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**Chile: 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 Chile 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 August 30, 2007. The views expressed in this document are those of the staff team and do not necessarily reflect the views of the government of Chile 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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CHILE

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

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August 30, 2007

The Report on the Observance of Standards and Codes (ROSC) data module provides an assessment of Chile'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 National Statistics Institute (NSI), the Budget Directorate (DIPRES) of the Ministry of Finance (MOF), and the Central Bank of Chile (CBCH). The mission also assessed the Superintendency of Banks and Financial Institutions (SBFI) as the agency collecting monetary data.

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

- NSI's website: (http://www.ine.cl)
- MOF's website: (http://www.minhda.cl)
- CBCH's website: (http://www.bcentral.cl)
- SBFI's website: (http://www.sbif.cl)

This report is based on information provided prior to and during a staff mission from April 18–May 2, 2007 and publicly available information. The mission team was headed by Mr. Alfredo M. Leone, and included Mr. José María Cartas, Ms. Isabel Rial, Ms. Lisbeth Rivas (all STA), Mr. Luis Ipar and Mr. José Antonio Murillo (Experts), and Ms. Lidia Tokuda (Senior Administrative Assistant, STA).

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ACRONYMS

1993 SNA	*System of National Accounts 1993*
BOP	Balance of payments
BPM5	*Balance of Payments Manual*, fifth edition
CBCH	Central Bank of Chile
CC	Consumer confidence
COFOG	Classification of the Functions of Government
COICOP	Classification of Individual Consumption by Purpose
CPC	Central Product Classification
CPI	Consumer Price Index
DBPDE	Balance of Payments and External Debt Department, CBCH
DC	Depository Corporations
DFL	Decree with Force of Law
DGC	Accounting Department, CBCH
DIPRES	Budget Directorate, MOF
DQAF	Data Quality Assessment Framework, July 2003
DSBB	Dissemination Standards Bulletin Board
GDP	Gross Domestic Product
GEMF	Monetary and Financial Statistics Group, CBCH
GFS	Government Finance Statistics
GFSM 2001	*Government Finance Statistics Manual 2001*
HBS	Household Budget Survey
IIP	International Investment Position
IMACEC	Monthly Index of Economic Activity
IPE	index of perception of the economy
ISIC	International Standard Industrial Classification
ISWGNA	Intersecretariat Working Group on National Accounts
ITS	Internal Tax Service
MFSM	*Monetary and Financial Statistics Manual*
MOF	Ministry of Finance
NA	National Accounts
NCS	National Customs Service
NSI	National Statistics Institute
OCG	Office of the Comptroller General
ODCs	Other Depository Corporations
OECD	Organisation of Economic Cooperation and Development
PPI	Producer Price Index
ROSC	Report on the Observance of Standard and Codes
SBFI	Superintendency of Banks and Financial Institutions
SDDS	Special Data Dissemination Standard
SERNATUR	National Tourism Service
SIGFE	Integrated Financial Management System
VAT	Value Added Tax

I. OVERALL ASSESSMENT

1.   Chile subscribed to the Special Data Dissemination Standard (SDDS) on May 17, 1996 and started posting its metadata on the Dissemination Standards Bulletin Board (DSBB) on February 19, 1997. Chile is in observance of the SDDS, meeting the specifications for coverage, periodicity, timeliness, and the dissemination of advance release calendars. Chile uses a flexibility option on the timeliness of the central government operations data; although at present it meets SDDS requirements in this regard. Appendix I provides an overview of Chile's dissemination practices compared to the SDDS.

2.   This Report on the Observance of Standards and Codes (ROSC) data module is a reassessment of the exercise conducted in April 2001 but applies an updated framework and covers national accounts, prices, government finance, monetary, and balance of payments statistics. Of these datasets, the National Statistics Institute (NSI) is responsible for price statistics, the Central Bank of Chile (CBCH) is responsible for national accounts, monetary, and balance of payments statistics, and the Budget Directorate (DIPRES) of the Ministry of Finance (MOF) is responsible for the government finance statistics. The Superintendency of Banks and Financial Institutions (SBFI) collects monetary data. Since the assessment in 2001, major methodological improvements include the change of benchmark year of national accounts (NA) and the compilation of a producer price index (PPI), the implementation of the *Balance of Payments Manual*, fifth edition *(BPM5)*, and the adoption of the *Government Finance Statistics Manual 2001* (*GFSM 2001)*. Chile's macroeconomic statistics are timely, generally of high quality, and adequate to conduct effective surveillance. There is a high degree of quality awareness among Chile's statistical managers and a reputation of integrity of the statistical institutions and processes among data users. However, there is scope for improvement in some areas. Resources at the NSI are inadequate; coordination among statistical agencies should be enhanced, including to ensure intersectoral consistency; there are certain weaknesses in key source data; consultation with users and user groups is inadequate; the legal framework governing the NSI and the legal mandate to request statistical data to the nonfinancial private sector needs to be reinforced; and there is scope for improvement in methodological soundness, particularly regarding classification and sectorization. Moreover, there is a need for a more comprehensive and extensive treatment in the statistics of the copper sector which is pervasively important to a full understanding of the Chilean economy.

3.   In applying the IMF's Data Quality Assessment Framework (DQAF July 2003), the remainder of this section presents the mission's main conclusions. 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-point rating scale. This is followed by staff recommendations in Section III. The authorities' response to this report and a volume of detailed assessments are presented in separate documents.

4.   Regarding **prerequisites of quality**, legal and institutional frameworks are generally adequate, but the independence of the NSI needs to be reinforced. Also, there are no legal precepts empowering the CBCH to require private institutions to respond to data requests

solely for statistical purposes, except for information on foreign exchange transactions.[1] Resources are adequate at the CBCH and at the SBFI. Resources need to be strengthened at the DIPRES of the MOF to complete the migration to the *GFSM 2001* and ensure adequate business continuity and data sharing. Resources are inadequate at the NSI to ensure (1) the regular updating of the business register, (2) well-diversified outlet and enterprise samples, (3) continuous analysis and implementation of methodological enhancements and improvements in the validation and timeliness of source data for national accounts and price statistics, (4) reliable business continuity planning, and (5) appropriate quality adjustments to price statistics. Macroeconomic datasets could be improved in meeting users' needs as there are no regular consultations with public and private sector users and user groups have not been fostered. Public knowledge on the PPI is scant and the index credibility has not been well established.

5.   The Chilean statistical agencies get high marks in **assurances of integrity** as they adhere firmly to the principle of objectivity in the collection, processing, and dissemination of statistics. Chile's macroeconomic and financial institutional environment rests on four pillars: (1) an autonomous central bank that conducts the monetary policy under an inflation targeting scheme, (2) a fiscal policy governed by a fiscal rule aimed at achieving a structural fiscal surplus, which considers long-run copper prices and projected copper output levels (given the significance of copper in the Chilean's economy), (3) a regulation and supervision of the financial sector according to international standards involving several supervisory entities (including the SBFI), and (4) integration with international markets through trade openness, free capital mobility, and a floating exchange rate regime. There is awareness that policymaking, and decision making in general, require adequate macroeconomic statistics and indicators to monitor significant developments in the economy and to watch for early warnings. Agencies demonstrate professionalism, are transparent in their policies and practices, and provide guidelines to their staff on ethical conduct. Each agency has well-established and documented practices to ensure professionalism and impartiality in their work. Major changes in the conceptual framework, source data, and statistical techniques of macroeconomic statistics are announced in advance. However, at the NSI the short tenure of directors and deputy directors (three years plus one possible renewal) and discretion for removal are not supportive of professional independence. The NSI, MOF, and CBCH statisticians participate with colleagues from other countries in working groups, committees, and other fora leading to close cooperation in statistical matters, and increasing opportunities for sharing good practices and enhancing professionalism. Examples are Chile's membership in the IMF's Balance of Payments Committee, and its participation in the International Comparison Program and the UN Ottawa Group on Price Indices (Ottawa Group), and in the Organisation for Economic Cooperation and Development (OECD) as an observer. Although beyond the scope of this assessment, Chile is also participating in the Coordinated Compilation Exercise for Financial Soundness Indicators.

6.   Regarding **methodological soundness,** the macroeconomic statistics broadly follow internationally accepted standards, guidelines, and good practices on definitions, scope,

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[1] Article 40 of the CBCH's Basic Constitutional Act allows it to demand information on foreign exchange transactions from the private sector.

classification and sectorization, and basis for recording. There are some areas for improvement in the scope of the NA regarding the treatment of mineral exploration, agricultural work in progress, and own-account production of computer software, databases, and manufacturing products. There is also room for improvement in the classification of copper derivatives, the functions of government, and individual consumption by purpose.[2] The consumer price index (CPI) has a limited geographic coverage.[3] The basket includes interest rates on consumption loans and mortgage payments with an inconsistent treatment with best practice, and an erroneous classification of educational services that may introduce a downward bias. The PPI does not register copper price movements on an accrual basis. Regarding government finance statistics (GFS), the institutional and transactional coverage for the general government are incomplete. Sectorization is broadly in line with the *GFSM 2001*, but significant deviations from the *GFSM 2001* exist regarding classification systems. Aggregates that do not conform to the *GFSM 2001* framework are revenues from copper, subsidies and grants, capital transfers, financing transactions, and the stock of central government debt. Chile's monetary statistics are in line with the *Monetary and Financial Statistics Manual (MFSM)*, with a few nonmaterial departures regarding the valuation of financial instruments, accrual of interest on nonperforming loans, and the recording of gold holdings at the CBCH. Securities issued by the CBCH and liabilities of mutual funds are not properly sectorized in the CBCH and Other Depository Corportions (ODCs) surveys, respectively. Chile's balance of payments (BOP) statistics are broadly in line with the *BPM5*, but there are a few departures regarding the basis for recording public and private sector external debt (where interest is recorded on a cash basis) and some foreign direct investment transactions.

7.   **Accuracy and reliability** of macroeconomic statistics in Chile are adequate. Source data and statistical techniques are sound and statistical outputs sufficiently portray reality. Looking forward, rapid expansion of services and of the financial system presents challenges to ensure reliable source data and continuous compliance with international standards. The business register is partially outdated and not updated regularly, while the frequency of the Household Budget Survey (HBS) is not in line with international best practice, which may affect the quality of household consumption expenditure data for NA. The source data available for agriculture, fishing, some services, and quarterly estimates are limited in scope. Lack of timeliness in validating data on the NSI's surveys limits their potential use. For most surveys, scientific sampling techniques are not used. For the HBS and most business surveys, no information is available concerning sampling errors and nonsampling errors. There are no explicit estimates of nonobserved activities (informal, unrecorded, and underground activities). Changes in inventories are obtained as residuals in the framework of the supply-and-use table and hence their resulting price movements are erratic. The CPI basket and weight structure are outdated, but there are plans to address this weakness. CPI source data consistency is not verified with other sources of information. Procedures to refresh outlets in

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[2] Improvements in the classification of the functions of government and individual consumption by purpose are under development.

[3] There are plans to address this weakness. A new household budget survey with national coverage is currently being levied to establish a new CPI base period by December 2008.

the CPI sample are not in place, adjustments for quality differences are generally not made, and sources of errors are not investigated routinely. For the PPI, adjustments for quality differences are not made (in particular, the copper price recollection procedure increases quality induced volatility), and missing prices are carried forward from the last observed price in most of the categories. Regarding the GFS, stock data on financial assets and liabilities are only recorded at face value. Monetary statistics could be enhanced through additional validations of source data and cross-checking with fiscal data.

8.   **Serviceability** of macroeconomic statistics gets high marks, as confirmed by the results of the users' survey conducted prior to the mission's arrival to Santiago. Macroeconomic statistics are available with adequate periodicity and timeliness. Most datasets follow the international good practices of providing the public with a clear statement of the revision schedule and of identifying provisional estimates. Macroeconomic statistics are broadly consistent. Some inconsistencies between NA and GFS resulting from differences in coverage, sectorization, and classification are reconcilable. GFS are not internally consistent due to differences in source data and valuation methods used to compile debt flows and stocks. In addition, GFS are not routinely reconciled with data from other data producing agencies, except for NA. Monetary data on net credit to the government are not reconciled with fiscal data. BOP statistics are not consistent with external debt statistics (which value portfolio liabilities on a nominal basis), but differences are reconcilable. GFS are not entirely consistent with external debt statistics due to discrepancies in the residence criteria.

9.   **Accessibility** to macroeconomic statistics is very good. All datasets are readily available to the public in electronic form and, in general, are easily downloadable from the websites of the data-producing agencies (particularly from the CBCH's website), and presented in a user-friendly format. However, price statistics are not presented in a way that facilitates proper interpretation and meaningful comparisons. Appropriate analysis of current-period price developments is not included with press releases and data dissemination formats hinder redissemination and analysis of inflation trends. The NSI does not publish the X1 price index (the CBCH's core inflation definition) although the estimate is prepared by the CBCH. A PPI indicator that excludes copper effects on its volatility is not published. The NSI's website provides a comprehensive description of CPI metadata but only a summary of the PPI metadata and no detailed PPI time series. Macroeconomic statistics are made available simultaneously to all users. Unpublished, nonconfidential data are made available to users on request.

10.   To enrich the basis for the assessment, the mission elicited the views of selected users of macroeconomic statistics. With the assistance of the CBCH and the NSI, a users' survey was conducted (with 50 respondents), and meetings were held with selected users. Most users were satisfied with the methodological soundness, timely dissemination, accessibility, and frequency of official macroeconomic statistics. However, they identified some areas where there is scope for improvement. In particular, it appears that the PPI lacks credibility and is not much used. The coverage and detail of GFS and PPI are seen as insufficient, and some users did not know whether an early release calendar for GFS existed and was met. A number of users indicated that the information on revisions on NA, PPI, GFS, and BOP could be improved. They also found somewhat difficult the access to metadata on NA, PPI, and GFS. Some users expressed an interest in more detailed and longer time series on NA, BOP,

PPI, the monthly index of economic activity (IMACEC), and GFS. A considerable number of users emphasized the need for data on household income distribution, average prices by industry, volume of sales by industry, and reliable and consistent series on employment statistics.

II. ASSESSMENT BY AGENCY AND DATASET

11.   Assessment of the quality of six macroeconomic datasets—NA, CPI, PPI, GFS, monetary, and BOP statistics—were conducted using the DQAF July 2003. 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–d. 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. Chile: 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

Datasets Dimensions/Elements	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	LO	O	LO	LO	O	LO
0.2 Resources	O	LNO	LNO	LO	O	O
0.3 Relevance	LO	LO	LNO	LO	LO	LO
0.4 Other quality management	O	O	O	O	O	O
1. Assurances of integrity						
1.1 Professionalism	O	LO	LO	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	LO	O	O	O	O
2.2 Scope	LO	LNO	O	LO	O	O
2.3 Classification/sectorization	LO	LNO	LO	LNO	LO	LO
2.4 Basis for recording	LO	LO	LO	LO	O	LO
3. Accuracy and reliability						
3.1 Source data	LO	LO	O	LO	O	O
3.2 Assessment of source data	LO	LO	O	O	O	O
3.3 Statistical techniques	LO	LO	LO	O	O	O
3.4 Assessment and validation of intermediate data and statistical outputs	LO	O	O	LO	LO	O
3.5 Revision studies	O	LO	LO	O	O	O
4. Serviceability						
4.1 Periodicity and timeliness	O	O	O	O	O	O
4.2 Consistency	O	O	O	LO	O	O
4.3 Revision policy and practice	O	O	O	O	O	O
5. Accessibility						
5.1 Data accessibility	LO	LO	LO	O	O	O
5.2 Metadata accessibility	O	O	O	O	O	O
5.3 Assistance to users	O	O	O	LO	O	O

Practice observed: current practices generally in observance 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. Chile: Assessment of Data Quality—Dimensions 0 and 1—National Statistics Institute

0. Prerequisites of quality	1. Assurances of integrity
Legal and institutional environment The NSI operates under an adequate legal framework. The legislation supporting CPI and PPI compilation is established in Law 17374 of 1970, which guarantees the confidentiality of individual reporters' data (breach of confidentiality has a criminal punishment, Art. 29 and 30). The Law does not specify the responsibility of the NSI to compile source data for national accounts purposes. Statistical reporting is mandatory according to the Law (penalties specified in Art. 22 act as an effective deterrent, even though in some cases these seem to be low). Statistics are reviewed periodically by the National Statistics Commission (composed by the NSI, several public entities, universities, and representatives from the private sector and labor unions). The commission facilitates data sharing and coordination among statistics producing agencies, and also makes recommendations on processes and methodologies, but coordination is insufficient. **Resources** The price statistics program lacks adequate staff, facilities, and computing resources. Insufficient staff precludes attaining a well-diversified outlet sample, a continuous analysis and implementation of methodological improvements, and appropriate quality adjustments to price statistics. Computers and compilation software are outdated. In the event of no access to the NSI's facilities, compilation of the CPI would not be possible. Office space and equipment are not adequate (more space, a cooling system, and telephone lines are required). Resources to update regularly the business register and to conduct and validate surveys for national accounts statistics are also insufficient. **Relevance** The NSI has periodic meetings with the CBCH to identify emerging CPI requirements, but there is no structured consultation process for the PPI. Public knowledge on the PPI is scant and index credibility is low. The NSI seeks to implement international standards that should better attend users' needs. **Other quality management** The NSI is quality conscious. Staff has been trained on quality management systems. Although the NSI has not implemented an externally recognized process to focus on quality, it is planning to implement an ISO 9001:2000 quality management system on the CPI by December 2007 and on the PPI by December 2008.	**Professionalism** Law 17374 of 1970 recognizes the independence of the NSI to determine the methodology, release dates, design of surveys, and use of definitions. Data gathering is objective and impartial. The NSI Director is appointed by the President of the Republic from a group proposed by the Civil Service Council. Deputy directors are elected by the director from a group proposed by the aforementioned Council. However, the short tenure in both cases (three years plus one possible renewal) and discretion for removal are not supportive of professional independence. Hirings and promotions are based on relevant aptitude, but there is a significant legal rigidity to terminate contracts with nonperforming staff members. **Transparency** The terms and conditions under which the statistics are produced and disseminated are available to the public. Government officials outside the NSI have no access to the data before public release. However, a vulnerability within the NSI is that staff from the Corporate Image Department (which does not belong to the Price Statistics Department) has access to CPI and PPI results prior to their release. Major methodological changes are usually announced to the public in advance. **Ethical standards** *The Administrative Statute Law*, Law 18834 of 1989, details the public servants obligations and prohibitions, and forbids specific activities to avoid conflict of interest. Penalties are specified in cases of noncompliance

Table 2b. Chile: Assessment of Data Quality—Dimensions 0 and 1—Budget Directorate of the Ministry of Finance

0. Prerequisites of quality	1. Assurances of integrity
Legal and institutional environment The *Annual Budget Laws* (Decree-Law 1263 of 1975 and Decree with Legal Power 106 of 1960) set a general framework for budgetary planning, execution, and reporting applicable to central government units, and provide the DIPRES of the MOF with the legal authority to compile and disseminate GFS. More recently, the *Law of Fiscal Responsibility* (Law 20128 of 2006) empowers the DIPRES to collect data on transactions regulated by the *Reserved Copper Law* (Law 13196 of 1976), both for stocks and flows. The *Law on Municipalities* (Decree with Legal Power 1/18695 of 2006) and the *Law on Municipal Resources* (Decree 2385 of 1996) set the responsibility of local governments regarding the preparation of annual financial statements, and reporting to the Office of the Comptroller General (OCG). There is room for improvement in data sharing and coordination among the various units involved in the compilation process. GFS are compiled using mostly publicly available data. **Resources** At present, the number of staff devoted to produce GFS is barely adequate. In the medium term, additional resources may be necessary to complete the migration to the *GFSM 2001* methodology. Most staff is well trained in the *GFSM 2001*. Physical resources are adequate. **Relevance** The DIPRES monitors the relevance of GFS through informal contacts with other departments and data users through e-mail inquiries, personal contacts, and press conferences. However, there are no user advisory groups. **Other quality management** Quality is a main concern for GFS production. Beginning in 2007, the DIPRES will be audited using the ISO 9001:2000 international quality standard.	**Professionalism.** The *Administrative Statute* (Law 18834 of 1989) and the *Law of Administrative Probity* (Law 19653 of 1999) assist in ensuring impartiality in the work of civil servants. Professionalism is actively promoted and supported within the organization through external and on-the-job staff training. Statisticians are free from political influence in choosing data sources and methods for compiling GFS, and changes to statistical processes are not influenced by political considerations. The DIPRES is entitled to comment and respond to misused or misinterpreted fiscal statistics. **Transparency** Laws and regulations governing the compilation and dissemination of GFS are freely available to the public, with the exception of the *Reserved Copper Law*. No government officials outside the DIPRES have access to the data before they are released to the public, and the data are made available simultaneously to all interested parties. **Ethical standards** Aside from the *Administrative Statute* and the *Law of Administrative Probity*, several codes of conduct governing the behavior of the central government and local government employees ensure that data compilation and dissemination are performed according to strictly professional considerations.

