized in official publications.</p>

Table 3d. Armenia: Assessment of Data Quality—Dimensions 2 to 5—Government Finance Statistics

2. Methodological soundness	3. Accuracy and reliability	4. Serviceability	5. Accessibility
<p>Concepts and definitions The analytical aggregates and indicators compiled for the government finance statistics (GFS) are consistent with the <i>System of National Accounts 1993 (1993 SNA)</i> and the <i>Government Finance Statistics Manual 2001 (GFSM 2001)</i>. There is a well defined migration path to full implementation of the <i>GFSM 2001</i> with data for the general government starting in 2010.</p> <p>Scope General government institutional coverage is not fully consistent with the <i>GFSM 2001</i>. The central government includes all units of government that exercise authority over the entire economic territory of Armenia. The ten regions (marzes) have no budgetary autonomy and their operations are included in the central government. The central government also includes extrabudgetary funds. However, operations of the NCO are not included, which constitute a deviation from international standards. Local government units, comprising only municipalities, are consolidated with central government to compile general government statistics.</p> <p>Classification/sectorization The classification system used in the central GFS is broadly consistent with the <i>GFSM 2001</i> beginning in 2008. However, the local government data still are classified according to the <i>A Manual of Government Finance Statistics, 1986 (GFSM 1986)</i>.</p> <p>Basis for recording All government operations are recorded on a cash basis. There are no accrual-adjusted cash data currently available. However, data recorded on an accrual basis are planned for central government in 2009 and for general government in 2010. The treasury records public debt at face value rather than market value.</p>	<p>Source data The primary source of the GFS is the budget management system accounting records maintained by the Treasury. Data on domestic and foreign financing in the GFS are provided by the Central Bank of Armenia (CBA).</p> <p>Assessment of source data Quality controls embedded in the government accounting and reporting system covering the different government units routinely assess reports to ensure the accuracy of source data, including source data on public sector debt.</p> <p>Statistical techniques Consolidated data are presented for the central and general and central government. Preliminary quarterly central government data are subsequently revised to reflect spending financed by the public investment units (PIU) accounts which are subject to delays in reporting information. Quarterly data on external disbursements for execution of the public investment program are adjusted accordingly. Data on local government operations are available in sufficient detail to compile general government data without adjustment.</p> <p>Assessment and validation of intermediate data and statistical outputs Treasury data on domestic bank financing used in the GFS are cross-checked against CBA data.</p> <p>Revision studies Revision studies are not conducted. Revisions are made and analyzed in the process of data compilation.</p>	<p>Periodicity and timeliness Armenia’s fiscal sector data meet or exceed the Special Data Dissemination Standard (SDDS) requirements.</p> <p>Consistency The GFS data are consistent internally, over time, and with other datasets. Changes in the legal status of noncommercial organizations, starting in 2004, have been treated in the fiscal data consistent with their treatment in the national accounts. Data on domestic bank financing in the GFS provided by the central bank are consistent with data obtained from the Treasury accounts. The Ministry of Finance and Economy (MFE) data on public debt (domestic and external) differ from, but are reconcilable with comparable data from the CBA. SDDS metadata explain the difference as arising from face and market valuation in the MFE and CBA sources, respectively.</p> <p>Revision policy and practice The monthly and quarterly data are preliminary when first released and are revised in the following month or quarter. Preliminary and revised data are clearly identified. Notes to the tables contain information on data revisions and on major changes in the methodology.</p>	<p>Data accessibility Advance notice of release dates is provided on the SDDS release calendar, which is linked from the MFE website (http://www.mfe.gov.am) and are published in the Annual Statistical Program. The data are disseminated simultaneously to all interested parties by posting them on the MFE’s website and through the informational monthly report, <i>Social and Economic Situation of the Republic of Armenia</i>, disseminated by the National Statistical Service (NSS) (http://www.armstat.am/Publications). Data presentation and formats are adequate. Consolidated general government data are not published on the national websites. However, the data are submitted to the IMF for publication in the <i>Government Finance Statistics Yearbook</i>.</p> <p>Metadata accessibility A brief description of the methodology appears in the informational monthly reports, <i>Social and Economic Situation of the Republic of Armenia</i>, in the publication, <i>Statistical Yearbook of Armenia</i>, and more detailed descriptions are available in ad hoc thematic publications. Moreover, metadata and summary methodologies are available on the IMF’s Dissemination Standards Bulletin Board website.</p> <p>Assistance to users Publications include contact information (names and telephone numbers of the responsible persons).</p>

Table 3e. Armenia: Assessment of Data Quality—Dimensions 2 to 5—Monetary Statistics

2. Methodological soundness	3. Accuracy and reliability	4. Serviceability	5. Accessibility
<p>Concepts and definitions Monetary statistics comply fully with the methodology of the <i>Monetary and Financial Statistics Manual (MFSM)</i>.</p> <p>Scope The depository corporations survey (DCS) covers the Central Bank of Armenia (CBA) and the 22 commercial banks operating as of end-March 2008. The accounts of 22 credit institutions (credit unions), some of which issue liabilities in the form of deposits, will be included in the Other Depository Corporation (ODC) survey starting in May 2008. Credit unions account for around eight percent of the loans and three percent of the deposits of ODCs. The DCS includes the operations of one Karabagh bank and branches of Armenian banks in Karabagh, which is outside the scope of the economic territory used elsewhere in the statistical system.</p> <p>Classification/sectorization The classification and sectorization of financial instruments follows the methodology of the <i>MFSM</i>.</p> <p>Basis for recording Monetary statistics are produced on an accrual basis, consistent with the <i>MFSM</i>. Financial instruments are valued at market prices. Securities held to maturity are recorded at amortized cost using the effective interest rate method. Securities the CBA holds to maturity are valued at the end of the month at market prices. Accounts in foreign currency are converted daily into national currency using the average market exchange rate announced by the CBA. Loans are shown gross, with provisions for loan losses classified as <i>Other accounts payable</i>.</p>	<p>Source data The DCS is based on the consolidated balance sheets of the CBA and ODCs. Banks utilize a uniform chart of accounts, which follows international accounting standards.</p> <p>Assessment of source data Data are transmitted electronically. The CBA source data are reviewed for accuracy by the Statistics and Accounting departments of the CBA, and also by the Internal Audit Department. The ODC source data are double-checked by the Supervision Department. The program for generating monetary statistics contains embedded routines to validate the accuracy of the data. A monitoring system tests the internal consistency of each institution's data and identifies large variations.</p> <p>Statistical techniques Monetary data are based on the balance sheets of the CBA and ODCs, without statistical adjustments.</p> <p>Assessment and validation of intermediate data and statistical outputs ODC source data are verified with data from other reports submitted by the banks. Data are regularly monitored to investigate discrepancies and to ensure accuracy. The CBA's positions with other banks, as well as interbank positions, are checked for consistency. Stock data are checked for consistency with weekly flow data.</p> <p>Revision studies Monetary statistics are not subject to routine revision studies. The public is made aware of these revisions.</p>	<p>Periodicity and timeliness Dissemination of monetary statistics comply fully with the Special Data Dissemination Standard requirements.</p> <p>Consistency Data are disseminated within a balance sheet framework that ensures the basic accounting identities of the monetary survey. Consistent historical data are available since 1995. Monetary data on foreign positions and net credit to government are consistent with balance of payments and fiscal data.</p> <p>Revision policy and practice In principle, data are final when first released. When data are occasionally revised, revisions are explained through footnotes and comments to the tables. Errors in published data are corrected and the figures revised in upcoming statistical publications.</p> <p>Quarterly and annual data of the CBA are preliminary, pending closing entries and the audited report. Provisional data, clearly identified, become final after two months for the quarterly statements, and after three months for the annual statement. Revisions to the methodology, for instance the expansion of the coverage to the credit institutions, are announced in advance and introduced after a waiting period.</p>	<p>Data accessibility Data are presented in an aggregated form with methodological notes. An advance release calendar for monetary data, strictly enforced, is available on the CBA's website and the IMF's Dissemination Standards Bulletin Board (DSBB). Data are posted on the CBA's website—ensuring simultaneous access by all users—and published in the <i>CBA Bulletin</i> in Armenian and English.</p> <p>Metadata accessibility Armenia has posted its monetary metadata on the IMF's DSBB since November 2003. All relevant laws and regulations are posted on the CBA's website. The <i>Manual on Compilation of Monetary and Financial Statistics in Armenia</i> contains detailed metadata for monetary statistics.</p> <p>Assistance to users Information on the contact person for monetary statistics is available on the CBA's website and also on the DSBB. Assistance is provided to users, who can submit queries directly to the contact person or to the Press Office of the CBA. A databank is available to users, where they can request data in Excel format. The CBA's website contains adequate information about electronic and hard copy publications, and the ways to obtain them.</p>

Table 3f. Armenia: Assessment of Data Quality—Dimensions 2 to 5—Balance of Payments Statistics

2. Methodological soundness	3. Accuracy and reliability	4. Serviceability	5. Accessibility
<p>Concepts and definitions The concepts and definitions used for the balance of payments statistics are generally in line with the methodology set out in the IMF's <i>Balance of Payments Manual</i>, fifth edition (<i>BPM5</i>).</p> <p>Scope All transactions between residents and nonresidents are, in principle, covered. The data for the banking sector includes a bank headquartered in Karabagh and branches of Armenian banks located in Karabagh.</p> <p>Classification/sectorization Balance of payments operations are classified in accordance with the requirements of the <i>BPM5</i>.</p> <p>Basis for recording In general, transactions are valued at market prices and converted at exchange rate at the date of the transaction. Stocks are generally recorded at market value or nominal value, where appropriate. Foreign direct investment is recorded at book value. For the banking sector debt securities liabilities are valued at amortized value. Transactions related to investment income, both interest income and dividend, are recorded on a cash basis (at the time of actual payment), except interest income on assets and liabilities for the banking sector.</p>	<p>Source data The main sources are customs, direct reporting, both for the nonfinancial and financial sectors, ministries, the central bank, and household surveys complemented with reports by the banks concerning transfers made/received by the household sector. Net errors and omissions are not systematic in either direction or size over time, suggesting no systematic errors. There are gaps in the coverage of the data for financial assets issued by nonresidents and held by the private nonfinancial sector.</p> <p>Assessment of source data Source data are regularly checked for internal consistency both at the unit record and analytical level.</p> <p>Statistical techniques Statistical sound adjustments are made for coverage, timing, valuation, and classifications, in particular to travel, transportation, transfers, workers' remittances and compensations of employees. The c.i.f./f.o.b. adjustment is outdated.</p> <p>Assessment and validation of intermediate data and statistical outputs There are regular consistency checks between various sources and items. Stocks and flows are reconciled for financial account items.</p> <p>Revision studies There are no strict systematic revision studies, but statistical processes are informed and improved based on revisions feedback.</p>	<p>Periodicity and timeliness Balance of payments data are available quarterly, within one quarter of the end of the reference period. Annual data are available after two quarters of the reference period. Periodicity and timeliness of the balance of payments data follow the Special Data Dissemination Standard.</p> <p>Consistency Statistical series are sufficiently detailed to enable checking that data are internally consistent. Inter-temporal series are consistent. Balance of payments are consistent with other data sets, notable trade statistics, government finance, and monetary statistics.</p> <p>Revision policy and practice The quarterly data for the preceding year are revised in connection with the publication of the annual data. Preliminary and/or revised data are clearly identified, and the revision policy is available to the public. Only a brief explanation of the major revision implemented in 2007 for the period 2004–2006 was published.</p>	<p>Data accessibility Data are disseminated in hardcopy publications and on the National Statistical Service's (NSS) website at the same time and are free of charge. An advance release calendar is available. There is limited text and few graphs to facilitate interpretation of balance of payments/international investment position data.</p> <p>Metadata accessibility Metadata are available in hardcopy publications and on the IMF's Dissemination Standards Bulletin Board. Detailed documentation of methods and sources are not available.</p> <p>Assistance to users CBA answers users' queries and information requests. Contact information is provided in publication and on the NSS's website. A listing of publications and other available materials is posted on the website.</p>

III. STAFF'S RECOMMENDATIONS

11. Based on the review of Armenia's statistical practices, discussions with the data producing agencies, and responses from data users (see Appendix III of the Detailed Assessments volume), the mission has developed a set of recommendations. They are designed to increase further Armenia's adherence to internationally accepted statistical practices and would, in the mission's view, enhance the analytical usefulness of Armenia's statistics. Some additional technical suggestions are included in the Detailed Assessments volume.

Cross-cutting recommendations

- Increase the resources of the NSS to retain qualified staff as well as improve office facilities and computing resources to meet increasing statistical demands.
- For national accounts, government finance, monetary and financial, and balance of payments statistics, exclude data on bank headquarters and branches located in Karabagh.
- International users of statistics would be better served by posting more, and more timely, English content on the NSS and MFE websites.
- Time series with a fixed reference period should be part of the standard set of published tables for national accounts.

National accounts

- Make adjustments to data on general government outlays, taxes, and subsidies to approximate data on an accrual basis.
- Improve the accuracy of the quarterly source data by requesting collection of sub-annual data on a discrete basis for all economic statistics surveys.
- Implement sound statistical techniques to be in accordance with the international guidelines for volume measures of imports and exports, for estimating the consumption of fixed capital and owner-occupied dwellings.

Consumer price index

- Develop an approach to covering household expenditures on owner-occupied dwellings for either consumption (rental value), capital formation (net acquisition cost), or both.

Producer price index

- Continue implementation of the Classification of Products by Activities to classify products in the PPI.

Government finance statistics

- Implement a process for users to provide feedback to the MFE compilers of government finance statistics on perceived problems with the quality or usefulness of data.
- Align the chart of accounts of municipalities and local governments to *GFSM 2001* requirements.
- Include the NCO in the government finance statistics data published on the national websites.
- Produce a financial balance sheet of the general government.
- Follow through on the plan to implement *GFSM* classifications for recording local government transactions by 2009 and accrual recording for central and local government transactions by 2010.
- Use market value, rather than face value, for financial assets other than loans and for nonfinancial assets.

Balance of payments statistics

- Produce balance of payments and international investment position (IIP) statistics for the financial corporations sector that exclude the bank headquarters and branches located in Karabagh from the Armenian economic territory.
- Update c.i.f./f.o.b. factors for international trade in goods.
- Improve source data for financial assets issued by non residents and held by residents both domestically and abroad.
- Along with revised data, provide users of statistics with a more detailed analysis of major revisions due to changes in methods, introduction of additional source data, and adjustments.
- Provide text and graphs to facilitate interpretation of balance of payments/IIP data disseminated in publications.
- Publish more comprehensive metadata on sources, methods, and adjustments.

Appendix I. Armenia: Practices Compared to the SDDS Coverage, Periodicity,
and Timeliness of Data

SDDS Data Category	Coverage (meets SDDS)	Periodicity		Timeliness	
		SDDS	Armenia	SDDS	Armenia
DATA CATEGORIES AND INDICATORS					
Real Sector					
National accounts	Yes	Q	Q	1 Q	1 Q
Production index	Yes	M	M	6 W (<i>1 M</i>)	20 D
Employment	Yes	Q	Q	1 Q	1M
Unemployment	Yes	Q	M	1 Q	20 D
Wages/earnings	Yes	Q	M	1 Q	20 D
Price index: Consumer prices	Yes	M	M	1 M	1 D
Price index: Producer prices	Yes	M	M	1 M	20 D
Fiscal Sector					
General government or public sector operations	Yes	A	Q	2 Q	2 M
Central government operations	Yes	M	M	1 M	1 M
Central government debt	Yes	Q	Q	1 Q	2 M
Financial Sector					
Analytical accounts of the banking sector	Yes	M	M	1 M	1M
Analytical accounts of the central bank	Yes	M (<i>W</i>)	M (<i>D</i>)	2 W (<i>1 W</i>)	1 D
Interest rates	Yes	D	D	1/	D
Stock market: Share price index	NA	D		1/	
External Sector					
Balance of payments	Yes	Q	Q	1 Q	1 Q
Official reserve assets	Yes	M (<i>W</i>)	M	1 W	1 W
Reserves template	Yes	M	M	1 M (<i>1 W</i>)	1 M
Merchandise trade (exports: f.o.b.; imports: f.o.b.)	Yes	M	W	8 W (<i>4-6 W</i>)	3 W
International investment position	Yes	A (<i>Q</i>)	Q	3 Q (<i>1 Q</i>)	1 Q
External debt	Yes	Q	Q	1 Q	1 Q
Exchange rates	Yes	D	D	1/	D
Socio-demographic data					
Population	Yes	A	Q	...	2 M
D = Daily; W = Week(ly); WD = Working days; M = Month(ly); Q = Quarter(ly); A = Annually; NLT = No later than; (...) = not applicable					

Italics indicate recommended or encouraged categories.

1/ Given that the data are broadly disseminated by private means, the timeliness with which official data are disseminated is not critical.

INTERNATIONAL MONETARY FUND

REPUBLIC OF ARMENIA

**Report on the Observance of Standards and Codes (ROSC)—Data Module
Volume II**

Response by the Authorities

January 23, 2009

This document contains the authorities' response to the IMF's data quality assessment (Volumes I and III).

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I. RESPONSE OF THE MINISTRY OF FINANCE OF THE REPUBLIC OF ARMENIA

0.3.1

Recommendation: It is recommended that a facility for users be put in place to provide feedback to GFS compilers (MFE) on perceived problems with GFS quality and/or usefulness for fiscal policy purpose.

All the users of Government Finance Statistics have a possibility on issues raised by them to apply to the body dealing with the collection of government statistics that is the Ministry of Finance, and receive relevant clarifications and explanations, if necessary, additional data on government finance statistics.

2.2.1

Recommendation: NCOs should be included in the consolidated general government statistics published on the national websites.

NCO's transactions by the state participation have already been included in indicators of the state budget (in the Article of the state budget on purchases of expenditures of goods and services), and included by this part in the reports of consolidated budget posted on the official Website of the Ministry of Finance. However, reports submitted to the IMF within the SDDS are also posted on the official Website of the Ministry of Finance, where transactions of NCO's having more than 50 percent of state participation are included as well.

2.3.1

Recommendation: Follow through on the plan to implement GFSM classifications for recording local government transactions by 2009 in order to extend implementation of the GFSM 2001 classifications to the general government by 2010.

2.4.3

Recommendation: Follow through the plan to implement accrual recording of central and local government transactions by 2010.

Recommendations on 2.3.1 and 2.4.3 are programs of the Ministry of Finance, about which the representatives of the Ministry of Finance informed the representatives of the IMF Mission.

5.1.1

Recommendation: Disseminate GFSM 2001-classified general government data on the MFE website, as for example, published at annual frequency in the IMF Government Finance Statistics Yearbook; quarterly data on the same basis should also be disseminated on the MFE website and reported to the IMF for publication in International Financial Statistics.

Annual reports on consolidated budget since 2004 are already posted on the Website of the Ministry of Finance (including NCO's and excluding them).

3.5 Revision studies. As regards the revisions of government statistics, for example, reports on state budget before the presentation to the National Assembly are the subject of double checking by the electronic system of formulation of treasury system transactions and by reports submitted to the Ministry of Finance by different bodies, data are corrected and revised, therefore the report on implementation of the state budget presented to the National Assembly is the already revised and checked version.

5.1 As regards the data accessibility, it should be mentioned that the consolidated budget is posted on the official Website of the Ministry of Finance: www.minfin.am.

Mr. Sargis Israelyan
Chief, Cash Flow Management Division
Public Debt Management Department

II. RESPONSE OF THE NATIONAL STATISTICAL SERVICE OF THE REPUBLIC OF ARMENIA (NSS)

A. National Accounts

0.2.1

Recommendations: The NSS budget should be increased to provide financial resources for the ILCSH and the LFS, as well as for providing competitive salaries for the qualified staff.

Statistical system in Armenia is financed from the state budget.

2.2.1

Recommendation: Request from the CBA data on financial sector excluding nonresident units in the Karabagh region.

The issue was discussed with the CBA. CBA will provide the data as soon as it will be available.

2.3.1

Recommendation: Enhance the implementation of the CPA.

The implementation of CPA was started with the discussions on manufacturing sector products issue. In particular, separate discussions were held with the main providers of statistical initial information (organisations). The implementation of CPA in industry sector will be finished during 2009. The implementation will take place step by step.

2.4.2

Recommendation: Request from the MFE adjusted data for taxes, subsidies, and expenditures of general government to approximate accrual recording.

The NSS and Ministry of Finance of RA started the discussions on availability of relevant information and their further transmission to NSS. The initial finding of the discussions is to use the data from state statistical report (form 1-TG approved by the State Council on Statistics of RA on 12.12.2008, Decision No 14-N) of large and medium commercial organizations (as well as sample of small organisations) on taxes and subsidies (accrual basis) for adjustment of cash basis data, until the calculations on accrual basis will take place in the Ministry of Finance of RA.

3.1.1

Recommendation: Improve the accuracy of the construction price index and the imports price index to be used as deflators in national accounts.

The calculation of construction price index is done by the Ministry of Urban Development of RA. Taking into account the need for improving the index, there are continuing discussions between the experts of the NSS's Price Statistics Division and the Ministry of Urban Development of RA. Also it should be mentioned that the suggestions and recommendations of the international expert (within the EU TACIS project) on construction price index are taking into account during the discussions.

The calculation of import price index has been improved since 2008 second quarter data. The methodology of calculation was discussed within the NSS as well as with the CBA relevant experts.

3.1.2

Recommendations: Start collecting quarterly data from establishments on a discrete basis; request from the Balance of Payments Division data on external transitions in national currency.

State Council on Statistics of RA on 12.12.2008 (Decision No 14-N) approved the new report form (1-TG) which will be collected from large and medium commercial organizations (as well as sample of small organisations) on a discrete quarter basis. The report form will serve as a base for quarterly National Accounts.

Starting with the data for the second quarter of 2008 the Division of NSS which is responsible for balance of payments statistics provides relevant information on external transactions to National Accounts Division of NSS also in national currency.

3.3.2

Recommendation: Estimate the output of owner-occupied dwelling using data on floor area and data on market rents stratified by urban/rural regions.

The recommendation is completely acceptable. Discussions as well as the review of data methodology in other countries were initiated. The work with the main statistical information users on this issue seems to be also very important, because most of the users hardly could accept the need to include imputed output of owner-occupied dwelling in Gross Domestic Product, especially in countries like Armenia, where prevailing majority of population live in

own dwellings (94 percent by the Household Survey data estimate). With today's view, the NSS thinks that assistance of international expert will be needed to evaluate the issues of estimation and implementation.

Recommendation: In the medium term, explore the possibility of estimating the consumption of fixed capital using the perpetual inventory method.

The recommendation is accepted. But the evaluation of mechanisms (methodology) as well as financial and expert resources should be done. Need and possibilities to have an economic census should be also discussed (the NSS thinks that assistance of international expert will be needed to evaluate all those issues).

Recommendation: For construction, use extrapolation of output rather than deflation (as the accuracy of the construction output price index is not considered satisfactory); use extrapolation of taxes with the implicit volume index of activities subject to tax rather than deflation.

Discussions on methods of calculating of the growth of construction sector output were started. It is supposed that two different methods will be evaluated in terms of features and risks, after which the decision will be made about the use of recommended method.

Recommendation: Compile volume measures of imports and exports independently; deflate homogeneous groups of imports by the UVI, and nonhomogenous groups (machinery and equipment) by price indices of importing countries adjusted for exchange rate; use PPI export index to deflate exports.

Recommendation is accepted and improvements have been already done partly. Particularly, volume of imports is now deflated on the basis of weighted price indices of main partner countries, and volume of exports is deflated using PPI indices for relevant groups of products.

Recommendation: Apply the Denton method (make use of the BENCH software) to benchmark quarterly and annual data.

The mission recommendation was accepted and during the 2008 the NSS has already used Denton method (BENCH software) to benchmark quarterly data with annual ones for 2005–2007 GDP production and expenditure side data at 2005 annual average prices (including data with seasonal adjustment) The tables were published in the “Socio-economic situation of the Republic of Armenia for January–July” monthly report as well as in the “National Accounts, 2008” publication.

4.2.2

Recommendation: Make sure that historical series are reconstructed back as far as possible for changes in methodology.

Recommendation is accepted. Particularly, taking into account requests of main users of statistical information, GDP production side data for 2000–2004 were reviewed from OKOHX classification to NACE. More, to provide long time series of quarterly data, the work of reviewing of 2000–2004 quarterly GDP data according to the NACE classification took place in the 2009 Annual Statistical Program.

5.1.2

Recommendation: In the new NSS website, disseminate chain-linked time series with each quarterly data dissemination.

Currently annual data series are published on the NSS website. Work is in progress to have quarterly data series on website also. At the same time it should be mentioned that all the publications of the NSS on National Accounts are on the website, where quarterly data from 1992 are available.

B. Consumer Price Index

0.2.1

Recommendation: CPI staff computing resources, office space, and financing should be improved to adequately compile and disseminate the CPI statistics.

Statistical system in Armenia is financed from the state budget.

2.4.3

Recommendation: NSS should review customs information on import of used goods to assess the importance of the exclusion of net purchases of existing durables in secondary markets.

NSS have tried to include price index of used products and cars in CPI calculations, but it was stopped temporarily as the problem with technical characteristics and identifying similar products for correct price indexing raised. Preparatory work is in process to review CPI calculations, which include also the mentioned problem.

It is supposed to use the tools of EU TAIEX program to organize visits to EU countries to study their experience in the field.

3.3.2

Recommendation: The NSS should technically evaluate the rental equivalence and user cost approaches to covering the housing services consumption of households that own their dwellings and the net acquisitions approach to households' capital formation expenditures for dwellings. This will require improving the CPI sources for imputed rentals for owner-occupied housing, and/or for a house price index that could be used with a net acquisitions weight compiled from the HBS to cover owner-occupied housing.

The discussions of further improvement of CPI in Armenia have started with Household Survey division of NSS to estimate the rental equivalence of living in own-occupied dwellings with aim to include it in CPI calculations.

It is supposed to use the tools of EU TAIEX program to organize visits to EU countries to study their experience in the field.

C. Producer Price Index

0.2.1

Recommendation: PPI staff computing resources, office space, and financing should be improved to adequately compile and disseminate the PPI statistics.

Statistical system in Armenia is financed from the state budget.

2.3.1

Recommendation: The PPI should be classified and disseminated according to an internationally accepted standard.

Intensive work is in process to improve PPI calculations, particularly using NACE and CPA classifications. The work is in final stage and starting from 2009 PPI calculations in Armenia will take place by recommended classifications.

D. Balance of Payments

0.2.1

Recommendation: Balance of Payments staff, computing resources, office space, and financing should be improved to adequately compile and disseminate the Balance of Payments statistics.

Statistical system in Armenia is financed from the state budget.

2.2.1

Recommendation: A special presentation on remittances, compensation of employees, and private transfers along the lines of the additional presentation suggested in the draft Balance of Payments and International Investment Position Manual (BPM6) is recommended in view of the importance of these flows in Armenia.

The work is in process and it probably should be established during 2009.

3.1.1

Recommendation: In the context of the NSS's plan to extend the national accounts to also include financial accounts, more or new sources data are likely needed. Ways to either integrate the needs for balance of payments data directly into these new sources or as a source for identifying potential important nonfinancial companies' holdings abroad should be investigated. This is medium term.

Along with implementation of works concerning to the implementation of financial account it is supposed to improve sources of financial flows. Particularly, questions about financial assets abroad of non commercial organizations will take place in questionnaire.

3.3.2

Recommendation: Update c.i.f./f.o.b. estimation factors for international trade in goods.

In case of existence of financial resources it is planned to carry out sample survey among organizations with activities in field of foreign trade, which will allow to have more precise calculations on FOB and SIF estimates.

4.3.3

Recommendation: The NSS should explain in more detail, reasons, methods and effects of revisions, in particular in connection with larger revisions, or in connection with significant changes in methods or sources.

Recommendation is acceptable. Further revisions of time series will be accompanied with detailed methodological explanations and explanations of changes methods.

5.1.1

Recommendation: Consider accompanying data with text or chart that highlight trends and developments in the balance of payments statistics.

Unlike prevailing majority of countries, balance of payments statistics in Armenia is calculated by NSS. Taking into account that in accordance to international standards (UN fundamental principles on official statistics) statistics should as much as possible avoid data analyzing (which has subjectivity factor), NSS does not include analytical part in balance of payments publications.

During the continuous meetings with Central Bank of Armenia, NSS discuss an issue to include analysis in NSS publications of balance of payments made by CBA (with its authorship).

5.2.2

Recommendation: For the more sophisticated users, additional information on sources, adjustments, estimations and other methodology adjustments would be useful.

It is planned to improve and enrich metadata for balance of payments statistics, especially in cases of adjustments and expertise estimations.

Artashes Shaboyan
Member of State Council on Statistics
National Statistical Service of the Republic of Armenia

III. RESPONSE OF THE CENTRAL BANK OF ARMENIA (CBA)

A. Cross-cutting Recommendations

For national accounts, government finance, monetary and financial, and balance of payments statistics, exclude data on bank headquarters and branches located in Karabagh.

The case of Karabagh is exceptional. The issue of inclusion or exclusion of data on bank headquarters and branches located in Karabagh is a subject of ongoing discussions. However, Karabagh is considered by the CBA as a part of the economic territory of Armenia, because the dram is the legal tender there and all banking institutions operating in Karabagh are licensed and supervised by the CBA.

B. Balance of Payments Statistics

Produce balance of payments and international investment position (IIP) statistics for the financial corporations sector that exclude the bank headquarters and branches located in Karabagh from the Armenian economic territory.

As Karabagh is considered as a part of the economic territory of Armenia in monetary statistics compiled by CBA the same principle is applied in BOP and IIP statistics of financial sector of Armenia.

Mr. Martin Galstyan
Head, Statistics Department

INTERNATIONAL MONETARY FUND

REPUBLIC OF ARMENIA

Report on the Observance of Standards and Codes (ROSC)—Data Module

Volume III

Detailed Assessments Using the Data Quality Assessment Framework (DQAF)

Prepared by the Statistics Department

Approved by Adelheid Burgi-Schmelz and Masood Ahmed

January 23, 2009

This document contains a detailed assessment by dataset of the elements and indicators that underlie the data quality dimensions discussed in Republic of Armenia's Report on the Observance of Standards and Codes (ROSC)—Data Module. It also includes as appendices the DQAF generic framework and the results of the users' survey.

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ACRONYMS

<i>1993 SNA</i>	<i>System of National Accounts 1993</i>
BEC	Classification of Broad Economic Categories, United Nations, 1989
BIS	Bank for International Settlements
CBA	Central Bank of Armenia
<i>BPM5</i>	<i>Balance of Payments Manual</i> , fifth edition
CPI	Consumer price index
DCS	Depository corporations survey
DQAF	Data Quality Assessment Framework
ECB	European Central Bank
EU	European Union
GDP	Gross domestic product
GFS	Government finance statistics
<i>GFSM 1986</i>	<i>A Manual of Government Finance Statistics</i> , 1986
<i>GFSM 2001</i>	<i>Government Finance Statistics Manual 2001</i>
HICES	Household Income and Consumption Expenditure Survey
HBS	Household Budget Survey
ILO	International Labor Organization
ILCSH	Integrated Living Conditions Survey of Households (ILCSH)
<i>ISIC</i>	<i>International Standard Industrial Classification of all Economic Activities</i>
MFE	Ministry of Finance and Economy of the Republic of Armenia
MUD	Ministry of Urban Development
<i>MFSM</i>	<i>Monetary and Financial Statistics Manual</i>
NACE	Statistical Classification of Economic Activities in the European Communities
NSDB	National Summary Data Page
NPISHs	Nonfinancial institutions serving households
NSS	National Statistical Service
ODCs	Other depository corporations
OECD	Organization for Economic Cooperation and Development
OKOHX	The All-Union Classification of Branches of the National Economy
PPI	Producer price index
ROSC	Report on the Observance of Standards and Codes
SCCS	State Customs Committee Service
SCS	State Council on Statistics
SDDS	Special Data Dissemination Standard
UN	United Nations
VAT	Value-added tax

DETAILED ASSESSMENT USING THE DATA QUALITY ASSESSMENT FRAMEWORK (DQAF)

The following detailed information on indicators of statistical practices in the areas of the national accounts, prices, government finance, monetary, and balance of payments statistics was gathered from publicly available documents and information provided by the Armenian Adjective officials. This information, which is organized along the lines of the generic DQAF (see Appendix II), was used to prepare the summary assessment of data quality elements, based on a four-part scale of observance, shown in Armenia's Report on the Observance of Standards and Codes (ROSC)—Data Module.