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

0. Prerequisites of quality	1. Assurances of integrity
Legal and institutional environment Provisions for producing statistics are included in the Law 18840 of 1989 (*Basic Constitutional Act of the Central Bank of Chile*). Article 53 states that "the Bank shall timely compile and publish the main macroeconomic statistics, including those of a monetary and foreign exchange character, balance of payments and national accounts …" The National Statistics Compilation Plan assigns the CBCH the task of compiling and disseminating NA, monetary, and BOP statistics. Article 53 establishes mandatory data reporting by public entities to the CBCH. Although there are no legal precepts empowering the CBCH to require private institutions to respond solely to statistical data requests, there is broad cooperation of the private sector with the CBCH. Article 40 of the CBCH's *Basic Constitutional Act* empowers it to demand from the private sector information on foreign exchange transactions. Confidentiality of the reported data is guaranteed by Article 66 and the CBCH's By-Laws. The CBCH has special agreements with various institutions for data sharing, in particular with the NSI, the SBFI, the National Custom Service (NCS), the Internal Tax Service (ITS), and the National Tourism Service (SERNATUR). **Resources** Human resources dedicated to compile and disseminate macroeconomic statistics are adequate in number and professional qualifications. Staff attend courses and training programs offered by international organizations, graduate programs abroad, and internships in recognized statistical agencies. Compensation levels are competitive. Computing resources, physical infrastructure, and funding are adequate. NA uses a data model and a database application to compile statistics. BOP is working on such an application. A data warehouse application would make the database application more effective. Measures are in place to monitor the cost-effectiveness of the statistical programs and to detect needs for improvements. **Relevance** The CBCH does not have formal mechanisms to consult data users about their information needs. However, users can submit questions and feedback on series and the database to the CBCH's website. The CBCH showed its commitment to improving the country's macroeconomic statistics by participating in statistical meetings and seminars organized by international and regional organizations. **Other quality management** The CBCH has a long tradition of producing high-quality macroeconomic statistics and strives to maintain high standards of quality using modern technology. Among the objectives of its 2006–2008 strategic plan is to contribute to an understanding of economic and financial affairs by preparing and broadcasting relevant reports, studies, and statistics. Results of studies produced by the CBCH are disseminated to the general public.	**Professionalism** By Constitution, the CBCH is an autonomous institution of a technical nature with its own capital (Chapter XII). This provision guarantees the professional independence of the CBCH, ensuring that macroeconomic statistics are compiled following strict technical criteria and free from outside interference. The CBCH's management promotes professionalism with a continuous training program and by receiving technical assistance from other countries and international organizations. The CBCH monitors media coverage of macroeconomic statistics. When statistics are misinterpreted or misused, the CBCH provides comments and clarifications through its Communications Management Office. **Transparency** The CBCH disseminates its statistics in a timely manner and provides advance release calendars, which are strictly followed. No government officials outside the CBCH have access to the data before their release to the public. Documentation is available on the terms and conditions and the methodology used for NA, BOP, and monetary statistics. Data released to the public are clearly identified as products of the CBCH. Major changes in the conceptual framework, source data, and statistical techniques of macroeconomic statistics are announced in advance. **Ethical standards** The CBCH's Personnel By-Laws provide guidelines for CBCH employees. In addition, the Ethics Code (March 2003) establishes clear standards describing the procedures that the organization and its staff must follow when potential conflict of interest situations arise (Section II, 1). It also includes clear ethical standards on measures to be adopted to prevent the misuse or misinterpretation of statistics (Section II, 2). Compliance with the Code is facilitated by a culture of solid ethical standards.

Table 2d. Chile: Assessment of Data Quality—Dimensions 0 and 1—Superintendency of Banks and Financial Institutions

0. Prerequisites of quality	1. Assurances of integrity
Legal and institutional environment The *General Banking Act* (Decree with Force of Law-DFL 3 of 1997) defines the SBFI as an autonomous institution, with full legal capacity, in charge of the supervision of the *Banco Estado*, the banking enterprises, and the financial entities whose control is not otherwise entrusted by the law to a different institution (Articles 1 and 2). Article 16 of DFL 3 of 1997 indicates that "… the Superintendent shall have the right to request from the institutions subject to his supervision, any information, document, or book that, in his opinion, may be necessary for purposes of control or statistics." Penalties for not complying with the instructions issued by the SBFI are foreseen in Article 19 of DFL 3 of 1997. The confidentiality of the information provided to the SBFI is guaranteed by Article 7 of DFL 3 of 1997. Several agreements of collaboration between the SBFI and the CBCH are in place, under the umbrella of Article 53 of Law 18840/89. The SBFI forwards electronically to the CBCH daily and monthly data received from other depository corporations (ODCs), via dedicated encrypted lines. **Resources** Human, technical, and financial resources are generally adequate. Salaries in the SBFI are regulated by the scale of public supervisory institutions and are higher than the rest of the public sector. However, they are lower than salaries paid by the private banking sector, inducing a higher than desirable personnel turnover. **Relevance** The SBFI's main function is to collect data for supervisory purposes. Nevertheless, it has always demonstrated willingness to accommodate the CBCH's emerging data needs for the compilation of monetary statistics, requesting additional information from the ODCs when necessary. **Other quality management** The SBFI's authorities are aware that continued efforts are needed to improve the quality of its statistical products.	**Professionalism** The SBFI is a technical institution that has administrative and financial autonomy. Technical criteria alone are applied by data compilers and analysts, and they are totally independent in their choice of data collection methods. Processes and activities in the workplace promote a culture of professionalism. Staff of the SBFI regularly attend meetings and participate in international courses offered by other supervisory agencies and central banks. **Transparency** The legal terms and conditions for collecting data for supervisory purposes are specified in the relevant laws, which are available on the SBFI's website. According to Article 14 of DFL 3 of 1997, the Minister of Finance may have access to information on entities supervised by the SBFI, but this provision refers basically to cases of financial insolvency and does not affect published monetary data. On its website, the SBFI disseminates data on its supervised institutions, such as balance sheets, financial statements, interest rates, and composition of deposits and loans. **Ethical standards** Through internal staff bulletins, SBFI staff is made aware of its rights and obligations. Special attention is paid to the confidentiality of the information received by the SBFI, with concrete instructions on the ways to protect it.

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

2. Methodological soundness	3. Accuracy and reliability	4. Serviceability	5. Accessibility
Concepts and definitions NA are compiled following the *1993 SNA*. **Scope** The *1993 SNA* tables and accounts, specified by the Intersecretariat Working Group on National Accounts (ISWGNA) as minimum requirements, are compiled on a regular basis. The accounts cover annual and quarterly gross domestic product (GDP) by the production and expenditure approaches at current and constant 2003 prices, annual supply-and-use tables, an input-output matrix for the base year, and the set of accounts by institutional sectors up to the financial account. Indirect estimates on nonobserved activities are derived by applying the commodity flow approach. Delimitation of production and assets boundaries are in line with the *1993 SNA* with some exceptions, such as the treatment of mineral exploration, agricultural work in progress, and own-account production in some activities. Free zones and workers who work part of the year in other countries are included. **Classification/sectorization** National classifications of economic activities and products are broadly consistent with the International Standard Industrial Classification (ISIC) Rev. 3 and the Central Product Classification (CPC), respectively. There are some deviations, in particular the classification of copper derivatives in mining. The classification of the functions of government (COFOG) is not used to classify government expenditure and the classification of individual consumption by purpose (COICOP) is not applied for classifying household final consumption expenditure. Improvements are under development. **Basis for recording** Transactions are recorded on an accrual basis, except for agricultural products. Transactions between establishments from the same enterprise are recorded on a gross basis.	**Source data** The NSI's business register is partially updated and the update is not done regularly. The HBS is conducted every 10 years, instead of five years. Although the NSI conducts some important surveys, the CBCH conducts complementary surveys. The data available for agriculture, fishing, some services, and quarterly estimates are limited in scope. However, income tax and VAT records are used to fill in the gaps. Source data reasonably approximate national accounts' requirements and their coverage is satisfactory. The timeliness of the NSI's source data could be further improved. **Assessment of source data** Appropriate measures are taken to validate most source data. The NSIs lack of resources to properly validate the data in a timely manner limits the potential use of some surveys for NA. Scientific sampling techniques are not used for most of the surveys. No information is available for sampling and nonsampling errors for the HBS and most business surveys. **Statistical techniques** Statistical techniques are broadly appropriate with some minor deviations. GDP compilation is mainly based on supply-and-use tables and changes in inventories are residuals. The double-deflation method is used to estimate around half of value added. There are only some explicit estimates on nonobserved activities for the benchmark year. The base year has been recently updated to 2003. The Denton method is used for benchmarking quarterly and annual figures. Quarterly GDP data are seasonally adjusted. **Assessment and validation of intermediate data and statistical outputs** Intermediate data and outputs are assessed and validated against available information. **Revision studies** Analyses of revisions are carried out and the corresponding documentation prepared.	**Periodicity and timeliness** Preliminary GDP data meet SDDS recommendations on periodicity and timeliness. **Consistency** NA series are consistent from 2003 to 2006. Previous series are consistent for the period 1996–2005. Intertemporal and internal consistency of GDP figures are verified in the supply-and-use tables. Net lending/borrowing by institutional sector is derived independently from the capital accounts and financial accounts and is reconciled. Differences between NA and GFS are reconcilable. BOP statistics and NA are broadly consistent. **Revision policy and practice** Preliminary data are clearly identified. There is a preannounced calendar of revisions. The base year has been changed every seven to 10 years, and there is a plan to update it every five years. Documentation on analysis of regular and major revisions is prepared and made public.	**Data accessibility** NA are disseminated in a clear manner but with insufficient detail, in hard copy and on the CBCH's website. An advance release calendar gives a 12-month-ahead notice of the precise release dates. NA are released simultaneously to all users and customized tabulations are provided upon request. **Metadata accessibility** Detailed updated metadata are available in special publications and on the CBCH's website. Metadata are also available on the IMF's DSBB, although need updating. **Assistance to users** A specific contact person is not indicated in publications, on the CBCH's website, or on the DSBB. However, users can address queries to an e-mail address on the CBCH's website and through the Communications Management Office. A catalog of CBCH's publications is available on its website. Users can subscribe to an e-system to be notified on economic statistics.

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

2. Methodological soundness	3. Accuracy and reliability	4. Serviceability	5. Accessibility
Concepts and definitions The CPI uses concepts and definitions that broadly correspond to international practices and the recommendations of the *CPI Manual*, 2004. However, the CPI basket includes interest rates on consumption loans and mortgage payments, with a treatment inconsistent with best practices (the weight of both items in the basket adds up to about 3.6 percent). **Scope** The CPI measures the change in prices of a fixed basket of goods and services representative of the final consumption expenditures of households of Greater Santiago (about 40 percent of Chile's population), not including other cities and rural areas. The NSI is conducting a new national HBS and there are plans to update the CPI base with the expenditure results from this survey by December 2008. **Classification/sectorization** The CPI is based on a domestic classification that closely corresponds with COICOP but some departures hinder international comparisons (e.g., food category includes restaurants and alcoholic beverages; education is bundled with recreational services). Goods and services are classified in eight groups, 41 subgroups, 156 articles, 482 products, and more than 1,300 varieties. The domestic classification of educational services splits in different product payments for the same service, producing a potential downward bias in the index (education services weight in the index is 6.2 percent). **Basis for recording** CPI's weights are based on consumption expenditure valued at the purchaser's prices. Product specifications include relevant price determining characteristics. However, expenditure estimates for used cars follow an erroneous netting procedure that yields a relatively high index weight for this item (1.1 percent).	**Source data** The CPI basket and weight structure is based on the results of the 1996–1997 HBS. **Assessment of source data** There are various validation procedures for the source data. However, there are no established procedures to verify the HBS response consistency with other sources of information. **Statistical techniques** Data compilation procedures are sound, and appropriate statistical methods are used to handle missing prices. New products are introduced in the sample as they gain market share, but a similar treatment for outlets is lacking. Adjustments for quality differences are not made (except for computers with a procedure that requires revision) leading potentially to an index bias with the introduction of new products and services. **Assessment and validation of intermediate data and statistical outputs** Intermediate results and statistical outputs are regularly assessed and validated. The thresholds for investigating unusual movements of index components is invariant to the item's particular characteristics, leading to under- or overvalidation of results (confirmed information is included). **Revision studies** The NSI has not conducted long-term trend studies for revision patterns of the HBS, leading to infrequent weight structure revisions (the HBS has been levied on 10-year cycles).	**Periodicity and timeliness** The CPI is published on a monthly basis within five working days after the end of the month, meeting SDDS requirements. **Consistency** Statistics are consistent within the dataset and over time. Methodological notes identify and explain main breaks in time series as well as the adjustments made to maintain consistency over time. Unusual changes in price statistics trends are not explained in the press release, hindering understanding to CPI users. **Revision policy and practice** The CPI is final upon its first release.	**Data accessibility** CPI statistics are punctually published on a preannounced schedule. The statistics are not presented in a way that facilitates proper interpretation and meaningful comparisons. Appropriate analysis of current-period developments is not included with the press release. Data dissemination formats hinder redissemination and analysis of inflationary trends. **Metadata accessibility** The NSI has a comprehensive description of the CPI metadata on its website. **Assistance to users** Adequate assistance is given to users.

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

2. Methodological soundness	3. Accuracy and reliability	4. Serviceability	5. Accessibility
Concepts and definitions Output weights are determined according to internationally accepted standards. Output estimates are compiled at a sufficient level of industrial and commodity detail. **Scope** The PPI includes producer prices for six categories: agriculture, livestock and forestry; mining; fishing; manufacturing; electricity, gas and water; and construction. The index does not cover services. Monthly surveys are used to collect prices for about 4,000 specific goods in 738 establishments. **Classification/sectorization** The PPI is built on classification systems consistent with internationally accepted standards. Institutional units and transactions are classified according to the *1993 SNA*. ISIC, rev. 3 is used to classify the economic activities of establishments and enterprises. Products are classified with the CPC ver. 1.0. An exception is the classification of copper extraction and copper manufacturing products, which departs from international classification to conform to CBCH national accounts. **Basis for recording** Procedures to value flows and stocks, timing rules to record flows, and net weights are in accordance with the *1993 SNA*. However, survey design does not allow registry of copper prices on accrual.	**Source data** Comprehensive data collection programs provide source data. Source data approximates the definitions, scope, classification, valuation and time of recording required in the PPI. The data collection provides timely receipt of the data (respondents are aware of reporting deadlines). In general, sample design ensures proper representation of the population scope. However, the sample does not include information from firms of less than 10 employees (which are not covered in the business registry), enterprises within free zones, and household unincorporated enterprises. Export and domestic prices are considered but are not weighted according to sales. **Assessment of source data** The NSI has a Methodology Department (not within the Price Statistics Department) that routinely reviews censuses and surveys. Prices are constantly examined for consistency with other data sources. **Statistical techniques** Sound imputation techniques are used to handle missing prices in agriculture, and livestock and forestry. However, in the other PPI economic categories missing prices are carried forward, a practice that should be discontinued. Adjustments for quality differences are not made, leading potentially to an inappropriate introduction of new products and services. In addition, the copper price recollection procedure increases quality induced volatility since price quotes are derived directly from contracts that adjust the international price with quality variations of the metal. **Assessment and validation of intermediate data and statistical outputs** Intermediate results and statistical outputs are regularly assessed and validated. The thresholds for investigating unusual movements of index components is invariant to particular characteristics. **Revision studies** Sources of errors are not routinely investigated.	**Periodicity and timeliness** The PPI is published on a monthly basis within five working days after the end of the month, meeting SDDS requirements. **Consistency** Statistics are consistent within the dataset and over time. Unusual changes in price statistics trends are not explained in the press release, hindering understanding to PPI users. **Revision policy and practice** The PPI is final upon its first release.	**Data accessibility** PPI statistics are punctually published on a preannounced schedule. The statistics are not presented in a way that facilitates proper interpretation and meaningful comparisons. Appropriate analysis of current-period developments is not included with the press release. Data dissemination formats hinder redissemination and analysis of inflationary trends. A PPI indicator that excludes copper effects on its volatility is not published. In addition, detailed product price series are not available at the NSI's website. **Metadata accessibility** A summary of PPI methodology is published on the NSI's website, but the full-fledged version is not available. **Assistance to users** Adequate assistance is given to users.

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

2. Methodological soundness	3. Accuracy and reliability	4. Serviceability	5. Accessibility
Concepts and definitions Concepts and definitions are broadly consistent with the *GFSM 2001* methodology. Since 2003, the DIPRES has documented and published the official migration plan to adopt the *GFSM 2001*. **Scope** Institutional and transactional coverage for the general government are incomplete. GFS do not cover universities and ancillary units serving local governments. Central government debt excludes accrued interest on debt instruments, liabilities related to the *Reserved Copper Law*, and the stock of recognition bonds, even though supplementary data are disseminated separately for the latter. **Classification/sectorization** Sectorization is broadly in line with the *GFSM 2001*. However, significant deviations exist in national classification practices. Aggregates that do not conform to the *GFSM 2001* framework are copper revenues, subsidies and grants, capital transfers, and financing transactions. **Basis for recording** Tax revenues are recorded on a cash basis. Interest of indexed debt instruments do not include changes in principal due to fluctuations of the index.	**Source data** Source data are complete and timely to allow the compilation of GFS. The Integrated Financial Management System (SIGFE) provides comprehensive accounting records for the budgetary central government. However, stock data on financial assets and liabilities are recorded at face value. For extrabudgetary central government, source data are collected by the DIPRES directly from each unit. For local governments, source data are provided to the DIPRES by the OCG. Debt GFS are compiled using the Treasury's accounting records. **Assessment of source data** Built-in software cross checks are used to monitor data accuracy. **Statistical techniques** Data compilation is mostly computerized. **Assessment and validation of intermediate data and statistical outputs** The process for validating data is not well established. **Revision studies** GFS data are final when first published.	**Periodicity and timeliness** GFS meet the SDDS standards. Notwithstanding, Chile is taking a flexibility option for the timeliness of central government operations. **Consistency** The same concepts and classifications are used for monthly, quarterly, and annual GFS. Consistent time series are available from 1990, except for monthly data that are available from 2003. GFS are not internally consistent due to differences in source data and valuation methods used to compile debt flows and stocks. Discrepancies between GFS and national accounts are explained by differences in coverage, sectorization, and classification; while a different residence criteria accounts for the inconsistency between the GFS and the BOP. **Revision policy and practice** A revision policy has not been explicitly articulated. However, major revisions associated with methodological changes are well documented and disseminated.	**Data accessibility** The GFS disseminated on the DIPRES's website are presented in a clear manner. All publications are released according to a regular and preannounced schedule, most of them in Excel-readable-format. The publications are made available simultaneously to all users. Statistics not routinely disseminated are made available to users upon request. **Metadata accessibility** The concepts, scope, classification, basis for recording, data sources, and methodologies for GFS are widely documented by the DIPRES, and are available in several publications, on its website, as well as on the DSBB. **Assistance to users** Contact persons and details for each subject field are publicized in the metadata on the DSBB. Catalogs of publications are not available to users of statistics.

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

2. Methodological soundness	3. Accuracy and reliability	4. Serviceability	5. Accessibility
Concepts and definitions Chile's monetary statistics are in line with the methodology of the *MFSM*. **Scope** Coverage of the depository corporations (DC) survey is complete, including the CBCH, commercial banks, the state-owned *Banco Estado*, credit unions, and mutual funds. **Classification/sectorization** The classification and sectorization of financial instruments follow the methodology of the *MFSM*. However, securities issued by the CBCH and liabilities of mutual funds are not sectorized. **Basis for recording** Monetary statistics are produced on an accrual basis, which is consistent with the *MFSM*. Accounts in foreign currency are converted into national currency using the CBCH's "observed" exchange rate, which is an average of the mid-point exchange rate of the interbank market. Three nonmaterial departures from the *MFSM* methodology are: (1) financial instruments are valued at the lower of amortized cost or market prices, rather than at market prices, (2) interest is not accrued on nonperforming loans, but recorded in memorandum accounts, and (3) gold holdings at the CBCH are recorded using an average of the daily prices of the last three months, rather than the quotation of the closing day.	**Source data** The DC survey is based on the consolidated balance sheets of the CBCH and ODCs. The ODCs report daily preliminary data to the CBCH and on a monthly basis their balance sheets together with additional sectorized data to the SBFI, which in turn forwards these to the CBCH. **Assessment of source data** Data are transmitted electronically from the ODCs to the SBFI and from the SBFI to the CBCH, minimizing the risk for error. Data are validated by the SBFI, including interbank positions. **Statistical techniques** Monetary data are based on the balance sheets of the CBCH and ODCs. The monetary and financial statistics group (GEMF) uses additional data to sectorize ODCs' data. In processing source data, the GEMF runs standardized macros. **Assessment and validation of intermediate data and statistical output** In addition to the cross-checks performed on source data by the SBFI, the GEMF analyzes the daily data and investigates large and unexplained fluctuations. However, the GEMF does not validate the aggregated interbank positions, holdings of securities by ODCs, or monetary data against fiscal data. **Revision studies** The CBCH has produced some revisions in its monetary statistics, such as the recent changes in the definitions of monetary aggregates. These revisions are documented and, when appropriate, published in the CBCH *Estudios Económicos Estadísticos*.	**Periodicity and timeliness** Monetary statistics are disseminated on the 7th and 23rd day after the reference month, in full compliance with SDDS requirements. **Consistency** Monetary data are disseminated in consistent historical series. Data on the CBCH and ODC survey are internally consistent. The GEMF routinely cross-checks data on net foreign assets with the data on the international investment position (IIP). The GEMF does not reconcile monetary data on net credit to government with fiscal data. Inconsistencies were detected in the aggregated interbank positions originated in the lack of sectorization of mutual funds' liabilities. **Revision policy and practice** Monetary data are published as provisional for two months, and then substituted by final data. Provisional data and their revisions are clearly identified.	**Data accessibility** Data are presented in an aggregated form with methodological notes. The CBCH publishes, and complies with, an advance release calendar for monetary data. Data are posted on the CBCH's website—ensuring simultaneous access by all users—and published in the CBCH's *Boletín Mensual*, and its annual *Síntesis Monetaria y Financiera*. **Metadata accessibility** Chile has posted its monetary metadata on the IMF's DSBB since February 1997. The CBCH's website provides a link to the country page on the DSBB. **Assistance to users** Information on the contact person for monetary statistics is available on the DSBB. Users' requests and comments may be channeled through the CBCH's website. There is a catalog with the CBCH's publications, documents, and other services to users, including frequency and prices.

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

2. Methodological soundness	3. Accuracy and reliability	4. Serviceability	5. Accessibility
Concepts and definitions BOP broadly follow the *BPM5*. Resident units are defined in conformity with the *BPM5*. In 2002, the CBCH completed the implementation of the *BPM5* and migrated balance of payments data to the *BPM5* from 1996 onwards. **Scope** BOP is broadly consistent with international standards. No significant amounts of unrecorded activities are deemed to occur. **Classification/sectorization** Is broadly in line with the *BPM5* guidelines. Reverse investment on FDI are an exception. **Basis for recording** For the most part, transactions/stock data are valued at market prices. In general, transactions are recorded on an accrual basis in accordance with the *BPM5*. However, there are some areas where accounting is done on a different basis: (1) loan liabilities of public sector and private sector, which are recorded on a cash basis, (2) portfolio and other investment income are generally recorded on a cash basis for liabilities and on an accrual basis for assets, (3) unrequited transfers, such as grants, are recorded when foreign exchange is converted into the national currency (pesos), and (4) external trade is recorded according to customs documents. Entries of income are registered on accrual basis with the exceptions of external debt. Gross and net transactions are recorded in accordance with the *BPM5*.	**Source data** These are broadly adequate to compile balance of payments. Main sources include (1) the CBCH's Summary of International Exchange Regulations, (2) customs data, (3) balance sheets, (4) administrative data, and (5) surveys and estimates. These data are supplemented or validated with information from enterprises, foreign agencies, and international financial institutions. **Assessment of source data** Source data are routinely assessed, including for surveys used by the Balance of Payments and External Debt Department (DBPDE). **Statistical techniques** Robust and efficient techniques are used by the DBPDE to adjust data derived from primary sources to improve quality, coverage, and timelines. Also estimates are used to adjust data in case of nonresponse or missing data. **Assessment and validation of intermediate data and statistical output** In most cases, where database management procedures exist, computerized edit checks are used to identify coding and other errors in data source. Statistical discrepancies are assessed and validated with available datasets. **Revision studies** The DBPDE routinely carries out revisions of balance of payments data to improve its statistics. The CBCH also publishes on its website studies on specific related topics and explanations of the causes of revisions.	**Periodicity and timelines** BOP and international investment position (IIP) statistics meet SDDS requirements. Also partial data are published: weekly (external trade), semi-monthly (reserve assets), and monthly (financial account flows). **Consistency** Balance of payments data are broadly consistent internally and over time (annual data since 1996 and quarterly data since 2002). BOP statistics are consistent with the IIP and monetary statistics. An effort was also made to carry out a full reconciliation with national accounts statistics. However, these are not consistent with external debt statistics, which value the portfolio liabilities on a nominal basis. **Revision policy and practice** Data are provisional when first released. Revisions follow the announced calendar on the *Boletin Mensual*. Quarterly data of the calendar year are revised each time a new quarter is released. Annual revisions are carried out in March of the following two years. The public is informed of major changes in methodology on the CBCH's publications.	**Data accessibility** Data are disseminated in accordance with the *BPM5* standard components. Quarterly release is made under the analytical presentation, and the annual version on a detailed presentation. Data are made available to all users at the same time on the CBCH's website and released on a preannounced schedule. **Metadata accessibility** Concepts, methodology, and data sources for balance of payments compilation are available on the CBCH's website, in the *Balance of Payments of Chile* publication (annual), as well as on the IMF's DSBB. **Assistance to users** It is adequate. Publications available on the CBCH's website provide an institutional contact point. For specific balance of payments statistics, users' contact points are provided on the DSBB.

III. STAFF'S RECOMMENDATIONS[4]

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

Cross-cutting recommendations

High Priority

- Ensure that the NSI has adequate financial resources, staff, facilities, and training, and take further steps to increase retention of qualified staff.

- Strengthen independence of the NSI by lengthening tenure of the NSI Director and Deputy Directors from three to six years, staggering appointments, maintaining the reappointment option, and limiting discretion for removal.

- Enhance coordination among statistical agencies through closer contact and regular meetings of technical staff to discuss specific data requirements at a detailed level, reduce the respondent burden, use the collected data in all their potential, improve the timeliness of source data, and avoid duplication of effort in the collection of source data.

- Reinforce the legal framework of the CBCH to ensure its legal mandate to request statistical data to the nonfinancial private sector.

- Initiate regular consultations with public and private sector users, including through fostering users' groups to improve the usefulness of statistics.

- Intensify efforts to improve intersectoral data consistency and reconciliation by addressing issues related to differences in coverage, classification, and sectorization among the different datasets.

Other recommendations

- Disseminate the name of contact persons responsible for each dataset.

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[4] A complete set of recommendations is presented in each of the detailed assessments, in a separate document.

National Accounts

High priority

- The NSI needs to update the business register (directory) regularly by requesting data on annual sales and employment by enterprise to the ITS, and conduct a simplified economic census (pre-census) every five years to prepare updated sampling frames.

- In the framework of the NSI's law revision, clarify its responsibility of collecting source data for the compilation of national accounts.

- Apply the standard ISIC Rev. 3 and CPC for classifying activities and products, respectively, in order to facilitate international comparisons, and publish complementary tables for domestic analysis of copper-related activities and main export products.

- Increase the level of detail of disseminated data at three digits of the ISIC, or at least at two digits.

- Improve estimates on changes in inventories by using the available data by product and analyzing their price movements.

- Reconstruct historical series as far back as reasonably possible (at least five years), when changes in source data, methodology, and statistical techniques are introduced (e.g., change of benchmark year). The linked series for 1986–1995 should be reviewed and the series 1986–2002 should be published in a hard copy.

Other recommendations

- Widen the use of the PPI when compiling estimates at constant prices.

- Improve estimates of nonobserved activities by using available employment and income data from household/employment surveys.

- Incorporate agricultural work-in-progress and mineral exploration in the production and assets boundary, given the importance of mining and agriculture activities in the Chilean economy, and consider the use of chain indices for calculating volume measures.

Price Statistics

General

High priority

- Provide adequate protection for computer resources. In particular, the NSI needs an emergency back-up system to compile and publish price statistics in the case of a natural or unforeseen event that impedes access to its building.

- Determine procedures to adjust prices of products and services for quality changes.

- Improve presentation and content of press release to facilitate proper interpretation.

- Develop a more user-friendly webpage.

Other recommendations

- Focus on the quality of statistical work by establishing on a planned schedule the management quality system ISO 9001:2000.

- Redefine thresholds for unusual price movements of index components. Base new boundaries for investigation on idiosyncratic characteristics of each item or group.

- Upgrade facilities. The most pressing requirements include: additional office space, two telephone lines for PPI field agents, and a cooling system.

Consumer Price Index

High priority

- Update CPI weights and items in the basket. The current structure is based on 1996-1997 expenditure patterns that are likely to have changed substantially during the past decade. (The NSI is currently conducting a new HBS with additional coverage.)

- Implement planned expansion of geographical scope to include expenditure patterns and price information from regions in Chile, other than the Great Santiago area.

- Revise methodology of financial expenditures and mortgage payments according to the *CPI Manual*, 2004.

- Reclassify educational services at the product level. Particularly, merge within a product category all payment types due toward the same service to avoid a downward index bias.

- Amend methodology to derive used cars weight, adopting internationally accepted standards.

- Analyze, refresh, and expand outlet sample to reflect adequately Chilean consumer habits.

- Review HBS consistency with alternate sources of information to verify CPI weights (particularly in frequent underreported expenditures, such as alcoholic beverages and tobacco).

Other recommendations

- Prior to data release, restrict access from units within the NSI outside the Price Statistics Department and upper management.

- Consider adding owner-occupied housing and items with a large expenditure share from high income families that were discretionally excluded from the current basket.

- Publish the X1 price index on the NSI's website (CBCH core inflation definition).

Producer Price Index

High priority

- Conduct survey among data users to identify reasons for low credibility on indicators, and implement appropriate measures to address issues.

- Review methodology for copper price records. The significant role of copper within the Chilean economy calls for timely accrual of price variations, an adequate representation of the magnitudes of the aforementioned movements, and the avoidance of volatility from quality induced variations.

- Revise methodology to handle missing prices avoiding carrying forward the last reported price in the following economic activities: mining; manufacturing; electricity, gas, and water; and construction.

- In addition to the regular PPI, publish another version of the indicator that excludes copper. Emphasize the result of this indicator in the press release.

- Publish on the NSI's website detailed PPI historical time series.

Other recommendations

- Expand PPI coverage to include services.

- Publish detailed metadata on the NSI's webpage.

Government Finance Statistics

High Priority

- Follow the *GFSM 2001* guidelines in classifying revenue, expenses, and transactions on nonfinancial and financial assets and liabilities, both for stocks and flows.

- Improve institutional and data coverage of general government. In particular: (1) include universities and ancillary units serving local governments, (2) record capitalized interest on fiscal promissory notes with the CBCH (*deuda subordinada*) as interest expense in the statement of central government operations, and (3) include as liabilities of central government interest accrued and not paid for all debt instruments, and the stock of recognition bonds.

- Reconcile debt stocks and flows periodically to improve internal horizontal consistency of GFS.

Other recommendations

- Follow the guidelines of the *GFSM 2001* in valuating the stock of assets and liabilities. All assets and liabilities should be valued at market basis, or nearest equivalent.

- Record interest on indexed debt instruments according to the *GFSM 2001* principles.

Monetary Statistics

- Properly identify the holding sectors of securities issued by the CBCH and liabilities of mutual funds.

- Perform systematic validations of reported monetary data within and with other datasets, including ODCs positions vis-à-vis the CBCH, aggregated interbank positions, holdings of securities, and fiscal data.

- Although beyond the scope of the ROSC, compile an Other Financial Corporations Survey with data of pension funds, insurance corporations, and other relevant financial intermediaries, which will allow the CBCH to produce financial statistics and a balance sheet approach matrix.

Balance of Payments Statistics

High priority

- Coordinate with the ITS a way to reduce the time to access tributary data records to improve the quality of quarterly BOP estimations. Also the DIPRES should consider the CBCH's data requirements for statistics purposes (BOP, IIP, external debt, and NA) to distinguish the residence of the payments under the framework of the *Reserved Copper Law*, in the context of the Art. 19 of the Law of Fiscal Responsibility.

- Design and implement a data warehouse for the use of external statistics (BOP, IIP, and external debt), aimed at facilitating the DBPDE's data handling tasks by taking full advantage of the available information. Currently, data are stored in a large number of electronic sheets with complex and unstable links that implies the use of an inefficient and unreliable repository to handle the available information.

- Record under Reserve Assets the net creditor balance on the Latin American Integration Association reciprocal credits agreements, that is, A accounts (exports or assets) minus B accounts (imports or liabilities).

- Record transactions related to the external debt on an accrual basis.

Other recommendations

- Follow the guidelines of the *BPM5* in applying the directional criteria to the reverse investments transactions of resident foreign direct investment enterprises using available information at the CBCH.

- Reclassify trade credit flows of enterprises included in the foreign direct investment directory as foreign direct investment liabilities flows in the case of imports with customs' information recorded under the "collect mode."

APPENDIX I

Table 4. Chile: Practices compared to the SDDS Coverage, Periodicity, and Timeliness of data

SDDS Data Category	Coverage (meets SDDS requirement)	Periodicity		Timeliness		Comments
		SDDS	Chile	SDDS	Chile	
Real Sector						
National accounts	Yes	Q	Q	Q	7W; 11W for Q4	
Production index Global production index	Yes Yes	M	M M	6W *(1M encouraged)*	4W 35D	
Forward-looking indicators	*(encouraged data category)*	M or Q	M, Q	M or Q	CC 2Q IPE 36D	This category includes economic expectations (forecasts), consumer confidence (CC), and the index of perception of the economy (IPE).
Employment	Yes	Q	Q	Q	4W	
Unemployment	Yes	Q	Q	Q	4W	
Wages/earnings	Yes	Q	Q	Q	5W	
Consumer price index	Yes	M	M	M	5D	
Producer price index	Yes	M	M	M	5D	
Fiscal Sector						
General govt. operations	Yes	A	A	2Q	6M	
Central govt. operations	Yes	M	M	M	1M	Chile is availing itself of the flexibility option.
Central govt. debt	Yes	Q	Q	Q	3M	
Financial Sector						
Analytical accounts of banking sector	Yes	M	M	M	3W	
Analytical accounts of the central bank	Yes	M (1W recom-mended)	2W	2W *(1W encouraged)*	1W	
Interest rates	Yes	D	D	…	D	
Stock market: share price index	Yes	D	D	…	D	
External Sector						
Balance of payments	Yes	Q	Q	Q	7W	Fourth quarter, 83 days; other quarters, 53 days.
Official reserve assets Reserves template	Yes Yes	M (W recom-mended) M	2W M	W M	1W 23 days	
Merchandise trade (exports: f.o.b; imports: f.o.b)	Yes	M	W M	8W *(4–6W encouraged)*	1W 2W	
International Investment position	Yes	A (Q recom-mended)	6M	3Q *(1Q encouraged)*	2Q	
External debt	Yes	Q	M	Q	5W	
Exchange rates	Yes	D	D	…	D	
Addendum: Population	Yes	A	A	…	18M	

Note: Periodicity and timeliness: (D) daily; (W) weekly or with a lag of no more than one week from the reference data or the closing of the reference week; (M) monthly or with a lag of no more than one month; (Q) quarterly or with a lag of no more than one quarter; (A) annually; and (…) not applicable.

Italics indicate encouraged categories.

BANCO CENTRAL DE CHILE

Santiago, August 1st, 2007

Mr Robert W. Edwards
Director
Statistics Department
International Monetary Fund
Washington, D.C. 20431
USA

Vía Facsímile: 697-0395

Dear Mr. Edwards:

On behalf of the National Statistics Institute, the Finance Ministry and the Central Bank of Chile, we are pleased to submit our joint official response to the April 30th, 2007 Report on the Observance of Standards an Codes, Data Module.

We strongly appreciate the entire exercise, which has proven to be most useful for the evaluation of the quality of our macroeconomic statistics. The recommendations made by the IMF mission team will help us in further improving the analytical applicability of our statistics, allowing us to make them comparable with international standards.

We are also pleased to inform you that the Chilean governmental institutions that were evaluated have approved the publication of the complete ROSC Data Module document, including the responses of the institutions to the recommendations, on the IMF's website.

Finally, we thank all the staff involved on the preparation of the ROSC Report,

Sincerely,
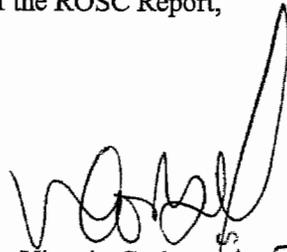
Vittorio Corbo
Governor
Central Bank of Chile

c.c.: Mr. Andrés Velasco, Minister of Finance
Ms. Mariana Schkolnik, National Director, National Statistics Institute
Mr. Alberto Arenas de Mesa, Director, Budget Directorate, Ministry of Finance
Mr. Ricardo Vicuña, Manager, Information and Statistical Research, Central Bank of Chile

Agustinas 1180 – Fono – (562) 670 2424 – Fax (562) 670 2637 - Santiago de Chile

INTERNATIONAL MONETARY FUND

CHILE

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

Response by the Authorities

August 30, 2007

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The Central Bank of Chile has compiled the responses to recommendations of all three institutions whose statistics were evaluated. Responses concerning the cross-cutting recommendations have been prepared by the Budget Office (DIPRES), the National Statistics Institute (INE) and the Central Bank of Chile (BCCH). National accounts, balance of payments, and monetary statistics have been prepared by the BCCH; responses on price statistics were prepared by the INE; and fiscal statistics by DIPRES.

A. Cross-Cutting Recommendations

High priority

- Ensure that the National Statistics Institute (INE) has adequate financial resources, staff, facilities, and training, and take further steps to increase retention of qualified staff.

  The INE has considered, for the next four years, an increase in the budget in order to create a CPI study department and retain the qualified staff that is participating in the new CPI 2008. The request of these funds has been included within the INE's budget proposal for next year.

- Strengthen independence of the INE by lengthening tenure of the INE Director and deputy directors from three to six years, staggering appointments, maintaining the reappointment option, and limiting discretion for removal.

  This matter is beyond the scope of INE's authority but rather needs to be addressed under the Law of Civil Service.

- Enhance coordination among statistical agencies through closer contacts and regular meetings of technical staff to discuss specific data requirements at a detailed level, reduce respondent burden, use the collected data in all their potential, improve the timeliness of source data, and avoid duplication of efforts in the collection of source data.

  The authorities in charge of compiling Chilean macroeconomic statistics assign great importance to ensuring proper coordination and regular meetings between specialists for the purpose of discussing ways of collecting basic information in an efficient and timely manner, without duplications. This recommendation is especially valid for the case of National Statistics Institute (INE) figures used by the Central Bank of Chile (BCCH) in its national accounts compilation, for which there are various instances of coordination and contact between the two entities. These coordination efforts will be enhanced on the occasion of the new benchmark compilation for the national accounts of 2008 and adequacy of basic indicators prepared by the INE for the said purpose.

- Reinforce the legal framework of the BCCH to ensure its legal mandate to request statistical data to the nonfinancial private sector.

Article 53 of the BCCH's founding law (LOC) authorizes requesting information from public entities to comply with the function of compiling macroeconomic statistics provided for by the same law, and no amendments are contemplated to legislation in force. In practice, the BCCH uses intensively sector surveys conducted by the INE for national accounts, a procedure that could be replicated for surveys intended to feed the balance of payments. Notwithstanding, it is worth stating that, although no legal support exists to request information from the private sector, the surveys that the BCCH currently applies have fairly satisfactory levels of response, given the high degree of credibility of the Central Bank's functions related to statistical issues.

- Initiate regular consultations with public and private sector users, including through fostering users' groups to improve the usefulness of statistics.

The responsible authorities consider it important to establish a regular system of consultations with users in both the public and the private sector with the purpose of improving the usefulness of statistical figures. There are several initiatives in place that aim at giving a more permanent and formal character to actions performed to date, where it is worth singling out the creation of a Committee of Users of INE Statistics. The Central Bank, on the other hand, will include this activity as a formal initiative beginning in 2008, as a way of reinforcing links with major users.

Other recommendations

- Intensify efforts to improve intersectoral data consistency and reconciliation by addressing issues related to differences in coverage, classification, and sectorization.

This is a very important recommendation being implemented initially through the creation of a Committee INE-BCCH, responsible for revising the current system of classifiers and nomenclatures used in the collection of statistics to be used in the upcoming benchmark compilation of national accounts. The first results of the reconciliation will be available by the end of this year. After their evaluation, the work will expectedly be extended to other datasets of interest for macroeconomic statistics.

- Disseminate the name of contact persons responsible for each dataset.

This recommendation will be implemented by the institutions involved in order to enhance users' knowledge regarding statistics published and related questions.

Within the effort to improve users' knowledge about fiscal statistics and access to available information, the new editions of the statistical publications will disseminate the names of contact persons responsible for each dataset and include a catalog of statistical publications.

The INE includes in all its publications (i.e., monthly bulletins, quarterly bulletins, yearbooks, and special publications) and on its webpage a technical record, e-mail

addresses, and telephone numbers where users can ask questions regarding any of its published statistics.

Finally, the Central Bank of Chile has decided to include the webpage and e-mail addresses in its publications (the Monthly Bulletin and Yearbooks) in order for users to be able to send their consultations regarding national accounts, balance of payments, and monetary and financial statistics.

B. Response by the Central Bank of Chile

National accounts

High priority

- Update the business register (directory) regularly by requesting data on annual sales and employment by enterprise to the ITS, and conduct simplified economic census (pre-census) every five years to prepare updated sampling frames.

  At present, the INE leads the preparation of a National Directory of Establishments that will permit to update its own surveys as well as Central Bank surveys for national accounts. Within the framework of this effort, actions are being taken aimed at collecting information from the Internal Revenue Service (SII) to help update the information contained in the said Directory.

- In the framework of the INE's law revision, clarify its responsibility of collecting source data for the compilation of national accounts.

  In the context of a revision to the INE's legal framework, it could be considered as a positive element for enhancing the quality of national accounts statistics. The bill of law being prepared by the INE for government discussion is intended to strengthen its independence, statistical secrecy and a better professional staff for the institution.