I. NATIONAL ACCOUNTS

0. Prerequisites of quality

0.1 *Legal and institutional environment*

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

Compilation and dissemination of data are governed by the terms and conditions of the *Law On State Statistics* of Armenia, approved by the National Assembly of Armenia on April 4, 2000 that serves as the legal basis for the organization of official statistics. The law determines the order of organization of state statistics in Armenia and regulates the relations involving collection, processing, accumulation, summarizing, and storing, as well as the analysis and exchange of statistical data related to social and economic processes, population and its activities, and the presentation (publication) of statistical information.

Legal relations pertaining to census activities are governed on the basis of the *Law On the Population Census* of Armenia, adopted by the National Assembly of Armenia on October 12, 1999.

Provisions of the *Law On State Statistics*, the *Law On Three-Year State Statistical Work Program* and the normative and legal acts adopted by the State Council on Statistics (SCS) of Armenia (supreme body of governance of the National Statistical Service—NSS) serve as the regulatory legal base for state statistics.

The *Law On Three-Year State Statistical Work Program for 2007–2009* was adopted by the National Assembly of Armenia on November 29, 2006.

In addition to the above, certain relations of state statistics organization are governed by other regulatory legal acts listed below and under the indicators 0.1.2, 0.1.3 and 0.1.4, which are adopted by the SCS based on the *Law On State Statistics*:

- (a) Resolution No. 110-N of the SCS “On Approval of the Charter and Structure of the National Statistical Service of the Republic of Armenia” of July 26, 2002;
- (b) Resolution No. 20-N of the SCS “On Approval of the Regulations of the State Council on Statistics of the Republic of Armenia and on Repealing the Resolution No. 10 of the State Council on Statistics of the Republic of Armenia of August 15, 2000” of November 24, 2006; and
- (c) Resolution No. 60 of the SCS “On Approval of the Procedure for the Publication of Statistical Information” of August 15, 2001.

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

NSS relations with the institutions implementing administrative statistics are regulated through procedures established by the *Law On State Statistics* and Resolution No. 109 of the SCS “On Approval of the Procedure for the Maintenance of Administrative (information) Registers and Receiving Information from Them” of May 10, 2002. Resolution No. 109 defines the rules and terms for the maintenance of administrative (information) registers, as well as for submitting the collected information to the NSS.

The tool to achieve coordination in statistical surveys is the Annual Program for Statistics. The Program for Statistics clearly defines the responsibilities of each agency in the conduct of surveys, and specifies the administrative data that must be supplied to the NSS by each agency.

There are formal inter-agency agreements between the NSS, the State Customs Committee Service (SCCS) and the Central Bank of Armenia (CBA). These agreements contain general principles as well as addenda detailing the specific datasets to be shared. The addenda are updated annually. In addition, there are informal agreements between the NSS, the Ministry of Finance and Economy (MFE), the State Tax Service and the Agency for Social Insurance for data provisions consistent with the requirements of the advance release calendar for dissemination of the results of the statistical surveys. Regular meetings between agencies are held to facilitate the data exchange. The NSS and the State Tax Service have recently agreed on exchange of individual data on profit/loss statements and balance sheets.

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

Statistical confidentiality is regulated through a procedure established by the *Law On State Statistics* and Resolution No. 53-N of the SCS “On Approval of the Procedure for Ensuring the Confidentiality of Statistical Data” of June 25, 2001.

The procedure defines rules of storing, using and publishing confidential statistical information, as well as rights and responsibilities of all the participants in relation to statistical confidentiality.

According to the provisions of this procedure, a Commission on Statistical Confidentiality Issues was also established within the NSS. Furthermore, all staff members of the NSS are required to sign a sworn declaration on statistical confidentiality.

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

Relations regarding the provision of necessary statistical information for the state statistical work program implementation are regulated through the procedure established by the *Law On State Statistics* and Resolution No. 11-N of the SCS “On Approval of the Procedure for the Presentation of Statistical Data” of October 03, 2003.

The procedure defines rules of statistical data provision in the scope of state statistical observation by the legal persons (irrespective of organizational and legal form), individual entrepreneurs, foreign legal persons’ separate units in Armenia, registered in accordance with the procedure established by Armenia legislation, as well as by government and local self-government bodies.

Reporting is mandated by Article 20 of the *Law On State Statistics*:

Article 20. Obligations of the Units Presenting the Statistical Information

The units presenting the state statistical information are obliged:

to present the necessary statistical data and information for the implementation of Program according to the established order and terms by the Program;

to execute the instructions related to the state statistics and accounting given by the body implementing statistics.

The units presenting the statistical information complete and present the statistical reports (questionnaire and other) independently, if there is no another order established by the Council.

0.2 Resources

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

National Statistical Service

The number of NSS employees is approved by the Prime Minister’s Decree on presentation of the NSS President.

In April 2008, NSS comprised the following staff:

	Headquarters	Regional offices	Total
Civil servants (tenured)	155	179	334
Statisticians (fixed term)	33	358	391
SCS personnel	26	-	-
Total	214	537	751

The NSS staff is financed from the state budget.

Compensation of the NSS employees, who are civil servants, is based on the *Law On Compensation of Civil Servants* and is general for all civil servants.

National accounts

Seven employees work in the Macroeconomic Indicators and National Accounts Division. Six of these staff members have higher education and one has incomplete higher education. Low pay is a significant problem for recruiting and retaining well qualified staff. Two of the national accounts staff have attended national accounts courses conducted by the IMF in Vienna, and others have attended courses and seminars conducted by other donors. The national accounts staff is highly professional and well acquainted with the *System of National Accounts 1993 (1993 SNA)*. The skills acquired by the experienced staff are in great demand by the other agencies and the private sector. Low salaries are the reason for staff turnover. Salaries of the national accounts compilers are much lower than the ones of their colleagues in the MFE or the CBA. The Division has adequate information and communications technology to handle its work program.

Financial resources for some sources depend on donors' aid. For example, the financing of the Integrated Living Conditions Survey of Households (ILCSH), which is the basis for compiling expenditure GDP estimates, depends on financing from the World Bank. There is no regular financing of the Labor Force Survey (LFS).

Recommendations: The NSS budget should be increased to provide financial resources for the ILCSH and the LFS, as well as for providing competitive salaries for the qualified staff.

0.2.2 Measures to ensure efficient use of resources are implemented.

In accordance with the order established by Armenia legislation, the Chief of the NSS staff disposes the state property attached to the NSS staff, including financial means. The Chief of the staff also organizes preparation of the NSS draft budget.

The annual expenditure budget of the NSS and results of rechecking the authenticity of the financial reports are approved by the NSS President, and the annual balance and financial reports—by the SCS. Authenticity of the annual financial reports of the NSS staff could be audited in the order established by the government of Armenia.

0.3 *Relevance*

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

With the aim of studying users' needs, the state statistical work programs (three-year and annual) are posted at the NSS website and submitted to a selected sample of about 100 users (government, scientific and educational institutions, judicial bodies, banking system, business, nongovernmental and international organizations and mass media) for comments and recommendations. The program is approved by the SCS and then the Ministry of Justice (MOJ) adopts it as a legal document.

In accordance with the *Law On State Statistics*, the Annual Program includes statistical information on the economic, demographic, social and environmental situation of the country, and is developed based on the study of users' needs.

The following aspects are taken into account when developing an annual program: availability of resources, burdens on respondents, cost-effectiveness, comparability of the country indicators with the international standards, potential stable periodicity of those indicators from the viewpoint of discovering trends in the long-term period and their harmonization with the resources annually allocated to the state statistics.

0.4 *Other quality management*

0.4.1 Processes are in place to focus on quality.

Quality policy is anchored on the principles of ensuring the application of universal statistical methodology in compliance with the international standards and the international comparability, as well as use of the necessary technical, economic, and social information classifications.

The NSS management attaches importance to data quality issues and takes initiatives to improve quality. The NSS reviews data for accuracy. The NSS has internal processes to identify issues at various stages of the collection, compilation, and dissemination of statistics. The National Accounts Division also functions as an internal audit in terms of data consistency and assessing the design of new questionnaires and methodologies.

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

Annual program implementation is organized by the NSS President. The NSS President is accountable for the deliverables of the annual program.

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

Data collected from the statistical information providers are arithmetically and logically checked.

Internal procedures for ensuring quality, depending on their character, are implemented by the following units:

- Ensuring the proper methodology of indicators—SCS and Statistical Work Methodology and Classifications Division;
- Business statistics—Macroeconomic Indicators and National Accounts Division and Senior Adviser to the President of the NSS;
- Macroeconomic indicators—Senior Adviser to the President of the NSS; and
- Publications and dissemination—Vice President and Statistical Publications and Marketing Division.

1. Assurances of integrity

1.1 Professionalism

1.1.1 Statistics are produced on an impartial basis.

Article 5 of the *Law On State Statistics* states that Armenian official statistics should be governed by the principles of objectivity, reliability, and integrity. It states that official statistics should observe international methodological standards as well as internationally accepted practices on accessibility and dissemination (publicity) of statistical data. Article 9 states that the choice of the President of the NSS must be a citizen of Armenia having high economic education and work experience in the domain of statistics.

Article 9 further states that the President cannot be appointed simultaneously to any other position in the public or private sector or accept other paid work besides scientific, pedagogical and creative. The President's tenure may be shortened only by (1) his (her) resignation, (2) discontinuing his (her) citizenship of Armenia, (3) being rendered incapable or of diminished capability by a court decision or conviction, or (4) his (her) death. The President of the Service nominates his (her) deputies for appointment by the SCS.

Professionalism is actively encouraged. There are strong, mutually beneficial links between the NSS and the universities. Opportunities are taken for the NSS staff to participate in international statistical training programs. The national accounts staff participates in international meetings on national accounts topics organized by the Organization for Economic Cooperation and Development and the United Nations Economic Commission for Europe.

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

The NSS solely makes choices about sources of data and statistical techniques based on professional statistical considerations and in the light of international standards. There is no evidence of outside interference. The reasons behind the choice of sources and methodologies are made public through the annual statistical program.

The annual program approved by the SCS includes:

- a list of statistical activities, terms of their implementation, the coverage, as well as types of observations,
- periodicity of the presentation of statistical indicators,
- a list of surveys that should be implemented by the NSS, published statistical handbooks, bulletins and other publications and their periodicity,
- a list of organizations, state bodies and local self-government and other administrative registers and a list of summary statistical information (data), provided by them, and
- a list of users of statistics, the breakdown of information provided free of charge and the structure of its presentation.

The decisions about the timing and format of the disseminated data are also based solely on statistical considerations.

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

Under the *Law On State Statistics*, the NSS is not obliged, but has the right to provide clarifications on the misuse and misinterpretation of statistical information it publishes.

The NSS policy is to avoid any misunderstandings by providing additional explanations of the data with the releases. The Public Relations Unit of the NSS is responsible for daily monitoring of the media.

1.2 Transparency

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

Users have full access to information about the conditions under which statistical data are collected, processed and disseminated as well as about release timetables, confidentiality of individual data and other specific points.

The *Law On State Statistics* of the Republic of Armenia was published in the *Official Bulletin of the Republic of Armenia*, No. 8 (106) of April 28, 2000 and also on the NSS website. The *Law On the Population Census* of the Republic of Armenia was published in the *Official Bulletin of the Republic of Armenia*, No. 28 (94) of November 13, 1999. The *Law On the Three-Year Program of Statistical Projects for 2007–2009* of the Republic of Armenia was published in the *Official Bulletin of the Republic of Armenia*, No. 66 (521) of December 25, 2006. The law is posted in Armenian on the NSS website. The following regulatory legal acts of the SCS were published in the *Bulletin of Departmental Regulatory Acts of the Republic of Armenia* following their approval:

- Resolution No. 110-N of the State Council on Statistics “On Approval of the Charter and Structure of the National Statistical Service of the Republic of Armenia” of July 26, 2002 was published in the *Bulletin of Departmental Regulatory Acts of the Republic of Armenia*, No. 21 (107) of September 2, 2002.
- Resolution No. 11-N of the SCS “On Approval of the Procedure for the Presentation of Statistical Data” of October 03, 2003 was published in the *Bulletin of Departmental Regulatory Acts of the Republic of Armenia*, No. 3 (151) of February 02, 2004.
- Resolution No. 53 of the SCS “On Approval of the Procedure for Ensuring the Confidentiality of Statistical Data” of June 25, 2001 was published in the *Bulletin of Departmental Regulatory Acts of the Republic of Armenia*, No. 15 (78) of September 4, 2001.
- Resolution No. 60 of the SCS “On Approval of the Procedure for the Publication of Statistical Information” of August 15, 2001 was published in the *Bulletin of Departmental Regulatory Acts of the Republic of Armenia*, No. 3 (89) of February 11, 2002.
- Resolution No. 20 of the SCS “On Approval of the Regulations of the State Council on Statistics and on Repealing the Resolution No. 10 of the State Council on Statistics of the Republic of Armenia of August 15, 2000” of November 24, 2006 was published in the *Bulletin of Departmental Regulatory Acts of the Republic of Armenia*, No. 30 (239) of December 15, 2006.
- Resolution No. 109 of the SCS “On Approval of the Procedure for the Creation and Maintenance of Administrative Registers” of May 10, 2002 was published in the *Bulletin of Departmental Regulatory Acts of the Republic of Armenia*, No. 17 (103) of July 15, 2002.

All of these resolutions are also posted in Armenian on the NSS website. In addition to the above, following approval by the SCS, all government statistical reporting forms and instructions for filling them out are also published in the *Bulletin of Departmental Regulatory Acts of the*

Republic of Armenia. Armenian versions of the reporting forms and instructions for filling them out are also posted on the website.

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

National accounts data are released simultaneously to all users. No government officials outside the NSS have access to the data prior to their release.

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

All data releases are clearly identified as being produced by the NSS. In the case of joint publications, the NSS data are identified as being a product of the statistical office. The NSS print publications all identify NSS as the source. The NSS Public Relations Division also scans other websites using NSS data to check attribution. The NSS and the CBA Statistics Department regularly cross-check published data.

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

Major changes in the methodology, source data, and statistical techniques are announced in advance through the publication of the annual statistical program.

Following the procedure established by legislation (the Laws on State Statistics and on Legal Acts, Resolution No. 11-N of the SCS “On Approval of the Procedure for the Presentation of Statistical Data,” etc.), the NSS notifies parties responsible for the presentation of statistical information of changes in the methodology through the provision of new statistical reporting forms and/or instructions for filling them out (following their approval by the SCS and publication in the *Bulletin of Departmental Regulatory Acts of the Republic of Armenia*).

1.3 Ethical standards

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

Guidelines for the NSS staff behavior are set by the *Law On Civil Service* (published in the *Official Bulletin of the Republic of Armenia*, No. 1 (176) of January 09, 2002) and Resolution of Armenia Civil Service Board No. 13-N, “On Approval of the Guidelines for the Civil Servants’ Ethics” of May 31, 2002 (published in the *Bulletin of Departmental Regulatory Acts of the Republic of Armenia*, No. 18(104) of August 01, 2002). Guidelines for behavior are provided in legislation on the civil service.

2. Methodological soundness

2.1 Concepts and definitions

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

The national accounts of Armenia are compiled in accordance with the fundamental concepts, categories, accounts' conception, as well as the other methodological foundations of the *1993 SNA*. Time series following the *1993 SNA* are available since 1990. National accounts aggregates for 1987-1989 were calculated using conversion tables that adjust the main macroeconomic aggregates of the Material Product System (MPS) to those of the *1993 SNA*.

Gross domestic product (GDP) from the production side at market prices is defined as the sum of gross value added of resident producers, plus net taxes (less subsidies) on products. GDP from expenditure side is defined as total final expenditures at purchasers' prices, capital formation and net export of goods and services. GDP from income based is defined as compensation of employees, plus gross profit and gross mixed income, as well as taxes on production and import less subsidies.

2.2 Scope

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

The national accounts statistics cover all tables and accounts that the Inter-Secretariat Working Group on National Accounts (ISWGNA) has defined as a minimum requirement for implementation of the *1993 SNA*, as well as most of those recommended by the ISWGNA. The NSS compiles and disseminates the following accounts:

- annual and quarterly value added and GDP at current and constant prices by activity;
- annual and quarterly expenditures of GDP at current and constant prices;
- annual value added components at current prices by activity;
- sequence of accounts for the total economy (up to financial accounts) and by institutional sectors with an annual frequency; and
- annual rest of world accounts.

Experimental supply and use tables were compiled for 1993, 1998, and 2005, but were not published. The NSS is working on implementing annual financial accounts.

The national accounts define residence in accordance with the *1993 SNA* and the *Balance of Payments Manual*, fifth edition (*BPM5*). The economic territory includes the territorial enclaves

such as embassies and free zones. Workers who work only part of the year in another country are considered residents. However, one nonresident commercial bank headquarters and few nonresident branches of Armenian banks in the Karabagh region are included in the financial sector data, thus implicitly included into the scope of the national accounts.

Recommendation: Request from the CBA data on financial sector excluding nonresident units in the Karabagh region.

The production boundary is in accordance with the *1993 SNA*. The scope of output measurement includes, among other things, the following items:

- research and development on own-account;
- own-account production of goods for own consumption;
- output of goods for own-account fixed capital formation;
- mineral exploration;
- production of entertainment, literary or artistic originals; and
- production of computer software.

Illegal production is not in the scope of output measurement with the exception of illegal smuggling, for which estimates are made.

The asset boundary is in accordance with the *1993 SNA*. Tangible assets include, in particular, defense-related assets that could be used for civilian purposes; valuables, and agricultural work-in-progress (relevant for the quarterly national accounts only). Mineral exploration (whether successful or not), computer system software, and databases (purchased or built in-house), entertainment, literary or artistic originals, patented entities, as well as leases and other transferable contracts are included among intangible assets.

2.3 Classification/sectorization

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

The classification of transactions, flows, and institutional units broadly follow the recommendations of the *1993 SNA*.

Since 1990, the All-Union Classification of Branches of the National Economy (OKOHX) is being used for GDP estimates from production side. As of 1998, both the OKOHX and the Statistical Classification of Economic Activities in the European Communities (NACE) systems are used. Since 2007, the NACE is being used for GDP estimates from production side.

Data on products are collected from establishments using the national classification of products, and are then converted into Prodcomlist classification using a detailed conversion key. The NSS

is in the process of implementing the Classification of Products by Activities (CPA), and is expecting to finish it in 2009.

The Harmonized System is used in the compilation of exports and imports statistics.

The classification of individual consumption by purpose (COICOP) is used in the ILCSH and in the compilation of household final consumption expenditure.

Data on the execution of the State budget are classified according to the Classification of the Functions of Government (COFOG).

Recommendation: Enhance the implementation of the CPA.

2.4 Basis for recording

2.4.1 Market prices are used to value flows and stocks.

The valuation rules for recording flows and stocks are in accordance with the *1993 SNA*. Market prices are used for the valuation of flows and stocks. Output is valued at basic prices and intermediate consumption is valued at purchase prices excluding the deductible part of the value added taxes (VAT). Total exports and imports are valued on a f.o.b. basis. Transactions in foreign currency are converted to the national currency using the daily exchange rate.

From 1990 to 1993 the national accounts aggregates were compiled in rubles, but since 1994 they are compiled in Armenia drams.

2.4.2 Recording is done on an accrual basis.

In principle, accrual accounting is followed for all accounts. According to the accounting law and standards, all units are obliged to record their transactions on an accrual basis. However, general government and some rest-of-the-world transactions are recorded on a cash basis. The MFE is planning to produce budget data on an accrual basis in the medium term.

Recommendation: Request from the MFE adjusted data for taxes, subsidies, and expenditures of general government to approximate accrual recording.

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

Grossing and netting procedures are in accordance with the *1993 SNA*. Transactions between establishments within the same enterprise are recorded on a gross basis.

3. Accuracy and reliability

3.1 Source data

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

Source data are collected through (i) surveys of establishments and enterprises; (ii) household surveys; (iii) price statistics surveys; (iv) census surveys; and (v) administrative data sources.

Surveys of establishments and enterprises

The sample frame for the surveys is the statistical register. Since 2000, the NSS maintains a statistical business register. The register is linked to the Tax Register, which is used for identifying the non-active units. The business register is linked also to the administrative register of the MOJ, which is a basis for updating with information from the legal registration of businesses. The business register has about 12,000 legal entities and 3,600 entrepreneurs. In addition to the identification characteristics, the statistical register contains information about the main activity of the unit, the secondary activities, the number of employees, turnover, and capital. It is updated annually, on the basis of a special statistical survey.

The units in the register are stratified into four groups—micro, small, medium, and large. The criteria (employment and revenues) for grouping differ depending on the activity of the units.

The basic surveys of non-agricultural enterprises and establishments are the following:

- Annual and quarterly report of economic activity of nonfinancial establishments (1-TG).
- Annual and quarterly book-keeping reports (profit-loss statements—1-F).
- Annual and quarterly balance sheets of legal entities (2-F).
- Annual and monthly report on industrial output (1-P).
- Monthly, quarterly, and annual surveys of business statistics units.
- Structural reports for agriculture.

One of the main sources of data for the nonfinancial sector are the annual and quarterly report of economic activity of nonfinancial establishments (1-TG), the annual and quarterly profit/loss statement (1-F) and the annual and quarterly balance sheet reports (2-F). The reports request detailed data on output, intermediate consumption, employees, changes in inventories, taxes, subsidies, etc. from all legal entities. These reports are also collected from units from the financial sector (all but commercial banks and credit unions). The coverage of the reports is good. All large and medium enterprises are asked to fill in these reports. The small and micro establishments (8,000) are surveyed with a sample of around 1,000 units. The sample is representative by regions and by activities. The questionnaires of the small and micro units are simplified. Quarterly data are collected on a cumulative rather than discrete basis.

The annual and monthly report of the industrial enterprises is a source of data for the establishments in mining, manufacturing, electricity, gas, and water. The survey is exhaustive—about 2,350 units are surveyed each month. Quarterly, a sample of micro units is included in the survey. The survey collects data on output, employment, production in physical terms, changes in inventories, and also data on output in previous year prices. Enterprises are asked to compile their previous year output at average prices of the current year, following instructions from the NSS. However, the instructions are very general, and the NSS has no insight on how these estimates are compiled. These “comparable price” data are used for compiling the industrial production index (IPI). The coverage of the survey is good. Data are collected on a cumulative and on a discrete basis.

In addition, the NSS business statistics units (construction, trade, transportation, services) conduct annually and sub-annually structural business surveys, which are also used in the process of the national accounts compilation. Most of these surveys collect data on a cumulative rather than a discrete basis.

The NSS collects detailed data on agricultural units. On January 1 each year, the NSS conducts a census survey on livestock; on June 1 each year the NSS undertakes a census survey on crop area. In addition to it, monthly data from all rural municipalities (867) are collected on harvested crops and livestock products. These data are used to estimate the physical volume of agricultural products. The Agricultural Statistics Division in the NSS maintains a business register of agricultural units (approximately 340,000 household units and 100 establishments). A sample survey of 7,638 household farms is undertaken monthly to collect data on intermediate consumption and investments. Annually, the questionnaire is more detailed than the monthly one. The coverage of the data is considered to be good. The NSS is in the process of preparation for an Agricultural census in 2010.

The nonfinancial institutions serving households (NPISHs) are surveyed once in five years. The last survey was undertaken in 2006. However, the relative share of the NPISHs in GDP is very small (less than two percent). The questionnaire is sufficiently detailed for the national accounts purposes.

Household survey

The ILCSH was introduced and carried out annually since 2001. The survey is conducted through the year with monthly rotation of households and settlements. The sampling frame is the Population census carried out in 2001. A random two-step stratified sample is drawn from the Population census. The sample consists of 7,872 households. The data collected relates to composition of the household, employment, land ownership, agricultural production and investment data, revenues, income, and social and other characteristics. In addition to the main questionnaire, the households filled in a monthly diary on the expenditure for foods, nonfoods, services, as well as production for own consumption. The ILCSH is also used for collecting data on labor force characteristics. The quality of the data is considered by the national accounts staff as good.

The NSS has undertaken two LFSs in the last five years (2001 and 2004), due to lack of financing. These surveys were financed by the European Union Technical Assistance Program for the Commonwealth of the Independent States (TACIS).

Price statistics surveys

Regarding prices, extensive use is made of the industrial producer price indices (PPI), the consumer price index (CPI), and the unit values price indices (UVI) of foreign merchandise trade. Other price information includes sale prices of agricultural products, price indices of purchases by agricultural enterprises, and the construction price index for buildings and construction materials. However, the accuracy of the construction price index as well as the imports price index is not considered by the national accounts staff as satisfactory.

Recommendation: Improve the accuracy of the construction price index and the imports price index to be used as deflators in national accounts.

Administrative data sources

The MFE compiles statistics of central government (including the social security fund) and local government. Data are available to the National Accounts Division quarterly by economic and functional classification. Data include all defense-related expenditure and are sufficiently detailed to measure output, intermediate consumption, fixed-capital formation, and final consumption of government services.

The NSS receives monthly data on imports and exports of goods from the SCCS. National accounts compilers do not have access to individual tax returns data, but only to aggregates. As mentioned above, quarterly and annually, data on financial statements and profit/loss statements of legal entities and natural persons are collected also by the NSS.

The NSS receives annually and quarterly data on balance of payments from the Balance of Payments Division of the NSS. Data are following the concepts and the definitions of the *BPM5*.

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

Generally, the source data are consistent with the definitions, scope, classifications, time of recording, reference periods, and valuation of the national accounts estimates. However, the quarterly source data are collected on a cumulative, rather than discrete basis. Balance of payments data are published only in dollars, not in national currency. The NSS has to convert exports and imports of goods and services into Armenia drams using the quarterly exchange rate.

Recommendations: Start collecting quarterly data from establishments on a discrete basis; request from the Balance of Payments Division data on external transitions in national currency.

3.1.3 *Source data are timely.*

There are no major problems with the timeliness of the source data. The establishment data, the price statistics data, the household data, the foreign trade statistics, the general government data, and the balance of payments data are obtained on a timely basis.

3.2 *Assessment of source data*

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

Source data are assessed for their accuracy on a routine basis. Information is available about sampling and nonsampling errors for all surveys. The National Accounts Division and the business statistics units keep archives for internal purposes on problems encountered (for example, issues of misclassification or measurement), to avoid similar problems in the future. Outliers in basic statistics are checked and, if necessary, removed from the final results; high-value transactions are confirmed with respondents. The household survey is audited to verify the accuracy of the individual survey data. The source data are validated for temporal consistency, and consistency with national accounts definitions, valuation, and classifications.

The national accounts staff routinely reviews the budgetary data, foreign trade data, price indices, and other data sources used to compile national accounts statistics. These secondary data are also checked for consistency with the national accounts definitions, valuation rules, reference periods, and classifications.

3.3 *Statistical techniques*

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

The regional statistical offices collect and process source data from respondents. The NSS designs data validation software (for checking, coding, editing, and tabulation errors) for each survey questionnaire. The data are further validated for processing errors in the headquarters. The individual data are stored in a database. For the sample survey, the grossing-up factors are derived scientifically.

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

A special study on the nonobserved economy (NOE) was done in 2003, with the technical assistance from TACIS. The data and the metadata were disseminated to the general public in a special publication. The national accounts staff compiles annually and quarterly estimates for

nonobserved activities by activities, using the employment approach. The estimates are based on data from the LFS, data on employment and wages from the regular establishments' surveys, structural agricultural statistics, and household data. The procedures used to incorporate those estimates by activities are well documented.

Production approach procedures

The output and intermediate consumption estimates by activities are made on a three-digit level of NACE, Rev. 1. No ratios are used in compiling the current price estimates.

The agricultural gross output is calculated from data on quantities and prices. Intermediate consumption includes estimates of the value of seeds, fertilizer, livestock feed, power, and repairs.

The output of owner-occupied dwellings is estimated on a basis of information on costs from sample of units, and extrapolated to the total floor area of the dwellings. This method tends to underestimate the output, as the costs data seem to be too low.

Recommendation: Estimate the output of owner-occupied dwelling using data on floor area and data on market rents stratified by urban/rural regions.

The national accounts treat work-in-progress in conformity with international guidelines, with the exception of agricultural work-in-progress.

Data on output and intermediate consumption are adjusted for holding gains/losses on inventories. Estimates are based on data on stock levels, type of inventories, and price indices compiled by the NSS.

Consumption of fixed capital is not estimated by the recommended perpetual inventory method, due to the fact that assets have not been revaluated for quite a long time. So, the estimates are derived from a sample of enterprise data and adjusted with historical ratios.

Recommendation: In the medium term, explore the possibility of estimating the consumption of fixed capital using the perpetual inventory method.

The MFE collects data on a cash basis, and the NSS does not adjust it to an accrual basis.

The techniques used for compiling constant price estimates are sound—the national accounts staff is using mostly double indicator method (double deflation or extrapolation/deflation). The output estimates are derived either by deflation or by extrapolation. The intermediate consumption for all activities is derived by deflation of the elements (using the detailed information from the annual reports, and respective price indices).

Double deflation is used in industry, construction, transport and communications, and market services. In trade, the trade margin is extrapolated with the volume index of trade. In agriculture, output is extrapolated by volume indicators, and intermediate consumption is deflated by an implicit price index. For nonmarket services, the value added is extrapolated using employment data assuming constant labour productivity. Volume measures of taxes on products are deflated by the implicit price index of the activities subject to tax.

Recommendation: For construction, use extrapolation of output rather than deflation (as the accuracy of the construction output price index is not considered satisfactory); use extrapolation of taxes with the implicit volume index of activities subject to tax rather than deflation.

The constant price GDP estimates until 2006 are compiled in average prices of 1998, and from 2007 in average prices of 2005.

Expenditure approach

The GDP estimate by expenditure components is derived independently, including independent estimates of household final consumption expenditure, gross fixed capital formation (GFCF), and changes in inventories. The data on household final consumption expenditure are compiled using the commodity flow method—the main source of data are the retail sales, adjusted with the household budget data, as well as data from the balance of payments. Business statistics data are used for other items such as services, including consumption of water, electricity and heat energy. Expenses of residents abroad are included in household final consumption expenditure, and expenditures of nonresidents in the domestic economy are excluded from private final consumption expenditure. Data on household consumption expenditure are compiled at a detailed level of COICOP.

Government final consumption expenditure excludes incidental sales. GFCF is compiled by industries and fourteen types of assets. GFCF is measured as expenditure on acquisition of fixed assets (the actual expenditure on construction activity, improvements of existing assets, cost of delivery and mounting of fixed assets and progress payments by customers), less the disposal of existing fixed assets. Commodity flow approach is applied for crosschecking of the consistency of GFCF data for construction, machinery and equipment. Changes in inventories are estimated by activity and by types of inventories. No fixed ratios are used in the compilation of the expenditure approach components.

The household final consumption expenditure estimate at constant prices is derived by deflating six groups of expenditures with the respective CPI. The final consumption expenditure of general government and NPISH are deflated with the implicit output indices of the corresponding branches. GFCF is obtained at constant prices by deflation with price indices—the implicit construction output deflator, domestic PPI, and respective price indices from agriculture statistics. The value of inventories by type and by branch is estimated at constant prices using specific monthly price indices. The exports and imports of goods and services are estimated as a

residual—the national accounts compilers do not use the imports and exports price indices since the latter are considered not to measure pure price changes.