- Apply the standard ISIC Rev. 3 and CPC for classifying activities and products, respectively, in order to facilitate international comparisons, and publish complementary tables for domestic analysis of copper related activities and main export products.

  Within the framework of the upcoming 2008 benchmark compilation for the national accounts, the feasibility of statistically separating the copper activity between mining production (commodities) and refined goods (manufacturing) will be examined. For this purpose, a methodological research will be conducted to become familiar with the various stages of production of the main mining companies and take the necessary actions to obtain the information required to do such separation, particularly the exploitation surplus between both sectors.

- Increase the level of detail of disseminated data at three digits of the ISIC, or at least at two digits.

In the upcoming 2008 benchmark compilation for national accounts, the necessary efforts will be made to increase the number of entries of products and activities in order to increase the level of detail in published national accounts data. Once obtained, conditions will be better to do follow-up and dissemination of statistics for national accounts series in later years.

Other recommendations

- Widen the use of the PPI when compiling estimates at constant prices.

  Because of the usefulness of this indicator for national accounts, actions will be taken to extend its use to methodologies of measurement at constant prices. In order to progress in this regard, a BCCH-INE work group will be assembled to revise the index's design, coverage, collection procedures, and compilation aspects, all of which should translate into a reduction in the indicator's volatility.

- Improve estimates of nonobserved activities by using available employment and income data from household/employment surveys.

  The recommendation of measuring the nonobserved activities will be addressed as a specific initiative as part of the project 2008 benchmark compilation of national accounts, whose results will serve as the basis for making periodical measurements. The basic statistics to be exploited more intensively certainly include those referring to employment and income.

- Incorporate agricultural work-in-progress and mineral exploration in the production and assets boundary, given the importance of mining and agriculture activities in the Chilean economy, and consider the use of chain indices for calculating volume measures.

  The 2008 benchmark compilation will incorporate the treatments not yet applied of the National Accounts System of 1993 on growth in agricultural crops and mineral exploration, and improvements in the measurement of self employed production. The same project will evaluate the adoption of national accounts measurement at constant prices using chain indices. It should be mentioned that the decision to implement said indices will be based to a large extent on the quality of the existing price bases.

  Reconstruct historical series as far back as reasonably possible (at least five years), when changes in source data, methodology, and statistical techniques are introduced (e.g., change of benchmark year). The linked series for 1996-2005 should be reviewed and disseminated in official publications.

  This year's national accounts work program includes a review of internationally available statistical retropolation methods and a proposal of implementation based on existing information to ensure real/nominal and annual/quarterly time consistency.

Monetary statistics

- Properly sectorize securities issued by the BCCH and liabilities of mutual funds.

  BCCH is currently working on a compilation methodology intended to allow for a proper identification of the holders of its documents, whose early results are expected for next September. On the other hand, consultations are being sent to the Superintendence of Securities and Insurance (SVS) aimed at determining the feasibility of having proper identification of mutual fund liabilities.

- Perform systematic validations of reported monetary data within and with other datasets, including ODCs positions vis-à-vis the BCCH, aggregated interbank positions, holdings of securities, and fiscal data.

  The information used in monetary statistics goes through several validation stages. Some of them are performed at the Superintendence of Banks and Financial Institutions (SBIF) and the rest during the process of constructing them.

  In future, some of the suggested variables will be analyzed in greater detail. Regarding fiscal data, BCCH does permanent follow-up to said figures; with respect to monetary statistics, no information exists that permits to validate said statistics. For the moment, the possibility of obtaining additional information permitting to do other validations will be explored.

- Compile an other financial corporations survey with data of pension funds, insurance corporations, and other relevant financial intermediaries.

  At present, the BCCH does follow up to the most significant financial sectors and, given the importance of having these statistics, the possibility of making better compilations will be examined in the future.

Balance of payments statistics

High priority

- Coordinate with the ITS a way to reduce the time to access tributary data records to improve the quality of quarterly BOP estimations. Also the DIPRES should consider the BCCH's data requirements for statistics purposes (BOP, IIP, external debt, and NA) to distinguish the residence of the payments under the framework of the *Reserved Copper Law,* in the context of the Art. 19 of the Law of Fiscal Responsibility.

  Within the framework of coordination between the BCCH and the SII, the BCCH will ask the SII to evaluate the possibility of shortening the timeliness of reception of information used by balance of payments. Any improvement in the timeliness of reception of the numbers would be beneficial and would avoid the need for making preliminary estimations for the early quarterly closings as is the case with debits of

some services that are calculated on the basis of tributary data. Nonetheless, it should be pointed out that this is not of high priority and it also happens with other information about services that is more important from a quantitative standpoint, such as transportation and insurance. About information requested by DIPRES, the request shall be resumed, in order to have any information that permits to match transactions, flows and stocks of those operations in the records of the balance of payments and international investment position. The information on the operations of the Reserved Copper Law that is regularly disseminated must be complemented for the sake of making complete, consistent records of the external accounts.

- Design and implement a data warehouse for the use of external statistics (BOP, IIP, and external debt), aimed at facilitating DBPDE's data handling tasks by taking full advantage of the available information. Currently, data are stored in a large number of electronic sheets with complex and unstable links that implies the use of an inefficient and unreliable repository to handle the available information.

   At present, a bidding process is under way to hire an external consulting service for the Bank, to develop procedures for balance of payments and international investment position, that also includes preparing a valuation of the desired model for handling storage of information associated to these procedures. The results of this project will serve as the basis for advancing toward implementation of an information system that can resolve the current problems and at the same time responds to the increasing needs for information coming from the users.

- Record under Reserve Assets the net creditor balance on the Latin American Integration Association reciprocal credits agreements, that is, A accounts (exports or assets) minus B accounts (imports or liabilities).

   This matter is quite insignificant in numerical terms in the case of Chile (less than 1 percent of the reserves stock), so the timing of its adoption will be assessed, also considering the information requirements contained in the sixth Balance of Payments Manual and the effects of applying IFRS in reserves measurement. The operating cost of changing every publication including reserves figures, some of which are published weekly, is very high, however simple it appears conceptually.

- Record transactions related to the external debt on an accrual basis.

   This matter was addressed in a project of 2006, so results are available from 2004 onwards. Conditional to the approval of the Statistics Committee of the BCCH, the intention is to incorporate it into the statistics of balance of payments and external debt in March 2008, together with the closing of the year 2007 and revised figures for 2005 and 2006.

Other recommendations

- Follow the guidelines of the *BPM5* in applying the directional criteria to the reverse investments transactions of resident foreign direct investment enterprises using available information at the BCCH.

  This recommendation is consistent with analysts' interest in knowing about the interaction between investment inflows and outflows that have driven the matter to be included in the list of activities to be carried out in the period 2007-2008. It should be mentioned that having the proper technological support for microdata would help this reclassification enormously. Regarding their inclusion in balance of payments statistics, the matter will be examined in combination with the changes to the recording of direct investment contemplated in the new Balance of Payments Manual.

- Reclassify trade credit flows of enterprises included in the foreign direct investment directory as foreign direct investment liabilities flows in the case of imports with customs' information recorded under the "collect mode."

  The project Integrated Short-Term Debt Data Base launched this year at the Balance of Payments and External Debt Department will permit calculating at a micro level the commercial debt associated to imports, which will facilitate adopting this recommendation.

C. Response by the National Statistics Institute

Price statistics

High priority

- Provide adequate protection for computer resources. In particular, the INE needs an emergency back-up system to compile and publish price statistics in the case of a natural or unforeseen event that impedes access to its building.

  The INE has adequate protection for computer resources, but the emergency back-up is inside the building. Therefore, INE has understood the risk of unforeseen events and is evaluating different alternatives in order to move this emergency back-up system outside the building. Thus, INE will buy a new operating system that will work as back-up system and will be in a different location.

- Determine procedures to adjust prices of products and services for quality changes.

  At present, the staff is compiling, studying and evaluating the information of best international practices in order to generate customized procedures to adjust prices of products and services for quality changes.

- Improve presentation and content of press release to facilitate proper interpretation.

The INE is in a continuous process of improving the press release, but this process has not reached its maturity, yet. We hope to reach the maturity of the process to end of 2007. And, in that time we would offer a press release that has better presentation and content that facilitate proper interpretation.

- Develop a more user-friendly webpage.

  It is difficult to reach a consensus in this point when the users of the INE's webpage have different and subjective definitions of "friendly." Notwithstanding, the INE will carry out a survey in order to find out what it should have on its webpage. After that, the INE will start a process to develop a user-friendly webpage. The INE is working to expand its webpage users, in order to do that the INE is creating a user-friendly webpage for students in high and elementary school; this webpage will have easy and comprehensible charts with historical series.

Other recommendations

- Focus on the quality of statistical work by establishing on planned schedule the management quality system ISO 9001:2000.

- *The INE's Price Department started in June 2007 the initial stages to prepare its process, manuals, etc. in order to be certificated by quality system ISO 9001:2000. The planned schedule is totally defined and would be finished at the end of 2008 with the support of external consulting company which is guiding us in the certification process.*

- Redefine thresholds for unusual price movements of index components. Base new boundaries for investigation on idiosyncratic characteristics of each item or group.

  At present, INE is checking all CPI's process in order to improve and implement it in the new CPI. One of these improvements is related with the redefinition of threshold for unusual price movements in each product that belongs to the basket.

- Upgrade facilities. The most pressing requirements include: additional office space, two telephone lines for PPI field agents, and a cooling system.

  Efforts are being made to make improvements in this regard.

Consumer price index

High priority

- Update CPI weights and items in the basket. The current structure is based on 1996-1997 expenditure patterns that are likely to have changed during the past decade. (The INE is currently conducting a new HBS with additional coverage.)

Since October 2006 the INE is updating CPI weights and items in the basket. This process will be finished by November 2007. The HBS is being compiled with national coverage. And, this is the first time that the HBS fulfill with that requirement. The INE is requesting the necessary financial resources to carry out an HBS every five years.

- Implement planned expansion of geographical scope to include expenditure patterns and price information from regions in Chile, other than the Great Santiago area.

   The INE is aware of this problem, and has planned to expand geographical scope beyond Great Santiago to all regions in Chile. This expansion will have national representativeness but not regional in the new CPI 2008. Actually, the INE has budget to hire qualified surveyors in the regions at the time we compile the prices at the end of 2007. Now we are requesting for financial resources to be permanent.

- Revise methodology of financial expenditures and mortgage payments according to the *CPI Manual*, 2004.

   The INE is working on this point, revising the methodology of financial expenditures and mortgage payments according to CPI manual and international experiences, in order to disentangle the way to apply this methodology to Chile's economy.

- Reclassify educational services at product level. Particularly, merge within a product category all payment types due toward the same service to avoid a downward index bias.

   This point will be considered in CPI 2008 because educational services are at product level and at this level we can not reclassify or merge with other products due to the fact that weights in the basket are fixed.

- Amend methodology to derive used cars weight, adopting internationally accepted standards.

   The INE accepts this recommendation in order to adopt international standards with this product, and will take it into account in the CPI 2008. As a first stage, it will be left out of the basket, since used cars flows to Chile are negligible.

- Analyze, refresh, and expand outlet sample to reflect adequately Chilean consumer habits.
   In order to consider this recommendation the INE has entrusted the R&D Department to analyze, refresh, and expand outlet sample. In fact, there is a new proposal to calculate the outlet sample but it is now under study.

- Review HBS consistency with alternate sources of information to verify CPI weights (particularly in frequent underreported expenditures, such as alcoholic beverages and tobacco).

The INE is working to obtain alternative sources of data to verify CPI weights of those products that suffer frequent underreported expenditures in order to incorporate adjustments to HBS's results.

Other recommendations

- Prior to data release, restrict access from units within the INE outside the Price Statistics Department and upper management.

  It has always been like that.

- Consider adding owner-occupied housing and items with a large expenditure share from high income families that were discretionally excluded from the current basket.

  In the new CPI the INE considers the inclusion of owner-occupied housing and any item that accomplishes the minimum threshold accepted in order to be part of the basket.

- Publish the X1 price index on the INE's website (BCCH core inflation definition).

  The X1 price index is published by the Central Bank of Chile, but the information necessary to calculate X1 is provided by the INE. Hence, the INE would carry out conversations with the BCCH to have X1 published by the INE in the future.

Producer price index

High priority

- Conduct survey among data users to identify reasons for low credibility on indicators, and implement appropriate measures to address issues.

  The NSI is preparing a survey and will be holding meetings among data users to investigate the level of credibility of PPI. After that, findings will be incorporated as part of the improvement process .

- Review methodology for copper price records. The significant role of copper within the Chilean economy calls for timely accrual of price variations, an adequate representation of the magnitudes of the aforementioned movements, and the avoidance of volatility from quality induced variations.

  This point is being revised in order to correct the quality problems and the methodological aspects regarding copper price records. In fact, we hired experts on this topic.

- Revise methodology to handle missing prices in the following economic activities: mining; manufacturing; electricity, gas, and water; and construction.

A new PPI is on mind for 2009, therefore the methodology will be revised in all its aspects.

- In addition to the regular PPI, publish another version of the indicator that excludes copper. Emphasize the result of this indicator in the press release.

  In fact, the first pilot tests have been done in order to have an index without copper, to avoid its volatility.

- Publish on the INE's website detailed PPI historical time series.

  This observation was considered and fixed during the IMF's visit, and now there are historical series on INE's webpage.

Other recommendations

- Consider expanding PPI coverage to include services.

  The INE is evaluating the inclusion of services in the PPI.

- Publish detailed metadata on the INE's webpage.

  The NSI's Price Department is evaluating the human and financial resources to implement this improvement, and this would be done by the end of 2007.

D. Response by the Budget Office

Government finance statistics

High priority

- Follow the *GFSM 2001* guidelines in classifying revenue, expenses, and transactions on nonfinancial and financial assets and liabilities, both for stocks and flows.

- Improve institutional and data coverage of general government. In particular: (1) include universities and ancillary units serving local governments; (2) record capitalized interest on fiscal promissory notes with the BCCH (*subordinated debt*) as interest expense in the statement of central government operations; and (3) include as liabilities of central government interest accrued and not paid for all debt instruments, and the stock of recognition bonds.

- Reconcile debt stocks and flows periodically to improve internal horizontal consistency of GFS.

Other recommendations

- Follow the guidelines of the *GFSM 2001* in valuating the stock of assets and liabilities. All assets and liabilities should be valued at market basis, or nearest equivalent.

- Record interest on indexed debt instruments according to the *GFSM 2001* principles.

  The Budget Office is aiming to establish a cooperation agreement with the BCCH. The purpose of this agreement is to formalize the data-sharing activities carried out until now, enhance the coordination in the data collection process, and look for the better way to solve remaining data lacks in the economic statistical information produced by DIPRES and BCCH.

  As an institutional effort to improve the usefulness of GFS, the Budget Office is considering the implementation of a user group, which is intended to give advice to DIPRES about the users' needs that the published data are not meeting. Within the intending to improve users' knowledge about the fiscal statistics and the access to available information, the new editions of the statistical publications will disseminate the name of contact persons responsible for each dataset and include a catalog of statistical publications.

  On methodological soundness, accuracy and reliability, and serviceability, DIPRES has put in operation a committee aimed to assess the issues reported by the mission and to propose a schedule to implement the methodological improvements to the Budget Director. Coordination with SIGFE on the implementation of automatic consolidated output is part of the committee's tasks.

  Notwithstanding, about the record of the interest on indexed debt instruments, DIPRES maintains that the GFSM 2001 principles advise uneven treatment for operations that have the same practical effects.

INTERNATIONAL MONETARY FUND

CHILE

Detailed Assessments Using the Data Quality Assessment Framework (DQAF)

Prepared by the Statistics Department

Approved by William E. Alexander and Anoop Singh

August 30, 2007

This document contains a detailed assessment by dataset of the elements and
indicators that underlie the data quality dimensions discussed in Chile'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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Appendices

Appendix Tables

ACRONYMS

1993 SNA	*System of National Accounts 1993*
1995 ESA	*European System of Accounts*
AFPs	Provident Fund Administrators
ALADI	Latin American Integration Association
BEA	U.S. Bureau of Economic Analysis
BIS	Bank for International Settlements
BOP	Balance of payments
BPM5	*Balance of Payments Manual*, fifth edition
CAN	Andean Community
CBCH	Central Bank of Chile
CEMLA	Center for Latin American Monetary Studies
CESD—Madrid	European Training Centre for Economic Statisticians of Developing Countries
CIE	Foreign investment Committee
CIER	Compendium of International Exchange Regulations
CODELCO	Corporación del Cobre (Copper Corporation)
COFOG	Classification of the Functions of Government
COICOP	Classification of Individual Consumption by Purpose
CNE	National Statistics Commission
CPC	Central Product Classification
CPI	Consumer Price Index
CORFO	Corporación de Fomento (Chilean Economic Development Agency)
DBD	Database Department, CBCH
DBPDE	Balance of Payments and External Debt Department, CBCH
DC	Depository Corporations
DCIE	Foreign Exchange and Surveys Department, CBCH
DFL	Decree with Force of Law
DGC	Accounting Department, CBCH
DIPRES	Budget Directorate, MOF
DL	Decree-Law
DMFAS	Debt Management Financial Analysis System
DQAF	Data Quality Assessment Framework, July 2003
DSBB	Dissemination Standards Bulletin Board
ECLAC	Economic Commission for Latin American and the Caribbean
EUROSTAT	Statistical Office of the European Communities
FDI	Foreign Direct Investment
FECU	Uniform Coded Datasheet
FIIAPP	International Foundation of Administration and Public Policies for Ibero-America
f.o.b.	Free on board
GC	Communications Management Office, CBCH
GDP	Gross Domestic Product
GEMF	Monetary and Financial Statistics Group, CBCH
GFS	Government Finance Statistics
GFSM 2001	*Government Finance Statistics Manual 2001*

GIIE	Research and Statistical Information Management Office, CBCH
HBS	Household Budget Survey
HSI	Highly sensitive information
IFRS	International Financial Reporting Standards
IIP	International Investment Position
ILO	International Labor Organization
IMACEC	Monthly Index Economic Activity
IMF	International Monetary Fund
INE	National Statistics Institute of Spain
IPOM	Monetary Policy Report
ISIC	International Standard Industrial Classification
ISWGNA	Intersecretariat Working Group on National Accounts
ITRS	International Transaction Reporting System
ITS	Internal Tax Service
IVV	Report on the Variation of Value
MAPE	Mean Absolute Percentage Error
MARE	Mean Absolute Relative Error
MFSM	*Monetary and Financial Statistics Manual*
MOF	Ministry of Finance
NA	National Accounts
NAD	National Accounts Department
NCS	National Customs Service
NPISH	Non-Profit Institutions Serving Households
NSDP	National Summary Data Page
NSI	National Statistics Institute
NSS	National Statistics System
OCG	Office of the Comptroller General
ODCs	Other Depository Corporations
OECD	Organization for Economic Co-operation and Development
OEFs	Other Economic Flows
OFCs	Other Financial Corporations
OLAP	Online Analytical Processing
ONS	U.K. Organization of National Statistics
PPI	Producer Price Index
RCL	Reserved Copper Law
ROSC	Report on the Observance of Standard and Codes
RUT	Uniform Tax Register
SBFI	Superintendency of Banks and Financial Institutions
SDDS	Special Data Dissemination Standard
SERNATUR	National Tourism Service
SIGFE	Integrated Financial Management System
SINACOFI	National System of Financial Communications
SPEs	Special Purpose Entities
SPF	Superintendency of Pension Funds
SSI	Superintendency of Securities and Insurance
STA	Statistics Department of the IMF

StatCan	Statistics Canada
SUT	Supply-and-Use table
UAM	Macroeconomic Analysis Unit
UF	Investments Units
UNSD	United Nations Statistical Division
VAT	Value Added Tax
WHD	Western Hemisphere Department of the IMF
WPI	Wholesale Price Index

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, money and banking, and balance of payments statistics was gathered from publicly available documents and information provided by the Chilean 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 Chile'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

Chile's national accounts are compiled and disseminated by the Central Bank of Chile (CBCH). The Constitutional Law of the CBCH (Law No. 18840 published in the official gazette on October 10, 1989) stipulates in its Article 53 that "the Bank shall compile and publish, in a timely manner, the country's principal macroeconomic statistics, including monetary, foreign exchange, balance of payments statistics, and national accounts."[1]

In addition, the coverage, periodicity, and timeliness of these statistics are established by decisions of the CBCH's Board of Directors.[2] These agreements are published in the official gazette.

Article 1º of the Law of the National Statistics Institute (NSI) (No. 17.374 of October 15, 1970) establishes that the NSI is the institution in charge of the statistics and official censuses of the country. Article 2º states the following as the main functions of the NSI:

"a) Perform the process of collection, technical elaboration, analysis and publication of official statistics.

b) Study the coordination of the collection, classification and publication of the statistics compiled by fiscal and semi-fiscal entities of the State.

c) Conduct the official censuses according to international recommendations.

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[1] http://www.bcentral.cl/esp/fuyorg/leyorganica/ley03.htm

[2] Agreement No. 1110-02-040122 of January 22, 2004, which was modified by the Agreement No. 1311-03-061221 of December 21, 2006.

d) Conduct surveys periodically to update the base of the different indicators, in particular of the cost of living ...

l) Prepare a register of individuals and juridical agents that constitute "Source of Statistical Information...

n) Submit annually the National Plan of Statistical Collection for the approval of the President of the Republic. The supreme decree that approves the plan will indicate the obligations of the public and private entities related to the information and the statistics that they shall provide, compile and publish in the Official Diary."

Hence, the NSI has the responsibility of conducting censuses and surveys for collecting source data for national accounts (NA) purposes, although this responsibility is not clearly specified as only the cost of living is specifically mentioned in the NSI's law. Given the current budgetary and human resource constraints of the NSI, the CBCH finances the collection of source data or specific breakdowns that are not part of the customary production of the NSI. The NSI is planning to update its legal framework and has already prepared a draft of the new NSI's law.

Recommendation: In the framework of the revision of the NSI's law, clarify its responsibility for collecting source data for the compilation of national accounts.

The unit compiling the NA is the National Accounts Department (NAD) of the Research and Statistical Information Management Office (GIIE) of the CBCH.[3] The NAD's organization is flexible and currently consists of six working groups that handle procedures related to the compilation of production, goods and services accounts, and institutional accounts.

Five groups compile and reconcile the production and goods and services accounts. Three of these groups *compile* the sectoral production accounts for all the time series: benchmark, annual, quarterly, and the Monthly Index of Economic Activity of Chile (IMACEC). The fourth group *reconciles* the annual supply-and-use table. The fifth group *reconciles* the quarterly supply-and-use table, prepares the IMACEC, and examines some emerging issues as statistical procedures to ensure internal and temporal consistency. The sixth group compiles and reconciles the annual institutional accounts and regional gross domestic product (GDP).

The fact that five groups handle one process and one group handles the other process is due in part to varying levels of standardization and the numerous sources used in compiling the production and goods and services accounts as compared to the institutional accounts. An additional factor is that in the first case various time series with different periodicity are processed while the institutional accounts are only prepared annually.

The flexibility of the organization makes it possible to handle, with only relatively small organizational changes, the demands imposed on the organization when the benchmark

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[3] http://www.bcentral.cl/esp/fuyorg/organigrama

compilation is produced. This increases professional staff time needed by practically 50 percent for a two-year period in comparison with the normal schedule.

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

The major producer of source data for NA purposes is the NSI. This involves sectoral economic surveys on production, household surveys, and surveys on prices, compensation of employees, and employment. However, the CBCH conducts several complementary surveys. The flow of information from the NSI to the CBCH is formally regulated as follows:

- For the *annual, quarterly, and monthly follow-up compilations*, a framework agreement was established (1994) and its specific content is updated annually.

- For the *benchmark compilations*, there is another framework agreement (2003) that defines the specific studies to be conducted by the NSI.

- Service delivery contracts are also established for compiling *other information with no specific periodicity*, such as the study of purchasing power parities (2004).

The agreements (conventions) and contracts establish the quality and timeliness terms that the products provided by the NSI must satisfy.[4] The CBCH finances all products that are not part of the customary production of the NSI, increases in coverage, or specific breakdowns that the NSI does not publish. To ensure appropriate monitoring of agreements and contracts there are ongoing meetings between the NSI and the CBCH in the context of the Permanent Committee (quarterly meetings) and the Coordination Committee (monthly meetings). There is also an Interministerial Committee integrated by the Director of the NSI, the President of the CBCH, and the Minister of Finance. In recent years, there have been significant efforts to improve procedures for processing source data at the NSI. The results have been mixed, allowing for significant improvements in timeliness but gradual improvements in data validation and quality of the basic data due to lack of resources at the NSI.

The administrative records used to prepare the NA are basically those on foreign trade (customs records) from the National Customs Service (NCS) and tax records (income and value-added taxes) from the Internal Tax Service (ITS). Access to such records is expeditious and without confidentiality restrictions on customs records. In contrast, tax records are available on an anonymous and aggregate basis based on classifiers established by the NAD owing to the confidentiality of individual records. Data sharing in these cases is agreed through technical meetings and recorded in minutes.

The quality and coverage of administrative records is good and appropriate filters have been developed for using these records in the various national accounts compilations.

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[4] Conventions of September 14, 1994 (without No.); No. 0869 of March 01, 2003; No. 1059 of October 19, 2004; No. 1407 of November 13, 2006; and No. 1304 of March 20, 2007.

Recommendations:

- Request data on annual sales and employment by enterprise to the ITS for updating the business register regularly and grossing-up sample data as the precepts on "Statistical Secret" in the NSI's law, as well as on confidentiality in the CBCH's law to protect individual records.

- Conduct simplified economic census (precensus) every five years to update sampling frames.

Interagency cooperation among statistics producing agencies has recently improved and is encouraged by the work of the National Statistics Commission (CNE)[5] of the National Statistics System (NSS). The NSS is led by the NSI and includes representatives of the CBCH, the National Office of Planning, the Foment/Development Corporation, the Budget Directorate (DIPRES) of the Ministry of Finance (MOF), and representatives of the academia, producers' association, and labor unions. The representative of the labor unions has not attended most of the CNE's meetings.

The main functions of the CNE are the following:

13. "Approve the annual National Plan of Statistical Collection before presenting it to the President of Chile;

14. Propose to the NSI the basic orientations of the collection and elaboration process of the statistics necessary for the formulation, execution, and monitoring of the National Economic and Social Development Plan..." (Law No. 17,374 of the NSI of October 15, 1970).

Given its natural concern for the consistency of various statistics, the NAD has made a significant contribution to the CNE:

- By developing the initial version of a business register/directory of enterprises (2002) and then turning it over to the NSI for management and development (2006); and

- Establishing a system of classifiers of products, activities, and agents to be used by the various statistics producing institutions. Recent updates are centralized by an Inter-Agency Nomenclature Committee.

However, there are still some coordination and communication issues among statistical agencies as well as some duplication of effort in the collection of source data, in particular on mining and employment.

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[5] Which meets every two months.

Recommendation: Enhance coordination among statistical agencies through closer contacts and regular meetings of technical staff to discuss specific data requirements at a detailed level, reduce respondent burden, improve timeliness of source data, use the collected data in all their potential, and avoid duplication of effort in the collection of source data.

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

The confidentiality of data reported by individual persons and entities is guaranteed under Article 66 of the Law of the CBCH.[6] It is also guaranteed by the *Manual of Ethics Code*[7] and the CBCH's By-laws[8] that prohibit officials from divulging confidential information as well as information that is pending publication. In addition, the CBCH employment contract establishes the need to "maintain the confidentiality of situations and matters that are, directly or indirectly, related to the Bank and that they may come to know by virtue of their position or functions." In fact, the individual employment contract establishes this confidentiality as an essential duty and violation of that duty constitutes reasonable grounds for termination of employment.

In addition, Article 29 of the NSI's law states that the NSI, the fiscal and semi-fiscal entities, public enterprises, and each one of their respective civil employees, shall not disclose the facts that are referred to people or determined entities that they have taken knowledge in the performance of their duties. The strict observance of these precepts constitutes the "Statistical Secret." If any person subject to this obligation violates it, he/she will incur in a criminal act and will be punished with incarceration by Article 247 of the Criminal Code. Article 30 of the NSI's law establishes that individual statistical data shall not be published or spread unless the person or organization authorizes their disclosure.

The NSI's questionnaires include a section that reads: "Law No. 17,374, Art 20. All Chilean individuals and entities and residents or individuals in transit are obliged to provide data or information of statistical character. Art. 29. The NSI and each of its employees shall not disclose the information related to individuals or entities."

Similarly, the CBCH's surveys enclose a letter that informs respondents of the confidentiality of the data provided and that they will be used to calculate sectoral statistical indicators at an aggregated level. The CBCH's surveys are mainly filled out through the Internet by using individual passwords that are only known by respondents.

The CBCH data-processing platform has a hierarchical system of privileges ensuring protected access to information sources and to the processes used by the compilers of NA.

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[6] http://www.bcentral.cl/esp/fuyorg/leyorganica/ley05.htm

[7] Agreement No 1052E-01-030331 – Internal Circular No. 422.

[8] Title I, F, I, (j); Internal Circular No. 294 of July 7, 1999; and Employment Contract.

The Department of Operations and Technology of the CBCH has implemented a number of security measures to guard against unauthorized access to its statistical databases.

All resources of the internal net have to be protected by passwords or established access lists. The CBCH intranet can only be accessed with an authorized user's name and password, and different levels of access (user profiles) have been established for the various databases through the Operating System Windows XP. There is also an external firewall to prohibit access to the CBCH intranet and databases, an antispam module, and an antivirus. The NA databases are administered by the NAD of the CBCH.

There is also an encrypted mail sharing system for confidential and/or highly sensitive information. Finally, the CBCH has a *Manual of Policies on Informatics Security* (March 2003),[9] which establishes policies on "clean desks" and the use of the Internet and e-mail, norms for the treatment of confidential and highly sensitive information, and mechanical destruction of hard-copy information. Questionnaires, once processed, are archived in the storeroom of the CBCH and are destroyed after five years, upon request.

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

The CBCH is authorized under Article 53 of its law to obtain information from public institutions for compiling the NA.[10] Access to the administrative records of the aforementioned, the NCS, the ITS, and the NSI falls within this framework.

Although there are no legal means empowering the CBCH to require private institutions to respond to data requests for compiling the NA,[11] there is broad cooperation with the CBCH among private agents. The response rate of information requested daily by the CBCH through the International Exchanges and Statistical Compilation Management Office is reasonable and there are only a few cases where the failure to respond is based on the absence of legal means for requesting information (see table response rates). This may be a reflection of the high regard that the country's private agents have for the CBCH. However, the response rate to the fishing and services surveys is relatively low, as seen in the table below.

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[9] Internal Circular No. 677-21.06.2006 and Agreement No. 1052E-01-030331—Internal Circular No. 426.

[10] http://www.bcentral.cl/esp/fuyorg/leyorganica/ley03.htm

[11] This is why the mechanisms for coordination with the NSI indicated in Section 0.1.2 have been sharpened.

Response Rate to CBCH's Surveys for 2006

	No. of surveys	Response rate (in percent)	Weighted response (in percent)
Communication	121	77	94
Construction	366	77	81
Health	140	52	97
Electricity	103	83	85
Mining	53	89	98
Fishing	71	56	56
Health	90	46	82
Services	3	67	52
Transport	485	45	89
Total	1,432	62	89

* Weighted by output of each enterprise of the sample

Recommendation: Strengthen the legal framework of the CBCH to ensure its legal mandate to request data to the nonfinancial private sector.

Instruments to collect source data were designed in the past to reduce respondent burden, and an attempt is made to take into account the time constraints of the respondent. However, the level of detail of some surveys needs to be adapted to the two types of compilations, benchmark years and annual follow-up compilation. Although the timeliness of some NSI surveys has recently improved, some surveys are too detailed and the data collected are not used in all their potential due to timeliness or quality/confidence issues.

0.2 Resources

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

Staff, computing resources, physical infrastructure, and funding are adequate at the CBCH for compiling the NA.

The NAD of the CBCH has a staff of 30 professionals,[12] one third of whom have been compiling the NA for 10 or more years, while the rest have been doing so for no more than five years on average. They are all professionals, primarily economists, with a lesser number of statisticians. Approximately one-third of them have post-graduate degrees at either the masters or doctoral level.

The NAD develops orientation courses for new professionals and training workshops on statistical and accounting methods. It also sends staff to short-term seminars (for example to the Economic Commission for Latin American and the Caribbean (ECLAC), the Center for Latin American Monetary Studies (CEMLA), and the International Foundation of

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[12] Plus five new hires contracted, initially, for a fixed term.

Administration and Public Policies for Ibero-America (FIIAPP-Madrid)), and medium-term courses (IMF). However, the major contribution to training has been "on-the-job" training.

In recent years, preference has been given to visits to centers with excellent NA credentials (U.S. Bureau of Economic Analysis (BEA), StatCan (Statistics Canada), U.K. Organization of National Statistics (ONS), United National Statistical Division (UNSD), and Statistical Office of the European Communities (Eurostat)), participation in seminars at the Organisation for Economic Co-operation and Development (OECD), and long-term internships with national accounts units in OECD countries (National Statistics Institute (INE) of Spain and StatCan). This training program has been supplemented by sending professional staff to obtain masters' degrees in statistical methods and techniques (for example, to Columbia University in the U.S. and the University of Nottingham in the U.K.).

Compensation levels and structure are competitive with the market, particularly if nonmonetary benefits are included. All staff were reclassified to make salary mobility more flexible. The salary scale is currently being adapted to goals and to provide performance bonuses for achieving such goals.

The computing resources available for compiling the NA are adequate and updated frequently to maintain the highest technological standards. Staff desktop computers are at least a Pentium 4HT, with networked Windows XP Operating System. The NAD has color printers and photocopiers, and black and white printers, and copiers for heavy-duty work, as well as portable computers and overhead projectors. In addition to Microsoft Office software (Excel, Word, PowerPoint, and Access), there are more analytical tools like eViews, MatLab, and SAS. A plan is also being implemented to incorporate FAME/SunGard as the database for time series.

The platform of the surveys' systems are Web three layers, Client Browser, and Component Services, as well as client/server with an application developed in Visual Basic 6.0 and databases developed in SQLSERVER 7.0. The platform of the NA compilation process was developed in Access databases and Excel worksheets. All staff members are connected to the Internet and there is an active Intranet for developing the various compilation and communications processes.

Adequate protection is provided for computer resources, including through provision of emergency back-up systems, for retrieval of statistical series and updates in the event of natural disasters, accidents, and other unusual events. Back-ups are daily updated.

Currently, funding for the compilation of NA is provided under the budgetary process of the CBCH. Short- and medium-term work programs are taken into account in the budgetary process. Requests for funding for special projects such as changing the benchmark year of the accounts, expanding their coverage, and conducting studies for improving methodology are included as part of the normal budgetary process.

0.2.2   Measures to ensure efficient use of resources are implemented

The CBCH has a three-year (2006–2008) strategic plan[13] that serves to increase the quality and timeliness of the compiled statistical series as well as to improve efficiency in the allocation of resources. The three-year strategic plan is further broken down into individual annual work plans. These plans are administered by each organizational unit of the bank in coordination with the Administration and Managers Committee of the CBCH. This committee meets every quarter to review progress. The allocation of both financial and human resources is also discussed during these meetings. In addition, each unit formally reviews progress on a monthly basis according with their work plans.

Staff is evaluated annually based on the criteria of integration, contributions, and the achievement of preestablished goals. This evaluation method is currently being revised to bring it in line with the new salary mobility and performance bonus practices.

To increase the effectiveness of working processes, a database for NA has been developed based on a specific data model. In this model, all transaction-related data are tied to attributes relating to the agent, type of operation, and type of object. This has allowed for a high level of consistency between the use of classification concepts and systems for reconciling the benchmark compilation and the annual follow-up compilation of production and goods and services accounts. This initiative is now being extended to the following areas:

- Sectoral compilation. The data model is being developed for various industries (activities) to improve the effectiveness of the sectoral compilation and preliminary reconciliation processes.

- Processes model. To facilitate ongoing quality improvement in working procedures, documentation is being prepared on the process and on each compilation in a given frequency for a specific period. This may result in a processes model to complement the data model.

- To increase the efficiency of the database and database extensions described above, consideration has been given to moving from the current computer platform (Access) to other platforms that allow for greater scale and more rapid execution of processes (SQL Server).

The benchmark compilation, which has been carried out every seven to 10 years, has been consistently reviewed by outside experts to evaluate the statistical methodology and compilation systems. The benchmark compilation, the most costly compilation in terms of funding, is periodically evaluated and compares favorably in cost-benefit terms with previous similar exercises conducted in Chile and other exercises carried out in the region. The current strategic plan includes the update of the benchmark year to 2008 (every five years).

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[13] *Planificación Estratégica del Banco Central de Chile: Foco e Iniciativas para el año 2007.*

The CBCH has an elaborate process for budgetary formulation and monitoring of budgetary execution. This process facilitates the allocation of resources and achievement of results within the context of the strategic planning conducted every three years and updated annually.

0.3   Relevance

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

The CBCH's website provides two e-mail addresses for users to submit feedback on the statistical database and other suggestions. However, no other specific measures such as surveys, informative bulletins, or seminars have been adopted to ensure that statistics meet users' needs.

The NAD has no periodic and direct process for consulting with substantive users of NA, academia, the media, and/or the private sector in order to evaluate the usefulness of the NA and identify emerging requirements in this area.

Nonetheless, there has been a high degree of sensitivity and response capacity in meeting requests that such agents have made to the CBCH, as well as requests made by the CBCH's own research and management units in order to more adequately fulfill their mandate.

This was the case with the IMACEC (1985) and the quarterly accounts (2005). The first request related to a need for monetary planning policies; and the second reflected monetary policy requirements based on inflation targeting.

The NAD actively participates in statistical meetings and seminars organized by regional organizations (ECLAC and Andean Community (CAN)[14]) and has begun to join organizations outside the region (OECD).[15]

Recommendation: Initiate regular consultations with public and private sector users to identify new and emerging data requirements.

0.4   Other quality management

0.4.1   Processes are in place to focus on quality

The objectives aligned with the 2006–2008 strategic initiatives are to "prepare and disseminate to the country on a timely basis national, regional, and sectoral statistics on areas

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[14] Chile rejoined the CAN early this year.

[15] Chile's incorporation as an extra-regional member of the OECD will be examined next month.

within the purview of the Central Bank of Chile and on the conduct of its policies, maintaining high standards of quality and using the best technology available."[16]

In order to achieve these objectives, the CBCH has determined the follow-up high-impact plans (initiatives) that will be developed by the NAD:

- Developing and implementing the 2008 benchmark compilation (CR2008); and

- Improving the quality of statistics through specific projects in the NA areas.

This statement of objectives emphasizing the importance of quality commits the GIIE and the NAD to achieving these objectives and to establishing specific goals for all staff members of the NAD. In this framework, the units elaborate working plans as well as the training program.

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

The procedures for monitoring the quality of the NA program are as follows:

- The first has been to structure the initiatives indicated in 0.4.1 "Improving the quality of statistics through specific projects in the NA area" based on the IMF's *focus on gaps* between the local situation and best practices in terms of sources, methods, and results or statistical products. The NAD indicated that the recommendations the IMF will make regarding this report would allow for adjusting and prioritizing the components of such initiatives.

- The second procedure consists of the history of the different versions of the products according to the BEA *review of results approach*. This has been consistently done for the quarterly and annual follow-up compilations. In addition to these reviews, a methodology was added that allows for systematic comparison between the 2003 benchmark compilation and the 2003 follow-up compilation (base year 1996).[17] This has been applied for the years 2004 and 2005 by comparing the rebasing results according to the 1996 and 2003 benchmarks.

- The third procedure is to monitor the *quality of processes*[18] following the Eurostat approach based on documentation of the processes, which may result in a processes model to complement the data model, as indicated in 0.2.2. This allows for comparison between periods and between versions based on sources (i.e., response rate) and methods (i.e., double deflation method versus single indicator method) used at the most disaggregated level of the data. The evaluation of procedural quality

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[16] http://www.bcentral.cl/esp/fuyorg/planif/index.htm

[17] National Accounts of Chile. 2003 Benchmark Compilation. Summary, Section 5.

[18] Source data transformation through the application of methods.

would make it possible to assign a certain level of reliability to each record used in the compilation as well as contribute to an objective measurement of data quality for purposes of incorporating statistical methods at certain preliminary reconciliation levels.

The dissemination and revision cycle of the NA itself constitutes an adequate procedure for monitoring quality in terms of the factors explaining discrepancies between preliminary and revised estimates. This allows steps to be taken to reduce those discrepancies when feasible.

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

Development of the NA program incorporates quality improvements identified in the follow-up and periodic revisions as well as in the information on quality standards and new data requirements from users' feedback. Decisions are made weighting the various dimensions of quality taking into account the volume of resources available. These issues are resolved by incorporating *best level* (accuracy/reliability) measurements in less frequent measurements (annual or benchmark) and seeking the best way to measure *changes from best level* through more frequent measurements (quarterly and monthly). This method allows the optimization of the cost/benefit relation of the national information system for NA purposes.

1. Assurances of integrity

1.1 Professionalism

1.1.1 Statistics are produced on an impartial basis

The professional independence of the CBCH is established in Article 1º of its Constitutional Law.[19] Article 1 states that the CBCH is an autonomous institution that is technical in nature, of unlimited duration, and has juridical personality, and its own capital. Impartiality in the production of the NA represents a CBCH feature of the highest order in terms of its institutional credibility. This is seen as a prerequisite for greater effectiveness in monetary policy.

Although there are no specific standards or statutes preventing external influence on the content and dissemination of the NA, in practice there is no external or internal influence that could have an impact on NA results.

Article 8 of the CBCH's law stipulates that the tenure of the members of the Board is 10 years, and their appointments may be renewed. Replacements shall be in a staggered fashion every two years. The Board is composed of five members appointed by the President of Chile, with approval from the senate. The Governor of the Board and the Bank is appointed by the President of Chile from among the Board members for a period of five years, or for

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[19] http://www.bcentral.cl/esp/fuyorg/leyorganica/ley01.htm

the lesser period remaining in his or her term as board member. Standards set within the CBCH establish regard for professional behavior, courtesy toward respondents, integrity, impartiality in hiring, execution of official duties, and the avoidance of influence by third parties.