Recommendation: Compile volume measures of imports and exports independently; deflate homogeneous groups of imports by the UVI, and nonhomogeneous groups (machinery and equipment) by price indices of importing countries adjusted for exchange rate; use PPI export index to deflate exports.

Specific quarterly compilation techniques

Benchmarking is done using the pro-rate method thus resulting in a step problem. The national accounts compilation system derives the series from seasonally unadjusted source data, thus providing unadjusted quarterly estimates. Seasonally adjusted quarterly constant price estimates are compiled using the X11 seasonal adjustment program.

Recommendation: Apply the Denton method (make use of the BENCH software) to benchmark quarterly and annual data.

3.4 Assessment and validation of intermediate data and statistical outputs

3.4.1 Intermediate results are validated against other information, where applicable.

The data main source data used to compile national accounts statistics are checked with other primary and secondary sources. Data derived through the establishment surveys are cross-checked against tax data. The household expenditure data are checked against the retail sales data, imports data, and the VAT data from the tax authorities.

3.4.2 Statistical discrepancies in intermediate data are assessed and investigated.

Implicit deflators of output are compared with relevant price indices. Volume indicators derived by deflating current values of the national accounts estimates are compared with available industrial production indices. Systematic procedures exist to assess the household consumption data.

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

Annually, the supply-use framework is used to make GDP estimates by activity and expenditure components consistent.

3.5 Revision studies

3.5.1 Studies and analyses of revisions are carried out routinely and used internally to inform statistical processes (see also 4.3.3).

In the course of the current compilation of quarterly and annual national accounts, the direction and magnitude of revisions between the various versions are studied. The revisions are well documented and include detailed descriptions of the adjustments. The studies provide information on the accuracy of early sources and may suggest areas where these sources could be improved.

4. Serviceability

4.1 Periodicity and timeliness

4.1.1 Periodicity follows dissemination standards.

The national accounts statistics are disseminated with quarterly periodicity as prescribed under the Special Data Dissemination Standard (SDDS).

4.1.2 Timeliness follows dissemination standards.

The timeliness of the national accounts compiled falls within the SDDS requirements.

4.2 Consistency

4.2.1 Statistics are consistent within the dataset.

The annual national accounts are internally consistent. The GDP estimates by activity and expenditure components in current prices are reconciled on the basis of the supply and use framework. The statistical discrepancy between the estimates is shown explicitly. It varies between 0.1 percent and 2.5 percent. Since volume measures of net exports are compiled as a residual, the constant price estimates are not reconciled. The estimates at current prices, volume measures, and implicit deflators are consistent within the “value = volume × price” framework. The quarterly GDP estimates add up to the annual estimates. Concepts, definition, and classification for compiling quarterly GDP estimates are the same as those used to compile annual estimates.

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

Consistent time series are available since 1990.

Recommendation: Make sure that historical series are reconstructed back as far as possible for changes in methodology.

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

The national accounts statistics are consistent with the general government statistics and the balance of payments statistics.

4.3 Revision policy and practice

4.3.1 Revisions follow a regular and transparent schedule.

A schedule for the dissemination of the preliminary and revised estimates of the national accounts statistics is published by the NSS at the beginning of the calendar year as part of the Program for Statistics, in the national accounts publications, and in the SDDS metadata.

The revisions schedule is the following:

Annual data are revised two times: on September 30 year+1, and on September 30 year+2

Quarterly data are revised after each subsequent quarter (until the fourth quarter), and then when new annual benchmarks are available.

The revisions cycle is predetermined and known by the users. Revised data are published with accompanying short notes.

4.3.2 Preliminary and/or revised data are clearly identified.

Users are informed in the text of the releases that the initially published data are preliminary and subject to revision. Preliminary and revised data are labeled in the publications. The revised data are disseminated with the same level of detail as previously published for the data being revised.

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

The main methodological revisions are well documented, and the reasons for the revision are explained in detail. The magnitude of revisions is measured, and the results are made available to the general public. Analysis of preliminary versus revised data is published to allow assessment of the reliability of the preliminary data.

5. Accessibility

5.1 Data accessibility

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

National accounts data are published in a clear manner—charts and tables are disseminated with the figures to facilitate their analysis. Depending on the type of publication, yearbook or specialized national accounts publication, datasets are published with various levels of detail. Estimates are disseminated at a detailed level and as time series. An analysis of current-period developments is also available. The release of annual and quarterly GDP estimates is supplemented with short comments and methodological notes.

5.1.2 *Dissemination media and format are adequate.*

The web page of the NSS reproduces the data from the quarterly statistical bulletin and the annual publications. Longer time series can be accessed electronically. However, the electronic format of time series is in a print-out version only. Also, chain-linked time series including 2007 are available only by request.

Recommendation: In the new NSS website, disseminate chain-linked time series with each quarterly data dissemination.

5.1.3 *Statistics are released on a preannounced schedule.*

The NSS publishes quarterly a release calendar giving the precise release dates for the quarter for all datasets, including the national accounts. In very rare cases, if the deadlines cannot be met, the NSS informs the users in advance.

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

The national accounts data are released simultaneously to all users.

5.1.5 *Statistics not routinely disseminated are made available upon request.*

In addition to the data published on the website and in the quarterly bulletin, it is possible to obtain more detailed national accounts tables by applying directly to the NSS. Contact information is available on the website and in the hard copy publications.

5.2 Metadata accessibility

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.

Metadata—including information on concepts, definitions, classifications, data sources and statistical techniques—are published on the website and in hardcopy publication. It is available in Armenian, Russian, and English. The national accounts chapters in the Statistical Yearbook also contain metadata. Exhaustive national account metadata publication on sources and methods is available in a special publication in Armenian and Russian.

The SDDS detailed methodology is regularly reviewed and updated.

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

The description of the methodology included in each publication is designed to meet the needs of the users of that publication. Besides, there is an exhaustive publication on sources and methods in national accounts (see 5.2.1.).

5.3 Assistance to users

5.3.1 Contact points for each subject field are publicized.

All statistical releases list contact information with telephone numbers or e-mail addresses. The access points to clients are well advertised. Assistance to users is monitored through periodic surveys.

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

The NSS produces a catalog of publications, which is updated annually and contains a list of publications that the NSS will be releasing during the year. The catalog provides a brief description of the data contained in the publication, the price, periodicity, expected month of release, the publication format, and the languages of dissemination.

In 2008, the Center for Freedom of Information, an independent nongovernmental organization, undertook a survey on “Access to Information.” According to the published results of the survey, the NSS is considered one of the most “open” agencies in Armenia. Users (mostly mass media) have rated highly the NSS as an agency where data could be received easily.

Table 1. Armenia: Data Quality Assessment Framework (July 2003): Summary of Results for National Accounts
(Compiling Agency: National Statistical Service)

Key to symbols: NA = Not Applicable; O = Practice Observed; LO = Practice Largely Observed; LNO = Practice Largely Not Observed; NO = Practice Not Observed; SDDS = Complies with SDDS Criteria						
Element	NA	Assessment				Comments
		O	LO	LNO	NO	
0. Prerequisites of quality						
0.1 Legal and institutional environment		X				Low salaries affect staff turnover.
0.2 Resources			X			
0.3 Relevance		X				
0.4 Other quality management		X				
1. Assurances of integrity						
1.1 Professionalism		X				
1.2 Transparency		X				
1.3 Ethical standards		X				
2. Methodological soundness						
2.1 Concepts and definitions		X				Some nonresident financial sector units are included into the scope of national accounts.
2.2 Scope			X			
2.3 Classification/sectorization		X				General government data and some balance of payments data on a cash basis.
2.4 Basis for recording			X			
3. Accuracy and reliability						
3.1 Source data			X			Some quarterly source data are collected on a cumulative rather than discrete basis.
3.2 Assessment of source data		X				
3.3 Statistical techniques			X			Statistical techniques for owner occupied dwellings, consumption of fixed capital as well as volume measures of net exports deviate from international standards.
3.4 Assessment and validation of intermediate data and statistical outputs		X				
3.5 Revision studies		X				
4. Serviceability						
4.1 Periodicity and timeliness		X				
4.2 Consistency		X				
4.3 Revision policy and practice		X				
5. Accessibility						
5.1 Data accessibility			X			Chain-linked time series available only by request.
5.2 Metadata accessibility		X				
5.3 Assistance to users		X				

II. PRICE STATISTICS (CONSUMER PRICE INDEX)

0. Prerequisites of quality

0.1 *Legal and institutional environment*

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

Compilation and dissemination of data are governed by the terms and conditions of the *Law On State Statistics* of Armenia, which was approved by the National Assembly of Armenia on April 4, 2000. This Law serves as the legal basis for the organization and order of official statistics in Armenia. This Law also regulates the relations involving collection, processing, accumulation, summarizing, and storing, as well as the analysis and exchange of statistical data related to social and economic processes in Armenia, population and its activities, and the presentation (publication) of statistical information.

Legal relations pertaining to census activities are governed on the basis of the *Law On the Population Census* of Armenia, adopted by the National Assembly of Armenia on October 12, 1999.

Provisions of the *Law On State Statistics*, the *Law On Three-Year State Statistical Work Program* and the normative and legal acts adopted by the State Council on Statistics (SCS) of Armenia (Supreme body of governance of the National Statistical Service—NSS) serve as the regulatory legal base for state statistics.

The *Law On Three-Year State Statistical Work Program* for 2007–2009 was adopted by the National Assembly of Armenia on November 29, 2006.

In addition to the above, certain relations of state statistics organization are governed by other regulatory legal acts listed below and in sections 0.1.2, 0.1.3, and 0.1.4, which are adopted by the SCS based on the *Law On State Statistics*:

- (a) Resolution No. 110-N of the SCS “On Approval of the Charter and Structure of the National Statistical Service of the Republic of Armenia” of July 26, 2002;
- (b) Resolution No. 20-N of the SCS “On Approval of the Regulations of the State Council on Statistics of the Republic of Armenia and on Repealing the Resolution No. 10 of the State Council on Statistics of the Republic of Armenia of August 15, 2000” of November 24, 2006; and
- (c) Resolution No. 60 of the SCS “On Approval of the Procedure for the Publication of Statistical Information” of August 15, 2001.

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

NSS relations with the institutions implementing administrative statistics are regulated through procedures established by the *Law On State Statistics* and Resolution No. 109 of the SCS “On Approval of the Procedure for the Maintenance of Administrative (information) Registers and Receiving Information from Them” of May 10, 2002.

Resolution No. 109 defines the rules and terms for the maintenance of administrative (information) registers, as well as for submitting the collected information to the NSS.

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

Statistical confidentiality is regulated through a procedure established by the *Law On State Statistics* and Resolution No. 53-N of the SCS “On Approval of the Procedure for Ensuring the Confidentiality of Statistical Data” of June 25, 2001.

The procedure defines rules of storing, using and publishing confidential statistical information, as well as rights and responsibilities of all the participants in relation to statistical confidentiality.

According to the provisions of this procedure, a Commission on Statistical Confidentiality Issues was also established within the NSS. Furthermore, all staff members of the NSS are required to sign a sworn declaration on statistical confidentiality.

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

Relations regarding the provision of necessary statistical information for the state statistical work program implementation are regulated through the procedure established by the *Law On State Statistics* and Resolution No. 11-N of the SCS “On Approval of the Procedure for the Presentation of Statistical Data” of October 03, 2003.

The procedure defines rules of statistical data provision in the scope of state statistical observation by the legal persons (irrespective of organizational and legal form), individual entrepreneurs, foreign legal persons’ separate units in Armenia, registered in accordance with the procedure established by Armenia legislation, as well as by government and local self-government bodies.

Reporting is mandated by Article 20 of the *Law On State Statistics*:

Article 20. Obligations of the Units Presenting the Statistical Information

The units presenting the state statistical information are obliged:

to present the necessary statistical data and information for the implementation of Program according to the established order and terms by the Program;

to execute the instructions related to the state statistics and accounting given by the body implementing statistics.

The units presenting the statistical information complete and present the statistical reports (questionnaire and other) independently, if there is no another order established by the Council.

0.2 Resources

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

National Statistical Service

The number of NSS employees is approved by the Prime Minister's Decree on presentation of the NSS President.

In April 2008, NSS comprised the following staff:

	Headquarters	Regional offices	Total
Civil servants (tenured)	155	179	334
Statisticians (fixed term)	33	358	391
SCS members & auxiliary personnel	26	-	26
Total	214	537	751

The salaries of the NSS staff are financed from the Armenia state budget.

Compensation of the NSS employees, who are civil servants, is based on the *Law On Compensation of Civil Servants* and is general for all civil servants.

Eight employees work in the Price Statistics and International Comparisons Division (PSICD). Two of these staff plus the division head work on the consumer price index (CPI). These eight staff are positioned in one office. Seven of these staff members have higher education. Data collection is done by two or three price collectors in each region (10 regional statistical offices) and five price collectors for Yerevan. Qualifications of the staff are adequate, with their skills maintained and developed to perform the required tasks.

Staff have some opportunities for training, such as the IMF's price training course in Washington, D.C. Due to demands and resources allocated for the International Comparison Program (ICP) and the Purchasing Power Parities (PPP), the NSS has deficient resources. Moreover, staff resources are inadequate to implement additional plans for producing Armenia's Harmonized Indices of Consumer Prices (HICP).

Nevertheless, the PSICD pays particular attention to ensuring that there are sufficient staff members to effectively carry out its various operations, while allowing for annual leave, maternity leave and other staff entitlements.

The NSS's salary level is not adequate for the nature of work, and is not competitive with the Central Bank of Armenia (CBA), other government entities, and other private sector organizations with comparable jobs and positions. Additionally, regional price collectors are not adequately reimbursed for transportation arrangements for collecting the price data.

There are provisions of emergency back-up systems for retrieval of the CPI. The CPI has its own server and is also backed up on CD-ROMs. However, computing needs and technology are inadequate. Each staff in the PSICD has a Pentium computer, and the CPI data are currently produced using Excel spreadsheets.

Recommendation: CPI staff computing resources, office space, and financing should be improved to adequately compile and disseminate the CPI statistics.

0.2.2 Measures to ensure efficient use of resources are implemented.

In accordance with the order established by the Armenia legislation, the Chief of the NSS staff disposes the state property attached to the NSS staff, including financial means. The Chief of the staff also organizes preparation of the NSS draft budget.

The annual expenditure budget of the NSS and results of rechecking authenticity of the financial reports are approved by the NSS President, and the annual balance and financial reports—by the SCS.

Authenticity of the annual financial reports of the NSS staff could be audited in the order established by the Armenia government.

0.3 Relevance

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

With the aim of studying users' needs, the state statistical work programs (three-year and annual) are posted at the NSS website (at <http://www.armstat.am>) and submitted to a selected sample of about 100 users (government, scientific and educational institutions, judicial bodies, banking

system, business, nongovernmental and international organizations and mass media) for comments and recommendations.

In accordance with the *Law On State Statistics*, the Annual Program includes statistical information on the economic, demographic, social, and environmental situation of the country, and is developed based on the study of users' needs.

The following aspects are taken into account when developing an annual program: availability of resources, burdens on respondents, cost-effectiveness, comparability of the country indicators with the international standards, potential stable periodicity of those indicators from the viewpoint of discovering trends in the long-term period and their harmonization with the resources annually allocated to the state statistics.

0.4 Other quality management

0.4.1 Processes are in place to focus on quality.

Quality is anchored on the principle of ensuring application of methodologies that are in compliance with international statistical standards.

The NSS management attaches importance to data quality issues and takes initiatives to improve quality. The NSS reviews data for accuracy. The NSS has internal process to identify issues at the various stages of the collection, compilation, and dissemination of statistics. The National Account Division also functions as an internal audit in terms of data consistency and assessing the design of new questionnaires and methodologies.

There are no trade-offs between timeliness and quality of the CPI. An internal twelve-month Advance Release Calendar (ARC) developed for all divisions of the NSS ensures that all deadlines are met, while the organization of the data production supports the compilation and dissemination of quality price statistics within these deadlines.

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

The NSS reviews all unusual movements in the price data received, and are traced back to the reporter, if necessary.

The PSICD generally conducts annual meetings for price collectors in order to maintain the quality of the prices statistics and strategies for improving data production.

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

Data collected from the statistical information providers are arithmetically and logically checked.

Internal procedures for ensuring quality, depending on their character, are implemented by the following units:

- Ensuring the proper methodology of indicators—SCS and Statistical Work Methodology and Classifications Division;
- Business statistics—Macroeconomic Indicators and National Accounts Division and Senior Adviser to the President of the NSS;
- Macroeconomic indicators—Senior Adviser to the President of the NSS; and
- Publications and dissemination—Vice President and Statistical Publications and Marketing Division.

1. Assurances of integrity

1.1 Professionalism

1.1.1 Statistics are produced on an impartial basis.

According to the *Law On State Statistics*, the NSS is independent from state and local self-government bodies of Armenia in its activities.

Article 5 of the *Law On State Statistics* states that Armenia's official statistics are governed by the principles of objectivity, reliability, and integrity. It states that official statistics should observe international methodological standards as well as internationally accepted practices on accessibility and dissemination (publicity) of statistical data. Article 9 states that the choice of the President of the NSS must be a citizen of Armenia having high economic education and work experience in the domain of statistics.

Article 9 further states that the President cannot be appointed simultaneously to any other position in the public or private sector or accept other paid work besides scientific, pedagogical and creative. The President's tenure may be shortened only by (1) his (her) resignation, (2) discontinuing his (her) citizenship of Armenia, (3) being rendered incapable or of diminished capacity to perform his (her) duties by a court decision or conviction, or (4) his (her) death. The President of the Service nominates his (her) deputies for appointment by the SCS.

Professionalism is actively encouraged. There are strong, mutually beneficial links between the NSS and the universities. Opportunities are taken for the NSS staff to participate in international

statistical training programs at the IMF, and the UNDP funded training program at the United States Bureau of Labor Statistics.

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

The NSS makes choices about sources of data and statistical techniques based solely on professional statistical considerations and in the light of international standards. There is no evidence of outside interference. The reasons behind the choice of sources and methodologies are made public through the annual statistical program.

The annual program approved by the SCS includes:

- a list of statistical activities, terms of their implementation, the coverage, as well as types of observations,
- periodicity of the presentation of statistical indicators,
- a list of surveys that should be implemented by the NSS, published statistical handbooks, bulletins and other publications and their periodicity,
- a list of organizations, state bodies and local self-government and other administrative registers and a list of summary statistical information (data), provided by them, and
- a list of users of statistics, the breakdown of information provided free of charge and the structure of its presentation.

Decisions about the timing and format of the disseminated data are also based solely on statistical considerations.

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

In accordance with the *Law On State Statistics*, the NSS is not obliged, but has the right to provide clarifications on the misuse and miscommenting of statistical information it publishes.

The NSS policy is to avoid any misunderstandings by providing additional explanations of the data with the releases. The Public Relations Unit of the NSS is responsible for daily monitoring of the media.

The CPI publications and news releases produced by the NSS provide explanations of the basis for compiling the price indices, and identify the main factors underlying unusual figures and movements, in order to improve user understanding and reduce the likelihood of any misinterpretation. The Chairman of the NSS is allowed to respond to public criticism of the price

statistics or instances of misuse of statistics. However, this practice is not encouraged so as to minimize debates that may be political in nature.

1.2 Transparency

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

Users have full access to information about the conditions under which statistical data are collected, processed and disseminated as well as about release timetables, confidentiality of individual data and other specific points.

The *Law On State Statistics* of the Republic of Armenia was published in the *Official Bulletin of the Republic of Armenia*, No. 8 (106) of April 28, 2000, and also on the NSS website at <http://www.armstat.am/ARM/Law/HHPO-III-0.asp> [in Armenian, Russian, and English].

The *Law On the Population Census* of the Republic of Armenia was published in the *Official Bulletin of the Republic of Armenia*, No. 28 (94) of November 13, 1999.

The *Law On the Three-Year Program of Statistical Projects for 2007–2009* of the Republic of Armenia was published in the *Official Bulletin of the Republic of Armenia*, No. 66 (521) of December 25, 2006. The Armenian version of the law is posted on the National NSS website at http://www.armstat.am/arm/Law/07_09_pr/index.html.

The following regulatory legal acts of the SCS were published in the *Bulletin of Departmental Regulatory Acts of the Republic of Armenia* following their approval:

- (a) Resolution No. 110-N of the SCS “On Approval of the Charter and Structure of the National Statistical Service of the Republic of Armenia” of July 26, 2002 was published in the *Bulletin of Departmental Regulatory Acts of the Republic of Armenia*, No. 21 (107) of September 2, 2002.
- (b) Resolution No. 11-N of the SCS “On Approval of the Procedure for the Presentation of Statistical Data” of October 03, 2003 was published in the *Bulletin of Departmental Regulatory Acts of the Republic of Armenia*, No. 3 (151) of February 2, 2004.
- (c) Resolution No. 53 of the SCS “On Approval of the Procedure for Ensuring the Confidentiality of Statistical Data” of June 25, 2001 was published in the *Bulletin of Departmental Regulatory Acts of the Republic of Armenia*, No. 15 (78) of September 4, 2001.
- (d) Resolution No. 60 of the SCS “On Approval of the Procedure for the Publication of Statistical Information” of August 15, 2001 was published in the *Bulletin of*

Departmental Regulatory Acts of the Republic of Armenia, No. 3 (89) of February 11, 2002.

- (e) Resolution No. 20 of the SCS “On Approval of the Regulations of the State Council on Statistics and on Repealing the Resolution No. 10 of the State Council on Statistics of the Republic of Armenia of August 15, 2000” of November 24, 2006 was published in the *Bulletin of Departmental Regulatory Acts of the Republic of Armenia*, No. 30 (239) of December 15, 2006.
- (f) Resolution No. 109 of the SCS “On Approval of the Procedure for the Creation and Maintenance of Administrative Registers” of May 10, 2002 was published in the *Bulletin of Departmental Regulatory Acts of the Republic of Armenia*, No. 17 (103) of July 15, 2002.

Armenian versions of all the aforementioned resolutions are also posted on the NSS website at <http://www.armstat.am/arm/Law>.

In addition to the above, following approval by the SCS, all government statistical reporting forms and instructions for filling them out are also published in the *Bulletin of Departmental Regulatory Acts of the Republic of Armenia*.

Armenian versions of the reporting forms and instructions for filling them out are also posted on the NSS website at <http://docs.armstat.am/report/>.

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

No officials outside the NSS have access to the data prior to their release to the public.

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

All data releases are clearly identified as being produced by the NSS. In the case of joint publications, the NSS data are identified as being a product of the statistical office. The NSS print publications all identify NSS as the source. The NSS Public Relations Division also scans other websites using NSS data to check attribution. The NSS and the CBA Statistics Department regularly cross-check published data for consistency and attribution.

The commentaries of government agencies, as well as any other interested users regarding data are not provided in published materials.

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

Planned weight updates and changes in methodology are included in the Annual Program issued for the year in which they are to take place. When changes are made in methodology, the relevant explanatory footnotes are provided in the publications.

Following the procedure established by legislation (the Laws on State Statistics and on Legal Acts, Resolution No. 11-N of the SCS “On Approval of the Procedure for the Presentation of Statistical Data”, etc.), the NSS notifies parties responsible for the presentation of statistical information of changes in the methodology through the provision of new statistical reporting forms and/or instructions for filling them out (following their approval by the SCS and publication in the *Bulletin of Departmental Regulatory Acts of the Republic of Armenia*).

1.3 Ethical standards

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

Guidelines for the NSS staff behavior are set by the *Law On Civil Service* (published in the *Official Bulletin of the Republic of Armenia*, No. 1 (176) of January 09, 2002) and Resolution of the Armenia Civil Service Board No. 13-N “On Approval of the Guidelines for the Civil Servants’ Ethics” of May 31, 2002 (published in the *Bulletin of Departmental Regulatory Acts of the Republic of Armenia*, No. 18(104); of August 01, 2002).

Guidelines for behavior are general for the civil servants of all the civil service bodies.

2. Methodological soundness

2.1 Concepts and definitions

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

Concepts and definitions, which have been developed locally, are broadly in line with international standards, guidelines, or good practices. The household expenditure estimates from the Household Budget Survey (HBS) are used for the weights of market expenditure on goods and services. That is, Armenia’s CPI is based on the consumption concept, but it does not include illegal activities and imputed rentals. However, own-produced agriculture products and goods provided by employers as income-in-kind are included.

The CPI is classified according to the Classification of Individual Consumption by Purpose (COICOP), which conforms to the guidelines of the *System of National Accounts 1993 (1993 SNA)*, the International Labor Organization, and the *Consumer Price Index Manual, 2004*

(*CPI Manual*). The current CPI was rebased in 2006 (2005 =100) with average 2005 prices used for the price reference period.

2.2 Scope

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

The NSS compiles a monthly CPI for Yerevan and 10 marzes, in which prices are collected in two cities from one of the marzes. The CPI for domestic and imported items cover three aggregated groups (food, nonfood goods and services) nine divisions, 64 groups, and 470 commodities (560 representatives).

All resident households, regardless of income, are included in the CPI for Yerevan and the marzes, and are stratified according to residence in cities, towns, and regions (marzes). CPI weights cover the expenditures of all resident households in the country. The weights are adjusted to cover informal activity and consumption of nonmonetary goods such as own-produced agriculture products and goods provided by employers as income in kind.

2.3 Classification/sectorization

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

The 1993 SNA classifies institutional units and the COICOP classification is used to classify household final consumption activities.

The NSS classification and sectorization used in the compilation of the CPI are in conformity with internationally accepted systems.

2.4 Basis for recording

2.4.1 Market prices are used to value flows and stocks.

Consumption is defined as the value of the goods or services purchased at market prices including taxes and any extra charges. Actual transaction prices are used. Specifically:

- Direct taxes and VAT are included in the price being recorded.
- Sale prices are included provided that the item will continue to be available after the sale period.
- In the case of list prices, shop owners are asked to confirm that the prices are actually those being charged to consumers.

All product specifications are carefully designed for the basket items and their varieties, with guidance provided by the staff in PSICD. Price determining characteristics for transactions at market prices generally consider size, color, brand, and quality, etc.

The consumption expenditure is valued at purchasers' prices, which include trade and transportation margins and applicable taxes less subsidies on products.

2.4.2 Recording is done on an accrual basis.

Prices for goods and services are recorded in the period they are purchased.

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

Armenia's CPI does not include net purchases made in secondary markets. In particular, purchases less sales of existing goods such as used cars or other durable consumption goods with a secondary market are not included in the CPI. The importance of used durables in aggregate household expenditures is generally very small when transactions in these items occur between residents of Armenia. However, they can be significant for transactions between Armenians and nonresidents if, for example, net imports of existing durables, such as used cars, are large enough.

Recommendation: NSS should review customs information on import of used goods to assess the importance of the exclusion of net purchases of existing durables in secondary markets.

3. Accuracy and reliability

3.1 Source data

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

Sources for CPI Prices: A judgmental list of outlets is compiled by the NSS. Outlets are selected based on the population size, sales turnover, and quantity of services demanded. Price data are collected mainly by personal visits to between nine to twelve outlets per region, and are then submitted electronically to the NSS central office. Prices for some services such as communications, electricity, and gas are collected in the central office. About 250,000 price quotes are collected each month. Four hundred and seventy items were also judgmentally selected based on the data from the HBS. Misclassifications and nonresponse tend not to be problem since good communications exist between the price collectors and the retail outlets and survey participation is high.

New products are introduced into the CPI basket when the CPI is rebased and the results of a new HBS become available.

Very small outlets such as kiosks are excluded from price collection. Large and medium retail enterprises are represented in the price collection.

Besides the price information for electricity, water, other utilities, etc, the CPI price information is not derived from any other administrative or other available source that can be used to supplement the core compilation.

Sources for CPI Weights: The NSS conducts a continuous Integrated Living Conditions Survey of Households (ILCSH) that covers the whole geographic area of Armenia. The current CPI is based on the 2004/2005 ILCSH results. Armenia's consumer expenditure comprises monetary expenditures made by households to purchase food products, alcoholic beverages and tobacco, nonfood products, and services. All expenditures made by the household on services and new goods (second-hand goods are not included) are considered, including the cost of food consumed from their own farms, and goods and services as compensation in-kind.

The 2004/2005 weights for the CPI are 53.91 percent for food, 16.18 percent for nonfood, and 29.91 percent for services. This survey covers 6,816 households monthly, with a new sample of households being surveyed each month.

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

The ILCSH sampling frame was derived from a database of addresses of all households in Armenia that was divided into 32 strata including 12 communities of Yerevan city and 20 remaining strata from other regions or marzes that were grouped according to towns and villages.

Based on the strata, a random two-step sample stratified at the marz level was developed. All marzes, as well as all urban and rural settlements were included in the sample population according to the share of households living in those settlements as a percent of the total households in the country. In the first step, the probability proportional to size method was used to determine the enumeration units. Therefore, the 2004 sample includes 43 towns and 216 villages. In the second step, 6,816 respondent households were selected.

The NSS does make an adjustment for under-reporting of alcohol and tobacco consumption expenditure. Additionally, expenditure on own-account production of market goods for own final consumption, and goods and services offered in the informal market are included in the ILCSH.

CPI sources do not cover:

- Owner-occupied housing in either as consumption of housing services (except partially by covering maintenance and repair expense) or as capital formation in (acquisitions less disposals of) housing units, and
- Second-hand goods.

3.1.3 Source data are timely.

The periodicity and timeliness of the price survey are adequate for disseminating the CPI. Prices are collected the 30th, 10th and 20th of a month, and the index is disseminated on the last working day of the referenced month. Hence, prices are collected in time to allow for quality assurance, processing, and aggregation. The PSICD, therefore, apply the period-of-time approach to determine an average price for the whole month.

3.2 Assessment of source data

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.

The HBS usually adjusts for underreporting of specific products such as alcohol and tobacco using turnover sales data from the NSS Business Statistics Division.

Sampling errors for price collection are not available since the sampling of outlets is conducted by judgmental selection. Problems of nonresponse are not common for the outlets sampled due to the established relationships between the interviewers and the enterprises.

Prices are first analyzed by the regional statistical offices for any atypical movements. The PSICD staff then conduct another level of data verification using programmed procedures for identifying outliers and atypical differences. Extreme values are then confirmed with respondents.

3.3 Statistical techniques

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

At the city and regional levels, the prices are first collected and then passed on to the NSS CPI unit where the price indices are then tabulated. That is, all datasets are combined, weighted, and aggregated into the city, regional, and national indexes.

Prices for temporarily missing and seasonal products for the CPI are estimated using the targeted and overall means approach described in the *CPI Manual*. When imputing for seasonal prices, missing prices are first imputed, then at the time the seasonal item appears the index then determines the price change at the beginning of the new season. New goods are not introduced into the sample as they gain market share. New goods are only introduced when the CPI index is re-weighted. Price data are adjusted for quality changes using both explicit and implicit adjustment methods.

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

An unbiased formula is used to calculate the basic level price indexes and an appropriate index formula with weights is used to aggregate elementary indexes to higher levels. The Jevons index, geometric means, is used at the elementary aggregate level, for items at each region. These indices are aggregated using the short-term change from the previous period from the price reference period, and chaining the index to the previous period's index. Weights (October 2004 to March 2005) are adjusted for price change to align with the price reference period (average prices in 2005). New weights are compiled every year. They are scanned for significant changes, and if significant, a weight update is proposed; Otherwise, the CPI weights are updated every five years. The new index is linked to the old index, and a monthly overlap period is used to calculate linking factors.

According to the PSICD, prices are not collected from parallel markets or underground economies even though the HBS derived expenditure estimates. If these expenditure weights are significant, the NSS should consider monitoring prices in the parallel markets.

There are no distinctions in prices if the consumer chooses to pay by credit or by cash. The value recorded for goods and services represent the economic cost to the consumer at the time the good or service is purchased regardless of method for payment.