In order to strengthen internal independence and following the recommendations from outside consultation, since October 2005 the GIIE no longer reports to the Research Division but rather to General Management. Internal communication procedures and information requests have been adjusted accordingly. A CBCH Statistics Committee helps to ensure formal relations between the GIIE and the rest of the CBCH.

Recruitment and promotion are based on professional aptitude or expertise. Vacant positions are open to everybody and are posted on the CBCH's website.[20] Interested professionals apply for these positions, and the most suitable candidate is selected to assume a position of greater responsibility, in accordance with the technical requirements of each position. Contract hiring takes into account professional profiles for specific jobs.

Staff members are encouraged to attend seminars and pursue professional training. The CBCH staff attends annual meetings of NA experts hosted by ECLAC as well as regional meetings organized by the CAN. Staff also participate in courses sponsored by CEMLA and the European Training Centre for Economic Statisticians of Developing Countries (CESD— Madrid), among others.

Staff members are encouraged to conduct research projects. For example, some case studies were undertaken to guarantee internal consistency in the supply-and-use table and to evaluate the compilation in real terms through chain indices. Staff also prepare analytical texts relating to NA topics for publication in CBCH's publications and journals.

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

The selection of source data and statistical techniques for the compilation of statistical series is based solely on statistical considerations. The NA are compiled in accordance with professional criteria and with complete independence. The choice of source data, whether from surveys or administrative records, and the selection of statistical techniques, are based solely on measurement objectives and data requirements. Cost considerations may sometimes determine the selection of sources and methods as well. Decisions to disseminate data are based on technical, timeliness, and cost considerations.

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[20] http://www.bcentral.cl/acerca/oportunidades-trabajo/index.htm

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

When necessary, the CBCH responds to erroneous interpretations of the NA through press releases and other means. The CBCH follows the press very carefully with regard to references to the CBCH's statistical products. Data are presented to the media at press conferences held at their time of release. Comments on GDP trends are included in the presentation and in the CBCH's *Monthly Bulletin* that is distributed to the press. This bulletin identifies the main underlying factors behind unusual figures, movements, and revisions, in order to improve user understanding and reduce the likelihood of misinterpretation. The President and the manager of the GIIE are entitled to respond to public criticism of statistics or instances of misuse of statistics, but there have been few instances where response to public criticism has been required.

1.2   Transparency

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

The CBCH's website includes its law, which informs about the CBCH's standards of confidentiality and professionalism of its President and Board of Directors. This law can also be obtained in print in Spanish or English from the CBCH's Publications Department.

The CBCH By-Law and the *Manual of Ethics Code* have been posted on the CBCH's intranet. The CBCH's website (http://www.bcentral.cl) contains a directory of key personnel and two e-mail addresses to direct additional requests, suggestions, and contact CBCH personnel. The CBCH publications contain information on the CBCH's website, its PO Box, address, e-mail address, and phone and fax numbers. In addition, the CBCH library has a unit in charge of providing information to the public.

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

The NA are released simultaneously to all users and no person or institution outside the CBCH has access to the data prior to their publication. This principle is strictly observed. The only exception is the Minister of Finance, who attends some Board meetings and receives the IMACEC—under embargo—24 hours in advance of its general release. This access is informed in the metadata for NA of the Special Data Dissemination Standards (SDDS) posted on the IMF's Dissemination Standards Bulletin Board (DSBB). The CBCH's website has a link to the SDDS website.

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

All CBCH publications include the bank's name and logo. The CBCH has a policy of releasing publications on the NA in a standard format (including titles, colors, and typography). In the case of joint publications with other institutions, the institutions involved in the publication are identified. The CBCH asks that the source of NA records be acknowledged when third-party institutions reproduce such statistics.

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

Users are informed in advance, primarily through articles published in the Monetary Policy Report (IPOM), briefings, or news releases, of any major change in methodology, sources data, and statistical techniques.

Thus, for example, the new series of NA at 2003 prices that was published on March 23, 2007 was reported in October 2006 and its results were internalized by users well in advance. In addition, it has also been reported that changes can be expected in NA sources and methods with publication of the 2008 Benchmark Compilation (CR2008) to be published in 2011.

1.3   Ethical standards

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

There is a *Manual of Ethics Code* (March, 2003) that establishes clear standards describing the procedures that the organization and its staff must follow when potential conflict of interest situations arise (Section II, 1). It also includes clear ethical standards on measures to be adopted to prevent the misuse or misinterpretation of statistics (Section II, 2). Implementation of the manual is facilitated by a solid ethical standards culture that discourages political interference. The manual is available on the CBCH's intranet and staff is made aware of the manual in orientation courses when they join the organization.

The CBCH law, its By-Laws, and the *Manual of Ethics Code* include guidelines on staff behavior regarding the discretion that shall be observed on the affairs that due to their character are reserved and the observance of a decorous conduct and respect with peers and the public. The manual also states incompatibilities and conflicts of interest that are prohibited, such as to receive from parties with business relationships with the CBCH any invitation or gift that can be related to expedite paperwork or transactions, or any other circumstance that could induce a special treatment or inappropriate authorization. Obligations of the staff include being efficient in the performance of their duties, updating their knowledge regularly, and using the bank's goods properly. The CBCH's By-Laws present the sanctions to apply to staff who do not comply with the prohibitions. These sanctions include verbal and written reprehension and dismissal of the employee.

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 general framework used for compiling the national accounts is guided by the recommendations of the *System of National Accounts 1993 (1993 SNA).*

Implementation of the *1993 SNA* has been gradual in the 1986, 1996, and 2003 benchmark compilations.[21] Currently, the major deviations from concepts and definitions established in the *1993 SNA* involve agricultural work-in-progress, investment in in-house development of software, mining exploration, and the measurement of rentals of owner-occupied housing (See sections 2.2.1 and 5.2.1). These issues are kept under review and are on the agenda for the 2008 benchmark compilation.

2.2 Scope

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

Follow-up compilations are produced based on the benchmark compilation annually, quarterly, and monthly in order to calculate the *best change* in the macroeconomic aggregates.

In this context, the *1993 SNA* accounts and tables that the Inter-secretariat Working Group on National Accounts (ISWGNA) determined as minimum and recommended requirements for implementation of the *1993 SNA*, as listed below, are compiled:

Annual follow-up compilation:
- Annual value added and GDP at current and constant prices by economic activity
- Annual value added components at current prices by activity
- Annual expenditures of GDP at current and constant prices
- Annual rest-of-the-world accounts (up to net lending)
- Sequence of accounts for the total economy (up to net lending) with an annual frequency
- Annual supply-and-use tables (recommended requirement)

Quarterly follow-up compilation (recommended requirements):
- Quarterly value added by activity and GDP at current and constant prices
- Quarterly expenditures of GDP at current and constant prices.

In addition to the minimum and recommended requirements for implementation of the *1993 SNA*, there is a:

Monthly follow-up compilation:

- Volume indicator of economic activity, a synthetic benchmark indicator measured of production volume by economic activity.

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[21] Published in October 2006. The new national accounts series, compatible with the 2003 benchmark, were published on March 23, 2007.

The production boundary is generally consistent with that established by the *1993 SNA*, although there are some exceptions that can be attributed more to the lack of information than to conceptual deviations:

- Own-account production of manufactured goods for own-final consumption is excluded. What is included is own-account production of agricultural goods for own-final consumption.

- Research and development activities on own account are included as costs in the intermediate consumption of the principal activity and not as individual products.

- Mining exploration is not included in investment, although the costs thereof are measured.

- The production of entertainment, literary, or artistic originals is not included. This item is very insignificant.

- The production of computer software for own use is not included. In addition, this is not a significant item.

- No estimates are made of illegal output sold to willing buyers and of shuttle trade/contraband.

The delimitation of the constituent units of the economy is in accordance with the *1993 SNA*. In particular, free zones operated by offshore enterprises under customs control and workers who work part of the year in other countries are included as part of the economy.

The assets boundary is broadly consistent with the *1993 SNA*. Tangible assets include, for example, national defense related assets that could be used for civilian purposes. Valuables and historical monuments are not included. Regarding agricultural, livestock, and forestry work-in-progress, only forestry and livestock work-in-progress is included.

As for intangible assets, mineral exploration is measured as intermediate consumption and not as investment. Computer systems, software, and databases are included as assets only when purchased from third parties and not when companies develop them in-house. Entertainment, literary, or artistic originals are not included nor are patented entities, financial leases, and other transferable contracts.

Recommendation: Incorporate agricultural work-in-progress and mineral exploration in the production and assets boundary, given the importance of mining and agriculture activities in the Chilean economy.

2.3 Classification/sectorization

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

The classification and sectorization used for compiling the NA are broadly consistent with recommended international systems, although some deviations exist:

- The *1993 SNA* is used to classify institutional units, transactions, and other flows in the system.

- The International Standard Industrial Classification of All Economic Activities (ISIC) Rev. 3 is used to classify the principal economic activities (industries) of establishments and enterprises, with some exceptions, such as the inclusion of copper-manufactured products in mining. In addition, correlative codes are used instead of the international standard codification.

- A local adaptation of the Central Product Classification (CPC), called the *Single Product Classifier*, is used to classify products and correlative codes are also used instead of the international standard codification.

There are deviations from the international systems recommended for classification by function or purpose:

- The Classification of Individual Consumption by Purpose (COICOP) is not used for classifying household consumption expenditures, but it is being implemented.

- The Classification of the Functions of Government (COFOG) is not applied to classify functions of government, but it is being implemented.

Given the relational nature of the NAD databases, the implementation of classifiers different from those used is resolved in a relatively simple way by using correspondence tables linking one classifier to another. Thus, compilation and reconciliation processes can continue as usual based on the existing classifiers, and the results can easily be reclassified in terms of the recommended international systems.

Recommendation: Apply the standard ISIC Rev. 3 and CPC for classifying activities and products, respectively, in order to facilitate international comparisons, and publish complementary tables for domestic analysis of copper-related activities and main export products.

2.4 Basis for recording

2.4.1 Market prices are used to value flows and stocks

All transactions are recorded at market prices prevailing at the time they occur in accordance with *1993 SNA* recommendations.

- Market output is valued at basic prices.

- Output for own use is valued at equivalent market prices.

- Taxes on products are part of the valuation of production at producer prices and of intermediate and final consumer goods. In the Chilean case, this involves taxes on tobacco products and petroleum refining products.

- Value-added taxes are included in the valuation of intermediate consumption in exempt activities but the deductible portion of the value added tax on other activities is excluded.

- The deductible portion of value added taxes is excluded from the valuation of final uses.

- Corrections are made when transfer prices are detected in order to reflect market prices. This procedure applies in particular to outputs from vertically integrated industries.

- Total imports and exports are valued on an f.o.b. basis.

- Transactions in foreign currency are converted using the mid-point exchange rate prevailing in the market at the moment they take place or by using monthly average exchange rates.

The above apply equally to the benchmark compilation and the annual follow-up compilation.

2.4.2   *Recording is done on an accrual basis*

Transactions and flows are recorded on an accrual basis. This includes government revenues, which are on a cash basis, but are allocated to the corresponding period to convert them to accrual basis. Government expenditures are recorded on an accrual basis. The major exception relates to agricultural work-in-progress, since agriculture output is recorded at the time of the harvest instead of at the time it occurs. This deviation is relevant for the compilation of quarterly GDP.

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

Grossing/netting procedures are consistent with the *1993 SNA*. Specifically, as of the 2003 benchmark compilation, all 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

In Chile, the source data for the NA—censuses, surveys, administrative records—are developed on a decentralized basis independently of the NAD. Despite statistics collection efforts in the context of the National Statistics System (NSS) led by the NSI, the development of source data for NA purposes is uneven.

As it is usually the case, there has been greater availability of source data for measuring GDP by the production approach than by expenditure, and hence, greater reliability of the GDP estimate by the production approach than by the expenditure approach, as well as greater reliability of the GDP estimate by the expenditure approach than by the income approach. The same uneven development is seen within the source data for measuring GDP by the production approach. While source data on traditional activities such as agriculture, mining, and manufacturing are more developed, source data on some service industries is insufficient. The same situation occurs when a shorter periodicity is introduced; there are source data on production and other indicators by product on a monthly basis, but expenditure data are partially included on a quarterly basis; and income data are incorporated on an annual basis. Nonetheless, the availability of source data with a different periodicity and their reliability largely follows international standards.

The NAD has a strategy that considers the following analytical aspects, so that the data collection programs used to compile the NA are adequate, take into account the specific conditions of the country, and neutralize some of the weaknesses mentioned above:

- Intense use of the supply-and-use table (SUT) as a tool for integrating source data.

- Relating the sources among the time series with different periodicity. The statistics collection program is a medium-term program and coincides with Chile's NA *compilation cycle*. This begins with the benchmark compilation and continues with the annual, quarterly, and monthly follow-up compilations.

The major institutional management initiatives for carrying out the strategy described above are:

- Establishing cooperation and technical assistance relationships with information sources outside the NAD by designing forms, processes for validation, and attribution of annual statistics from enterprises/establishments, and household surveys prices (i.e., NSI), public finances (DIPRES, MOF), and structuring classifications and filters in the case of administrative records (ITS and NCS).

- In those cases where the above initiatives are insufficient, carrying out directly or through third parties:

- Periodic data collection activities for the annual, quarterly, and monthly follow-up compilations,
- Special studies primarily for the benchmark compilation, and
- Improving the quality of source data.

The sources for the IMACEC[22] are the ones used to compile the variables shaded in dark gray with a black border in Table 1. The list of sources is presented in Table 2 and essentially involves *product* statistics in that there are no monthly *industry* indicators.

In the best case, these are direct indicators of production volume such as monthly statistics on manufacturing and mining production, for which composition must be reclassified and concepts adjusted. Indirect indicators can be used to build direct indicators when information is not available, as in the case of agricultural, livestock, and fishing production. Building permits and square meters built are used for estimating construction. Export indicators help in those cases where the product is primarily sold in foreign markets.

Table 1: **National Accounts Source Data**

Contribution to the SUT according to compilation's frecuency

Supply — Production matrix, Basic price — Valuation vectors — **Use** — Use matrix, Purchaser price — Final transactions, Purchaser price

Column headers (Supply): Goods, Trade, Services, Gross Output basic price — Industries; Imports c.i.f., Import Duties, Trade margins, Taxes on products, Non-deductible VAT, Total supply, purchaser price

Column headers (Use): Goods, Trade, Services, Intermediate demand — Industries; Consumption, Gross capital formation, Inventory change, Exports, Final demand, Total use, purchaser price

Products									
Goods									
Trade			0		0			0	0
Services			0	0	0			0	0
Gross Output bp				0					

Use side:
- Int consumption
- Value added
- *Compensation of employee*
- *Gross Surplus*
- *Other taxes on net prod*
- Int consumption + Value added
- Goods / Trade / Services — Gross Output bp

Source data by type of compilation
(if available of aggregated way in high frecuency
improved and disaggregated in low frecuency)

Legend:
- Imacec
- Quarterly Accounts
- Annual Accounts
- Benchmark Account

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[22] "Indicador Mensual de Actividad Económica, base 1996. Nota Metodológica," CBCH, October 2005. Series de Estudios Económicas Nº 48.

The sources for the quarterly accounts[23] are the ones used to compile the variables shaded with a lighter gray color than the dark gray used for the IMACEC in Table 1. Exports and imports by type of product, although available on a monthly basis, are used on a quarterly basis. The only *product* sources that become available quarterly are the register of investment projects, which is widely used and cover the projects of more than five million dollars, and the quarterly survey of manufacturing and trade industries, which are used only for cross-checking purposes, as seen in the list in Table 3. There are good quarterly data on mining, electricity, gas, and water, and some transportation services as in the case of the annual estimates. The information on the government is timely and of good quality. Health indicators are limited to the public sector. There is no information on the other services, and therefore, they are estimated based on value added tax (VAT) records. On the expenditure side, a monthly index of retail sales of consumption goods is compiled and a quarterly survey on inventories is conducted. Imports are also classified by economic use.

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[23] "Cuentas Nacionales Trimestrales de Chile: 1996-2004. Metodología y Resultados" CBCH, Marzo 2005. Serie de Estudios Económicos Nº 45.

Table 2: **Main Data Sources by Product (Supply – Use)**

Category	Type of source data/indicator	Source	Monthly Assessment (*) Cover.	Period.	Qual.	Quarterly Assessment (*) Cover.	Period.	Qual.	Annual Assessment (*) Cover.	Period.	Qual.	Benchmark Assessment (*) Cover.	Period.	Qual.	Gross-up
Goods															
Agriculture and Foresti	Statistics of Sowing, Production, Wheat, Ca	NSI	-	=	=	-	=	=	-	=	=	-	=	=	p
	Statistics of Vegetables, Fruits, Milk and Eg	ODEPA	-	+	=	-	+	=	-	+	=	-	+	=	
	Vinards Statistics	SAG							+	+	+	+	+	+	p
	Foreign Trade Records	CBCH	+	+	=	+	+	=	+	+	+	+	+	+	p
	Forestry Statistics, Statistical bulletin	Infor							+	+	+	+	+	+	p
	Fruit, Cattle and Agricultural Survey	Consulting										=	+	+	s
Fishing	Statistics of species pelagicas y demersales	SubPesca	-	+	=	-	+	=							p
	Statistics of Captures for ind manufacturing	IFOP/Sernape	-	+	=	-	+	=	+	+	+	+	+	+	s
	Foreign Trade Records	CBCH	+	+	=	+	+	=	+	+	+	+	+	+	p
	Statistical yearbook of Fishing	Sernapesca							+	+	+	+	+	+	p
Mining	Statistics of copper, iron mineral, pellets, cr	Enterprises	+	+	+	+	+	+							
	Statistics of gold, zinc, manganeos and coal	NSI/ENAMI	+	+	+	+	+	+							
	Foreign Trade Records	CBCH	+	+	=	+	+	=	+	+	+	+	+	+	p
	Statistics and Yearbook of the nonmetallic N	Sernageomín							+	-	+	+	+	+	
	Statistics of Copper and Other Minerals	Cochilco							+	+	+	+	+	+	
Manufacturing	Industrial statistics of production and physic	NSI	=	+	=	=	+	=	=	+	=				p
	Statistical yearbook of Fishing	Sernapesca							+	+	+	+	+	+	p
	Milk statistics	ODEPA	+	+	+	+	+	+	+	+	+	+	+	+	
	Forestry Statistics. Statistical bulletin	Infor							+	+	+	+	+	+	
	Wine statistics	SAG							+	+	+	+	+	+	
	Production and Sales of Enterprises	Enterprises	+	+	+	+	+	+	+	+	+	+	+	+	
Electricity, Gas and W	Statistics of sales of electricity distributors a	Enterprises	+	+	+	+	+	+	+	+	+	+	+	+	
	Statistics of sales of electricity distributors a	SISS	+	+	+	+	+	+	+	+	+	+	+	+	
	Statistics of electrical generation	CDECs SIC	+	+	+	+	+	+	+	+	+	+	+	+	
Construction	Construction permits	NSI	=	+	=	=	+	=	+	+	=	+	+	=	p
	Sales of cement and construction materials	CCHC	=	=	=	=	=	=							
	Investment Projects	MOP/CBC				=	=	=	=	=	=	=	=	=	
	Annual survey on constructions costs	CBCH							+	+	+	+	+	+	
Trade															
Trade	Margins Surveys	NSI										=	+	=	p
	VAT Records	ITS	+	+	=	+	+	=							
	Sales of Consumer goods Index - Vehicles	NSI	=	+	=	=	+	=							
Services															
Restaurants and hotels	VAT Records	ITS	=	+	=	=	+	=	=	+	=	=	+	=	
Transport	Statistics transp railway, Meter, load ports,	Enterprises	+	+	=	+	+	=	+	+	=	+	+	=	p
	Statistics of aerial transport	JAC	+	+	=	+	+	=	+	+	=				
Communications	Statistics of telephony	NSI	+	=	=	+	=	=	+	+	=				
	Statistics of telephony	SUBTEL							+	+	=	+	+	+	
	Statistics of post office and couriers	NSI	+	=	=	+	=	=	+	+	=				
	Statistics of Internet	Subtel	+	-	-	+	-	-	+	+	=	+	+	+	
	Statistics of cable TV	Enterprises							=	+	=				
Financial services	Statistics of life insurance policies	Enterprises	+	-	+	+	=	+	+	+	+	+	+	+	
Business services															
Real estate and housing	Cadastre of dwellings	ITS							=	=	=	=	=	=	p
Public administration	Statistics of effective dowry of personnel	DIPRES				=	+	=	=	+	=	=	+	=	
Educ, health and other	VAT records	ITS	+	+	=	+	+	=	+	+	=	+	+	=	
	Statistics of students/ public and private edu	MINEDUC							=	+	+	=	+	+	
	Statistical bulletin	FONASA							+	+	+	+	+	+	
Valuation															
Taxes on products	Tax revenues records	ITS				=	+	=	=	+	=	=	+	=	
Margins	Margins Surveys	NSI										=	+	=	p
Non-deductible VAT	VAT Records	ITS/NCS				=	+	=	=	+	=	=	+	=	
Uses															
Consumption	Sale Index of Consumer Goods	NSI				=	+	=	=	+	=	=	+	=	
	VAT Records	ITS				=	+	=	=	+	=	=	+	=	
Investment	Records of Imports of capital goods	CBCH				+	+	=	+	+	+	+	+	+	p
	Industrial statistics of production and sales	NSI				=	+	=	=	+	=				p
	Investment Projects	MOP/CBC				=	=	=	=	=	=	=	=	=	
	Construction permits	NSI				=	+	-	=	+	-	+	+	-	p
	Annual survey on construction cost	CBCH							+	+	+	+	+	+	
Changes in inventories	Statistics of inventories in industry and com	CBCH				=	=	=	=	=	=				
	Surveys, Financial statements and Income T	NSI/SVS/ITS							=	=	=	=	=	=	
Foreign trade	Foreign trade Records	CBCH / SNA				+	+	=	+	+	+	+	+	+	p
	Free Zone Records					=	=	=	=	+	=	=	+	=	
	Tourist Expenditure Survey	SERNATUR							=	=	=	=	=	=	

p: product method, s: sample   (*) Assessment: +: good, =: satisfactory, -: unsatisfactory

Sources for the annual accounts[24] include more information on *products*, such as the annual agriculture survey that provides data on crops and yields, as shown in Table 2. The data on construction of buildings, although the same as for the short term, also include a survey conducted by the CBCH on the main projects of engineering works.