Goods and services produced for own final consumption is included in the CPI.

There are several options in covering imputed rent in the CPI. The CPI could use the national accounts imputed rentals estimate as the weight. This would make CPI expenditure coverage fully consistent with household final consumption expenditure. Regarding the price of imputed rent, as immediate options the CPI could continue to use the price index of maintenance and repair as a partial user cost estimator, or it could use a price index based on actual rentals. Both the maintenance and repair and actual rentals data would need assessment before using them to move the imputed rentals weight. Maintenance and repair excludes the real interest component of user cost, and a rental sample needs to be conducted and assessed for the representativeness of the change in the rental value of the owned housing stock. The impact on the overall index would depend on what pricing approach is taken and whether the national accounts imputed rent estimate (COICOP 04.2) is larger or smaller than the maintenance and repair estimate (COICOP 04.3) now used in the index.

The *CPI Manual* (Chapter 14) describes another concept for including owner-occupied housing in the CPI, sometimes called the net acquisitions approach. This concept is equivalent to the household residential capital formation concept from the national accounts. It thus contrasts with the rental equivalence and user cost approaches, which are both estimating the value of the final consumption of housing services concept in the national accounts. Although household residential capital formation is a different concept, its weight and price may be easier to measure. The weight is the net acquisitions of houses by households by type and location of housing unit plus the value of major improvements in existing housing units.

This information was collected using the 2005/06 HBS and could be used as a net acquisition weight for owner occupied housing. Additionally, the HBS asked each home owner to provide a price for his or her dwelling if they were to sell it. This provides an estimate of the purchase price of housing units by type and location, but not at the monthly frequency needed for the CPI, and moreover, is not a transaction value. A source of data on prices observed in current transactions in houses and apartments would be needed to supplement the HBS information.

The PSICD provides the regional staff with detailed product specifications for collecting price so that they collect prices for the same variety each period.

Recommendation: The NSS should technically evaluate the rental equivalence and user cost approaches to covering the housing services consumption of households that own their dwellings and the net acquisitions approach to households' capital formation expenditures for dwellings. This will require improving the CPI sources for imputed rentals for owner-occupied housing, and/or for a house price index that could be used with a net acquisitions weight compiled from the HBS to cover owner-occupied housing.

3.4 Assessment and validation of intermediate data and statistical outputs

3.4.1 Intermediate results are validated against other information, where applicable.

The CPI data are regularly compared to other price index series such as the Producer Price Index (PPI), the Import (MPI)/Export Price Index (XPI), agriculture, and construction price series.

3.4.2 Statistical discrepancies in intermediate data are assessed and investigated.

Any unusual movements such as outliers in item indices are verified and traced back to the reporting outlet if necessary.

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

Discrepancies arising from inconsistent imputation for missing data are routinely assessed. There are ranges of control edits supported by the Excel (conditional statements) computer program that are used to assess and validate the data.

3.5 Revision studies

3.5.1 Studies and analyses of revisions are carried out routinely and used internally to inform statistical processes (see also 4.3.3).

The impact of weight updating, outlets and items selection studies are disseminated in the NSS annual work plan. The impact of these studies are used to define the optimal weight revision cycle (one year versus two years) based on the changing structure or expenditure patterns of the economy.

4. Serviceability

4.1 Periodicity and timeliness

4.1.1 Periodicity follows dissemination standards.

The periodicity of the statistics follows the Special Data Dissemination Standard (SDDS) requirements. The CPI is compiled monthly.

4.1.2 Timeliness follows dissemination standards.

The CPI data are published on the last working day of the reference month. This is always met, and accordingly exceeds SDDS requirements.

4.2 Consistency

4.2.1 Statistics are consistent within the dataset.

The CPI data are internally consistent and are invariant of the geographical and item or expenditure class. Yet, when changes in source data, methodology, and statistical techniques are introduced, historical series are not reconstructed for periods greater than three months.

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

Historical consistent time series data are estimated and published. Reconcilable output indices that were set equal to 100 have been produced and disseminated every ten years since 1940.

The CPI statistics are consistent when:

- (a) compared to the base year,
- (b) the current month compared to the previous month,
- (c) compared to December of the previous year,
- (d) compared to the corresponding month of the previous year,
- (e) on a cumulative basis (compared to the corresponding period of the previous year),
- (f) chain indices according to the different periods,
- (g) average annual indices, and
- (h) quarterly indices.

Detailed methodological notes are available that identify and explain the adjustments made to maintain consistency. Additionally, unusual changes in economic trends are explained in the analytical text included in the statistical publications and news releases.

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

The CPI is largely consistent with the PPI, XMPI/IMPI, agriculture, construction price indices, and the national accounts estimates.

4.3 Revision policy and practice

4.3.1 Revisions follow a regular and transparent schedule.

The *Law On State Statistics*, Article 11, State Statistical Work Program, Annual, serves as the revision policy for weight revision, long-term trends, studies of sources of errors, and the explanation of methodology. Weight revisions occur at one to two year frequency.

4.3.2 Preliminary and/or revised data are clearly identified.

The CPI data are final when first released and are not subject to revision.

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

Documentation and findings on the Annual State Statistical Work Program are published, and are discussed with the NSS statistical council. This work program is also disseminated on the NSS website.

5. Accessibility

5.1 Data accessibility

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

The NSS publishes well designed charts and tables to facilitate analysis. Data for the CPI are accessible, and are published with various levels of disaggregation. Chain-linked CPI data are disseminated. These data are referenced annually to the base year of various decades starting in 1950. Monthly data are published periodically in the bulletin, and are available on request.

5.1.2 *Dissemination media and format are adequate.*

Monthly CPI data are disseminated in ways that facilitate redisseminated in the media. News releases are provided to six media organizations.

5.1.3 *Statistics are released on a preannounced schedule.*

An advance release calendar that gives one quarter ahead notice of the precise release dates is also disseminated on the Internet on the IMF's Data Dissemination Bulletin Board (DSBB) (<http://dsbb.imf.org>).

Release calendars for statistical publications (data) appear in the Annual Programs of Statistical Projects approved by the SCS of Armenia. The Annual Program is approved within one month after the approval of the state budget by the National Assembly of Armenia.

The Program of Statistical Projects for 2006 was approved by Resolution 37-N of the SCS, dated December 23, 2005. The Armenian version of the Program of Statistical Projects for 2005 is posted on the NSS website, http://www.armstat.am/arm/Law/SR_06/index.html.

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

All data are released simultaneously to the public through press releases, publications (*The Consumer Price Index (Prices) in Armenia*, *Current Data for Main Macroeconomic Indicators Describing Armenia's Socioeconomic Situation*, and the *Socioeconomic Situation of Republic of Armenia*) and on the NSS website, <http://www.armstat.am/Publications>.

Copies of all publications are placed in the library of the NSS, which is open to the public, in the national public library of Armenia at the same time they are sent to recipients established under the Annual Program of Statistical Projects.

5.1.5 Statistics not routinely disseminated are made available upon request.

Detailed customized tabulation (detailed breakdowns) of price indices data is available upon request, in addition to the tables routinely disseminated. For specific purposes, customized tabulation of data that satisfy the NSS's disclosure requirements are also available free of charge. Data users are aware of the availability of additional statistics and of the procedures for obtaining them.

5.2 Metadata accessibility

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.

Brief methodological commentary on indicators is published in the *Socioeconomic Position of Armenia* monthly informational reports, in the *Statistical Yearbooks of Armenia*, and in greater detail in topical publications.

Statistical reporting forms and instructions for filling them out, following their approval by the SCS as regulatory acts are subject to mandatory publication in the *Bulletin of Departmental Regulatory Acts of the Republic of Armenia*, after which they become legally binding.

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

Every month, after official publication of monthly CPI indicators, ten-day CPI prices (95 from 470 items) are provided to the CBA and State Tax Service of the Government of Armenia according to their request.

General use information such as small booklets about the CPI and other price statistics is available and made public. Furthermore, more specialized use information is also available and made public.

5.3 Assistance to users

5.3.1 Contact points for each subject field are publicized.

Prompt and knowledgeable service and support are available to CPI users. All statistical publications provide contact information such as, telephone, facsimile and e-mail address. Small booklets and pamphlets are published and distributed to raise awareness on the use of statistics. Access points for clients to obtain statistical information are well advertised. Assistance to users is monitored and reviewed frequently.

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

According to the Annual Statistical Work Program, every year the NSS publishes and disseminates the *Catalogue of Statistical Publications*. The catalogue contains detailed and clearly structured information on NSS hard copy publications. The catalogue presents each publication by title, a short summary of its contents, periodicity, and the publication deadline.

The catalogue aims to guide users about the statistical products published by the NSS.

The electronic version of the *catalogue* is available on the NSS website at <http://www.armstat.am/Eng/Publications/>.

Table 2. Armenia: Data Quality Assessment Framework (July 2003): Summary of Results for Price Statistics
(Consumer Price Index)
(Compiling Agency: National Statistical Service)

Key to symbols: NA = Not Applicable; O = Practice Observed; LO = Practice Largely Observed; LNO = Practice Largely Not Observed; NO = Practice Not Observed; SDDS = Complies with SDDS Criteria						
Element	NA	Assessment				Comments
		O	LO	LNO	NO	
0. Prerequisites of quality						
0.1 Legal and institutional environment		X				Staff, facilities, computing resources, and financing are not commensurate with the CPI program.
0.2 Resources			X			
0.3 Relevance						
0.4 Other quality management		X				
1. Assurances of integrity						
1.1 Professionalism		X				
1.2 Transparency		X				
1.3 Ethical standards		X				
2. Methodological soundness						
2.1 Concepts and definitions		X				
2.2 Scope		X				
2.3 Classification/sectorization		X				
2.4 Basis for recording		X				
3. Accuracy and reliability						
3.1 Source data		X				Owner-occupied housing sources and methods not sufficient.
3.2 Assessment of source data		X				
3.3 Statistical techniques			X			
3.4 Assessment and validation of intermediate data and statistical outputs		X				
3.5 Revision studies		X				
4. Serviceability						
4.1 Periodicity and timeliness		X				
4.2 Consistency		X				
4.3 Revision policy and practice		X				
5. Accessibility						
5.1 Data accessibility		X				
5.2 Metadata accessibility		X				
5.3 Assistance to users		X				

III. PRICE STATISTICS (PRODUCER PRICE INDEX)

0. Prerequisites of quality

0.1 *Legal and institutional environment*

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

Compilation and dissemination of data are governed by the terms and conditions of the *Law On State Statistics* of Armenia, which was approved by the National Assembly of Armenia on April 4, 2000. This Law serves as the legal basis for the organization and order of official statistics in Armenia. This Law also regulates the relations involving collection, processing, accumulation, summarizing, and storing, as well as the analysis and exchange of statistical data related to social and economic processes in Armenia, population and its activities, and the presentation (publication) of statistical information.

Legal relations pertaining to census activities are governed on the basis of the *Law On the Population Census* of the Republic of Armenia, adopted by the National Assembly of the Republic of Armenia on October 12, 1999.

Provisions of the *Law On State Statistics*, the *Law On Three-Year State Statistical Work Program* and the normative and legal acts adopted by the State Council on Statistics (SCS) of Armenia (supreme body of governance of the National Statistical Service—NSS) serve as the regulatory legal base for state statistics.

The *Law On Three-Year State Statistical Work Program* for 2007–2009 was adopted by the National Assembly of Armenia on November 29, 2006.

In addition to the above, certain relations of state statistics organization are governed by other regulatory legal acts listed below and in sections 0.1.2, 0.1.3 and 0.1.4, which are adopted by the SCS based on the *Law On State Statistics*:

- (a) Resolution No. 110-N of the SCS “On Approval of the Charter and Structure of the National Statistical Service of the Republic of Armenia” of July 26, 2002;
- (b) Resolution No. 20-N of the SCS “On Approval of the Regulations of the State Council on Statistics of the Republic of Armenia and on Repealing the Resolution No. 10 of the State Council on Statistics of the Republic of Armenia of August 15, 2000” of November 24, 2006; and
- (c) Resolution No. 60 of the SCS “On Approval of the Procedure for the Publication of Statistical Information” of August 15, 2001.

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

NSS relations with the institutions implementing administrative statistics are regulated through procedures established by the *Law On State Statistics* and Resolution No. 109 of the SCS “On Approval of the Procedure for the Maintenance of Administrative (information) Registers and Receiving Information from Them” of May 10, 2002.

Resolution No. 109 defines the rules and terms for the maintenance of administrative (information) registers, as well as for submitting the collected information to the NSS.

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

Statistical confidentiality is regulated through a procedure established by the *Law On State Statistics* and Resolution No. 53-N of the SCS “On Approval of the Procedure for Ensuring the Confidentiality of Statistical Data” of June 25, 2001.

The procedure defines rules of storing, using and publishing confidential statistical information, as well as rights and responsibilities of all the participants in relation to statistical confidentiality.

According to the provisions of this procedure, a Commission on Statistical Confidentiality Issues was also established within the NSS. Furthermore, all staff members of the NSS are required to sign a sworn declaration on statistical confidentiality.

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

Relations regarding the provision of necessary statistical information for the state statistical work program implementation are regulated through the procedure established by the *Law On State Statistics* and Resolution No. 11-N of the SCS “On Approval of the Procedure for the Presentation of Statistical Data” of October 03, 2003.

The procedure defines rules of statistical data provision in the scope of state statistical observation by the legal persons (irrespective of organizational and legal form), individual entrepreneurs, foreign legal persons’ separate units in Armenia, registered in accordance with the procedure established by Armenia legislation, as well as by government and local self-government bodies.

Reporting is mandated by Article 20 of the *Law On State Statistics*:

Article 20. Obligations of the Units Presenting the Statistical Information

The units presenting the state statistical information are obliged:

to present the necessary statistical data and information for the implementation of Program according to the established order and terms by the Program;

to execute the instructions related to the state statistics and accounting given by the body implementing statistics.

The units presenting the statistical information complete and present the statistical reports (questionnaire and other) independently, if there is no another order established by the Council.

0.2 Resources

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

National Statistical Service

The number of NSS employees is approved by the Prime Minister's Decree on presentation of the NSS President.

In April 2008, NSS comprised the following staff:

	Headquarters	Regional offices	Total
Civil servants (tenured)	155	179	334
Statisticians (fixed term)	33	358	391
SCS members and auxiliary personnel	26	-	26
Total	214	537	751

The salaries of the NSS staff are financed from the Armenia state budget.

Compensation of the NSS employees, who are civil servants, is based on the *Law On Compensation of Civil Servants* and is general for all civil servants.

Eight employees work in the Price Statistics and International Comparisons Division (PSICD). Two of these staff plus the division head work on the producer price index (PPI). These eight staff are positioned in one office. Seven of these staff members have higher education. Survey forms results are assembled by one price collector for each of the regions. Qualifications of the staff are adequate, with their skills maintained and developed to perform the required tasks.

Staff have some opportunities for training, such as the IMF's price training course in Washington, D.C. Due to demands and resources allocated for the International Comparison Program (ICP) and the Purchasing Power Parities (PPP), the NSS has deficient resources.

Nevertheless, the PSICD pays particular attention to ensuring that there are sufficient staff members to effectively carry out its various operations, while allowing for annual leave, maternity leave, and other staff entitlements.

The NSS's salary level is not adequate for the nature of work, and is not competitive with the Central Bank of Armenia (CBA), other government entities, and other private sector organizations with comparable jobs and positions.

There are provisions of emergency back-up systems for retrieval of the PPI. The PPI has its own server and is also backed up on CD-ROMs. However, computing needs and technology are inadequate. Each staff in the PSICD has a Pentium computer, and the PPI data are currently produced using Access and Excel spreadsheets.

Recommendation: PPI staff computing resources, office space, and financing should be improved to adequately compile and disseminate the PPI statistics.

0.2.2 Measures to ensure efficient use of resources are implemented.

In accordance with the order established by Armenia legislation, the Chief of the NSS staff disposes the state property attached to the NSS staff, including financial means. The Chief of the staff also organizes preparation of the NSS draft budget.

Annual expenditure budget of the NSS and results of rechecking authenticity of the financial reports are approved by the NSS President, and the annual balance and financial reports—by the SCS.

Authenticity of the annual financial reports of the NSS staff could be audited in the order established by the Armenia government.

0.3 Relevance

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

With the aim of studying users' needs, the state statistical work programs (three-year and annual) are posted on the NSS website (at <http://www.armstat.am>) and submitted to a selected sample of about 100 users (government, scientific and educational institutions, judicial bodies, banking system, business, nongovernmental and international organizations, and mass media) for comments and recommendations.

In accordance with the *Law On State Statistics*, the Annual Program includes statistical information on the economic, demographic, and social and environmental situation of the country, and is developed based on the study of users' needs.

The following aspects are taken into account when developing an annual program: availability of resources, burdens on respondents, cost-effectiveness, comparability of the country indicators with the international standards, potential stable periodicity of those indicators from the viewpoint of discovering trends in the long-term period and their harmonization with the resources annually allocated to the state statistics.

0.4 Other quality management

0.4.1 Processes are in place to focus on quality.

Quality is anchored on the principle of ensuring application of methodologies that are in compliance with international statistical standards.

The NSS management attaches importance to data quality issues and takes initiatives to improve quality. The NSS reviews data for accuracy. The NSS has internal process to identify issues at the various stages of the collection, compilation, and dissemination of statistics. The National Accounts Division also functions as an internal audit in terms of data consistency and assessing the design of new questionnaires and methodologies.

There are no trade-offs between timeliness and quality of the PPI. An internal twelve-months Advance Release Calendar (ARC) developed for all divisions of the NSS ensures that all deadlines are met, while the organization of the data production supports the compilation and dissemination of quality price statistics within these deadlines.

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

The NSS reviews all unusual movements in the price data received, and are traced back to the reporter, if necessary.

The PSICD generally conducts annual meetings for price collectors in order to maintain quality of the prices statistics and strategies for improving data production.

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

Data collected from the statistical information providers are arithmetically and logically checked.

Internal procedures for ensuring quality, depending on their character, are implemented by the following units:

- Ensuring the proper methodology of indicators—SCS and Statistical Work Methodology and Classifications Division;
- Business statistics—Macroeconomic Indicators and National Accounts Division and Senior Adviser to the President of the NSS;
- Macroeconomic indicators—Senior Adviser to the President of the NSS; and
- Publications and dissemination—Vice President and Statistical Publications and Marketing Division.

1. Assurances of integrity

1.1 Professionalism

1.1.1 Statistics are produced on an impartial basis.

According to the *Law On State Statistics*, the NSS is independent from state and local self-government bodies of Armenia in its activities.

Article 5 of the *Law On State Statistics* states that Armenia's official statistics is governed by the principles of objectivity, reliability, and integrity. It states that official statistics should observe international methodological standards as well as internationally accepted practices on accessibility and dissemination (publicity) of statistical data. Article 9 states that the choice of the President of the NSS must be a citizen of Armenia having high economic education and work experience in the domain of statistics.

Article 9 further states that the President cannot be appointed simultaneously to any other position in the public or private sector or accept other paid work besides scientific, pedagogical and creative. The President's tenure may be shortened only by (1) his (her) resignation, (2) discontinuing his (her) citizenship of Armenia, (3) being rendered incapable or of diminished capacity to perform his (her) duties by a court decision or conviction, or (4) his (her) death. The President of the Service nominates his (her) deputies for appointment by the SCS.

Professionalism is actively encouraged. There are strong, mutually beneficial links between the NSS and the universities. Opportunities are taken for the NSS staff to participate in international statistical training programs at the IMF, and the United Nations Development Program funded training program at the United States Bureau of Labor Statistics.

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

The NSS makes choices about sources of data and statistical techniques based solely on professional statistical considerations and in the light of international standards. There is no

evidence of outside interference. The reasons behind the choice of sources and methodologies are made public through the annual statistical program.

The annual programs approved by the SCS include:

- a list of statistical activities, terms of their implementation, the coverage, as well as types of observations,
- periodicity of the presentation of statistical indicators,
- a list of surveys that should be implemented by the NSS, published statistical handbooks, bulletins, and other publications and their periodicity,
- a list of organizations, state bodies and local self-government and other administrative registers and a list of summary statistical information (data), provided by them, and
- a list of users of statistics, the breakdown of information provided free of charge, and the structure of its presentation.

Decisions about the timing and format of the disseminated data are also based solely on statistical considerations.

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

In accordance with the *Law On State Statistics*, the NSS is not obliged, but has the right to provide clarifications on the misuse and miscommenting of statistical information it publishes.

The NSS policy is to avoid any misunderstandings by providing additional explanations of the data with the releases. The Public Relations Unit of the NSS is responsible for daily monitoring of the media.

The PPI publications and news releases produced by the NSS provide explanations of the basis for compiling the price indices, and identify the main factors underlying unusual figures and movements, in order to improve user understanding and reduce the likelihood of any misinterpretation.

1.2 Transparency

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

Users have full access to information about the conditions under which statistical data are collected, processed and disseminated as well as about release timetables, confidentiality of individual data and other specific points.

The *Law On State Statistics* of Armenia was published in the *Official Bulletin of the Republic of Armenia*, No. 8 (106) of April 28, 2000 and also on the NSS website at <http://www.armstat.am/ARM/Law/HHPO-III-0.asp> [in Armenian, Russian, and English].

The *Law On the Population Census* of Armenia was published in the *Official Bulletin of the Republic of Armenia*, No. 28 (94) of November 13, 1999.

The *Law On the Three-Year Program of Statistical Projects for 2007–2009* of Armenia was published in the *Official Bulletin of the Republic of Armenia*, No. 66 (521) of December 25, 2006. The Armenian version of the law is posted on the NSS website at http://www.armstat.am/arm/Law/07_09_pr/index.html.

The following regulatory legal acts of the SCS were published in the *Bulletin of Departmental Regulatory Acts of the Republic of Armenia* following their approval:

- (a) Resolution No. 110-N of the SCS “On Approval of the Charter and Structure of the National Statistical Service of the Republic of Armenia” of July 26, 2002 was published in the *Bulletin of Departmental Regulatory Acts of the Republic of Armenia*, No. 21 (107) of September 2, 2002.
- (b) Resolution No. 11-N of the SCS “On Approval of the Procedure for the Presentation of Statistical Data” of October 03, 2003 was published in the *Bulletin of Departmental Regulatory Acts of the Republic of Armenia*, No. 3 (151) of February 02, 2004.
- (c) Resolution No. 53 of the SCS “On Approval of the Procedure for Ensuring the Confidentiality of Statistical Data” of June 25, 2001 was published in the *Bulletin of Departmental Regulatory Acts of the Republic of Armenia*, No. 15 (78) of September 4, 2001.
- (d) Resolution No. 60 of the SCS “On Approval of the Procedure for the Publication of Statistical Information” of August 15, 2001 was published in the *Bulletin of Departmental Regulatory Acts of the Republic of Armenia*, No. 3 (89) of February 11, 2002.
- (e) Resolution No. 20 of the SCS “On Approval of the Regulations of the State Council on Statistics and on Repealing the Resolution No. 10 of the State Council on Statistics of the Republic of Armenia of August 15, 2000” of November 24, 2006 was published in the *Bulletin of Departmental Regulatory Acts of the Republic of Armenia*, No. 30 (239) of December 15, 2006.
- (f) Resolution No. 109 of the SCS “On Approval of the Procedure for the Creation and Maintenance of Administrative Registers” of May 10, 2002 was published in

the *Bulletin of Departmental Regulatory Acts of the Republic of Armenia*, No. 17 (103) of July 15, 2002.

Armenian versions of all the aforementioned resolutions are also posted on the NSS website at <http://www.armstat.am/arm/Law>.

In addition to the above, following approval by the SCS, all government statistical reporting forms and instructions for filling them out are also published in the *Bulletin of Departmental Regulatory Acts of the Republic of Armenia*.

Armenian versions of the reporting forms and instructions for filling them out are also posted on the NSS website at <http://docs.armstat.am/report/>.

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

No officials outside the NSS have access to the data prior to their release to the public.

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

All data releases are clearly identified as being produced by the NSS. In the case of joint publications, the NSS data are identified as being a product of the statistical office. The NSS print publications all identify NSS as the source. The NSS Public Relations Division also scans other websites using NSS data to check attribution. The NSS and the CBA Statistics Department regularly cross check published data for consistency and attribution.

The commentaries of government agencies, as well as any other interested users regarding data are not provided in published materials.

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

Planned weight updates and changes in methodology are included in the Annual Program issued for the year in which they are to take place. When changes are made in methodology, the relevant explanatory footnotes are provided in the publications.

Following the procedure established by legislation (the Laws on State Statistics and on Legal Acts, Resolution No. 11-N of the SCS “On Approval of the Procedure for the Presentation of Statistical Data,” etc.), the NSS notifies parties responsible for the presentation of statistical information of changes in the methodology through the provision of new statistical reporting forms and/or instructions for filling them out (following their approval by the SCS and publication in the *Bulletin of Departmental Regulatory Acts of the Republic of Armenia*).

1.3 Ethical standards

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

Guidelines for the NSS staff behavior are set by the *Law On Civil Service* (published in the *Official Bulletin of the Republic of Armenia*, No. 1 (176) of January 09, 2002) and Resolution of Armenia Civil Service Board No. 13-N, “On Approval of the Guidelines for the Civil Servants’ Ethics” of May 31, 2002 (published in the *Bulletin of Departmental Regulatory Acts of the Republic of Armenia*, No. 18(104); of August 01, 2002).

Guidelines for behavior are general for the civil servants of all the civil service bodies.

2. Methodological soundness

2.1 Concepts and definitions

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

The NSS’s compilation of PPI statistics, key concepts and definitions are in accordance with the guidelines of the *System of National Accounts 1993 (1993 SNA)* and broadly follow internationally accepted good practices. Output estimates are compiled at sufficient level of industrial and product detail.

2.2 Scope

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

The principal Armenian PPI for the output of resident establishments is the PPI for industrial products. The PPI index covers the following branches of industry:

- Electric power
- Ferrous metallurgy
- Nonferrous metallurgy
- Chemical, petrochemical, and biotechnology industry
- Mechanical engineering
- Precious and semiprecious metals industry
- Timber, woodworking, cellulose, and paper industry
- Construction materials industry
- Light industry
- Food industry (including the meal and concentrates industry)
- Publishing output

Separate output indices are produced for freight tariffs and for the agricultural and construction industries on a monthly basis.

Between December 2006 and January 2007, a new survey was selected for both the industrial and agriculture price indices. Accordingly, the scope of the new survey was determined as follows:

1. For industrial organizations with five percent or more of the revenue share were selected from the fifth level (each subsection) of NACE (*the General Classification of Types of Economic Activities*) for all Armenian industries. Four hundred and seventy-six out of 2,231 industrial organizations were selected for the pilot survey.
2. The Industry Statistics Division of the NSS suggested 70 additional industries, and another 70 organizations from the previous sample remained in the survey. These organizations or establishments are considered important and representative for price observation.

Therefore, the survey covers both the large and medium-sized and the small and micro-sized establishments, which ensured the representativeness of separate branches of industry and establishments by size. As a result, a sample with 616 industrial organizations based on the volume of produced production for January–October of 2006 determined the sample. Furthermore, this sample comprised of more than 86 percent of total volume of Armenia's industrial production. One hundred and sixty-five (92.7 percent) out of 178 classes of NACE were covered by the sample.

Table 3: Distribution of Establishments Covered by the Survey, by Marzes

Marz	Number of organizations	As % of total
Yerevan city	391	63.5
Aragatsotn	10	1.6
Ararat	42	6.8
Armavir	14	2.3
Gegharkunik	11	1.8
Lori	27	4.4
Kotayk	65	10.5
Shirak	22	3.6
Syunik	15	2.4
Vayots Dzor	9	1.5
Tavush	10	1.6
Total	616	100.0

Report: Sample Survey on Price Statistics. Yerevan, January 2007

According to Table 3, the number of establishments registered in the Yerevan city had the biggest share in the sample that comprised 63.5 percent of the total (or 391 establishments).

For the sale and procurement of agricultural price indices, the survey included 200 rural communities that were selected from the 10 marzes. Five to 20 households from each community were selected.

The freight tariff price index includes road, railway, air, and pipeline industries. The construction price index includes components of construction (construction and assembly work, capital investment in machinery and equipment, and other operations and costs). There is also a price index of construction and assembly work that is based on the registered values on material, parts and other construction components, and wages of employee.

2.3 Classification/sectorization

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

The All-Union Classification of Branches of the National Economy (OKOHX) is used to classify Armenia's current PPI. In spite of this, the NSS is in the advanced stages of re-classifying the PPI based on the European NACE and CPA-derived (*the Classification of Products by Activity*) activity and product classifications. In this regard, the *1993 SNA* is followed to classify institutional units and product transactions, and the principles of classification and sectorization used in the compilation of the PPI are in conformity with internationally accepted systems.

The OKOHX classification system is based on product and raw materials, and classifies according to industries or branches and sub-branches, OKOHX classifies most of mining and quarrying as manufacturing activities, while the CPA separates manufacturing for mining activities.

Recommendation: The PPI should be classified and disseminated according to an internationally accepted standard.

2.4 Basis for recording

2.4.1 Market prices are used to value flows and stocks.

The output PPI uses weights valued at basic prices, excluding invoiced VAT, excise taxes, supply-and-sales trade margins, and transportation costs

2.4.2 Recording is done on an accrual basis.

All output of finished goods is recorded in the period in which they are produced.

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

There are no stage-of-processing indices compiled for which net product weights need to be determined to aggregate the product PPIs to higher levels. The PPI measures the price of output and its weights product prices in proportion to their output value at basic prices.

3. Accuracy and reliability

3.1 Source data

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

Industrial Output Index

The data for the industrial output index is provided by Armenia's Ministry of Justice (MOJ). All business establishments are required to register with the MOJ. The Business Register Division of the NSS obtains the sample frame from the MOJ, and is therefore responsible for deriving and maintaining the sample of establishments used to produce the PPI. Prices are monitored for 888 categories of representative products for 254 industrial establishments. The sources of weights used for aggregating the PPI are data on total volume of industrial production based in 2002.

The samples of establishments and products were selected on a judgmental basis (random sampling is not used). Completed price survey forms are first obtained in the districts offices, and then sent to the marzes. Here, the price data are entered, and then sent electronically to the NSS for further verification, compilation, aggregation, and dissemination.

For the new CPA-based PPI, a pilot sample survey of peasant farms and industrial organizations was conducted in December 2006 and January 2007 under the "Improvement of Price Statistics" project component. This project was within the framework of the World Bank's Dutch Grant for Armenia: Technical Assistance for Statistical Capacity Building. The survey was conducted on the basis of the contract among the NSS (Client), the Foreign Financing Management Center of the Ministry of Finance and Economy (MFE), and the Development Network nongovernmental organization (the consultant). Based on the sample results from this pilot survey, over 2,266 products will be priced.

This sample was based on a two stage random sampling technique. For the first stage, establishments with output greater than five percent of total production output were selected. These establishments had to be in business for at least 12 months and consistently produce the the selected output for eight months. At the second stage, establishments with rapid changes in price were eliminated. Sampling errors and coefficients of variations were therefore determined. From the sample of 2,266 products, 1,627 will be priced on a monthly basis, and the remainder will serve as reserve prices. Whenever there is a need to substitute a product into the index, the product will be selected from this reserve list.

Sale and Input Price Indices of Agricultural Production

The agriculture PPI includes a sales agricultural production index, which measures the changes in price for agriculture production, and an input agriculture price index which measures the changes

in price of inputs into the agriculture production process. Both of these indices are compiled and disseminated by the NSS.

The current sale price index for agricultural product estimates a price index for 61 agricultural products sold by 7,638 peasant farms that breed cattle and engage in cultivation. The input agriculture price index, on the other hand, estimates a price index based on survey results for 92 products that are used by the 7,638 peasant farms.

The December 2006 to January 2007 agriculture survey covered all regions or marzes. Villages were selected from each marz that took into account the percent of the rural population. These villages were randomly selected. Peasant farms covered in the survey were selected based on the number of privatized plots. This survey covered 200 rural communities, selected from 10 marzes. Each community had between five to 20 households with 1,901 peasant farms. The survey was conducted through the visits to peasant farms and completion of questionnaires by interviewers. The survey in peasant farms was conducted through the two questionnaires:

- “On the Average Prices and Sales Volume of Agricultural Products (by Sale Directions),” and
- “On Purchase Prices of Means of Agricultural Production.”

This pilot survey will augment the current agriculture PPI, and the results will be disseminated once the re-classification to CPA is finalized.

Freight Tariff Index

The freight tariff index data are also compiled and disseminated by the NSS. The tariff indexes are calculated for road, railway, air, and pipeline. Changes in the structure of transported cargo such as the type of cargo, size of delivery, speed of delivery, etc, are not taken into consideration. The tariffs are determined based on delivery per unit (tons, cubic meters, etc) of the most often transported goods for an actual distance (defined route). Weights are based on revenues of transport establishments services for the previous year. There are only 29 freight establishments in Armenia, and all are included in the index.

Construction Price Index and Price Index of Construction Assembly Work

The Armenian construction price index and the price index of construction assembly work are produced by the Ministry of Urban Development (MUD). However, these indices are disseminated monthly by the NSS. The MUD determined the survey and weights in 1984. On a monthly basis, preliminary results are sent to the NSS by the tenth of the following month for the referenced month. By the sixteenth to the eighteenth, MUD estimates the final results. These final results are then sent to the NSS for dissemination and chain-linking.

In 2006, the NSS conducted surveys of 111 construction companies, 112 trade companies selling building materials, and a survey of 29 freight transport companies. The objectives of these surveys were to determine structural changes due to processes of privation, birth of new companies, and significant quantitative and qualitative characteristics changes, and to recommend new methodologies and adopt international concepts and definitions. The results of the construction surveys have not yet been implemented by the MUD due to logistical reasons.

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

The weighted average actual price on the product fixed over the month is registered and monitored (excluding VAT, excise tax, and other taxes on product) for all the PPI output indices. On the price collection forms, establishments are asked to provide product prices and production volumes. Two price collection forms are sent to the PPI establishments, one monthly and the other annual. For the annual price collection form, establishments are asked to provide data on the following for output weights:

- Market goods production for sale, comprising:
 - sales, and changes in output inventories;
- Own-account production of market goods for own final consumption;
- Output of market goods for own-account fixed capital formation; and
- Production of services for own account fixed capital formation.

Output data, however, are not provided for illegal market goods and production of real estate leasing services produced by household owner-occupants of residential housing for own final consumption. The monthly price collection forms logically collect monthly price data from the establishments to calculate the PPI.

As a result, the source data for the industrial output index and the agricultural price indices are broadly consistent with the definitions, and scope, and in the near future, classifications of PPI statistics (see 2.3.1). On the other hand, the source data for the construction price indices are inconsistent with the definitions, scope, and classification of the PPI statistics; the source data for these indices were determined in 1984, which is more than five years that is recommended according to international best practices.

Price collectors in the regional offices and in the central office often meet with establishments on how to correctly fill out surveys, and answer any questions pertaining to data collection, definition, and classification of output in order to facilitate timely response.

3.1.3 Source data are timely.

All output price indices mentioned are produced and disseminated on a monthly basis. For the industrial output, agricultural, and freight tariff price indices, the establishments and farms submit data to district offices by the fifth, then to the marz agencies by the tenth. All PPI data are received by the NSS central office by the fifteenth of the month.

Monthly data for construction indices are produced monthly by the MUD. These monthly data are then sent to the NSS for chain-linking and to determine time-series data.

3.2 Assessment of source data

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

Information concerning errors for the PPI sample is monitored on a monthly basis. Information on weights, price relatives, misclassifications, and outliers are routinely checked. The PSCID staff compare the results of the current PPI with the results of the PPI based on the new CPA-based sample. Problems of no response are uncommon due to the obligatory nature of the survey response. Misclassification errors are usually corrected.

Unusually large movements in prices are traced back to the enterprise if warranted and are verified. Post-enumeration checks are made, and the index is revised back to one month. Pilot testing is done to analyze the effects of changes in the survey questionnaires.

Before survey questionnaires for the construction companies, trade companies selling building materials, and freight transport companies were piloted and approved by the SCS, the questionnaires were tested for methodological robustness and approved by experts from the European Union (EU), MUD, and reporting companies.

Generally, these surveys aim, according to the NSS, to:

- Improve the coverage of the indicators at the regional level,
- Introduce specifications that are internationally consistent,

- Improve the methodology for computing the price indices for the mentioned industries, and
- determine scientific random sampling techniques.

Comments and recommendations are solicited from the establishments in order to design better establishment surveys. There are no data from administrative and other secondary sources.

3.3 *Statistical techniques*

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

The PPI is collected at the regional level, then verified, aggregated, and disseminated by the NSS central office. At the regional level, establishments' surveys are verified, checked, and then entered into the computer system. Upon receipt in the NSS central office, elementary aggregates are first weighted and calculated for each product group by geometric means of price relatives, second by sub-industry, third by industries, and fourth for Armenia as a whole using a Laspeyres index approach. This aggregation procedure is based on the CPA classification system. Based on the OKOHX classification, the PPI is weighted and aggregated first by products, establishments, sub-branches, then by industry. Both classification systems are internally consistent.

The CPA classification of products aids in minimizing processing errors such as coding, editing, and tabulation errors.

Adjustments to unit records are made only when clearly warranted and can be identified in the price tabulations. When outliers are identified, the data are first verified from the datasets in the NSS central office, and then the regional offices and/or establishments are contacted if adjustments are needed.

Procedures for imputation and adjustment for nonresponse are soundly based. A list of 619 products is available for product substitution purposes. This list was derived when the PPI sample was drawn. There are no failures to obtain the required information in a timely manner from all enterprises selected in the sample. The NSS PSICD staff conduct workshops with regional price collectors on new product specifications, etc. Furthermore, these price collectors usually meet with establishments on how to correctly fill out surveys, and to answer any questions pertaining to data collection in order to facilitate timely response.

Infrequently adjustments are necessary to adjust data sources to improve coverage since data sources are derived from the business registry and the MOJ. By law, all establishments have to be registered. Nevertheless, the PSICD staff usually obtain recent contact information for establishments that have moved or gone out of business. When these instances occur, the Business Registry Division is notified.

Prices for temporarily missing products are imputed based on the change in price of similar products using the cluster or cell means approach. Missing prices for seasonal products are

imputed at the sub-industry level. The agriculture PPIs use the Paasche index to account for seasonal products; that is, current period quantity data are determined monthly. If now data are available for quantity and price of the seasonal product, that product is dropped from the index. Products that become permanently unavailable are replaced in the sample. Quality adjustments for products are conducted, usually using both implicit and explicit quality adjustment methods.

New products are not introduced into the sample until the indices are reweighted and rebased.

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

Gross output, as defined in the *1993 SNA*, is broadly used to establish the PPIs weights. Hence, large construction projects are treated as work-in-progress, and inventories output data are adjusted for holding gains/losses accruing on inventories. But, output of owner-occupied dwellings is not valued as the estimated rentals that tenants would pay for similar accommodation.

An unbiased formula is used to calculate the basic level price indexes and an appropriate index formula with weights is used to aggregate elementary indexes to higher levels. The geometric means of price relatives, the Jevons index, is used at the elementary aggregate level, for items at each region. These indices are aggregated using the short-term Laspeyres formula and chaining the index to the previous period's index. When new weights are introduced every year, the new index is linked to the old index, and a monthly (December) overlap period is used to calculate linking factors.

As previously mentioned, the agriculture price indices use the Paasche formula to aggregate elementary indices to higher levels.

For all the indices, the current weight reference period and the price reference periods are the same:

- Industrial output weight and price reference period: 2002
- Freight tariff output weight and price reference period: 2007–(the previous year)
- Construction weight and price reference period: 1984
- Agriculture weight and price reference period: in the current month

The construction price indices are the only PPIs whose weight and price reference periods have not been updated within the past seven years. Nevertheless, meetings between the MUD and the NSS resulted in the adjustment of the wages component of the construction price index.

When new weights are introduced the new PPIs are linked to the old indices using an internationally accepted technique as recommended in the *Producer Price Index Manual*, 2004. Therefore, linking coefficients are determined, and December is considered the overlap month.

3.4 *Assessment and validation of intermediate data and statistical outputs*

3.4.1 Intermediate results are validated against other information, where applicable.

The PPI is checked against the relevant components of the national accounts and the EX/IM price indices.

3.4.2 Statistical discrepancies in intermediate data are assessed and investigated.

Unusual movements in the index arising from large movements in particular industries or from particular establishments are investigated and explained in descriptive documentations that are publicly available. These documentations pay due attention to disclosure requirements and confidentiality issues.

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

Discrepancies arising from inconsistent imputation for missing data and seasonal goods are routinely assessed. There are ranges of control edits supported by Access and Excel macros that are used to assess and validate the data.

3.5 *Revision studies*

3.5.1 Studies and analyses of revisions are carried out routinely and used internally to inform statistical processes (see also 4.3.3).

The NSS publishes a reference or information bulletin that mentions all changes that took place. For example, information on press conferences, meetings with the SCS, reports of the staff, methodological and reporting formats, international meeting, seminar, missions, new publications and documents in the library, staff travel, and changes in macro economic indicators are frequently published.

Once per year, weights are routinely analyzed to determine the effects of substitution bias in the index even though the PPI industrial output and freight tariff indices are not re-weighted until four years after.

Adequate documentation on these revision studies is well maintained and includes methods used to incorporate new data sources, and the way data are adjusted. All proposals for weight revisions must be approved by the SCS.

4. Serviceability

4.1 Periodicity and timeliness

4.1.1 Periodicity follows dissemination standards.

The periodicity of the statistics follows the IMF SDDS data dissemination standards. The PPI data is compiled monthly.

4.1.2 Timeliness follows dissemination standards.

Preliminary data are published on the 20th day following the reference month. Final data are published one month after the end of the reference period, and, accordingly, exceeds SDDS requirements.

4.2 Consistency

4.2.1 Statistics are consistent within the dataset.

PPI series are published for industry (OKOHX) and for product (CPA) classifications. However, the CPA classified PPIs are not yet disseminated. Both these series are carefully checked for consistency.

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

Consistent time series data are available since 2002 when Armenia subscribed to the SDDS. When changes in source data, methodology, and statistical techniques are introduced, historical series are reconstructed for a 12-month period.

Monthly and annual publications provide the following data for PPI as a percentage:

- (a) the current month compared to the previous month,
- (b) compared to the corresponding month of the previous year,
- (c) compared to December of the previous year,
- (d) on a cumulative basis (compared to the corresponding period of the previous year), and
- (e) compared to the base year.

Detailed methodological notes are available that identify and explain the adjustments made to maintain consistency. Additionally, unusual changes in economic trends are explained in the analytical text included in the statistical publications and news releases.

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

The PPI data are largely consistent with the agriculture, national accounts, XMPI and CPI statistics.

4.3 Revision policy and practice

4.3.1 Revisions follow a regular and transparent schedule.

The *Law On State Statistics*, Article 11, State Statistical Work Program, Annual, serves as the revision policy for weight revision, long-term trends, studies of sources of errors, and the explanation of methodology.

4.3.2 Preliminary and/or revised data are clearly identified.

Both preliminary and revised PPI data are clearly identified.

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

Documentation and findings on the PPI mentioned in the Annual State Statistical Work Program are published, and are discussed with the NSS statistical council. This work program is also disseminated on the NSS website.

5. Accessibility

5.1 Data accessibility

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

The NSS publishes well designed charts and tables that facilitate analysis. Data for the PPI are accessible, and are published with various levels of disaggregation. Annual long term PPI data have been disseminated for data beginning 2002. Monthly data are available on request and are periodically in the bulletin.

5.1.2 Dissemination media and format are adequate.

Monthly PPI data are disseminated in ways that facilitate re-dissemination in the media. These monthly data are also published in the NSS monthly publication.

5.1.3 *Statistics are released on a preannounced schedule.*

Release calendars for statistical publications (data) appear in the Annual Programs of Statistical Projects approved by the SCS of Armenia. The Annual Program is approved within one month after the approval of the state budget by the National Assembly of Armenia.

The Program of Statistical Projects for 2006 was approved by Resolution 37-N of the SCS, dated December 23, 2005. The Armenian version of the Program of Statistical Projects for 2005 is posted on the NSS website, http://www.armstat.am/arm/Law/SR_06/index.html.

An advance release calendar that gives one quarter advance notice of the precise release dates is also disseminated on the Internet on the IMF's Data Dissemination Bulletin Board (DSBB) (<http://dsbb.imf.org>).

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

All data are released simultaneously to the public through press releases, publications (*Current Data for Main Macroeconomic Indicators Describing Armenia's Socioeconomic Situation*, and the *Socioeconomic Situation of Republic of Armenia*).

Copies of all publications are placed in the library of the NSS, which is open to the public, in the national public library of Armenia at the same time they are sent to recipients established under the Annual Program of Statistical Projects.

5.1.5 *Statistics not routinely disseminated are made available upon request.*

Detailed customized tabulation (detailed breakdowns) of price indices data is available upon request, in addition to the tables routinely disseminated. For specific purposes, customized tabulation of data that satisfy the NSS's disclosure requirements are also available free of charge. Data users are aware of the availability of additional statistics and of the procedures for obtaining them.

5.2 ***Metadata accessibility***

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.*

Brief methodological commentary on indicators is published in the *Socioeconomic Position of Armenia* monthly informational reports, in the *Statistical Yearbooks of Armenia*, and in greater detail in topical publications.

Statistical reporting forms and instructions for completing them, following their approval by the SCS, are subject to mandatory publication in the *Bulletin of Departmental Regulatory Acts of the Republic of Armenia*, after which they become legally binding.

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

Detailed PPI data, industry output, freight tariffs, agriculture, and construction, are produced and disseminated to the intended audience.

5.3 *Assistance to users*

5.3.1 *Contact points for each subject field are publicized.*

Prompt and knowledgeable service and support are available to PPI users. All statistical publications provide contact information such as telephone and facsimile numbers and e-mail addresses. Access points for clients to obtain statistical information are well advertised. Assistance to users is monitored and reviewed frequently.

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

According to the Annual Statistical Work Program, every year the NSS publishes and disseminates the *Catalogue of Statistical Publications*. The catalogue contains detailed and clearly structured information on NSS hard-copy publications. The catalogue presents each publication by title, a short summary of its contents, periodicity, and the publication deadline.

The catalogue aims to guide users about the statistical products published by the NSS.

The electronic version of the *catalogue* is available on the NSS website at <http://www.armstat.am/Eng/Publications/>.

Table 4. Armenia: Data Quality Assessment Framework (July 2003): Summary of Results for Price Statistics
(Producer Price Index)
(Compiling Agency: National Statistical Service)

Key to symbols: NA = Not Applicable; O = Practice Observed; LO = Practice Largely Observed; LNO = Practice Largely Not Observed; NO = Practice Not Observed; SDDS = Complies with SDDS Criteria						
Element	NA	Assessment				Comments
		O	LO	LNO	NO	
0. Prerequisites of quality						
0.1 Legal and institutional environment		X				PPI staff computing resources, office space, and financing are not fully adequate to compile and disseminate the PPI statistics.
0.2 Resources			X			
0.3 Relevance		X				
0.4 Other quality management						
1. Assurances of integrity						
1.1 Professionalism		X				
1.2 Transparency		X				
1.3 Ethical standards		X				
2. Methodological soundness						
2.1 Concepts and definitions		X				The PPI does not use an internationally standard industry classification.
2.2 Scope		X				
2.3 Classification/sectorization			X			
2.4 Basis for recording		X				
3. Accuracy and reliability						
3.1 Source data						
3.2 Assessment of source data		X				
3.3 Statistical techniques		X				
3.4 Assessment and validation of intermediate data and statistical outputs		X				
3.5 Revision studies		X				
4. Serviceability						
4.1 Periodicity and timeliness		X				
4.2 Consistency		X				
4.3 Revision policy and practice		X				
5. Accessibility						
5.1 Data accessibility		X				
5.2 Metadata accessibility		X				
5.3 Assistance to users		X				

IV. GOVERNMENT FINANCE STATISTICS

0. Prerequisites of quality

0.1 *Legal and institutional environment*

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

The only agency responsible for collecting, processing, and disseminating government finance statistics (GFS) is the Ministry of Finance and Economy (MFE). The MFE compiles analytical data on general government operations, central government operations, and central government debt of Armenia for analysis and policy formulation. The MFE disseminates these data as a service to the public.

All aspects of the MFE's responsibilities for compilation and dissemination of the data are governed by the terms and conditions of the *Budget System Law* of 1997 and the *Treasury System Law* of 2002 that specifies accounting procedures and reporting requirements for all government units. The Law requires the Minister of Finance and Economy to prepare a final statement of accounts to be presented to the Parliament before May 1 of the following year.

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

Coordination is assured among agencies producing government finance statistics by Government Decree N1354-N of August 19, 2004, which defines types of data and provision deadlines among the MFE, National Statistical Service (NSS), and Central Bank of Armenia (CBA). The MFE provides government finance statistics to the NSS for publication and monthly dissemination of GFS is done by the NSS. The CBA provides data on foreign central government debt to the MFE.

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

The *State Law on Public Confidentiality* of 1996 requires all government units, including the MFE, to keep individual reporters' data confidential and use them only for statistical purposes. Confidentiality of individual reporters' data also is safeguarded by the *Law On State Statistics* and Resolution No. 53-N of the SCS "On Approval of the Procedure for Ensuring the Confidentiality of Statistical Data" of June 25, 2001.

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

In addition to the *Budget System Law*, relations pertaining to presentation of reports are regulated by the Orders N 930-N and 955-N of the Minister of Finance and Economy of December 30, 2002 and December 29, 2003, respectively. The orders determine composition and deadline for the information presented to the MFE by the government departments, state noncommercial companies, and local self-government institutions. Certain units, called noncommercial organizations (NCOs), comprising clinics, hospitals, schools, and universities, supply services wholly or partly to the central government for which they get funding from the central government budget. They are not classified by Armenian law in budgetary central government. Nevertheless the NCOs must, by law, report data to MFE on their operations in addition to the amount of government funding they receive, including revenue from nongovernment sources and operating costs.

0.2 Resources

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

Within the structure of the MFE, 10 civil servants of the Treasury are responsible for compilation and processing of GFS data, using the Integrated Electronic System of the Treasury; 5 civil servants are responsible for the migration to *Government Finance Statistics Manual 2001 (GFSM 2001)* methodology; and 4 civil servants of the Cash Flow Management unit are responsible for dissemination.

The MFE has sufficient staff and computing resources to carry out compilation and dissemination responsibilities. There are at least 10 staff well trained in *GFSM 2001* concepts and practices. In addition there are about 100 staff that have received internal training in GFS methodology. All staff have university degrees in economics and statistics, including Masters and Ph.D degrees.

The number of employees in the MFE is approved by the Prime Minister's Decree. The MFE staff is financed from the Armenia state budget. Compensation of the MFE employees is based on Armenia's *Law On Compensation of Civil Servants*, which covers all civil servants. The MFE does not have significant problems in recruiting and retaining qualified staff. Equipment and computer technology facilities are adequate. The Integrated Electronic System of the Treasury is used in reporting, processing, and consolidation of general government data, including debt flows done through the Single Treasury Account. Stock debt data are compiled and processed in electronic spreadsheets by the Public Debt Department.

0.2.2 Measures to ensure efficient use of resources are implemented.

In accordance with the order established by Armenia legislation, the Chief of the MFE staff also is accountable for the use of state property at the disposal of the MFE staff. The Chief of staff also organizes preparation of the MFE draft budget.

The annual expenditure budget of the MFE and results of rechecking authenticity of the financial reports are approved by the Minister of MFE.

Authenticity of the annual financial reports of the MFE staff could be audited in the order established by Armenia government.

Performance of employees in the development of GFS is evaluated semi-annually with regard to the fulfillment of the tasks for a particular year. Bonus compensation is paid for good performers.

Efficiencies are sought through periodic internal audit that review work processes. Separate costing on the compilation of GFS is not available.

0.3 Relevance

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

Users are mainly policymakers. GFS appear to be an integral part of the budget process and are used by the authorities. There is no facility for users to provide feedback to GFS compilers on perceived problems with the quality or usefulness of published data. Presently, there is no formal users' advisory group, and no regular meetings between MFE and its data users. NSS, which also disseminates GFS, monitors user needs with surveys as well as through receiving proposals through its canvass of about 100 users for the annual statistical program.

No special studies are undertaken to identify emerging data requirements. The main source of new data requirements are the international institutions, especially the IMF and the World Bank.

Recommendation: It is recommended that a facility for users be put in place to provide feedback to GFS compilers (MFE) on perceived problems with GFS quality and/or usefulness for fiscal policy purpose.

0.4 Other quality management

0.4.1 Processes are in place to focus on quality.

A number of decrees that support the migration to the *GFSM 2001* as well as a well defined migration path to full implementation of *GFSM 2001* for general government beginning with data

from 2010, provide legal support to the MFE focus in quality by adopting a methodology in accordance with international statistical standards.

The institutional framework also supports quality. The government monitors the accounts (as stated in the *Budgetary System Law* of 1997), and the Supervisory House of the Parliament audits the accounts of the general government.

At the time of the ROSC, there was a proposed Law on Internal Audit at the Parliament for approval that would establish internal audit services for the Ministries and all other government agencies reporting to the head of the given ministry or agency, which in turn would report to the government about the quality of services provided.

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

The government monitors the quality of the accounts (as stated in the *Budget System Law*). Moreover, according to the *Treasury System Law* (Article 18), the Treasury evaluates the accuracy of the information provided by government units.

Moreover, the proposed Law on Internal Audit would support monitoring the quality of the GFS statistical program.

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

The Integrated Electronic System of the Treasury has improved the quality of the data since its introduction in July 1998. Budget execution data are subjected to internal audit. The MFE undertakes quarterly cross-checks to ensure quality.

1. Assurances of integrity

1.1 Professionalism

1.1.1 Statistics are produced on an impartial basis.

The *Law on Civil Service* supports professional independence by clearly stating the importance of professional independence in carrying out statistical work (Article 3).

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

The MFE operates with adequate independence in implementing the conceptual and methodological framework for government finance statistics and may disseminate standard GFS presentations, including those consistent with the *GFSM 2001*, on its website. In general, the MFE has limited dissemination of information on its own website to presentations of data

consistent with its legal obligations in administration of the state budget. However, the MFE does provide data on central and general government consistent with *GFSM 2001* in its reports to the IMF Statistics Department for publication in the *Government Finance Statistics Yearbook (GFSY)*.

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

The leadership of the MFE is responsible for responding to erroneous information on budget matters. The MFE press service prepares comments which are handled through press releases.

1.2 Transparency

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

The state budget and report on its performance after the Parliament approval are published as laws in the *Official Bulletins*, as well as posted in the website of the MFE (<http://www.mfe.gov.am/>). Copies of the *Budget System Law*, in Armenian, are available in the *Official Bulletins*, as well as on the website of the MFE (<http://www.mfe.gov.am/>).

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

No officials outside the MFE and the NSS have access to general government data prior to their release to the public.

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

The MFE is clearly identified as the source of information published by the MFE on its website and in the NSS monthly *Social and Economic Situation of the Republic of Armenia*. Data are accompanied by a short technical analysis of fiscal performance. The MFE may issue comments when significant changes in the fiscal situation occur during the period in review.

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

Major changes in methodology are announced in advance through the annual budget law approved by the Parliament or through other publications of the MFE and CBA.

1.3 Ethical standards

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

Guidelines for the MFE staff behavior are set by Armenia's *Law on Civil Service* (published in the *Official Bulletin of the Republic of Armenia*, No. 1 (176) of January 09, 2002) and Resolution of Armenia Civil Service Board No. 13-N "On Approval of the Guidelines for the Civil Servants' Ethics" of May 31, 2002 (published in the *Bulletin of Departmental Regulatory Acts of the Republic of Armenia*, No. 18(104) of August 1, 2002).

Guidelines for behavior cover all civil servants employed in all civil service bodies.

2. Methodological soundness

2.1 Concepts and definitions

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

Starting in January 2008, the concepts and definition of the government sector applied in the GFS are consistent with the definition set out in the *System of National Accounts 1993 (1993 SNA)* and with the analytical framework set out in the IMF's *GFSM 2001*.

The local government statistics still are compiled according to the *A Manual on Government Finance Statistics, 1986 (GFSM 1986)*. However, the MFE's plans envisage further progress within the next two years in implementing the *GFSM 2001* concepts and classification for local government in 2009 (on a cash basis) and in accrual recording for all units of general government in 2010.

Until 2009, the *GFSM 1986* local government data will be reclassified to the *GFSM 2001* framework to produce consolidated general government data.

2.2 Scope

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

General government operations

The institutional coverage of the general government comprises all central government units (including the State Social Security Fund, NCOs, extra-budgetary funds) and the local governments. The central government includes all units of government that exercise authority over the entire economic territory of Armenia. The 10 regions (marz) have no budgetary autonomy and thus are included in the central government. The data on extrabudgetary funds are

also reported in central government operations. The central government data are consolidated with local governments to produce the consolidated general government. The local governments include all government units that have authority over the respective administrative subdivisions (municipalities) with some budgetary autonomy. These data are only provided to IMF (Statistics Department) for publication in the *GFSY* and to the area department (Middle East and Central Asia Department). Grants-in-kind are included in the government operations statistics published in the IMF's *GFSY* as monetization proceeds are credited to the Unified Treasury Account (UTA). Standard tables in *GFSM 2001* format are compiled for publication in the IMF's *GFSY*.

However, in publications on the MFE or NSS websites, the consolidated general government units exclude NCOs, as they are considered separate from the government as established by the *Budget System Law* of 1997, the annual Budget Law, and by the NCO Law. This is a major departure from GFS principles.

At the time of the ROSC, an amendment to the NCO Law was under consideration by Parliament, prescribing that NCOs be included in the central government budget. Article 14 of the draft amendment indicates that the NCO units which receive 50 percent or more of their funds from the state budget should be considered public entities. In such cases, the consolidated central government will include these NCOs and the extra-budgetary funds that they receive from other sources.

Recommendation: NCOs should be included in the consolidated general government statistics published on the national websites.

Public Sector Debt

According to the *Law On Public Debt*, the public debt is equal to central government debt plus CBA external debt. The data cover all recognized government liabilities on which debt service payments (interest and amortization) are made by the government budget, and all government-guaranteed debt.

Within the general government sector, only the MFE (Treasury) has exercised the authority to borrow from abroad and domestically. Thus, the debt of the general government is the same as that of the central government. While the legislation does not exclude the possibility for local governments (municipalities) from borrowing, the concrete mechanism for its implementation has not been developed. According to GFS principles of sectorization, the Armenian public sector debt would be considered as central government debt plus public financial corporation debt.

2.3 *Classification/sectorization*

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

Central government operations

Starting in 2008, the classification system used in the government finance statistics is consistent with the *GFSM 2001*. The data are compiled and disseminated in the following statistical framework:

Revenue

- Tax Revenue
- Other Revenues
- Social Insurance Receipts
- Official Transfers (Grants) Received

Expenses

- Compensation of employees
- Social contributions of government as employer
- Subsidies
- Other expenses

Gross operating balance

- Net acquisition of nonfinancial assets
- Expenditures connected to nonfinancial assets
- Sales of nonfinancial assets

Net lending or borrowing

- Net acquisition of financial assets
 - Domestic
 - External
- Net incurrence of liabilities.

Detailed data on central government revenue are available as follows: (1) tax revenue classified by types of taxes, fees, and other mandatory charges; (2) other revenue classified by types of revenue, including revenue from fines and sanctions; (3) Social Insurance Payments, (4) official transfers (grants) received, classified by cash and in kind, and by sources.

Detailed data on central government expenses are available as follows: (1) current expenses classified by economic type, including interest (broken down by domestic and foreign), and by function; (2) Expenses connected to nonfinancial assets classified by function ; and, (3) Sales of nonfinancial assets classified by function.

Financing data are classified as domestic and external, and domestic credit is broken down by type of creditor (banking and nonbanking system) and by type of debt instrument. Proceeds from privatization are classified as nonbank domestic financing. So, privatization proceeds do not affect the gross operating balance, however, net lending or borrowing increases.

General government operations

The classification system used for compilation of local government is consistent with the *GFSM 1986*. Thus, the classification system used is not uniform for all general government units. To compile consolidated general government statistics in 2008, the authorities will bridge the 1986 local government data into the classification of *GFSM 2001*.

It should be noted that the MFE plans promise further significant progress within the next two years in implementing the *GFSM 2001* concepts and classification for local government in 2009 (on a cash basis) and in accrual recording for all units of general government in 2010.

Recommendation: Follow through on the plan to implement GFSM classifications for recording local government transactions by 2009 in order to extend implementation of the GFSM 2001 classifications to the general government by 2010.

2.4 Basis for recording

2.4.1 Market prices are used to value flows and stocks.

All transactions are valued at current prices on the date at which they are recorded. Transactions expressed in foreign currency are converted to local currency using the exchange rate prevailing at the time of their recording in the UTA. Debt is recorded at face value. Grants-in-kind are valued when they are monetized.

2.4.2 Recording is done on an accrual basis.

All government operations are recorded on a cash basis, through the UTA. Expenses are recorded when the UTA is debited and revenues are recorded when the UTA is credited. There are no adjustments to cash-based statistics to approximate accrual recording.

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

Adjustments for grossing and netting transactions: Data are recorded on a gross basis. Revenue and expense refunds are treated as corrective transactions, and are netted out from the respective revenue or expense category, as appropriate. Taxes paid by government units are included in expenditure data of the respective unit and are classified as revenue by type of taxes paid.

Recommendation: Follow through the plan to implement accrual recording of central and local government transactions by 2010.

3. Accuracy and reliability

3.1 Source data

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

General and central government

The primary source of the government finance statistics are the budget management system accounting records maintained by the Treasury (Integrated Electronic Treasury System). Data of local government are compiled by local Treasuries. Data on domestic bank financing for general government are provided by the CBA.

The data on investment projects (PIU) completed out of external government loans are provided to the MFE on a quarterly basis on receipts and disbursement of funds by the implementing agencies of these investment projects.

Central government debt

The primary source of flows of public debt is the Integrated Electronic Treasury System and of stocks of public debt is the Debt Management Department of the MFE. The CBA provides the data on CBA's external debt that is part of public sector debt.

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

From 2008 the source data of central government follow the definitions and classification of the *GFSM 2001*. The source data for local government use the definitions and classification of *GFSM 1986*. Starting 2009, all general government data will be under the same definition and classification (*GFSM 2001*)

3.1.3 Source data are timely

The Cash Flow Management Division has timely access to data from the Integrated Electronic System, including from local Treasuries, from the Public Debt Management Department for public debt (domestic and external), and from the CBA that provide external central bank debt that is part of the public sector debt to satisfy the dissemination requirements under the Special Data Dissemination Standard (SDDS) and under the Budgetary System Law.

3.2 Assessment of source data

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.

Statistics on budgetary operations are compiled from complete administrative records on general government transactions (Integrated Electronic System), including flows and stocks of public debt. Estimation and surveys are not used.

3.3 Statistical techniques

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

Data are compiled on the Treasury Integrated Electronic System, which is programmed to process data in accordance with the methodology prescribed by the Budget Law. No adjustments are made to the cash data.

Quarterly central government data are adjusted to reflect spending financed by the project implementation units (PIU) accounts, not captured in the preliminary quarterly data owing to delays in obtaining this information from spending units. Quarterly data on external disbursements connected to the project implementation units are adjusted accordingly.

Data on local government operations are available with sufficient detail and timeliness and the appropriate consolidation principles were followed to produce general government data.

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

Cash data on government operations are not adjusted. The fiscal year is equal to the calendar year.