[24] "Cuentas Nacionales de Chile: 1985-1992," Primera Parte, Metodología de la serie de cuentas nacionales base 1986, CBCH, 2004 y "Compilación de Referencia 2003,"CBCH, 2007.

The records on the production accounts by *industry* as indicated in the list presented in Table 3, are based on surveys to establishments and enterprises and on financial statements. Updated information on mining is obtained through surveys conducted by the CBCH. The NSI also conducts a survey on mining requesting similar data, which is a duplication of effort. For manufacturing, trade, and some service activities (personal and business services), the information is obtained through a regular program of enterprise and establishment surveys conducted by the NSI. They have national coverage and represent the four-digit level of the ISIC, Rev 3.

The national survey of manufacturing collects detailed information based on accounting statements and other statistics. It includes operational income and expenditures at a detailed level, data on employment and compensation of employees, production and sales of major products (volume and value), data on the quantity and value of the major inputs used in production, inventories, investment by type of activity, taxes, and depreciation.

The content and structure of the survey of trade and services are similar to those of the manufacturing survey, although the information is not collected in terms of outputs and inputs given the nature of the service activities. A special questionnaire is used for enterprises that provide restaurant and tourist accommodation services. The annual surveys conducted by the NSI do not cover all service activities; for this reason, the NAD conducts complementary surveys.

Regarding the sample frames used by the NSI in selecting samples and determining the factors for grossing-up survey data whether for the annual accounts or for the benchmark compilation, the procedure followed covers the census of major establishments and random samples for medium and small establishments. These samples frames are not regularly updated. To strengthen the establishment of sample frames, the NAD developed a directory of enterprises based on tax records, commercial guides, and surveys. The enterprises were classified based on their principal activity according to the ISIC Rev. 3. The directory has been used as a central framework for collecting and producing statistics within the CBCH. Its classifications are applied when processing tax record data. Subsequently, the CBCH transferred to the NSI the responsibility for managing, maintaining, and updating the directory in 2006, retaining the collection of data on services. This directory was updated with data for 2003-2004. However, since then the business register/sample frame has been partiality updated and this update is not done regularly, owing to budget constraints as well as the confidentiality of some useful data by enterprise from the income tax declarations.

Table 3: **Main Data Sources by Industry (Output, Intermediate Consumption, Value Added)**

Industry	Type of source data/indicator	Source	Annual Assessment			Benchmark Assessment			Gross-up
			Cover.	Period.	Qual.	Cover.	Period.	Qual.	
Goods									
Agriculture-Forestry									p
Fishing	Survey	CBCH	-	+	=	-	+	=	p
Mining	Financial Statements	Enterprises	=	+	+	+	+	+	s
	Survey	CBCH	+	+	+	+	+	+	s
Manufacturing	Financial Statements	Enterprises	-	+	=	=	+	=	s, c
	Annual National Manufacturing Survey	NSI	+	=	-	+	+	=	s, c
	Income Tax Declarations	ITS	=	+	=	=	+	=	c
	Compensation Declarations	ITS	=	+	=	=	+	=	c
	External Trade	CBCH / CNS	+	+	+	+	+	+	c
	Small Business Survey	NSI				=	+	=	s
Electricity, gas	Financial Statements	Enterprises	+	+	+	+	+	+	c
	Survey	CBCH	+	+	+	+	+	+	
Construction	Survey	Consulting				+	+	=	
Trade									
Trade	Financial Statements	Enterprises				=	+	=	s
	Domestic Trade Survey	NSI	=	=	-	=	=	-	s
	Income Tax Declarations	ITS	=	+	=	=	+	=	c
	Compensation Declarations	ITS	=	+	=	=	+	=	c
Services									
Restaurants an	Financial Statements	Enterprises	=	=	=	=	+	=	m
	Restaurants and Tourist Accommodation Su	NSI	=	+	-	=	+	=	
Transport	Financial Statements	Enterprises	=	=	=	=	+	=	s, c
	Freight and Passenger Transport Survey	Consulting				=	=	=	s,c
	Survey of Railway Transport, Aerial, Marine	CBCH	=	+	=	=	+	=	s,c
	Income Tax Declarations	ITS	=	+	=	=	+	=	c
	Compensation Declarations	ITS	=	+	=	=	+	=	c
	Coded Statistical Tally	SVS	=	+	=	=	+	=	s
Communication	Financial Statements	Enterprises	=	+	+	=	+	+	s,c
	Survey	CBCH	+	+	=	+	+	=	s,c
	Coded Statistical Tally	SVS	=	+	=	=	+	=	s,c
Financial serv	Financial Statements	Enterprises and	+	+	+	+	+	+	c
Business servi	Financial Statements	Enterprises	-	+	=	-	+	=	s
	Services Survey	NSI	-	+	-	-	+	=	
	Income Tax Declarations	ITS	=	+	=	=	+	=	c
Real estate and	Cadastre of dwellings	ITS	=	=	=	=	=	=	
Public adminis	Financial Statements	TGR y CGR	+	+	+	+	+	+	c
	Local government and public institutions sur	CBCH	=	=	=	=	=	=	
Educ, health a	Financial Statements	Enterprises	=	+	=	=	+	=	s, c
	Survey	CBCH/NSI	=	+	=	=	+	=	
	Services Survey	NSI	=	+	-	=	+	=	
	Income Tax Declarations	ITS	=	+	=	=	+	=	
Other									
	Small Business Survey	NSI				=	+	=	s

p: product method, s: sample, c: census   (*) Assessment: +: good, =: satisfactory, -: unsatisfactory

Even though the timeliness of the results of NSI surveys was improved from 12 months to seven months, the validation process of the NSI's surveys still has some limitations that hinder the timeliness and quality of the source data given the NSI's resource constraints. The NSI's resource constraints affect the NSI's staff training and the retention of qualified staff. Therefore, the CBCH makes partial use of these important surveys. In addition, some surveys are very detailed, which increases respondent burden and makes surveys' results less timely.

Recommendation: Ensure that the NSI has adequate financial resources, staff, and training, and take further steps to increase retention of qualified staff.

In the case of government finance statistics, there is complete, detailed, and timely information on the budgetary execution of the central government, based on accounting records from the Office of the Comptroller General and the General Treasury of the Republic. Implementation of the *Government Finance Statistics Manual 2001* (*GFSM 2001*) by the MOF is under way.

The statistics on education and health are supplied by the relevant ministries. Financial statements are obtained from financial institutions and from some subsectors of transportation, communications, electricity, gas, and water. Tax data are processed by branch of economic activity and used to validate estimates as well as grossing-up factors for economic surveys.

The price statistics used to compile estimates at constant prices are partially adequate. For sectors, whose production is determined based on administrative records—such as electricity, communication, and transportation—values at constant prices are estimated by using the deflation method. Imports and exports are mainly deflated by unit value indices. For exports, there are also price data for domestic production from establishment-based surveys. Also, constant price estimates of engineering works are obtained through deflation using indices of construction costs.

The sources for the benchmark compilation[25] seek to establish the best level for each one of the macroeconomic aggregates in the SUT. This improves the estimates involved in the follow-up compilations and represents the only instance when the production matrix and the absorption matrix are completely updated. For this reason, the NAD undertakes the most wide-ranging effort to collect data from data sources. In addition to the customary product sources, there is additional information at both the product level (Table 2) and the industry level (Table 3).

To be noted in the first case are the 2003 Trade Margins Survey, the Fishing Survey, use of the 2002 Population and Housing Census,[26] and better utilization of the statistics and administrative records that are annually employed.

The benchmark compilation benefits from the information on industries. The NSI annual surveys are used in all their potential only during the benchmark compilation because the CBCH allocates more resources for data validation and processing. Numerous surveys and case studies were conducted by the CBCH for the benchmark compilation, such as the Agriculture, Fruit-Farming, and Livestock Survey,[27] Survey of Small Enterprises, and a study

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[25] "Cuentas Nacionales de Chile. Compilación de Referencia 2003" CBCH, October 2006 and "National Accounts of Chile. Benchmark Compilation 2003" CBCH, March 2007.

[26] Making it possible to obtain information on the stock of housing by type, which together with population projections and various household surveys were the basis for calculating real state and housing services.

[27] Replacing the agricultural census, the last of which was conducted in 1997 and supported the 1996 benchmark. A new agricultural census is under way.

on construction. It also involves the processing of numerous financial statements (3,282) and establishment/enterprise surveys (24,916) that take up most of the resources in this area and make it possible to overcome the limitations in the sources for the follow-up compilations, particularly those corresponding to services.

Household Budget Surveys (HBS) are conducted every 10 years instead of every five years. The last survey was conducted between August 1996 and July 1997 in the Greater Santiago area and was used for an independent estimate of household consumption expenditure in the 1996 benchmark compilation. A new HBS is currently being conducted.

In conclusion, as shown in Tables 2, 3, and 4,

i)   The sources on *products* are satisfactory, with limited exceptions (agricultural products, fishing, administrative records on construction permits, internet services, and HBS).

ii) The sources on *industries* are satisfactory and some of them are good, except the sources for estimating real estate and housing services. In the case of the annual surveys on manufacturing, domestic trade, services, and restaurants and tourist accommodation, the situation is mixed. Even though these surveys are not used in all their potential in the annual compilation due to timeliness and quality issues, they are satisfactory for the benchmark compilation as the NAD can devote resources and time to validate the data. Grossing-up factors are calculated using tax records in cases when a sample of enterprises was available: business and personal services and the rest of manufacturing.

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

Source data reasonably approximate the definitions, scope, classifications, valuation, and time of recording required for compiling NA statistics. The NA compilers are aware of differences in concepts and definitions used in the source data from those required by NA.

Annual data requested to establishments and nonfinancial enterprises are recorded on an accrual basis and disaggregated according to business accounting of the private sector. Likewise, the information on financial enterprises is recorded on an accrual basis according to the chart of accounts of financial institutions and insurance companies, respectively. In addition, the government has its own charts of accounts. Government expenditures are recorded on an accrual basis and revenues on a cash basis, but allocated to the corresponding period. The available information can be easily reclassified according to the *1993 SNA*.

The coverage by economic activities and an assessment of the coverage in terms of output are presented below:

Coverage of Source Data

Table 4						
		L: less than 50 percent, M: 50-79 percent, H: 80 percent or more				
Industry				**Industries**		
		TOTAL		**Annual**	**Benchmark**	
Goods			Survey	Tax Rec.	Survey	Tax Rec
	Agriculture	M	(product method)			
	Fishing	M	(product method)			
	Mining	H	H		H	
	Manufacturing	M	M	H	M	H
	Electricity, gas and water	H	H		H	
	Construction	M	(product method)			
Trade						
	Trade	M	L	H	L	H
Services						
	Restaurant and hotels	M	L	H	L	H
	Transport	M	L	M	L	M
	Communications	H	H		H	
	Financial services	H	H		H	
	Business services	M	L	H	L	H
	Real estate and housing	L	L		L	
	Public administration	H	H		H	

The coverage of the total economic activities in the annual surveys is satisfactory, except in the case of domestic trade, and restaurant, hotel, transport, business, real state, housing, and other personal services. However, income tax records are used to complete and improve the coverage of these activities. The economic activities that still have limited coverage after grossing-up the samples are agriculture, fishing, and real estate and housing services.

3.1.3 *Source data are timely*

There are no major problems with the timeliness of the source data. Data on financial and insurance companies, prices, foreign trade, balance of payments, the general government, and CBCH surveys are timely. However, the timeliness of data on manufacturing, domestic trade, and some services could be improved. In addition, response to the CBCH's surveys of nonfinancial private enterprises is voluntary. Therefore, some responses are not timely. On the other hand, the NSI' resources to regularly visit establishments are insufficient.

Two years ago, the release date of the monthly compilation was moved forward from 53 to 35 days. It took to review with the informants the timeliness of the source data and to reformulate respective contracts and agreements on data delivery. When there are delays, the CBCH uses related indicators, extrapolates trends, or uses partial information.

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 NAD examines the information received before using it, and carries out consultations to respondents on an informal basis to verify and confirm high value transactions. As is usually the case, the time devoted for evaluating annual data is greater than that devoted for evaluating monthly and quarterly data, owing to the timeliness and less detail of short-term data. Information is not available about sampling and nonsampling errors for all surveys. The NAD keeps archives for internal purposes on problems encountered (for example, issues of misclassification or measurement), to avoid similar problems in the future. Information about imputations made to the source data is available. Household surveys are audited to verify the accuracy of the individual survey data. Source data are routinely validated for temporal consistency. Most establishments are not selected from probabilistic samples due to the lack of an up-to-date business register. Therefore, coverage cannot be accurately assessed. Sample errors, nonsamples errors and response errors are not available for most surveys.

In the phase of the preannual reconciliation, source data are analyzed to correct deficiencies or errors, in particular to control the consistency with previous declarations and the consistency with other related source data. Source data are analyzed in depth in the context of the benchmark compilations and the effects of changes to questionnaires are evaluated when new surveys/questionnaires are incorporated.

Regarding administrative records, particularly on VAT, statistical procedures to detect atypical values and other anomalous differences are used. Also, the exactitude of the statistics of foreign trade, their volume, and particularly of unit value indices is evaluated regularly. Improvements in the scope of the data have been translated in a significant increase in the quality of the measurement of gross fixed capital formation.

However, the validation process of NSI surveys is affected by its resource constraints hindering the quality of source data for manufacturing, domestic trade, and some services.

3.3 Statistical techniques

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

The compilation procedures are structured in an appropriate data model that has decisively contributed to reduce the processing errors in the reconciliation phase. At present, the implementation of data modeling toward prereconciliation processes of products and industries is under way. The atypical values are not replaced nor are modified unless it is clearly warranted. Compilation procedures minimize processing errors such as coding, editing, and tabulation errors. Procedures for imputation and adjustment for nonresponse are soundly based. Income tax records are used widely to grossing-up estimates to the

populations in the benchmark compilation for products and industries, especially for service activities, as indicated in the penultimate column in Tables 2 and 3. When source data come from yearbooks and statistical reports, the population is determined by using the "value = volume × price" framework. This method is applied for agriculture, forestry, livestock, fishing, construction, real estate and housing services, and some branches of the manufacturing industry. In the case that income and financial statements are available from surveys, income tax declarations or accounting statements, the population is calculated by aggregating units: mining, electricity, gas and water, communications, public administration, financial services, and part of the manufacturing industry; or were grossed-up by using income tax records in the cases where only sample data were available: business and personal surveys and the rest of the manufacturing industry.

The projects and studies for the benchmark compilation were broken down into the following three categories:

- Economic industries. These focused on the preparation of production accounts, that is, obtaining values for production, intermediate consumption and value added, using economic surveys, administrative records, financial statements and numerous statistics for volumes and prices. These projects also provided destination hypothesis data (intermediate and final consumption, capital formation, and exports) for products included in the industries examined.

- Institutional industries. These focused on preparing institutional accounts. Data came mainly from financial statements, government budget statements, and balance sheets. The results from these projects made it possible to complement, validate, and balance production data for each industry with institutional data on income, expenditure, and accumulation.

- Cross-Industry. These focused on meeting one of the following three objectives: (1) compiling information that cuts across several industries, such as investment studies, changes in inventory, household consumption expenditure, rest of the world, small business, and employment and compensation of employees, (2) build software processing platforms to update the data model used in NA, and develop a range of software for industry and cross-industry estimates, and (3) contribute to the last phase of the 2003 benchmark compilation program which involves reconcile the SUT of goods and services.

The projects described above helped to determine how thousands of products from more than 400 industries are produced and used. To turn all this information into NA aggregates, primary information underwent several stages of treatment: classification, validation, standardization to conform to NA concepts and preparation of production accounts. At this last stage, data for 73 products and 73 industries were compiled.

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

The 2003 benchmark compilation[28] is the fifth carried out in Chile, with previous efforts referring to 1962, 1977, 1986, and 1996. The recent reduction in the compilation cycle from 10 (1986–1996) to seven years (1996– 2003) reflects efforts to strengthen the NA revision policy, to improve their accuracy and bring them into line with best international practices. The results of the new benchmark compilation replace the estimates that, in the context of the 1996 benchmark, were carried out for 2003. With the new 2003 benchmark compilation, the previously estimated annual accounts were reviewed, as were quarterly and monthly estimates. Accounts prepared in these same frequencies for 2004, 2005, and 2006 were also revised in nominal terms and rebased in real terms.

The system used for the compilation of the NA is mainly based on a SUT disaggregated by activities and products, as seen in Table 5. To ensure the consistency of a heterogeneous set of figures and sources, the aggregated information was organized in seven main tables. Table 5 illustrates, by way of example, a version of the 2003 SUT reduced to three products and three industries, with the resulting benchmark compilation data.

As Table 5 indicates, a balance is achieved between supply-and-use data (column labeled supply-use balance, with values of zero in all cells). It is precisely this consistency which makes NA estimates more robust than simple economic indicators. In particular, preparation of a SUT ensures that for every one of the 73 products, domestic output and imports supplied at the basic price, plus margins and taxes, equal intermediate and final demand at purchaser prices. Moreover, this ensures that for every one of the 73 industries, gross output at basic prices coincides with intermediate consumption and value added at purchaser prices.

However, to achieve the supply-use balance requires a balancing process, given the differences in coverage, classification and quality of the information used. This means modifying the variables present in the compromised identity. Thus, for example, if supply exceeds use, some supply components are reduced and/or some use components increased. Similarly, if production exceeds intermediate consumption plus value added, some component of production is reduced and/or some element of intermediate consumption and/or value added is increased. Normally, the component that is most modified is the one coming from the least reliable source. Similarly, the balancing process is simultaneous in the sense that reconciliation of products affects reconciliation of industries, and vice versa.

On a monthly basis, there is a volume index of economic activity. On a quarterly basis, the production and expenditure approaches of GDP are combined in the context of a partial SUT that only considers supply-use identities at the product level. For the annual follow-up, a complete SUT adds to the earlier identity the one of output-intermediate consumption, which is determined simultaneously with GDP by the production, expenditure, and income approaches.

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[28] "National Accounts of Chile. 2003 Benchmark Compilation.

GDP by the production, expenditure, and income approaches are interrelated in such a way that there is no independent estimate of GDP by expenditure. Thus, the commodity flow method is used, which means assigning use (absorption) based on the nature of the good[29] and using the SUT identities for the residual determination of some macroeconomic aggregates. The figures, trends, and implicit price indices of changes in inventory are erratic given that inventories are mainly obtained as residuals.

Recommendation: Improve estimates on changes in inventories by using the available data by product and analyzing their price movements.

The sources are designed to determine the best benchmark levels and the best follow-up changes. The absence of more frequent (quarterly) data is compensated for with assumptions regarding the relationships among less frequent variables (annual, in this case).

Given that there are no direct quarterly sources for intermediate and final absorption by product, the level and composition of final expenditure is determined using the commodity flow method. The result is reconciled with indirect indicators for consumption, investment, and changes in inventory. Thus, quarterly GDP uses a version of the SUT in which industries are limited by the lack of quarterly sources (Table 2) and products only appear for a version of GDP, which is consistent by the production and expenditure approaches.

The benchmark compilation makes it possible to estimate all variables in the tables within Table 5, being the sole source for the production matrix and the use matrix. In contrast, given that the availability of information decreases as the frequency of the estimates rises, as it is usually the case, complete information is not available for the production matrix or the use matrix for the quarterly and monthly compilations. In the case of the quarterly compilation, information about value added components is also lacking. Finally, for the IMACEC, the coverage is limited and refers mainly to production indicators. In general, the estimation of variables not available with greater frequency is done assuming that the relations between them obtained from less frequent compilations (benchmark/annual) remain constant (single indicator method).

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[29] Just as the commodity flow method can be used to fill the gaps in the SUT by rows (products), the assumption on the flow of industries, meaning a stable relationship between intermediate consumption and the gross value of production can be used to fill in the SUT by columns (industries). In both cases, lesser frequency ratios are applied to higher frequency absolute levels.