3.4 Assessment and validation of intermediate data and statistical outputs

3.4.1 Intermediate results are validated against other information, where applicable.

Data on domestic bank financing in the government statistics provided by the central bank are cross-checked against the data obtained from the Treasury accounts.

3.4.2 Statistical discrepancies in intermediate data are assessed and investigated.

Data are from administrative records that are subject to routine internal cross-checks for accuracy and adjusted with information provided by PIU and by the CBA.

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

Statistical discrepancies between the deficit/surplus and financing, and between financing and changes in gross debt are investigated if they exist. Financing data are compared with data on general government financing provided by the central bank. MFE provided the general government data to the NSS for National Accounts statistics.

3.5 Revision studies

3.5.1 Studies and analyses of revisions are carried out routinely and used internally to inform statistical processes (see also 4.3.3).

No routine revision studies and analyses of revisions are conducted. Data are analyzed and revised in the process of data compilation and reporting.

4. Serviceability

4.1 Periodicity and timeliness

4.1.1 Periodicity follows dissemination standards.

General government data are quarterly, exceeding the SDDS requirement of annual periodicity. However, the quarterly data include only partial coverage of NCO transactions. Complete coverage of NCOs is only produced with annual periodicity for publication in the *GFSY*.

Central government data are monthly, meeting the SDDS requirements of periodicity

Central government debt data are quarterly, meeting the SDDS requirements.

4.1.2 Timeliness follows dissemination standards.

General government data are disseminated within two months after the end of the reference period, exceeding the SDDS requirement of six month prescribed timeliness.

Central government data are disseminated according to the SDDS requirement of one month timeliness.

Central government debt data are disseminated two months after the reference period, or on the first day of the third month after the reference period, exceeding the SDDS requirement of one quarter timeliness.

4.2 Consistency

4.2.1 Statistics are consistent within the dataset.

General government data

General government data are consistent internally. Budget data processing procedures ensure that the quarterly data link consistently to annual data. In the event that the NCO reform legislation, currently before the Parliament, is approved, time series may not be consistent over time due to the inclusion of NCOs in the central government sector beginning with 2008. However, data on central and general government submitted to the IMF for publication in the *GFSY* includes NCOs as part of consolidated central government and time series should be consistent in this publication..

Public Sector Debt

The monthly informational report publishes the following quarterly data:

1. quarterly data for public sector debt and its breakdown by domestic, external, and guaranteed debt;
2. breakdown of domestic debt by debt holder (banks and nonbanks), and by instrument (treasury bills, treasury notes and bonds) and by maturity; and
3. breakdown of external debt by creditor (multilateral and bilateral), and by original maturity (short term, and medium and long term). Data also include: outstanding stocks, gross disbursements, and principal payments.

Annual publications provide data similar to that published in the monthly reports.

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

Reconciliation between flows and stocks of external government stock debt, taking account of exchange rate movements, is done every quarter. In the case of domestic government debt, reconciliation of flows and stocks occurs every day through the Integrated Electronic System

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

Data on domestic bank financing in the GFS provided by the central bank are consistent with data obtained from the Treasury accounts. MFE data on public debt (domestic and external) differ from, but are reconcilable with comparable data from CBA. SDDS metadata explain the difference as arising from face and market valuation in the MFE and CBA sources, respectively.

4.3 Revision policy and practice

4.3.1 Revisions follow a regular and transparent schedule.

The monthly and quarterly data are preliminary when first released and are revised in the following month or quarter.

4.3.2 Preliminary and/or revised data are clearly identified.

Preliminary and revised data are clearly identified. Notes to the tables contain information on data revisions and on major changes in the methodology.

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

No routine revision studies and analyses of revisions are conducted. Data are analyzed and revised in the process of data compilation and reporting.

5. Accessibility

5.1 Data accessibility

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

Data are disseminated in millions of drams on general government operations covering all central government units (except NCOs) and local government units. Data on the operations of the general government are compiled on a quarterly basis, with annual data compiled on a cumulative basis. The data are presented on a consolidated basis.

Data are disseminated on: revenue; outlays (with interest payments separately identified); the general government balance (deficit/surplus); and financing, further broken down by type of debt instrument and by type of creditor.

Data on *GFSM 2001* classification consolidating the NCOs with general government are provided to and published by the IMF, but are not disseminated in MFE publications.

Recommendation: Disseminate GFSM 2001-classified general government data on the MFE website, as for example, published at annual frequency in the IMF Government Finance Statistics Yearbook; quarterly data on the same basis should also be disseminated on the MFE website and reported to the IMF for publication in International Financial Statistics.

5.1.2 Dissemination media and format are adequate.

Budget execution data from 2008 are published in the monthly *Statistical Bulletin* and the MFE website are presented in the following format:

1. Revenue
2. Outlays
3. Operating balance
4. Net budget lending
5. Net acquisition of financial assets
6. Budget Deficit(Surplus)
7. Financing

5.1.3 Statistics are released on a preannounce schedule.

An Advance Release Calendar (for one year) is included in the Annual Statistical Work Programs, approved by the State Council on Statistics. The annual program is a legal departmental act, which is, after approval by the Council, registered in the Ministry of Justice and published in the *Official Bulletin on Legal Acts*.

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

Consolidated central (including the NCOs) and general government data are published in the IMF *GFSY* but not on the official websites, as according to the NCO Law.

5.1.5 Statistics not routinely disseminated are made available upon request.

The quarterly *Budget Bulletin* is available in Armenian and English, free of charge from the MFE.

The informational monthly report, *Social and Economic Situation of the Republic of Armenia*, is available in Armenian and Russian, free of charge, from the NSS.

5.2 Metadata accessibility

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.

A brief description of the methodology appears in the informational monthly reports *Social and Economic Situation of the Republic of Armenia*, in the publication *Statistical Yearbook of Armenia*, and more detailed descriptions are available in the special ad hoc thematic publications. Also metadata and summary methodologies for the general and central government and for central government debt are published on the IMF's DSBB website.

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

The government is both the compiler and principal user of budget execution data. The detail of the required data is constantly monitored and amended during the budget formulation process.

5.3 *Assistance to users*

5.3.1 *Contact points for each subject field are publicized.*

Publications include contact information on respective responsible persons (name, surname and telephone).

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

According to the Annual Statistical Work Program, the NSS publishes and disseminates the *Catalogue of Statistical Publications* annually. The catalogue contains detailed and clearly structured information on NSS printed publications. The catalogue presents each publication by title, through a short summary of its contents, periodicity and publication deadline.

The electronic version of the *catalogue* is available on the NSS website at <http://www.armstat.am/Eng/Publications/>.

Table 5. Armenia: Data Quality Assessment Framework (July 2003): Summary of Results for Government Finance Statistics
(Compiling Agency: Ministry of Finance and Economy)

Key to symbols: NA = Not Applicable; O = Practice Observed; LO = Practice Largely Observed; LNO = Practice Largely Not Observed; NO = Practice Not Observed; SDDS = Complies with SDDS Criteria						
Element	NA	Assessment				Comments
		O	LO	LNO	NO	
0. Prerequisites of quality						
0.1 Legal and institutional environment		X				There is no facility for users to provide feedback to GFS compilers on perceived problems with the quality or usefulness of published data.
0.2 Resources		X				
0.3 Relevance			X			
0.4 Other quality management		X				
1. Assurances of integrity						
1.1 Professionalism		X				
1.2 Transparency		X				
1.3 Ethical standards		X				
2. Methodological soundness						
2.1 Concepts and definitions		X				No balance sheet is compiled. Only partial information on NCO is included on the general government data published on the national websites. The chart of accounts of local governments to compile general government operations is still in the classification of <i>GFSM 1986</i> . Face value for financial assets and historical value for the nonfinancial assets are used. There are plans to disseminate accrual data for the first quarter of 2010.
2.2 Scope			X			
2.3 Classification/sectorization			X			
2.4 Basis for recording			X			
3. Accuracy and reliability						
3.1 Source data		X				No revision studies are conducted.
3.2 Assessment of source data		X				
3.3 Statistical techniques		X				
3.4 Assessment and validation of intermediate data and statistical outputs		X				
3.5 Revision studies			X			
4. Serviceability						
4.1 Periodicity and timeliness		X				
4.2 Consistency		X				
4.3 Revision policy and practice		X				
5. Accessibility						
5.1 Data accessibility			X			Consolidated general government data are not published on the national websites. However, consolidated general government data are submitted to the IMF for publication on the <i>GFSY</i> .
5.2 Metadata accessibility		X				
5.3 Assistance to users		X				

V. MONETARY STATISTICS

0. Prerequisites of quality

0.1 *Legal and institutional environment*

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

Article 5 of the Law 69 of 1996 (*Law on Central Bank of the Republic of Armenia*) states that one of the objectives of the Central Bank of Armenia (CBA) is to "... collect, finalize and promulgate monetary and financial statistics." Article 36 of the same law empowers the CBA to "define reporting formats, time frames and forms of banks to the Central Bank ... [and] if required by law, enforce penalties and sanctions against banks," giving it "the exclusive right to obtain statements from banks, credit organizations and other entities, licensed and supervised by the Central Bank."

The CBA is the only institution authorized to license and supervise financial corporations operating in Armenia. In this capacity, it collects data from financial institutions for supervisory and statistical purposes. Article 55 of the Law on Banks and Banking (Law 68 of 1996) states that the CBA "... shall establish the forms, procedure and the term for the statements subject to submission to the Central Bank, taking into consideration existing international standards." A similar provision is found in Article 15 of the Law on Credit Organizations (Law 359-S of 2002), which indicates that "... credit organizations shall, under the Central Bank regulations and terms, prepare, publish and submit to the Central Bank financial statements required by the laws and other normative regulations of the RA [Republic of Armenia] and other statements stated by the Central Bank."

The CBA's Regulation 3 on Bank Statements, Reporting and Release defines the forms to be submitted by banks to the CBA, and provides detailed instructions for the completion of such forms. As of end-March 2008, commercial banks submit their balance sheets (on a weekly, monthly, and annual base) plus 28 supplementary reports for supervisory and statistical purposes to the Statistics Department (SD) of the CBA. Credit organizations must also report their balance sheets to the SD plus other supplementary reports tailored to them. The SD maintains the database of the CBA and supplies other departments of the CBA, as established by the CBA's resolution 1/1425L on "Data Sharing Between the Statistics Department and Other Departments of the CBA, and Among Divisions of the Statistics Department."

The CBA is the sole institution that compiles monetary and financial statistics in Armenia. The terms and conditions under which these statistics are compiled and disseminated have been established in CBA's resolutions 1/794L "Production, Approval, Publication and Distribution of the CBA Publications" and 1/795L "Terms and Conditions of Production and Release of the CBA publications."

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

As established by CBA's Statistics Department Charter, the SD is responsible for the collection and processing of monetary data. To this end, it receives data directly from the financial institutions operating in Armenia, and has on-line access to the CBA's balance sheet produced by the Accounting Department. The SD consists of five divisions: Data Processing Division (DPD), Monetary and Financial Statistics Division (MFSD), Economic Statistics Development Division (ESDD), External Sector Statistics Division (ESSD), and Credit Registry (CR). Of these five divisions, the DPD and MFSD are the ones responsible for the compilation of monetary and financial data, being the DPD the one that maintains the database. Other departments have access to this database, with privileges granted to staff according to their responsibilities and needs.

The CBA provides monetary and financial statistics to the National Statistical Service (NSS) and the Ministry of Finance and Economy (MFE).

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

Data confidentiality is guaranteed by Article 9 of the Law 80 of 1996 (Law on Bank Secrecy), which states that "... persons and entities, except banks, whom the information containing banking secrecy has been provided to or became known to as a result of providing services or carrying out works are prohibited from making this information available. The Central Bank has no right to transmit to state bodies, officials and citizens or other persons information concerning banks customers containing banking secrecy, which became known during the exercise of banking supervision." Article 4 of the law defines the information considered confidential and states that the "... information on banks and their customers with respect to supervision thereof prescribed by the first paragraph of this Article that has come to the Central Bank's attention shall be subject to bank secrecy." Officials and employees of the CBA may not release any information considered bank secrecy, except for cases of duties prescribed by law, including court decisions, as foreseen in Article 28 of the *Law on Central Bank* of the Republic of Armenia.

The *Ethics Code* of the CBA addresses in Chapter 2, points 13 and 14, the obligation of staff of the CBA to protect confidential information. The *Staff Guide*, which expands on the *Ethics Code*, devotes Article 1.8 of Chapter 1 to the proper handling of confidential information. Furthermore, CBA's staff who deal with confidential information must sign an agreement preventing them from disclosing confidential information. Administrative, financial, and criminal sanctions—ranging from 200 to 500 minimum salaries and prison of up to three years—are contemplated in case of breach of confidentiality under the general umbrella of Articles 144 and 199 of the *Criminal Code*; and Chapter 68, Article 1165 of the *Civil Code*.

Banks transmit their data to the CBA by means of a separate and highly secure interbank network (CBAnet), which uses a separate cable network with no connection to the Internet, protecting it

from external attacks. It runs a special configuration of Lotus Notes (Domino), where each user must have its own identification card to access the network. Once within the CBA, confidential data are kept and maintained on a separate server, and only officials specifically authorized have access to the data. Permissions for new users must be approved by the Information and Technical Security Department, the Supervision Department, the SD, and the Financial System Policy and Analysis Department.

The *Statistical Code of Practice* of the CBA makes the head of the SD responsible for protecting the confidentiality of the reporting institutions' data (5.1), indicates that reporting entities shall be informed of the main intended uses and access restrictions of the information provided by them (5.2), and requires that individual reporting entities shall not be identifiable within the published statistics (5.3.1). To this end, the CBA disseminates only aggregated data, and no data are published in cases of less than three respondents.¹

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

Article 36 of the *Law on Central Bank* of the Republic of Armenia and Article 55 of the *Law on Banks and Banking* empower the CBA to collect information as it deems necessary to carry out its responsibilities under these laws. CBA's Regulation 3 defines the forms to be submitted by banks to the CBA, and provides detailed instructions for the completion of such forms. The SD is in close collaboration with commercial banks, with frequent contacts with respondents by phone or electronic mail, assisting banks whenever there is a need for clarification. Periodical meetings are organized with the banks to discuss issues related to data reporting. In addition, before making any change to the reporting forms, the CBA discusses them with the banks and the Banking Association.

Penalties for noncompliance are foreseen in Article 60, item (e) of the *Law on Banks and Banking* if "... the rules and conditions for submission of the financial or other statements have been infringed and/or false or inaccurate information has been submitted in those documents." Financial institutions systematically comply with their reporting obligation, and there were no cases of nonreporting during the past years.

¹ Monetary data are compiled basically from the balance sheets of the reporting institutions, which are considered public information. For this reason, many countries disseminate financial data at the level of the individual institution, and do not apply the restriction not to publish data for less than three respondents.

0.2 Resources

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

Staff, facilities, and computing resources are adequate to perform the required tasks. At end-March 2008, the DPD and the MFSD had a combined total of 13 professional and one clerical staff dedicated full-time to the compilation and dissemination of monetary statistics. All professional staff have completed a university education with background in economics, statistics, or accounting. Three of them have pursued post-graduated studies. Their experience ranges from six months, for two newly appointed employees, to 12–13 years for three high ranking staff. Key staff has long working experience in monetary statistics, and all staff periodically participate in seminars, conferences, and on-the-job training organized by international organizations and other central banks. In the recent past, staff visited the central banks of Austria, the Czech Republic, Estonia, and The Netherlands.

Article 14 of the *Law on Central Bank* of the Republic of Armenia establishes that “... staff remuneration schemes ... shall be consistent to the average rate of the banking system of the RA [Republic of Armenia].” This, combined with the fact that salaries at the CBA are considerable higher than in the rest of the public sector, ensures retention of qualified staff and is reflected in a low turnover ratio. Measured as the number of persons that left the SD divided by the total personnel of the Department, the turnover ratio was around eight percent in 2007.

Each staff at the SD has his/her own personal computer with enough processor speed, RAM, and hard-drive capacity. Computers are linked by a local network within the Department, and with other departments of the CBA. The software utilized for compiling monetary statistics is MS Office 2003, plus in-house applications for the handling of the data transmitted by the banks and access to the database of the Accounting Department. The existing infrastructure provides for optimal working conditions at the CBA.

0.2.2 *Measures to ensure efficient use of resources are implemented.*

The processes for data transmission from the banks to the CBA, and the access to the CBA’s central repository are fully automated, ensuring reliability and an efficient use of resources. The CBA balance sheet is extracted using the in-house software “Operday,” providing staff of the SD with direct access to individual records. Commercial banks’ data are automatically verified and aggregated by the DPD. The sectoral surveys are automatically generated.

At the CBA, collected data are backed-up on a daily basis, and once a week a copy of the back-up is sent to the reserve bank in Tsaghkadzor, ensuring that no more than one-week of data would be lost in case of fire or a natural disaster. No data are destroyed.

The human resources policy of the CBA was developed with technical assistance of De Nederlandsche Bank. The salary scale (with nine grades and up to 21 levels within each

grade) takes into account staff's working experience (movement within a particular grade) and job performance (movement from one grade to another one, and also within the particular grade). The salary scale is defined by CBA's Resolution 1/516L from 2007 on "Job Classification, Payments and Promotions at the CBA." New staff are hired on a contractual basis for a period that cannot exceed 18 months, after which they are converted into permanent staff or their contract terminated. Staff performance is evaluated on a semi-annual basis according to the CBA Resolution 1/138L from 2006, "Appraisal of the CBA Staff Performance." Movements along the salary scale are associated with this evaluation.

Funding is provided for statistical products within a short-term planning horizon of one year outlined in the annual program of the SD, and for long-term activities within a planning horizon of three years incorporated in the CBA's strategic development plan. Annual statistical programs at the department, division, and individual levels are used for planning, monitoring and evaluating outputs and use of resources. The Internal Audit Department periodically reviews work processes, staffing, and efficient use of resources. Efficiencies in the statistical process are pursued beyond the CBA through cost-benefit analysis to ensure that the data collected are still required, and aiming at minimizing costs to the data providers.

0.3 *Relevance*

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

The CBA staff periodically participates in statistical meetings and seminars organized by both international and domestic organizations, as well by professional organization such as the BIS's *Irving Fisher Committee* on statistics. The CBA is a full institutional member of the *Irving Fisher Committee*. Meetings are organized with the NSS, the MOFE and other institutions to discuss new data requirements on monetary, financial and external sector statistics.

The CBA has set up a Statistical Committee whose goal is to improve the methodology of monetary and financial statistics, statistical publications, as well as other aspects of statistical compilation and dissemination. If necessary, meetings with policymakers also take place to identify new data requirements. In the near future, one staff of the NSS will become a permanent member of this committee. The CBA maintains contacts with data users (domestic and foreign) by e-mail or phone, and through a questionnaire posted on the CBA's website to identify their needs.

0.4 *Other quality management*

0.4.1 Processes are in place to focus on quality.

Monetary and financial statistics follow international quality standards. The CBA's *Strategic Vision* highlights the importance of statistics and its adherence to international standards. In addition, the *Statistical Code of Practice* sets standards for the collection, compilation and

dissemination of high-quality statistics. The *Code* is aligned with international standards and best practices and is organized around the following main principles: relevance, integrity, quality, accessibility, confidentiality, and respondents' burden.

The CBA's Statistical Committee focuses on data quality at its meetings. Staff participates in training and is committed to make suggestions to improve statistical practices.

The SD, in cooperation with the Financial System Policy and Analysis Department, works towards improving banks' chart of accounts, reporting forms, instructions on data compilation, etc.

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

At its monthly meetings, the CBA's Statistical Committee discusses strategies for further improving monetary and financial statistics. Every protocol of the Statistical Committee is approved by the CBA's Chairman. All statistical projects are included in the annual working program of the SD, which is evaluated twice a year by the CBA Board.

Compiling areas have access to expert guidance through permanent contacts with experts of European central banks and from international organizations, including the International Monetary Fund. The process of compiling monetary statistics is being continually reviewed and assessed, in order to improve the data quality requirements. For instance, a revision was made during September 2007, to clarify the use of the concept of residency for foreigners living in Armenia who open accounts in the banking sector.

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

Efforts to enhance the data quality are reflected in the annual work program of the SD. Issues such as the improvement of the compilation process, guidelines for respondents, reporting forms, or the design of the chart of accounts according to international statistics standards are contemplated in the work program.

Required quality improvements are identified through the need of consistency with international standards, and when issues are brought up by reporting institutions. Comments from users received through the questionnaire posted on the CBA's website are reviewed and relevant ones incorporated in the annual working program.

1. Assurances of integrity

1.1 Professionalism

1.1.1 *Statistics are produced on an impartial basis.*

Article 1 of the *Law on Central Bank* of the Republic of Armenia guarantees the independence of the CBA from other state authorities for the implementation of its responsibilities, including the compilation and dissemination of monetary statistics.

Recruitment and promotion of the staff are based on relevant skills and expertise in the relevant areas. After a trial period that can last no longer than 18 months, new recruited personnel become permanent staff of the CBA, protecting them against pressures from upper management and outside agencies. Procedures for appointing and promoting heads of departments and divisions are contemplated in the CBA's resolution 1/517L from 2007, "Recruitment and Attestation of the CBA Staff."

Monetary data compilers in the SD apply strict technical criteria, which are guided by the *Statistical Code of Practice* and the *Manual on Compilation of Monetary and Financial Statistics in Armenia*, the latter drawn closely on the IMF's *Monetary and Financial Statistics Manual (MFSM)*, but adapted to the particular characteristics of the country.

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

Balance sheets of the CBA and all commercial banks are the basic source for the compilation of monetary data. All commercial banks follow a standard chart of accounts. Reporting forms are designed to meet the requirements of the *MFSM* methodology and best international practices. Other financial statistics, such as interest rates, are not based on accounting records and are produced using reports by all institutions of the system by instrument and maturity.

The dissemination of monetary data follows established procedures and strictly complies with an advance release calendar posted on the CBA's website. The periodicity and timing of data dissemination were never hampered by pressures from other government agencies.

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

The CBA provides explanatory notes on the data disseminated to prevent erroneous interpretation and misuse of statistics. Additional guidelines on data interpretation are also provided on request. The Press Office of the CBA, which acts as a public relations center, monitors daily media coverage on all aspects of its activities, including statistics. Its releases are defined by CBA's resolution 1/63L from 2006, "The CBA Media Releases." The responsibilities of the Press Office include coordination with the media to facilitate understanding, trust, and good relations.

Staff of the Press Office follow closely the financial press, and if erroneous interpretations or misuse of statistics are detected, they inform and consult with the relevant departments. Comments and clarifications are then formulated by the corresponding department and made public through the Press Office.

Additionally, the Press Office offers courses and lectures on the interpretation and use of economic and monetary statistics to the media, middle-school teachers, and students. The head of the SD holds press conferences with media representatives on statistical issues.

1.2 Transparency

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

Armenia is a participant in the IMF's Special Data Dissemination Standard (SDDS).

Electronic versions of the relevant laws and legislative acts are available to the public in Armenian, English, and some of them in Russian on the CBA's website. Copies of the legal documents can be obtained from the contact point. The CBA's *Manual on Compilation of Monetary and Financial Statistics in Armenia*, with a detailed methodological description tailored to the characteristics of the country, and the *Statistical Code of Practice* are also available on the CBA's website.

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

There is no internal government access to the data before they are released to the public.

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

All data compiled by the CBA are clearly identified as the CBA's product. The CBA's publications are recognizable by its name, logo, and insignia. When data of other producing agencies are used in the CBA publications, the data-producing agency is identified.

The CBA provides the NSS tables with monetary data to be published in the NSS's monthly *Socio-Economic Situation of the Republic of Armenia*, where the CBA is identified as the source for such tables.

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

Advance notice of major changes in methodology is usually provided in different publications of the CBA, as well as on the CBA's website. One example is the expansion of the coverage of the other depository corporations (ODC) survey with the inclusion of the credit institutions.

Although the data will be compiled starting in May 2008, the first expanded series will be published only in September, after a trial period and a prior announcement to the public.

1.3 Ethical standards

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

The CBA's *Ethics Code* and its accompanying *Staff Guide* clearly identify norms of conduct and the ethical standards for the staff. The *Code* is available in the CBA local area network and is also distributed to all employees. It outlines staff obligations and prohibitions, including working arrangements, handling of confidential information, use and safeguard of the information, conflict of interest, whistleblowing, use of working facilities, gifts and invitations, etc. Among other things, staff working at the CBA cannot have any other paid employment, except for academic positions. Seminars are conducted for newly joined staff to familiarize them with these guidelines. In the recent past, there were no cases of violations of these standards.

The CBA's *Statistical Code of Practice* provides additional guidelines on the adherence to the principle of objectivity in the collection, compilation, and dissemination of statistics.

2. Methodological soundness

2.1 Concepts and definitions

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

The methodological framework used by the SD to compile the central bank survey and the ODC survey is consistent with the guidelines of the *MFSM*. The depository corporations survey (DCS) is based on the balance sheets of the CBA and the sectoral balance sheet of the commercial banks, and will be expanded starting in May 2008 with the inclusion of the accounts of the credit organizations (credit unions).

The main monetary aggregates compiled by the CBA are:

- *Monetary base*: currency outside the CBA, required and excess reserves of commercial banks at the CBA in national and foreign currency, and deposits at the CBA of public and private nonfinancial corporations in national and foreign currency.
- *Currency in circulation*: notes and coins outside the CBA, excluding currency in commercial banks' vaults.
- *M1*: currency in circulation plus demand (transferable) deposits of resident nonfinancial corporations, other financial corporations and households in national currency.
- *M2*: M1 plus time deposits of resident nonfinancial corporations, other financial corporations and households in national currency.

- *M2X*: M2 plus all foreign currency deposits of resident nonfinancial corporations, other financial corporations and households.

2.2 Scope

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

At end-March 2008, Armenia's depository corporations sector comprised the CBA, 22 commercial banks, and 22 credit organizations. The depository corporations survey is based on data from these units. Credit organizations issue liabilities to their members that can be considered substitute of deposits. They account for around 8 percent of total loans and 3 percent of total deposits of the ODC sector, but were not included in the ODC survey. However, starting in May 2008 the ODC survey will be expanded to include also the credit organizations, reaching total coverage of the ODC subsector.

The data cover the headquarters and branches of all depository corporations, including the headquarters and branches of a bank domiciled in Karabagh, and eight branches in Karabagh of six banks headquartered in Armenia. The CBA considers Karabagh part of the economic territory of Armenia, because the dram is the legal tender there and all banking institutions operating in Karabagh must be licensed by the CBA. However, for national accounts and balance of payments statistics, the NSS excludes Karabagh from the economic territory of Armenia.

Recommendation: To be consistent with the NSS definition of the economic territory, the CBA should treat branches in Karabagh of Armenian banks as nonresident financial institutions, and collect data only from the branches in Armenia of the bank headquartered in Karabagh.

Going beyond the scope of monetary statistics, the CBA plans to compile the other financial corporations (OFC) survey, starting in September 2008 with the accounts of the insurance corporations, which represent the bulk of the OFC subsector.

2.3 Classification/sectorization

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

Sectorization of monetary statistics follows the recommendations of the *MFSM* and the *Balance of Payments Manual*, fifth edition (*BPM5*). Foreign positions are distinguished from domestic positions on the basis of residency. The statistical definition of residency is provided in the CBA's *Manual on Compilation of Monetary and Financial Statistics in Armenia* (section "Sectors of the Economy"). Recently, the CBA introduced new procedures to be followed by banks, to better identify the residence of foreigners opening accounts.

Domestic positions are classified by economic sector of the transactor following the *MFSM*: central bank, other depository corporations, other financial corporations, central government, local government, public nonfinancial corporations, other nonfinancial corporations, households, and nonfinancial institutions serving households (NPISHs). Holdings of central government and CBA's securities are properly sectorized in the chart of accounts, and their balances validated through the debt registry of the CBA.

Classification of financial instruments also follows the recommendations of the *MFSM*. Instruments are classified by type, remaining maturity, and currency denomination (national, foreign convertible, and foreign nonconvertible).² Repurchase agreements are classified as collateralized loans, financial derivatives are properly recorded for their net value, and prepaid insurance premiums are correctly recorded as *Insurance technical reserves*. Valuation adjustments are transferred to profits and loss accounts. The proportion of *Other assets* and *Other liabilities* within the total of the balance sheet of the CBA is around 8.5 and 0.3 percent, respectively; and within the aggregated balance sheet of ODCs of around 9.8 and 7.1 percent, respectively.

A deviation from the methodology of the *MFSM* occurred with currency swaps between the CBA and commercial banks, which were classified as loans (the CBA was the cash-giver), rather than as the spot purchase of the foreign exchange and the simultaneous commitment to a forward purchase of the same currency. The CBA considered these swaps closer to a repurchase agreement, through which it provided a loan to commercial banks and received foreign currency as collateral. However, these operations have not been carried out for more than one year, and all accounts recording them have a zero balance.

The DCS is presented using the following categories:

- Net foreign assets (gross claims on nonresidents in convertible currencies, gross liabilities to nonresidents in convertible and national currencies);
- Net domestic assets (domestic credit, other domestic assets net);
- Domestic credit (net claims on general government, claims on nonbank financial institutions, claims on nonfinancial corporations, claims on NPISHs, and claims on households). Within net claims on government, gross claims on government (broken down by securities and other receivables) and gross liabilities to government (broken down by deposits, loans, and other payables) are shown separately;
- Other items net (other financial assets, nonfinancial assets, other accounts receivable/payable, other liabilities, and capital accounts).

² Due to the strong commercial links with Russia, the ruble is classified as convertible foreign currency.

2.4 *Basis for recording*

2.4.1 *Market prices are used to value flows and stocks.*

Accounting rules at the CBA comply with International Financial Reporting Standards (IFRS). Accounting in financial institutions is conducted according to the Armenian Accounting Standards, which generally comply with international accounting standards.

Market prices are used to value flows and stocks. Accounts in foreign currency are revalued daily using the average market exchange rates announced by the CBA. The CBA's positions with the IMF are revalued monthly or when transactions occur, on the basis of the market dram/U.S. dollar exchange rate announced by the CBA and the U.S. dollar/SDR rate of the IMF. Currently, the CBA does not have gold holdings, but in the past they were revalued daily using the quotation at the morning fixing price on the London Bullion Metal Auction and the average market dram/U.S. dollar exchange rate.

Traded securities are initially recorded at their acquisition cost and then revalued daily based on their fair value, which is consistent with the *MFSM* methodology. Securities held to maturity are recorded initially at acquisition cost, and then valued at amortized cost using the effective interest rate method. For the compilation of the DCS, securities held to maturity by the CBA are valued at market prices at the end of the month.

2.4.2 *Recording is done on an accrual basis.*

The accounts of the CBA and those of the commercial banks are recorded on an accrual basis. Accrued interest receivable and payable is properly classified with its underlying instrument.

Transactions are recorded at settlement day (time of delivery), but using the price of the transaction date (change of ownership).

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

Assets and liabilities of the CBA and commercial banks are presented on a gross basis, with no netting of claims of a particular transactor against the liabilities to that transactor or group of transactors. Accounts in overdraft are recorded and reported as loans to the corresponding sector.

In the financial statements, loans are recorded on a gross basis at nominal values with provisions for loan losses as a negative asset item netting from the total of loans. When compiling the monetary statistics, the SD brings the provisions for loan losses to the liability side under *Other liabilities*, presenting the loans at their nominal value.

When producing the ODC survey, the SD consolidates the intrasectoral accounts of the commercial banks in *Other items net*. The DC survey consolidates the accounts of the CBA with the accounts of ODCs, also in *Other items net*.

3. Accuracy and reliability

3.1 Source data

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

All financial institutions operating in Armenia must be licensed by the CBA, enabling it to keep its register up-to-date. Data sources for the DCS are the balance sheets of the CBA and of the commercial banks. The SD has on-line access to the CBA's daily balance sheet. All banks submit their reports regularly in compliance with CBA's regulations. Reports are submitted on a daily, weekly, monthly, quarterly, and annual basis. Report forms are being continually evaluated, and revised when needed to keep them current with market and legislative changes.

Accounting records are sufficiently detailed to compile monetary statistics, with some minor supplementary information from report forms N6 (type and maturity of loans) and N17 (interest rates). The use of a uniform chart of accounts greatly simplifies the compilation of monetary statistics. The codification of the chart of accounts allows for a detailed classification based on instrument, sector, maturity, and currency denomination. Through its Regulation 3, the CBA has issued precise instructions on the different forms ODCs must complete, the use and recording of the accounts, validating procedures, and timeliness. All the reporting forms are write-protected and populated with formulas, facilitating the completion of the report and substantially reducing mistakes.

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

The DCS is based on actual accounting records of the CBA and all commercial banks. Therefore, no sampling or estimations are employed by the SD. The supplemental information provided together with the monthly balance sheets permits an adequate sectorization and identification of the accounts of residents and nonresidents. Through cross-checking of the submitted reports, as well as on-site and off-site inspections, the CBA monitors compliance of the reporting institutions with the guidelines.

Commercial banks follow national accepted accounting standards, which are very similar to international accounting standards. The balance sheet of the CBA is prepared in accordance with IFRS and audited by an external international firm selected by its Board for a period of up to three years (Article 16 of the *Law on Central Bank* of the Republic of Armenia). The 2007 financial statements were approved with an unqualified opinion.

3.1.3 *Source data are timely.*

The CBA's data are available on a daily basis to the SD, which has on-line access to the accounting records through the "Operday" program. Commercial banks transmit to the SD—at the end of the day—daily data on interest rates and foreign exchange position. On a weekly basis, and with a two-day lag, commercial banks report their balance sheet, data on interest rates, and their foreign exchange position. On a monthly basis, and with a seven-day lag, they report their balance sheet and all other annexes indicated in Regulation 3. The whole transmission process is automated, allowing the SD to produce timely monetary data, fully in compliance with SDDS requirements.

3.2 *Assessment of source data*

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.*

The CBA source data are analyzed for accuracy by the SD and the Accounting Department, and also reviewed by the Internal Audit Department. The "Operday" program, used for capturing and processing CBA's accounting data, allows automatic cross-checking of the data.

The source data transmitted by the banks in an Excel format are uploaded into the "FinA" program, which is a database software designed for queries. Once the data are uploaded, "FinA" automatically performs consistency checks that range from the simple identity between assets and liabilities to cross-checking of interbank positions, consistency between data from balance sheet and other report forms, identification of outliers, or internal consistency of accounts' balances. To this end, the SD has developed a long list of equations that must be validated. These validations are performed at the level of the individual institution, between institutions, and between the commercial banks and the accounting records of the CBA.

The Supervision Department conducts regular assessments to ensure that the data reporting practices of ODCs are consistent with the established guidelines. This responsibility is undertaken in cooperation with the SD. The source data on banking sector are double checked by the Supervision Department during on-site inspections. Formal data inconsistencies and out-of-trend values are confirmed with respondents and records are kept with the reporting forms. If errors are found in the submitted data, the SD sends back the forms to the reporters for correction and clarification.

3.3 *Statistical techniques*

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

The DCS is based on actual accounting records of the CBA and the commercial banks, and therefore no estimations are necessary. Because all data are processed electronically, the risk of mistakes is minimal. Data reported by commercial banks are complete and the SD does not need to estimate missing information.

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

Because data used to compile the DCS are complete and based on the balance sheets of the institutions, there is no need for data adjustments or transformations. Monetary data are seasonally adjusted using X-12-ARIMA procedures.

3.4 *Assessment and validation of intermediate data and statistical outputs*

3.4.1 Intermediate results are validated against other information, where applicable.

The analytical accounts of the CBA are verified by the following methods: (1) accuracy of daily changes of each account is verified by individual transactions; and (2) the basic accounting identity equating foreign assets plus domestic assets with total liabilities plus capital accounts is ensured.

The analytical accounts of the banking sector are verified with data from other reports submitted by commercial banks, such as report on banks' lending, receivables and investment securities, report on average interest rates on attracted and allocated funds, etc. Interbank positions are validated by the SD at the institution level using the "FinA" program. Positions with the CBA reported by commercial banks are validated, also at the individual institution level, against the CBA's accounting records.

Data reported on holdings of government securities are validated against a weekly report submitted by market agents and dealers on their own and their clients' government securities holdings. Stock data are reconciled with weekly flow data on deposits and loans.

The mission had access to the records and could verify the consistency of the positions by instrument and by currency, at an aggregated level as well as at the level of individual institutions.

3.4.2 *Statistical discrepancies in intermediate data are assessed and investigated.*

Data are regularly monitored to investigate statistical discrepancies and to ensure data accuracy. When a large movement is noticed in the submitted data, the SD contacts the reporting institution for clarifications.

Errors in the reported data are considered a violation of the regulation and, eventually, subject to sanctions. In such cases, the SD contacts the reporting institution to solve the problem and sends an informative letter to the Supervision Department to document the irregularity.

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

The CBA is committed to investigate any significant discrepancies that may be found. When relatively large fluctuations occur in the accounts due to random effects, they are thoroughly explained in the statistical publications.

3.5 **Revision studies**

3.5.1 *Studies and analyses of revisions are carried out routinely and used internally to inform statistical processes (see also 4.3.3).*

Normally, monetary statistics are not subject to routine revision studies. This notwithstanding, in the working program of the SD a task for improvement of the statistical process is contemplated. For instance, several surveys were conducted to investigate the classification practice applied by reporting institutions. Another example is the expansion of the coverage of the ODC survey to include the accounts of the credit organizations, decided after analyzing their relevance within the subsector. This improvement in the coverage will reflect in the disseminated data after the public has been informed about it.

4. **Serviceability**

4.1 **Periodicity and timeliness**

4.1.1 *Periodicity follows dissemination standards.*

Daily data on the monetary base, net international reserves, net credit to government, and net domestic assets are posted on the CBA's website. Full versions of the monetary aggregates and the DCS are disseminated on a monthly basis through the CBA's website and in its monthly publication *CBA Bulletin*. This periodicity fully complies with SDDS requirements.

More detailed classification of data is applied in the monthly *CBA Bulletin* and the annual publications *Annual Report of the CBA* and *Annual Statistical Bulletin of the CBA*. Annual publications also include data for all months of the year.

4.1.2 Timeliness follows dissemination standards.

The daily indicators are disseminated with one day lag. ODCs' data are disseminated the last working day after the reference month. This timeliness complies with SDDS requirements.

The timeliness for the monthly publications is five weeks after the end of the reference month; and for the annual publications five months after the end of the reference year,

4.2 Consistency

4.2.1 Statistics are consistent within the dataset.

Monetary data are published according to a balance sheet framework that ensures the basic accounting identity equating foreign assets plus domestic assets to total liabilities plus capital accounts. The CBA also disseminates separate balance sheet data for the CBA and for commercial banks and the analytical accounts of the banking system.

As already stated, the mission could verify that positions vis-à-vis the CBA reported by commercial banks are consistent at the institution, instrument, and currency level with the CBA's accounting records; and also that interbank positions are consistent at the institution, instrument, and currency level.

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

Monetary data are presented in consistent historical series since 1995, when they started being compiled. When changes in source data or methodology were introduced, the historical data were revised as far back as possible. If any breaks occur in the time series, footnotes are added explaining them.

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

The SD checks that net foreign assets derived from monetary statistics are consistent with net foreign assets derived from balance of payments statistics and with data on international investment position. Since all sets of data are based on the CBA's balance sheet, they are fully consistent with each other. The SD also reconciles transactions in net foreign assets in monetary statistics with the corresponding measure derivable from balance of payments. The inclusion in monetary statistics of banks operating in Karabagh results in some discrepancies with the other macroeconomic sectors, but the discrepancies are fully reconcilable once this different coverage is considered.

Monetary data on credit to the central government by the CBA and commercial banks are transmitted weekly by the CBA to the MFE, ensuring the consistency between the data

disseminated by both institutions. The SD also cross-check data on government securities holdings by commercial banks with its debt registry, ensuring their consistency.

4.3 Revision policy and practice

4.3.1 Revisions follow a regular and transparent schedule.

Commercial banks' data are final when first released, and not subject to revisions, except when mistakes are detected, in which case revisions are made and explained in footnotes and comments in upcoming releases. Quarterly and annual data of the CBA are preliminary, pending closing entries for foreign assets managed by external firms and the audited reports. Quarterly data become final two months after their first release, and annual data after a period of three months.

4.3.2 Preliminary and/or revised data are clearly identified.

Data are clearly identified as provisional or revised in all CBA publications.

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

Revisions to the methodology, for instance the expansion of the coverage to the credit institutions, are announced in advance and introduced after a waiting period.

5. Accessibility

5.1 Data accessibility

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

To meet users' needs, monetary statistics are first disseminated on the CBA's website and then published as a hard copy, with a higher level of detail, in the *CBA Bulletin*. Publications are posted on the website in electronic format. Besides, a databank is posted on the website with historical data from 1995 onwards.

Data are disseminated in millions of Armenian drams on the analytical accounts of the CBA, and cover the following:

- Currency outside the CBA (currency issued excluding currency at the CBA), required and excess reserves of the commercial banks at the CBA in national and foreign currencies, deposits at the CBA of public and private nonfinancial corporations in national and foreign currency.
- Net foreign assets, calculated as gross international reserves in convertible currency less gross foreign liabilities in convertible and national currency.

- Net domestic assets, including separate data on gross claims on and liabilities to the general government, claims on commercial banks, securities issued by the CBA (with a negative sign), and other net domestic assets.

Data are disseminated in millions of Armenian drams on the basis of the consolidation of the balance sheets of the CBA and commercial banks, covering:

- Monetary aggregates.
- Net foreign assets, based on the residency criterion.
- Domestic credit disaggregated by net claims on general government, claims on nonbank financial institutions, nonfinancial corporations, nonprofit institutions serving households and households.
- Other net domestic assets (other financial assets, nonfinancial assets, other accounts receivable/payable, other liabilities and capital accounts).

5.1.2 Dissemination media and format are adequate.

Statistics produced by the CBA are disseminated in hard copy and electronic format. Publications are posted on the website in electronic format. Besides, a databank is posted on the website where historical data are available from 1995 onwards.

The monthly *CBA Bulletin* is available as a hard copy, in Armenian, at the library of the CBA. Armenian and English electronic versions of the *CBA Bulletin* are available on the CBA website. The quarterly *CBA Statement* is available as a hard copy, in Armenian, at the library of the CBA. The annual *Statistical Bulletin of the CBA* and the *Annual Report of the CBA* are available as hard copies, in Armenian and English, at the library of the CBA, and in electronic format on the CBA's website. All these publications contain numerous tables related to the analytical accounts of the banking sector and also on prudential banking standards, with an adequate level of disaggregation, including flows and percentage changes. The latest available series at the time of the mission's visit to Yerevan correspond to March 2008 for the accounts of the CBA and February 2008 for the DCS.

Time series in an Excel format are available upon request by e-mail, and delivered within 48 hours.

5.1.3 Statistics are released on a preannounced schedule.

The Board of the CBA has adopted a special resolution on the timetable of the CBA's publications. The resolution defines in detail the dissemination schedule of all the CBA's publications, including the statistical ones.

An advanced release calendar, with precise release dates one quarter in advance, is posted on the CBA's website and strictly followed. Besides, an advance release calendar is disseminated through the IMF's Dissemination Standards Bulletin Board (DSBB).

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

All data are released simultaneously to the public through press releases, in the monthly *CBA Bulletin* and on the CBA's website.

5.1.5 Statistics not routinely disseminated are made available upon request.

Additional (nonconfidential) information is available upon request. Users can request additional information through either the contact point listed on the CBA's website or the Press Office, which will forward the inquiries to the relevant department for response.

5.2 Metadata accessibility

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.

The compilation methodology for the data disseminated in the *Annual Statistical Bulletin* is explained in the CBA's *Methodology of Compilation of the Statistical Bulletin of the Central Bank of Armenia*, published as a special press release of the CBA. Data revisions and any deviations from the accepted compilation practices and methodology are highlighted and explained in footnotes to the tables. The CBA's *Manual on Compilation of Monetary and Financial Statistics in Armenia* gives full details of the compilation and methodology of monetary statistics. The *Manual* is available in Armenian and English on the CBA's website.

Besides, metadata on monetary statistics are available on the IMF's DSBB. The latest update of the metadata on the DSBB took place in April 2008. The CBA's website provides a link to the country page on the DSBB.

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

The CBA's publications and electronic data posted on its website provide different levels of details to meet users' needs. Methodological comments are published in the *CBA Bulletin*, the *Statistical Bulletin*, and the *Annual Report of the CBA*. They include notes on revised data, changes in methodology, and any changes in the structure of the accounting and/or statistical frameworks.

5.3 Assistance to users

5.3.1 Contact points for each subject field are publicized.

Contact information (e-mail addresses and telephone numbers) are available on the CBA website. Assistance and support is provided to users, who can submit queries by addressing the contact point or the Press Office of the CBA.

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

The CBA website provides users with considerable amount of information about electronic and hard copy publications and documents. The CBA publications can be obtained free of charge from the contact point upon request.

Table 6. Armenia: Data Quality Assessment Framework (July 2003): Summary of Results for Monetary Statistics
(Compiling Agency: Central Bank of Armenia)

Key to symbols: NA = Not Applicable; O = Practice Observed; LO = Practice Largely Observed; LNO = Practice Largely Not Observed; NO = Practice Not Observed; SDDS = Complies with SDDS Criteria						
Element	NA	Assessment				Comments
		O	LO	LNO	NO	
0. Prerequisites of quality						
0.1 Legal and institutional environment		X				
0.2 Resources		X				
0.3 Relevance		X				
0.4 Other quality management		X				
1. Assurances of integrity						
1.1 Professionalism		X				
1.2 Transparency		X				
1.3 Ethical standards		X				
2. Methodological soundness						
2.1 Concepts and definitions		X				The depository corporations survey includes accounts of a bank domiciled in Karabagh with branches in Armenia, and also the accounts of eight branches in Karabagh of six banks headquartered in Armenia.
2.2 Scope			X			
2.3 Classification/sectorization		X				
2.4 Basis for recording		X				
3. Accuracy and reliability						
3.1 Source data		X				
3.2 Assessment of source data		X				
3.3 Statistical techniques		X				
3.4 Assessment and validation of intermediate data and statistical outputs		X				
3.5 Revision studies		X				
4. Serviceability						
4.1 Periodicity and timeliness		X				
4.2 Consistency		X				
4.3 Revision policy and practice		X				
5. Accessibility						
5.1 Data accessibility		X				
5.2 Metadata accessibility		X				
5.3 Assistance to users		X				

VI. BALANCE OF PAYMENTS STATISTICS

0. Prerequisites of quality

0.1 *Legal and institutional environment*

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

The National Statistical Service (NSS) compiles the balance of payments using data provided by the Central Bank of Armenia (CBA).

Compilation and dissemination of data are governed by the terms and conditions of the *Law On State Statistics* of the Republic of Armenia, which was approved by the National Assembly of the Republic of Armenia on April 4, 2000. This Law serves as the legal basis for the organization and order of official statistics in Armenia. This Law also regulates the relations involving collection, processing, accumulation, summarizing, and storing, as well as the analysis and exchange of statistical data related to social and economic processes in Armenia, population and its activities, and the presentation (publication) of statistical information. The Law gives the NSS legal authority to compile and publish balance of payments statistics using data from the CBA.

Legal relations pertaining to census activities are governed on the basis of the *Law On the Population Census* of the Republic of Armenia, adopted by the National Assembly of the Republic of Armenia on October 12, 1999.

Provisions of the *Law On State Statistics*, the *Law On Three-Year State Statistical Work Program*, and the normative and legal acts adopted by the State Council on Statistics (SCS) of the Republic of Armenia (Supreme body of governance of the NSS) serve as the regulatory legal base for state statistics.

The *Law On Three-Year State Statistical Work Program* for 2007–2009 was adopted by the National Assembly of the Republic of Armenia on November 29, 2006.

In addition to the above, certain relations of state statistics organization are governed by other regulatory legal acts listed below and in sections 0.1.2, 0.1.3, and 0.1.4, which are adopted by the SCS based on the *Law On State Statistics*:

- (a) Resolution No. 110-N of the SCS “On Approval of the Charter and Structure of the National Statistical Service of the Republic of Armenia” of July 26, 2002;
- (b) Resolution No. 20-N of the SCS “On Approval of the Regulations of the State Council on Statistics of the Republic of Armenia and on Repealing the

Resolution No. 10 of the State Council on Statistics of the Republic of Armenia of August 15, 2000” of November 24, 2006;

- (c) Resolution No. 60 of the SCS “On Approval of the Procedure for the Publication of Statistical Information” of August 15, 2001.

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

NSS relations with the institutions implementing administrative statistics are regulated through procedures established by the *Law On State Statistics* and Resolution No. 109 of the SCS “On Approval of the Procedure for the Maintenance of Administrative (information) Registers and Receiving Information from Them” of May 10, 2002.

Resolution No. 109 defines the rules and terms for the maintenance of administrative (information) registers, as well as for submitting the collected information to the NSS.

The CBA provides data to the NSS under the Agreement between the NSS and the CBA on Data Sharing of June 25, 2001. The specific data sets shared are set out in an appendix to the Agreement, which is currently under revision to reflect the CBA’s expanded rule as supervisor for insurance companies, pension funds and other financial market participants.

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

Statistical confidentiality is regulated through a procedure established by the *Law On State Statistics* and Resolution No. 53-N of the SCS “On Approval of the Procedure for Ensuring the Confidentiality of Statistical Data” of June 25, 2001.

The procedure defines rules of storing, using and publishing confidential statistical information, as well as rights and responsibilities of all the participants in relation to statistical confidentiality.

According to the provisions of this procedure, a Commission on Statistical Confidentiality Issues was also established within the NSS. Furthermore, all staff members of the NSS are required to sign a sworn declaration on statistical confidentiality.

Both the balance of divisions of the NSS and the CBA have confidential procedures and rules to prevent that individual respondents can be identified in the published data.

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

Relations regarding the provision of necessary statistical information for the state statistical work program implementation are regulated through the procedure established by the *Law On State*

Statistics and Resolution No. 11-N of the SCS “On Approval of the Procedure for the Presentation of Statistical Data” of October 03, 2003.

The procedure defines rules of statistical data provision in the scope of state statistical observation by the legal persons (irrespective of organizational and legal form), individual entrepreneurs, foreign legal persons’ separate units in Armenia, registered in accordance with the procedure established by the Armenia legislation, as well as by government and local self-government bodies.

0.2 Resources

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

National Statistical Service

The number of the NSS employees is approved by the Prime Minister's Decree on presentation of the NSS President.

In April 2008, NSS comprised the following staff:

	Headquarters	Regional offices	Total
Civil servants (tenured)	155	179	334
Statisticians (fixed term)	33	358	391
SCS members and auxiliary personnel	26	-	26
Total	214	537	751

The salaries of the NSS staff are financed from the Armenia state budget.

Compensation of the NSS employees, who are civil servants, is based on the *Law On Compensation of Civil Servants* and is general for all civil servants.

For the NSS, eight employees work in the Balance of Payments Division, four of which are engaged in the compilation and all have higher education. Staff share one office without air conditioning and it therefore gets very hot in the summer. Personal computer facilities do not match data processing needs. Staff seldom participate in international seminars or courses. Staff turn over is high, particularly the younger staff, and salaries are not comparable with the private sector or the CBA.

For the CBA, the Balance of Payments Division consists of three staff (excluding the head of the division position, which is currently vacant), all with higher education. The Division is supported by the Data Processing Division, which is a division that cuts across several divisions in the CBA. Key staff have working experience in balance of payments statistics and have participated in seminars, conferences provided by international organizations, and other central banks. Facilities are adequate.

Recommendation: Balance of Payments staff, computing resources, office space, and financing should be improved to adequately compile and disseminate the Balance of Payments statistics.

0.2.2 Measures to ensure efficient use of resources are implemented.

In accordance with the order established by the Armenia legislation, the Chief of the NSS staff disposes the state property attached to the NSS staff, including financial means. The Chief of the staff also organizes preparation of the NSS draft budget.

Annual expenditure budget of the NSS and results of rechecking authenticity of the financial reports are approved by the NSS President, and the annual balance and financial reports—by the SCS.

Authenticity of the annual financial reports of the NSS staff could be audited in the order established by the Armenia government.

0.3 Relevance

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

With the aim of studying users' needs, the state statistical work programs (three-year and annual) are posted at the NSS website and submitted to a selected sample of about 100 users (government, scientific and educational institutions, judicial bodies, banking system, business, nongovernmental and international organizations and mass media) for comments and recommendations. The program is approved by the SCS and then the Ministry of Justice (MOJ) adopts it as a legal document.

In accordance with the *Law On State Statistics*, the Annual Program includes statistical information on economic, demographic, social and environmental situation of the country and is developed based on the study of users' needs.

The following aspects are taken into account when developing an annual program: availability of resources, burdens on respondents, cost-effectiveness, comparability of the country indicators with the international standards, potential stable periodicity of those indicators from the viewpoint of discovering trends in the long-term period and their harmonization with the resources annually allocated to the state statistics.

0.4 Other quality management

0.4.1 Processes are in place to focus on quality.

Quality policy is anchored on the principles of ensuring the application of universal statistical methodology in compliance with international standards and comparability, as well as use of the necessary technical, economic, and social information classifications.

The NSS management attaches importance to data quality issues and takes initiatives to improve quality. The NSS reviews data for accuracy. The NSS has internal process to identify issues at the various stages of the collection, compilation, and dissemination of statistics. The National Account Division also functions as an internal audit in terms of data consistency and assessing the design of new questionnaires and methodologies.

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

Annual program implementation is organized by the NSS President.

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

Data collected from the statistical information providers are arithmetically and logically checked.

Internal procedures for ensuring quality, depending on their character, are implemented by the following units:

- ensuring the proper methodology of indicators—SCS and Statistical Work Methodology and Classifications Division;
- business statistics—Macroeconomic Indicators and National Accounts Division and Senior Adviser to the President of the NSS;
- macroeconomic indicators—Senior Adviser to the President of the NSS; and
- publications and dissemination—Vice President and Statistical Publications and Marketing Division.

The External Statistics Committee was established on May 18, 2007 to improve external statistics, including balance of payments statistics. The Committee, under the auspices of the NSS, and with the CBA and the Ministry of Finance and Economy (MFE) as permanent members, and other agencies as needed, primarily the State Custom Committee Service (SCCS), meets on a regular basis. The Committee discusses methodology, compilation and other issues related to external statistics. A major revision of parts of the balance of payments (BOP) for the period 2004–2006, introduced in 2007, was the first result of this Committee.

1. Assurances of integrity

1.1 Professionalism

1.1.1 *Statistics are produced on an impartial basis.*

Article 5 of the *Law On State Statistics* states that Armenian official statistics should be governed by the principles of objectivity, reliability, and integrity. It states that official statistics should observe international methodological standards as well as internationally accepted practices on accessibility and dissemination (publicity) of statistical data. Article 9 states that the choice of the President of the NSS must be a citizen of Armenia having high economic education and work experience in the domain of statistics.

Article 9 further states that the President cannot be appointed simultaneously to any other position in the public or private sector or accept other paid work besides scientific, pedagogical and creative. The President's tenure may be shortened only by (1) his (her) resignation, (2) discontinuing his (her) citizenship of Armenia, (3) being rendered incapable or of diminished capability by a court decision or conviction, or (4) his (her) death. The President of the Service nominates his (her) deputies for appointment by the SCS.

Professionalism is actively encouraged. There are strong, mutually beneficial links between the NSS and the universities.

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

The NSS solely makes choices about sources of data and statistical techniques based on professional statistical considerations and in light of international standards. There is no evidence of outside interference. The reasons behind the choice of sources and methodologies are made public through the annual statistical program.

The annual program approved by the SCS includes:

- a list of statistical activities, terms of their implementation, the coverage, as well as types of observations;
- periodicity of the presentation of statistical indicators;
- a list of surveys that should be implemented by the NSS, published statistical handbooks, bulletins, and other publications and their periodicity;
- a list of organizations, state bodies, and local self-government and other administrative registers, and a list of summary statistical information (data), provided by them; and

- a list of users of statistics, the breakdown of information provided free of charge, and the structure of its presentation.

The decisions about the timing and format of the disseminated data are also based solely on statistical considerations.

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

Under the *Law On State Statistics*, the NSS is not obliged, but has the right to provide clarifications on the misuse and misinterpretation of statistical information it publishes.

The NSS policy is to avoid any misunderstandings by providing additional explanations of the data with the releases. The Public Relations Unit of the NSS is responsible for daily monitoring of the media.

1.2 Transparency

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

Users have full access to information about the conditions under which statistical data are collected, processed and disseminated as well as about release timetables, confidentiality of individual data and other specific points.

The *Law On State Statistics* of the Republic of Armenia was published in the *Official Bulletin of the Republic of Armenia*, No. 8 (106) of April 28, 2000, and also on the NSS website. The *Law On the Population Census* of the Republic of Armenia was published in the *Official Bulletin of the Republic of Armenia*, No. 28 (94) of November 13, 1999. The *Law On the Three-Year Program of Statistical Projects for 2007–2009* of the Republic of Armenia was published in the *Official Bulletin of the Republic of Armenia*, No. 66 (521) of December 25, 2006. The law is posted in Armenian on the NSS website. The following regulatory legal acts of the SCS were published in the *Bulletin of Departmental Regulatory Acts of the Republic of Armenia* following their approval:

- Resolution No. 110-N of the State Council on Statistics “On Approval of the Charter and Structure of the National Statistical Service of the Republic of Armenia” of July 26, 2002 was published in the *Bulletin of Departmental Regulatory Acts of the Republic of Armenia*, No. 21 (107) of September 2, 2002.
- Resolution No. 11-N of the State Council on Statistics “On Approval of the Procedure for the Presentation of Statistical Data” of October 03, 2003 was published in the *Bulletin of Departmental Regulatory Acts of the Republic of Armenia*, No. 3 (151) of February 02, 2004.

- Resolution No. 53 of the State Council on Statistics “On Approval of the Procedure for Ensuring the Confidentiality of Statistical Data” of June 25, 2001 was published in the *Bulletin of Departmental Regulatory Acts of the Republic of Armenia*, No. 15 (78) of September 4, 2001.
- Resolution No. 60 of the State Council on Statistics “On Approval of the Procedure for the Publication of Statistical Information” of August 15, 2001 was published in the *Bulletin of Departmental Regulatory Acts of the Republic of Armenia*, No. 3 (89) of February 11, 2002.
- Resolution No. 20 of the State Council on Statistics “On Approval of the Regulations of the State Council on Statistics and on Repealing the Resolution No. 10 of the State Council on Statistics of the Republic of Armenia of August 15, 2000” of November 24, 2006 was published in the *Bulletin of Departmental Regulatory Acts of the Republic of Armenia*, No. 30 (239) of December 15, 2006.
- Resolution No. 109 of the State Council on Statistics “On Approval of the Procedure for the Creation and Maintenance of Administrative Registers” of May 10, 2002 was published in the *Bulletin of Departmental Regulatory Acts of the Republic of Armenia*, No. 17 (103) of July 15, 2002.

All of these resolutions are also posted in Armenian on the NSS website. In addition to the above, following approval by the SCS, all government statistical reporting forms and instructions for filling them out are also published in the *Bulletin of Departmental Regulatory Acts of the Republic of Armenia*. Armenian versions of the reporting forms and instructions for filling them out are also posted on the website.

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

Balance of payments data are released simultaneously to all users. No government officials outside the NSS have access to the data prior to their release.

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

All data releases are clearly identified as being produced by the NSS. In the case of joint publications, the NSS data are identified as being a product of the statistical office. The NSS print publications all identify NSS as the source. The NSS Public Relations Division also scans other websites using NSS data to check attribution. NSS and the CBA Statistics Department regularly cross-check published data.

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

Major changes in the methodology, source data, and statistical techniques are announced in advance through the publication of the annual statistical program.

Following the procedure established by legislation (the Laws on State Statistics and on Legal Acts, Resolution No. 11-N of the State Council on Statistics “On Approval of the Procedure for the Presentation of Statistical Data,” etc.), the NSS notifies parties responsible for the presentation of statistical information of changes in the methodology through the provision of new statistical reporting forms and/or instructions for filling them out (following their approval by the SCS and publication in the *Bulletin of Departmental Regulatory Acts of the Republic of Armenia*).

1.3 Ethical standards

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

Guidelines for the NSS staff behavior are set by the *Law On Civil Service* (published in the *Official Bulletin of the Republic of Armenia*, No. 1 (176) of January 09, 2002) and Resolution of the Armenia Civil Service Board No 13-N “On Approval of the Guidelines for the Civil Servants’ Ethics” of May 31, 2002 (published in the *Bulletin of Departmental Regulatory Acts of the Republic of Armenia*, No 18(104); of August 01, 2002). Guidelines for behavior are provided in legislation on the civil service.

2. Methodological soundness

2.1 Concepts and definitions

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

The balance of payments is a statistical statement summarizing economic transactions between Armenia (residents) and the rest of the world (nonresidents) during the reporting period (quarter and year). The balance of payments comprises of two main accounts: (1) the current account, which is split into imports and exports of goods; services; income; and current transfers; and (2) the capital account and financial account, where the capital account includes capital transfers and acquisition/disposal of nonproduced, nonfinancial assets, and the financial account, which includes transactions in foreign direct investment, portfolio investment, other investment, and international reserve. A separate section includes errors and omissions as the differences between the current account and the capital account and financial account.

The framework, concepts and definitions used for balance of payments statistics follows the *Balance of Payments Manual*, fifth edition (*BPM5*) by the IMF. The one-year criterion for

residence is adopted, including the special treatments adopted for nonlocal staff of embassies, etc., and Armenia citizens having a principal residence abroad being treated as nonresidents. This definition is applied as far as practicable for compensation of employees, remittances, and local expenditure by staff of embassies etc.

2.2 *Scope*

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

In principle, the balance of payments covers all transactions between residents and nonresidents as specified in *BPM5*: no major component is excluded, however, for the banking sector, data includes a bank headquartered in the Karabagh and branches of Armenian banks located in Karabagh as resident entities, which in both cases should be treated as nonresidents. No estimates are made for any illegal activities. No data are collected for derivatives but these are either nonexistent or insignificant and their exclusion is not material. The CBA is monitoring developments and adapts as necessary.

Recommendation: The CBA should treat branches in Karabagh of Armenian banks and banks headquartered in Karabagh as nonresident financial institutions, and include data only from the branches in Armenia of the bank headquartered in Karabagh.

Transfers, including remittances, and compensation of employees, or in general households receipts from abroad, are important for the Armenian balance of payments. Even though remittances have become an important items for many countries, there is no universally accepted definition. Remittances are often interpreted to mean resource flows related to migration, benefiting the families resident in the country of origin of migrant workers. Some data users understand remittances to represent only gifts and maintenance payments sent by migrants who live abroad permanently to their families at home, while others include also the earnings received by short-term workers.

In *BPM5* there is no single data item that capture these transactions but the draft *Balance of Payments and International Investment Position Manual (BPM6)* identifies standard components within its framework that relate to remittances but also provides supplementary definitions that allow compilers to address additional data needs. Once the *BPM6* becomes final it could be useful to consider a supplementary presentation of remittances related data given its importance in the Armenian economy.

Recommendation: A special presentation on remittances, compensation of employees, and private transfers along the lines of the additional presentation suggested in the draft Balance of Payments and International Investment Position Manual (BPM6) is recommended in view of the importance of these flows in Armenia.

2.3 Classification/sectorization

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

Institutional units are classified and attributed to the relevant sector according to *BPM5*. For data collected for insurance companies and money market dealers no split is made between portfolio investment and foreign direct investment but foreign ownership in these entities, mainly insurance companies, is very low.

New reporting forms that split portfolio and foreign direct investment have been distributed and revision will be made back to 2007.

2.4 Basis for recording

2.4.1 Market prices are used to value flows and stocks.

Valuations of flows and stocks are generally at market prices and follow *BPM5* methodology. In the cases where there are deviations from market prices, mainly financial investments liabilities, no market prices exist, and other valuation methods are applied. The *BPM5* allows for such flexibility in these circumstances.

Exports and imports are valued f.o.b. (free on board). Imports data are collected by the SCCS on a c.i.f. (cost, insurance, and freight) basis and converted by the NSS to a f.o.b. basis using fixed ratios based on the type of commodity, mode of transportation and country of origin. These ratios were developed via a survey in 2001.

For nonfinancial companies inward foreign direct investments are valued at book value, since market values are not available. This is consistent with the *BPM5* methodology. For the banking sector, financial securities are valued at market value on the asset side (outwards investments), and on the liabilities side at book value adjusted for reinvested earnings for unlisted equity and amortized value for debt securities. In principle, debt securities should be valued at market values but nonresident holdings are practically nonexistent and since there is no formal quotation of securities issued by Armenia residents, no market prices exist. The CBA reporting requirements for the banks on their liabilities reflects the accounting rules for banks. Other investments are recorded, in accordance with *BPM5*, at nominal values

The NSS generally collects balance of payments data both in U.S. dollars and drams. Further data processing and dissemination are done in U.S. dollars only. Transactions denominated in a different currency are converted into U.S. dollars, using the exchange rate in effect at the time the transaction is performed. Data on goods are compiled in original currency and converted to U.S. dollars and drams using the daily exchange rate. If it is impossible to determine the exchange rate, the average exchange rate for the reference period is used.

The CBA compiles its data in drams and some data also in foreign currency (information on money transfers via the banking sector). Conversion to U.S. dollars is based on end-of-period exchange rates for stocks and average exchange rate for the reporting period for flows. The data sent by the respondents makes the necessary distinction between changes due to transactions and valuation changes due to prices and exchange rate variations. Calculations are based on average reporting period exchange rates.

2.4.2 Recording is done on an accrual basis.

Balance of payments are generally recorded on an accrual basis in accordance with *BPM5*, except for interest income and dividends for the nonbanking sector, which are on a cash basis. While this, in principle, could give an incorrect distribution of income over the different quarters, the effect, in practice is minimal. Usually the largest intertemporal difference on investment income on using the cash basis versus the accruals basis is in the area of portfolio investments, which in the case of Armenia is insignificant. For other investments the effect is most likely small.

For goods, the main data source—data from the SCCS—reflects the time of customs clearance, which is not necessarily the same time as the change in economic ownership. For large transactions adjustments are made, if identified, to make the timing of the goods flow and the corresponding financial flow more consistent and on an accrual basis (i.e., time of change in economic ownership). Also, timing adjustments based on fixed ratios from the 2001 c.i.f./f.o.b. survey, see 2.4.1 above, are made. Corresponding adjustments are done to trade credits.

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

The balance of payments comply with the grossing/netting principles established by the *BPM5*. Current transactions are compiled and disseminated on a gross basis, while financial transactions are recorded on a net basis distinguishing between assets and liabilities.

3. Accuracy and reliability

3.1 Source data

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

A wide range of sources are used to compile the balance of payments. The data sources are comprehensive, often based on direct reports by all the relevant entities.

- *Goods*: The primary sources for data on export and import are customs declarations obtained from SCCS by the NSS on a monthly basis. SCCS data cover, in principle, all goods entering and leaving Armenia in excess of a threshold of US\$300. The data on shuttle trade are derived from simplified forms of customs declarations which capture

transactions below that threshold. Trade with Karabagh is excluded. These data are supplemented with data on exports and imports of electricity and imports of natural gas based on direct reporting from importers/exporters. Data on goods procured in ports are collected directly from transport companies (main domestic airport and airline) on a quarterly basis.

- *Services*: Various quarterly surveys of private nonfinancial companies are conducted by the NSS on a quarterly basis, and cover transportation and computing services; communication services; and other services. Data on travel are based on a combination of quarterly sources collected by the NSS: travel agencies; hotels; and number of arrivals and departures from Department of Migration. These data are combined with a one-time survey conducted on a monthly basis from September 2006 to August 2007 on spending, purpose of travel and country of origin. The travel items are then estimated on the basis of the number of travelers, the average length of stay, and the average daily expenditures. Transportation services are based on Customs data, where the freight element is identifiable. Data on financial services of the banking sector are compiled by the CBA.
- *Income*: Investment income is collected via survey for the banking sector and other financial companies by the CBA and for nonfinancial companies by NSS. For the public sector the data is provide by the MFE. Data cover portfolio investment; foreign direct investment and other investment and international reserves. Data on compensation of employees are mainly data, compiled by the CBA, from banks in relation to their clients' (household sector) money transfers and a survey conducted by the CBA on the purpose of transfers supplemented with data from the household survey conducted by the NSS; and information from embassies in Armenia.
- *Current transfers are compiled from various sources*: The value of humanitarian aid is assessed by the exporter and recorded in the Customs declarations. Data on fees of membership in international organizations paid by the government are collected from the MFE. Data on technical assistance received by Armenia are compiled from the ministries, and additional estimates are made as well. The main source for private current transfers, both remittances and other current transfers, received from nonresidents are data collected by the CBA on money transfer and surveys supplemented with data from the household survey combined with data compiled by the NSS. The data collected by the CBA contains, in addition to an overall number for money transfers, also information from banks in relation to their clients' (i.e., households) money transfers; and surveys of the transferees concerning purpose, country of origin, and source conducted under the auspices of the CBA.
- *Capital account*: Data on migrants' transfers are estimated based on the customs data, household surveys and information obtained from the State Committee of Real Assets Cadastre and data on money transfer via the banking system and surveys of the transferees concerning purpose, country of origin, and source. Capital transfers for general government sector are obtained from the MFE and the CBA.

- *Direct investment:* Data on direct investment in Armenia are collected from the foreign direct investment companies. Based on the State Business Register all companies with foreign ownership are surveyed; those where the initial foreign investment is below US\$25,000 are surveyed annually, and those above are surveyed quarterly. For the banking sector and other financial companies, data are collected by direct reporting by the CBA. These data are supplemented with data for money transfers via the banking system in relation to foreign direct investment in the form of real estate.
- *Portfolio investment:* Data on portfolio investment are compiled by the CBA, and only relate to the banking sector. All banks and credit institutions are covered. The MFE provides data of foreign ownership for government issued securities.
- *Other investment:* Data on other investments are obtained from the MFE (on loans of the government sector); from the CBA for the banking sector and other financial companies; and the direct investment companies surveyed in the foreign direct investment survey by the NSS. Data on the Special Privatization Specialized Fund, which account is managed by the CBA, is provided by the CBA. Households holdings of currency and deposits (in particular foreign currency in cash) are based on the same sources and estimations methods used for remittance. The CBA also collects data, in a survey concerning dollarization in Armenia for monetary policy purposes. This source also contains information about foreign currency holdings and flows, and could either be combined or used for cross-checking with balance of payments and IIP data.
- *Reserve assets:* Data on reserve assets are compiled by the CBA.

Data on transactions in financial investment assets (residents' investments in financial assets issued by nonresidents), which are either portfolio investment, direct foreign investment, or other investment, are in principle covered in the various sources mentioned above. The direct foreign investment survey for nonfinancial investment already includes questions for investment assets. Nevertheless, based on anecdotal information there could be some under-coverage for these items even though there is no information to quantify it. There are two main reasons for the coverage problem. First, neither the state business register or the financial statements of the surveyed companies contain information to help identify companies with holdings of financial assets issued by nonresidents. Currently the companies surveyed are those that are known to have foreign inward direct investments (liabilities), which does not necessarily mean they have financial assets. Second, companies are very reluctant to report financial assets abroad, not only to the NSS, but also to the tax authorities. The household sector's holding of financial assets also often can be difficult to capture with surveys because reporters tend to underreport financial assets. Source data problems for these items are not uncommon for many countries. The financial sector's financial assets holdings and flows are well covered.

Recommendation: In the context of the NSS's plan to extend the national accounts to also include financial accounts, more or new sources data are likely needed. Ways to either integrate the needs for balance of payments data directly into these new sources or as a source for identifying potential important nonfinancial companies holdings abroad should be investigated. This is medium term.

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

The source data reasonably approximate the definitions, scope, classification, valuation, and time of recording required to meet the *BPM5* recommendations.

Once companies close their books of account for the year and make year-end adjustments, these adjustment are reported as revisions in the annual foreign direct investment survey, and the published statistics are revised accordingly. This is normal practice for balance of payments compilers.

3.1.3 Source data are timely.

Source data are sufficiently timely to allow quarterly data to be produced within one quarter after the reference period and within 180 days for annual data. The balance of payments compilers and data suppliers cooperate to meet balance of payments requirements.

Compilers follow up with respondents to ensure timely data. Penalties can be levied on nonresponders but are very rarely used as a cooperative approach is strongly preferred.

3.2 Assessment of source data

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.

Balance of payments staff compare at the micro and macro level data reported for earlier periods to check for the plausibility of trends. Large transactions, such as privatizations or large investments from abroad, are monitored closely.

Where possible, forms are designed so that transactions during the reporting period must be reconciled with opening and closing balances. Where only stocks are collected and flows are calculated there is enough information to distinguish between changes due to valuation adjustments (exchange rate changes, price changes) and to transactions. Also, consistency between reporting periods are validated. Data are verified via consistency checks within the survey form, ensuring quality and reliability of the information provided and further enhanced by linking the data entered at the subsequent levels or other related surveys, in particular to

remittances. Plausibility of interest investment income is assessed with a rate of return analysis, where interest is compared to outstanding stocks for the respective instruments.

For customs data, the data for each type of good are checked for temporal consistency. These and other data checks are automated.

For the data collected from banks for money transfers, which form part of the basis for the estimations of remittances, compensations of employees, capital transfers, and foreign direct investment, data are checked against surveys to verify the classification of these money transfers. In practice, the banks that report money transfers data may in some cases use citizenship instead of residence as the residency criteria. The CBA emphasize the definition of residence criteria to the banks.

3.3 *Statistical techniques*

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

Data entry procedures include checks to avoid miscoding and misreporting. Queries are made to reporters concerning unusual values. Nonresponse is very low and no estimations are applied to substitute for nonresponse.

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

Goods: Adjustments are also made to data on imports of goods, which are estimated on a f.o.b. basis by applying constant percent (depending on type of goods, mode of transportation and country of origin) deductible to the c.i.f. import value. The average adjustments are based on a survey conducted in 2001.

Services—Adjustments to improve coverage/classification/timing/valuation: The value of services (transport and cargo insurance) rendered by nonresidents are estimated through adjustments made to the value of imports of goods (from c.i.f. to f.o.b. basis) and added to imports of services. Adjustments are made to export of transport and insurance services using data from customs declarations with regard to transport provided by Armenia residents. These estimates are cross-checked with quarterly data from transport providers (airline, train, and international trucking providers). Credit and debit entries for travel are estimated on the basis of the number of travelers, the average length of stay, and the average daily expenditures, and adjusted for seasonal workers.

Income: Adjustments to data on compensation of employees are made based on information from the data of household survey; surveys of money transferees; and banks. The data is adjusted based on a fixed ration to get compensation of employees on a before tax and social contribution basis.

Current transfers: Adjustments to current transfers are made based data from the annual household survey; surveys of money transferees; and banks. Data for remittances is based on a very elaborated estimation data model taking several sources into account. The main sources being transfers via the banking system that are then adjusted by various surveys of the transferees.

Capital account: Estimates are derived from household surveys conducted by the NSS. Transactions are mainly outflows of emigrant transfers. Estimates are based on the number of emigrants and the average size of emigrating families, together with average prices of apartments sold in Armenia. The information on average property prices is obtained from the State Committee of Real Assets Cadastre.

Financial account, foreign direct investment: Adjustments to data on direct investment are done concerning the direct foreign investment inwards companies, for which the State Business Registers show equal joint foreign ownership of initial capital of AMD50,000 and which are not covered by the foreign direct annual survey.

Financial account, household sector holdings for foreign currency (cash holdings): This is based on the same sources described under remittance above.

Financial account, portfolio investment: No adjustments to data on portfolio investment are made.

Financial account, other investment: No adjustments to data on other investment are made.

Financial account, reserve assets: No adjustments to data on reserve assets are made.

Recommendation: Update c.i.f./f.o.b. estimation factors for international trade in goods.

3.4 Assessment and validation of intermediate data and statistical outputs

3.4.1 Intermediate results are validated against other information, where applicable.

Data reported by banks for monetary statistics purposes are reconciled with data reported by banks concerning balance of payments purposes.

Information from the press on acquisitions and major new projects is used to verify high-value direct and other transactions.

3.4.2 Statistical discrepancies in intermediate data are assessed and investigated.

Any statistical discrepancies or inconsistencies which appear in intermediate results are investigated by the staff of the Balance of Payments Division.

The IIP data are compared to the corresponding income and financial transactions data.

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

The net errors and omissions value is monitored closely.

Trade data are compared with partner data, although the resource constraints means this is done with a low frequency. Cross-checks of statistical data quality on external trade based on mirror statistics have been conducted since 1996 jointly with Georgia, Ukraine, and the Netherlands. In 2001 mirror statistics cross-checks were conducted with Germany, instead of the Netherlands. Data discrepancies for these partner countries are analyzed, but verifications are not made. Data on remittances are compared with mirror statistics for the Central Bank of Russia.

3.5 Revision studies

3.5.1 Studies and analyses of revisions are carried out routinely and used internally to inform statistical processes (see also 4.3.3).

Revisions between preliminary and subsequent changes of data submissions are monitored as part of the regular processes of data entry and processing. No strict formal revision studies are conducted but revisions feed into improvements of statistical processes, as evidenced by the 2004–2006 revision, which revolved around a joint CBA–NSS revisions and sources comparison study.

4. Serviceability

4.1 Periodicity and timeliness

4.1.1 Periodicity follows dissemination standards.

The NSS disseminates both quarterly and annual balance of payments statistics. The Special Data Dissemination Standard (SDDS) requirements are met.

4.1.2 Timeliness follows dissemination standards.

Quarterly data are published one quarter after the end of the reference period (meeting the prescriptions of the SDDS) and annual data are published two quarters after the end of the reference year.

4.2 Consistency

4.2.1 *Statistics are consistent within the dataset.*

The concepts, definitions, and classifications for compiling the quarterly and annual data are the same. Annual data are derived as the total of quarterly data. When new data are available from the annual data sources (particularly the foreign direct investment survey and the final customs data), changes to data, if necessary, are made to the quarterly data covering the corresponding data. Transactions in the balance of payments are consistent also with the IIP data. Except for 2006, net errors and omissions for the balance of payments have been trending downward in numerical value. They were –US\$2.6 million in 2007, compared with a capital account balance of US\$591.47 million.

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

Annual time series data are available back to 1993, and from 1996, quarterly, based on details according to the *BPM5*. When new methods are introduced data are revised back to the extent possible. Breaks in the series will be identified by notes or footnotes.

In 2007 the CBA, assisted by the NSS, conducted a new survey and developed more detailed estimations and adjustments methods, and made revisions to the balance of payments for 2004–06. The revisions were mainly in the following items: “Travel,” “Transfers of Military Servants and Other Seasonal Workers including Border Workers,” “Private Current Transfers,” “Private Capital Transfers,” “Foreign Direct Investments,” and “Currency and Deposits.” These revisions were instigated and monitored by the “Commission on the External Sector Statistics” established in May 2007. The Commission felt it was not prudent to revise further back with the given set of information.

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

The same data sources are used for monetary financial statistics, government finance statistics, and public external debt statistics. Balance of payments data are consistent with these statistics.

Data for exports and imports are derived from customs statistics. It is possible to show the derivation of trade data on a balance of payments basis from NSS Foreign Trade Statistics and other adjustments (such as for general trade, import valuation).

Data for gross national income and gross national disposable income have been prepared from 2007 on the basis of the Balance of Payments Division data on income and transfers and are fully consistent. National accounts estimates of expenditure on GDP are being prepared using the balance of payments data on exports and imports of goods and services, so the data are consistent.

4.3 Revision policy and practice

4.3.1 Revisions follow a regular and transparent schedule.

Data are preliminary when first released. When annual data are published, data for the corresponding quarters are revised. This revision policy is available on NSS's website.

In addition, in exceptional circumstances revisions occur when data calculation methods are significantly changed. Such changes are made public in advance as in the case for the revision made in 2007 for the period 2004–06 (see 4.2.2).

4.3.2 Preliminary and/or revised data are clearly identified.

In the relevant publications, data are designated as current (preliminary), revised, or final. Revised data are accompanied by explanatory footnotes.

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

In principle, in case of larger revisions, explanation are provided, however, the explanations provided in connection with the 2004–2006, as provided in publication “Balance of Payments of the Republic of Armenia 2007” was very sparse.

Recommendation: The NSS should explain in more detail, reasons, methods and effects of revisions, in particular in connection with larger revisions, or in connection with significant changes in methods or sources.

5. Accessibility

5.1 Data accessibility

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

Balance of payments data are disseminated in U.S. dollars. Quarterly and annual balance of payments data are disseminated in analytical format or on the basis of standard components, in accordance with the requirements of the *BPM5*.

The published data by NSS are not accompanied with text or charts that highlight trends and developments that facilitates interpretation. The CBA usually in the 2nd quarter Bulletin provides an economic analysis of the developments in the area of balance of payments.

Recommendation: Consider accompanying data with text or chart that highlight trends and developments in the balance of payments statistics.

5.1.2 *Dissemination media and format are adequate.*

Data are available in tables on the NSS's website. Data are also published in Annual Reports both available in local languages and English on the NSS's website and as hard copies.

Hard copies on balance of payments statistics are available in three different forms (all free of charge):

- The *Socio-Economic Situation of the Republic of Armenia* monthly informational report (available in Armenian and Russian)
- The *Statistical Yearbook of Armenia* (available in Armenian, English, and Russian)
- The *Balance of Payments Statistical Yearly Handbook of the Republic of Armenia* (available in Armenian and English)

The electronic version of publications are available in Armenian (fully), English and Russian at the following addresses, respectively:

- <http://www.armstat.am/arm/publications>
- <http://www.armstat.am/eng/publications>
- <http://www.armstat.am/rus/Publications>

CD ROM: The *Statistical Yearbook of Armenia* is available in Armenian, Russian, and English (free of charge).

Data are not available in any downloadable format, e.g., Excel. This makes it labor intensive for the users to obtain data for their own manipulation and analysis. From the new NSS web site, that currently is under construction, data will be available in a downloadable format.

5.1.3 *Statistics are released on a preannounced schedule.*

Release calendars for statistical publications, including balance of payments, appear in the Annual Statistical Work Programs.

An Advance Release Calendar, which gives one quarter notice of the precise release dates is also disseminated on the Internet on the IMF's Data Dissemination Bulletin Board (<http://dsbb.imf.org>).

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

All data are released simultaneously to the public through hard copies and on the NSS website at <http://www.armstat.am/Publications>. Copies of these publications are placed in the library of the NSS, which is open to the public.

5.1.5 *Statistics not routinely disseminated are made available upon request.*

Additional data series, that do not contain confidential information, are provided upon request.

5.2 **Metadata accessibility**

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.*

Brief methodological commentary on indicators is published in the *Socioeconomic Position of Armenia* monthly informational reports, in the *Statistical Yearbooks of Armenia*, and in greater detail in topical publications.

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

The level of detail in metadata is for broad general users.

Recommendation: For the more sophisticated users, additional information on sources, adjustments, estimations and other methodology adjustments would be useful.

5.3 **Assistance to users**

5.3.1 *Contact points for each subject field are publicized.*

The NSS's publications and internet website only provide general contact information to data users. The NSS receives a high volume of requests, which is time intensive to satisfy.

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

According to the Annual Statistical Work Program, the NSS publishes and disseminates the “*Catalogue of Statistical Publications*” every year. The *catalogue* contains detailed and structured information on the NSS's hard copy publications. The *catalogue* also presents each publication by title, through a short summary of its contents, periodicity and publication deadline. The *catalogue* aims to guide users about the statistical products published by the NSS.

Table 7. Armenia: Data Quality Assessment Framework (July 2003): Summary of Results for Balance of Payments
(Compiling Agency: National Statistical Service)

Key to symbols: NA = Not Applicable; O = Practice Observed; LO = Practice Largely Observed; LNO = Practice Largely Not Observed; NO = Practice Not Observed; SDDS = Complies with SDDS Criteria						
Element	NA	Assessment				Comments
		O	LO	LNO	NO	
0. Prerequisites of quality						
0.1 Legal and institutional environment		O				Low salaries affect staff turnover, IT resources.
0.2 Resources		O	LO			
0.3 Relevance		O				
0.4 Other quality management		O				
1. Assurances of integrity						
1.1 Professionalism		O				
1.2 Transparency		O				
1.3 Ethical standards		O				
2. Methodological soundness						
2.1 Concepts and definitions		O				The data for depository corporations include accounts of a bank domiciled in Karabagh with branches in Armenia, and also the accounts of eight branches in Karabagh of six banks headquartered in Armenia. Coverage of remittances could be improved.
2.2 Scope			LO			
2.3 Classification/sectorization		O				
2.4 Basis for recording		O				
3. Accuracy and reliability						
3.1 Source data			LO			Insufficient coverage of data on financial assets issued by non residents and held by residents, both domestically and abroad.
3.2 Assessment of source data		O				
3.3 Statistical techniques			LO			CIF/FOB factors to adjust data to fob basis are out of date.
3.4 Assessment and validation of intermediate data and statistical outputs		O				
3.5 Revision studies		O				
4. Serviceability						
4.1 Periodicity and timeliness		O				Only brief explanation of revisions are provided
4.2 Consistency		O				
4.3 Revision policy and practice			LO			
5. Accessibility						
5.1 Data accessibility			LO			No charts or text to facilitates interpretation of data available Detailed information on sources, methods, and adjustment not available
5.2 Metadata accessibility			LO			
5.3 Assistance to users		O				

Appendix I. Summary of the Special Data Dissemination Standard (SDDS)

The SDDS prescribes the following practices under each of the identified dimensions:

Data dimension (coverage, periodicity, and timeliness)

- the dissemination of 18 data categories, including component detail, covering the four main sectors (real, fiscal, financial, and external) of the economy, with prescribed periodicity and timeliness.

Access dimension

- the dissemination of advance release calendars providing at least a one-quarter advance notice of approximate release dates, and at least a one-week advance notice of the precise release dates; and
- the simultaneous release of data to all users.

Integrity dimension

- the dissemination of the terms and conditions under which official statistics are produced and disseminated;
- the identification of internal government access to data before release;
- the identification of ministerial commentary on the occasion of statistical release; and
- the provision of information about revision and advance notice of major changes in methodology.

Quality dimension

- the dissemination of documentation on statistical methodology and sources used in preparing statistics; and
- the dissemination of component detail and/or additional data series that make possible cross-checks and checks of reasonableness.

SDDS subscribers are required to:

- post descriptions of their data dissemination practices (metadata) on the IMF's Dissemination Standards Bulletin Board (DSBB). Summary methodologies, which describe data compilation practices in some detail, are also disseminated on the DSBB; and

- maintain an Internet website, referred to as the National Summary Data Page (NSDP), which contains the actual data described in the metadata and to which the DSBB is electronically linked.

The IMF staff is monitoring observance of the standard through NSDPs maintained on the Internet. Monitoring is limited to the coverage, periodicity, and timeliness of the data and to the dissemination of advance release calendars.

Source: <http://dsbb.imf.org>.

**Appendix II. Data Quality Assessment Framework—Generic Framework
(July 2003 Framework)**

Quality Dimensions	Elements	Indicators
<p>0. Prerequisites of quality</p>	<p>0.1 Legal and institutional environment—<i>The environment is supportive of statistics.</i></p> <p>0.2 Resources—<i>Resources are commensurate with needs of statistical programs.</i></p> <p>0.3 Relevance—<i>Statistics cover relevant information on the subject field.</i></p> <p>0.4 Other quality management—<i>Quality is a cornerstone of statistical work.</i></p>	<p>0.1.1 The responsibility for collecting, processing, and disseminating the statistics is clearly specified.</p> <p>0.1.2 Data sharing and coordination among data-producing agencies are adequate.</p> <p>0.1.3 Individual reporters' data are to be kept confidential and used for statistical purposes only.</p> <p>0.1.4 Statistical reporting is ensured through legal mandate and/or measures to encourage response.</p> <p>0.2.1 Staff, facilities, computing resources, and financing are commensurate with statistical programs.</p> <p>0.2.2 Measures to ensure efficient use of resources are implemented.</p> <p>0.3.1 The relevance and practical utility of existing statistics in meeting users' needs are monitored.</p> <p>0.4.1 Processes are in place to focus on quality.</p> <p>0.4.2 Processes are in place to monitor the quality of the statistical program.</p> <p>0.4.3 Processes are in place to deal with quality considerations in planning the statistical program.</p>
<p>1. Assurances of integrity <i>The principle of objectivity in the collection, processing, and dissemination of statistics is firmly adhered to.</i></p>	<p>1.1 Professionalism—<i>Statistical policies and practices are guided by professional principles.</i></p> <p>1.2 Transparency—<i>Statistical policies and practices are transparent.</i></p> <p>1.3 Ethical standards—<i>Policies and practices are guided by ethical standards.</i></p>	<p>1.1.1 Statistics are produced on an impartial basis.</p> <p>1.1.2 Choices of sources and statistical techniques, as well as decisions about dissemination, are informed solely by statistical considerations.</p> <p>1.1.3 The appropriate statistical entity is entitled to comment on erroneous interpretation and misuse of statistics.</p> <p>1.2.1 The terms and conditions under which statistics are collected, processed, and disseminated are available to the public.</p> <p>1.2.2 Internal governmental access to statistics prior to their release is publicly identified.</p> <p>1.2.3 Products of statistical agencies/units are clearly identified as such.</p> <p>1.2.4 Advance notice is given of major changes in methodology, source data, and statistical techniques.</p> <p>1.3.1 Guidelines for staff behavior are in place and are well known to the staff.</p>

Quality Dimensions	Elements	Indicators
<p>2. Methodological soundness <i>The methodological basis for the statistics follows internationally accepted standards, guidelines, or good practices.</i></p>	<p>2.1 Concepts and definitions—<i>Concepts and definitions used are in accord with internationally accepted statistical frameworks.</i> 2.2 Scope—<i>The scope is in accord with internationally accepted standards, guidelines, or good practices.</i> 2.3 Classification/sectorization—<i>Classification and sectorization systems are in accord with internationally accepted standards, guidelines, or good practices.</i> 2.4 Basis for recording—<i>Flows and stocks are valued and recorded according to internationally accepted standards, guidelines, or good practices</i></p>	<p>2.1.1 The overall structure in terms of concepts and definitions follows internationally accepted standards, guidelines, or good practices. 2.2.1 The scope is broadly consistent 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. 2.4.1 Market prices are used to value flows and stocks. 2.4.2 Recording is done on an accrual basis. 2.4.3 Grossing/netting procedures are broadly consistent with internationally accepted standards, guidelines, or good practices.</p>
<p>3. Accuracy and reliability <i>Source data and statistical techniques are sound and statistical outputs sufficiently portray reality.</i></p>	<p>3.1 Source data—<i>Source data available provide an adequate basis to compile statistics.</i> 3.2 Assessment of source data—<i>Source data are regularly assessed.</i> 3.3 Statistical techniques—<i>Statistical techniques employed conform to sound statistical procedures.</i> 3.4 Assessment and validation of intermediate data and statistical outputs—<i>Intermediate results and statistical outputs are regularly assessed and validated.</i> 3.5 Revision studies—<i>Revisions, as a gauge of reliability, are tracked and mined for the information they may provide.</i></p>	<p>3.1.1 Source data are obtained 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. 3.2.1 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. 3.3.1 Data compilation employs sound statistical techniques to deal with data sources. 3.3.2 Other statistical procedures (e.g., data adjustments and transformations, and statistical analysis) employ sound statistical techniques. 3.4.1 Intermediate results 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 or problems in statistical outputs are investigated. 3.5.1 Studies and analyses of revisions are carried out routinely and used internally to inform statistical processes (see also 4.3.3).</p>

Quality Dimensions	Elements	Indicators
<p>4. Serviceability <i>Statistics, with adequate periodicity and timeliness, are consistent and follow a predictable revisions policy.</i></p>	<p>4.1 Periodicity and timeliness—<i>Periodicity and timeliness follow internationally accepted dissemination standards.</i></p> <p>4.2 Consistency—<i>Statistics are consistent within the dataset, over time, and with major datasets.</i></p> <p>4.3 Revision policy and practice—<i>Data revisions follow a regular and publicized procedure.</i></p>	<p>4.1.1 Periodicity follows dissemination standards. 4.1.2 Timeliness follows dissemination standards.</p> <p>4.2.1 Statistics are consistent within the dataset. 4.2.2 Statistics are consistent or reconcilable over a reasonable period of time. 4.2.3 Statistics are consistent or reconcilable with those obtained through other data sources and/or statistical frameworks.</p> <p>4.3.1 Revisions follow a regular and transparent schedule. 4.3.2 Preliminary and/or revised data are clearly identified. 4.3.3 Studies and analyses of revisions are made public (see also 3.5.1).</p>
<p>5. Accessibility <i>Data and metadata are easily available and assistance to users is adequate.</i></p>	<p>5.1 Data accessibility—<i>Statistics are presented in a clear and understandable manner, forms of dissemination are adequate, and statistics are made available on an impartial basis.</i></p> <p>5.2 Metadata accessibility—<i>Up-to-date and pertinent metadata are made available.</i></p> <p>5.3 Assistance to users—<i>Prompt and knowledgeable support service is available.</i></p>	<p>5.1.1 Statistics are presented in a way that facilitates proper interpretation and meaningful comparisons (layout and clarity of text, tables, and charts). 5.1.2 Dissemination media and format are adequate. 5.1.3 Statistics are released on a preannounced schedule. 5.1.4 Statistics are made available to all users at the same time. 5.1.5 Statistics not routinely disseminated are made available upon request.</p> <p>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. 5.2.2 Levels of detail are adapted to the needs of the intended audience.</p> <p>5.3.1 Contact points for each subject field are publicized. 5.3.2 Catalogs of publications, documents, and other services, including information on any charges, are widely available.</p>

Appendix III. Users' Survey

Summary of results of survey of data users

With the assistance of the National Statistical Service (NSS) and to complement the IMF staff's assessment of the quality of official statistics produced, a survey was conducted among users of macroeconomic statistics. Users were asked to evaluate and comment on the coverage, periodicity, and timeliness of the datasets in the Report on the Observance of Standards and Codes (ROSC) assessment, as well as the dissemination practices of the compiling agencies. Questionnaires were sent to 71 users, and 44 responses were received from users representing government agencies, academia, international organizations, embassies, research institutes, and banks. While in Yerevan, the mission held discussions with a selection of users.

Users expressed general satisfaction with the overall quality of the statistics produced by the NSS, the Ministry of Finance and Economy and the Central Bank of Armenia. On a five point scale (1 meaning poor and 5 excellent), respondents' average rating for the overall quality of the official statistics for all sectors was above 4.2. The vast majority of users (over 85 percent) consider the methodology of all datasets assessed to be sound and the data compiled to be accurate and unbiased.

There was broad satisfaction with the timeliness and the periodicity of the official statistics. Users were also generally satisfied with the level of coverage and detail of the statistics. For all sectors, the large majority indicated that they were satisfied with the accessibility to official statistics, with most relying on the official websites. However, several users suggested improvements of the agencies' websites and the electronic format of the data disseminated. Some users also indicated that the disseminated metadata could be strengthened.