Table 5: **National Accounts Methods**

Contribution to the SUT according to frecuency of compilation

Supply	Production matrix Basic price				Valuation vectors							Use	Use matrix Purchaser price				Final use Purchaser price					
Industries	Goods	Trade	Services	Gross Output basic price	Imports c.i.f.	Import Duties	Trade margins	Taxes on products	Non-deductible VAT	Total supply, purchaser price	Supply - Use Balance		Goods	Trade	Services	Intermediate demand	Consumption	Gross capital formation	Inventory change	Exports	Final demand	Total use, purchaser price
Goods	46	0	0	46	13	1	8	1	3	71	0	Goods	21	1	6	29	17	10	1	15	43	71
Trade	1	9	0	10	0	0	-8	0	0	2	0	Trade	0	0	1	1	1	0	0	0	1	2
Services	0	1	40	41	2	0	0	0	1	45	0	Services	6	4	11	21	21	0	0	3	24	45
Gross Output	47	10	41	97	16	1	0	1	4	118	0	Int consumption	28	5	18	51	38	10	1	18	67	118

	Goods	Trade	Services	
Valor Agregado	19	4	22	46
Compensation of employees	7	3	12	21
Operating surplus	12	1	10	24
Other net taxes on prod	0	0	1	1
Int consumption + Value added	47	10	41	97
Gross Output - Inputs Balance	0	0	0	0
Goods	46	0	0	46
Trade	1	9	0	10
Services	0	1	40	41
Gross Output bp	47	10	41	97

GDP approach:
GDP production 51
GDP expenditure 51
GDP income 51

Tipo de Compilación
- Imacec
- Quarterly Accounts
- Annual Accounts
- Benchmark Account

Illustrative numbers for Chile 2003, in trillions of current pesos. In some cases, totals do not sum up because of rounding

The benchmark compilation for 2003 includes some explicit estimates on small businesses; however, does not include explicit estimates on the nonobserved activities (including informal, hidden, and unrecorded activities). Those are only considered implicitly in the reconciliation process of the SUT. This incomplete coverage of GDP may have the following implications: biased growth rates, misleading information on structure of the economy, misleading information on the level of GDP, biased international comparability, and distortions in the internal consistency of the NA. Nonetheless, nonobserved activities although have not been quantified, might not be significant in Chile.

Recommendation: Improve estimates of nonobserved activities by using available employment and income data from household/employment surveys.

Production approach procedures

Output, intermediate consumption, and value added estimates are compiled at the three-digit level of ISIC (73 activities and 73 products). However, source data processing is done for more than 200 activities at four-digit of ISIC and some 1000 products.

In the total estimate of value added, the use of fixed ratios is around 40 percent, but these ratios were recently updated (2003) and are less than five years old. In the case of owner-occupied dwellings, output is valued as the estimated rentals that tenants would pay for similar accommodation.

Work-in-progress is only estimated for standing timber (forestry), stocks of fish, and livestock reared for purposes of food. The work-in-progress of growing crops and large construction projects are not calculated.

Partial inventories data are used in the estimates of output and intermediate consumption, and in those cases, output and intermediate consumption are adjusted for holding gains/losses on inventories. The perpetual inventory method is partially used as the conceptual basis for estimating consumption of fixed capital. Construction is estimated by using permits without any adjustment instead of data from surveys. The cash data on taxes and subsidies are converted to accrual by allocating them to the period to which they relate.

The double indicator method (double deflation) is used to estimate 45 percent of GDP at constant prices. The single indicator method is used for the remaining 55 percent. Volume measures of taxes/subsidies on products are estimated by applying base-year-tax rates to the volume of transactions subject to a specific tax/subsidy. Similarly, output volume of trade margins are estimated by extrapolating the base-year-trade margins using volume extrapolators of sales.

GDP volume change is not calculated by using annual chain indices although annual data by industry are available. However, the CBCH plans to change the base year on a five-year basis.

Recommendation: Consider the use of chain indices for calculating volume measures.

In order to implement this recommendation, annual survey data on production and costs by industry should be reviewed and adapted to collect main output and input costs as necessary. In addition, more resources should be allocated to the NSI for the collection, processing, and validation of source data to improve timeliness, as previously mentioned. Also, PPI weights would need to be annually chained.

Expenditure approach procedures

Household final consumption expenditure, gross-fixed capital formation, and changes in inventories are not independently estimated. They are calculated by applying the flow of commodities method.

As mentioned in indicator 3.1.1, the last HBS was conducted during 1996-1997 in the Greater Santiago area; therefore, the data on household final consumption expenditure for the new series are based on an outdated HBS, which may affect the quality of the expenditure data on private consumption and changes in inventories since they are mainly estimated as residuals. However, a new HBS is currently being conducted.

Household final consumption expenditure is compiled at the product level, but is not reclassified at least at the one-digit level of the COICOP. Government final consumption expenditure is not compiled at least at the one-digit level of the COFOG. This work is under way. Gross-fixed capital formation is only compiled by activities and by type of assets for the

benchmark compilation/base year (2003). Changes in inventories are compiled by products and not by activities and type of inventories.

Government final expenditure excludes incidental sales. Expenses of residents abroad are included in household final consumption expenditure and in imports. Expenses of nonresidents in the economy are excluded from household final consumption expenditure and included in exports. Expenditures on items that are considered stores of wealth (such as jewelry, works of art) are not included in the estimates of valuables.

The wholesale price index (WPI), 1992=100, the CPI and other dedicated price indices are used to deflate GDP components at least at the one-digit level of the corresponding classifications. The producer price index (PPI), 2003=100, which was recently updated, is not widely used even though the WPI is extremely outdated.

Recommendation: Widen the use of the Producer Price Index (PPI) when compiling estimates at constant prices.

The household consumption implicit deflator is consistent with the Consumer Price Index (CPI). Government final consumption expenditure is derived by deflating cost components of output for final use. Government value added is extrapolated by employment in the government sector. Satisfactory methods are used to derive volume measures of changes in inventories; values at current and constant prices are estimated in the reconciliation process of the SUT. The deflators are implicit price indices.

Specific quarterly compilation techniques

An appropriate benchmarking technique such as the Denton technique (P. Cholette, StatCan) is followed to combine annual estimates with the quarterly indicators. The quarterly compilation system derives quarterly series from seasonally unadjusted source data, thus providing unadjusted quarterly estimates.

Seasonal adjustment of quarterly NA estimates uses the X-12 ARIMA; an internationally accepted procedure.

Monthly index of economic activity (IMACEC)

The IMACEC is a Laspeyres volume index obtained by integrating the monthly production indices of relevant industries[30] by the composition of value added for 2003, base year of this index. Indices for agriculture; fishing; mining; manufacturing; electricity, gas and water; construction; transport and communication services; trade, restaurant and hotel services; financial and business services; social and personal services; and governmental services, are compiled by using monthly indicators. The index covers 83 percent of GDP for the base year. These indices present some deficiencies in coverage, especially concerning the production of

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[30] Assuming a constant ratio product/industry in the short term.

personal and business services. Seasonally adjusted data is calculated by using the X-12 ARIMA. The moving averages are 3 x 9 for the seasonal component and a Henderson of 39 for the trend-cycle.

3.4   Assessment and validation of intermediate data and statistical outputs

3.4.1   Intermediate results are validated against other information where applicable

Data derived from enterprise surveys are crosschecked against data on output derived from administrative sources, as well as against merchandise trade statistics. Basic data are cross-checked with information from other sources, when available (survey and productions data vs. financial statements). Information on foreign trade is validated with data from agriculture and mining corporations.

3.4.2   Statistical discrepancies in intermediate data are assessed and investigated

Ad hoc assessment of potential discrepancies is done in some cases (copper, oil, and fish flour), and checks occur after discrepancies are identified in the supply-and-use table. When discrepancies in intermediate data are identified, they are evaluated and investigated in order to remove them. If some information from the business surveys is not clear or presents irregular behavior, specialists call enterprises' accountants to ask for an explanation in order to reconcile the information. In some cases, respondents are visited to validate data.

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

The NAD investigates any statistical discrepancies and other potential indicators of problems. The supply-use framework is used to make GDP estimates by activity and expenditure components consistent. In general, discrepancies are assumed to be part of the expenditures on GDP since sources on the production approach are more reliable. NAD does not undertake an evaluation of data against unofficial estimates (e.g., from government units, universities, nongovernmental organizations, or international organizations). The CBCH considers it inappropriate to be possibly influenced by the results of outside agencies. NAD does not carry out studies to ensure that bias in the GDP estimate is negligible and stable over time.

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 direction and magnitude of revisions between preliminary data and final data are analyzed and investigated. When final GDP figures change with respect to the preliminary estimates owing to coverage improvements, changes in trends are internally explained. These analyses are published in the CBCH's *Monthly Bulletin*. Adequate documentation on

revisions is well maintained and includes description of causes of revisions, methods used to incorporate new data sources, and the way data are adjusted.

4. Serviceability

4.1 Periodicity and timeliness

4.1.1 Periodicity follows dissemination standards

The national accounts statistics meet the SDDS requirement on periodicity. Quarterly national accounts are compiled.

4.1.2 Timeliness follows dissemination standards

The timeliness of quarterly GDP estimates meets and exceeds SDDS requirements. Quarterly GDP estimates are disseminated 35 days after the end of reference quarter.

The annual GDP estimates are disseminated within six months after the end of reference year, meeting international standards.

4.2 Consistency

4.2.1 Statistics are consistent within the dataset

Sets of GDP estimates are derived by the production and the expenditure approaches. Similar and consistent growth rates are obtained from the series of GDP by activity and GDP by expenditure category. GDP estimates at current prices, volume measures, and implicit deflators are consistent within the "value = volume × price" framework. Discrepancies between supply and expenditures are adjusted as part of final household consumption expenditures and changes in inventories since supply sources are considered more reliable than those of the expenditure side. Quarterly estimates on construction might be overestimated due to the sources (construction permits) and methods used in their estimation (no adjustments for lags in project execution).

Quarterly GDP estimates are consistent with annual estimates.

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

The latest major revision of GDP estimates, with the adoption of the base year 2003, allows for coherent time series for the period 2003–2006. Interpolation work was done by applying the splicing method to prepare comparable series with 2003 as the base year for the period 1986–2002. These series were published in staff working papers and are posted on the CBCH's website. Detailed methodological notes to identify and explain breaks and discontinuities in time series, their causes, as well as adjustments made to maintain consistency over time are available. Any unusual changes in economic trends are explained in the analytical text included in the *Monthly Bulletin* of the CBCH.

Recommendation: Reconstruct historical series as far back as reasonably possible (at least five years), when changes in source data, methodology, and statistical techniques are introduced (e.g., change of benchmark year). The linked series for 1986–1995[31] should be reviewed and the series 1986-2002 should be disseminated in a hard-copy publication.

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

NA statistics are largely consistent with balance of payments (BOP) statistics. Monetary statistics and government finance statistics (GFS) are reconcilable with NA estimates since the data sources used in their compilation are the same. The NAD has carried out reconciliation exercises between national accounts statistics and BOP and GFS and the differences in coverage, sectorization, and classification between NA and GFS are reconcilable.

4.3 Revision policy and practice

4.3.1 Revisions follow a regular and transparent schedule

The revision cycle is predetermined and reasonably stable from year to year and is made known to the public in advance.[32] The reasons underlying the cycle are explained. Adequate documentation of revisions is included in the publication of the statistical series and on the CBCH's website accessible to users.

4.3.2 Preliminary and/or revised data are clearly identified

The forecast of the percentage change of GDP at constant prices for the current year is presented in the monetary program posted on the CBCH's website. The first annual estimate of GDP, which is based on the quarterly estimates, is disseminated with more level of detail at current and at constant prices. Users are informed in a footnote included in each table of the publication that the initially published data are preliminary and subject to revision, and preliminary data are labeled. 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)

Analysis of differences between the revised and preliminary data is published for major aggregates to allow an assessment of the reliability of the preliminary data. Analysis and causes of major revisions (e.g., change in the base year) are also made public.[33]

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[31] The series 2003-2006 were published in hardcopy on May 17, 2007.

[32] *Monthly Bulletin*, e.g., April 2007 and on the CBCH's website.

[33] National Accounts of Chile. 2003 Benchmark Compilation, Summary, Section 5.

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 NA are readily accessible on the CBCH's website. Annual and quarterly NA estimates are presented in a clear manner, and charts, tables and analysis of recent developments are disseminated with the data. However, household and government final consumption expenditures are disseminated at a high level of aggregation. Datasets are not published with sufficient detail to facilitate meaningful comparisons.

Recommendation: Increase the level of detail of disseminated annual data at three digits of the ISIC, or at least at two digits.

5.1.2 Dissemination media and format are adequate

The IMACEC and quarterly and annual GDP are disseminated through a press release that facilitates redissemination in the media. These releases are also posted on the CBCH's website.[34] More detailed data on the IMACEC and quarterly and annual GDP are published in hard-copy publications, the *Monthly Bulletin* of the CBCH[35] and the *Yearbook of National Accounts of Chile.*[36] The CBCH's publications are sold for a price. Electronic versions are also available on the CBCH's website.[37] Longer time series can be accessed electronically and free of charge in the *Statistical Database*[38] on the CBCH's website.

5.1.3 Statistics are released on a preannounced schedule

A twelve-month advanced calendar of economic data release announces the dates the statistics are to be released. The schedule is disseminated in the CBCH's *Monthly Bulletin* and on the CBCH's website. The statistics are released punctually according to the preannounced schedule.

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[34] http://www.bcentral.cl/esp/prensa/information/

[35] http://www.bcentral.cl/esp/publ/estad/iei/iei01/htm

[36] http://www.bcentral.cl/esp/publ/estad/aeg/aeg01.htm

[37] http://www.bcentral.cl/esp/infoeconomica/publ/

[38] http://si2.bcentral.cl/Basededatoseconomicos/951_portada.asp?idioma=E and

http://si2.bcentral.cl/Basededatoseconomicos/951_portada.asp?idioma=I

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

The public is informed of the statistics being released and of the procedures to access them on the CBCH's website, in the CBCH's publications, and at the CBCH library. The statistics are made available to all interested users simultaneously. In the case that the IMACEC and GDP estimates are provided 24 hours in advance to the MOF, embargos are imposed to prevent early public disclosure.

5.1.5   Statistics not routinely disseminated are made available upon request

Nonpublished, but nonconfidential subaggregates of the statistics are available to users upon request, and the availability of this information is publicized. There is a form called "Request of intermediate statistical information unofficially published by the Central Bank of Chile"[39] that users need to fill out. This form is available at the CBCH library.

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 National Accounts of Chile, 2003 Benchmark Compilation of November 2006 presents the sources and methods for the benchmark year 2003 and the series 2003–2006. Updated comprehensive metadata, including information on concepts, definitions, classification, data sources, and statistical techniques are available in this publication, in the *Update of the Methodology of the IMACEC 2003 base*, and in *Quarterly National Accounts of Chile 1996– 2004: Methodology and Results*.[40] The SDDS metadata are available on the CBCH's website,[41] but needs updating given the recent dissemination of the revised series with 2003 as base year in March 23, 2007. The CBCH has a project for developing a metadata system to be posted on the CBCH's website.

Recommendation: Update the SDDS metadata for national accounts as soon as possible.

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

A general brochure about economic and social statistics, *Síntesis Estadística de Chile 2001-2005* is available and made public. More specialized use information such as working documents are available and made public. Updated documentation is available to inform

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[39] Agreement Nº 1225-01-051027 of the CBCH Board.

[40] http://www.bcentral.cl/estadisticas-economicas/publicaciones-estadisticas/index.htm

[41] http://www.bcentral.cl/eng/inforconomic/fminedd/ecofinantialdata/NSDO.htm

general users about the statistical series. The level of detail is also useful for specialized users. Background documents on the 2003 Benchmark Compilation are being prepared for public dissemination.

5.3 Assistance to users

5.3.1 Contact points for each subject field are publicized

Prompt and knowledgeable service and support is available to users of statistics at the CBCH library regarding publications and the electronic database. Two sites on which users can send their queries and requests on NA statistics are available on the CBCH's website. The address, phone, and fax numbers of the Publications Department is also available on the CBCH's website. However, a direct contact person for each subject field is not publicized in the publications and on the website. The CBCH library receives the electronic queries and forwards the requests to the appropriate contact person. The services provided are publicized on the CBCH's website and in its publications.

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

A catalog of publications, documents, and other services to users is available and updated each year. The publications catalog and a presentation of the CBCH's products and services can also be accessed on its Internet site.

The catalog clearly indicates the prices charged. Assistance in placing orders is available through the CBCH's Publication Department. There is also a site to place orders on the CBCH's website.

Table 6. Chile: Data Quality Assessment Framework (July 2003): Summary of Results for National Accounts
(Compiling Agency: Central Bank of Chile)

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	O	LO	LNO	NO	Comments
0. Prerequisites of quality						
0.1 Legal and institutional environment			X			Coordination needs to be enhanced at technical level to reduce respondent burden and use the data collected in all their potential. Some duplication of efforts in the collection of source data (mining and employment surveys). Data reporting are not mandatory for the nonfinancial private sector in the CBCH's Law.
0.2 Resources		X				
0.3 Relevance			X			Users' feedback is not solicited in a structured manner through users' surveys. There is an e-mail address at the CBCH to receive feedback on statistics and the statistics database.
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			Agricultural and construction work-in-progress, mineral exploration, and own-account production of manufacturing products, computer software, and databases are not included in the production and assets boundaries.
2.3 Classification/sectorization			X			Copper derivatives are included in mining. Coding of activities and products do not follow international standards, which hinders international comparisons. COICOP and COFOG are not used, but are in the process of being implemented.
2.4 Basis for recording			X			Agricultural and construction work-in-progress is not recorded in the period that it is produced. Agricultural output is only recorded at the time of the harvest. This deviation is especially relevant to quarterly GDP estimates. Government revenues are recorded on a cash basis. However, taxes and subsidies are converted to accrual by allocating them to the period to which they relate.

Table 6. Chile: Data Quality Assessment Framework (July 2003): Summary of Results for National Accounts
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Element	NA	Assessment				Comments
		O	LO	LNO	NO	
3. Accuracy and reliability						
3.1 Source data			X			Business register is partially updated and the update is not done regularly. HBS is conducted every 10 years instead of five years. A new HBS is being conducted. The available data for agriculture, fishing, some services, and quarterly estimates are limited in scope. Results from some surveys are not timely due to lack of resources at the NSI.
3.2 Assessment of source data			X			Data from some surveys are not properly validated due to lack of resources at the NSI; therefore, some collected data are partially used. Scientific sampling techniques are not used for most of the surveys. No information about sampling errors and nonsampling errors for the HBS and most business surveys.
3.3 Statistical techniques			X			Nonobserved activities are not explicitly estimated by using available household income and employment data. Explicit estimates on some nonobserved activities are only available for the base year (2003). Quarterly construction is estimated by using permits without any adjustment instead of data from surveys. Changes in inventories are obtained as residuals; hence, their price movements are erratic. The PPI (2003=100) is not widely used even though the WPI is extremely outdated (1992=100).
3.4 Assessment and validation of intermediate data and statistical outputs			X			Data from some surveys are not properly validated due to lack of resources at the NSI; therefore, some collected data are partially used. Scientific sampling techniques are not used for most of the surveys. No information about sampling errors and nonsampling errors for the HBS and most business surveys.
3.5 Revision studies		X				
4. Serviceability						
4.1 Periodicity and timeliness		X				
4.2 Consistency		X				
4.3 Revision policy and practice		X				

Table 6. Chile: Data Quality Assessment Framework (July 2003): Summary of Results for National Accounts
(Compiling Agency: Central Bank of Chile)

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	
5. Accessibility						
5.1 Data accessibility			X			Released data are too aggregated. Data should be disseminated at least at two digits (or preferable at three digits) of ISIC.
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

The consumer price index (CPI) is compiled by the National Statistics Institute (NSI). The responsibility for collecting, processing, and disseminating is clearly established in Law 17374/1970 (Article 2). The law states that the NSI is a decentralized independent technical entity responsible for official statistics and censuses within Chile (Article 1). The National Statistics Plan includes the CPI as an official statistic.

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

Adequate procedures are in place to provide an effective and timely flow of survey expenditure data to determine both the basket and the weight structure of the CPI. Article 20, Law 17374, states that all individuals and firms are legally bound to provide statistical data and information that the NSI requires to produce official statistics.

Statistics are reviewed periodically by the National Statistics Commission (CNE), composed of the NSI Director, representatives from several public entities (such as the Central Bank of Chile (CBCH), the Ministry of Finance (MOF), and the Development Corporation (CORFO)), universities, the private sector and labor unions. This commission facilitates data sharing and coordination among statistics producing agencies, and also makes recommendations on processes and methodologies. In addition, arrangements are in place to facilitate consultation with the CBCH to study the new CPI, which is planned to be published by December 2008.

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

The confidentiality of individual reporters' data is guaranteed and it is widely known. Specifically, Article 29 of Law 17374 states the National Statistics Institute (NSI), fiscal and semi-fiscal institutions, and state firms, as well as all of its staff members, cannot disseminate information from individuals or firms that they learned performing their professional activities. In addition, this article dictates that the "Statistical Secret" is constituted by the strict adherence to the dissemination reserves. Breach of these reserves by any individual, subject to the law, is a crime punished by Article 247 of the Penal Code, for which a criminal punishment is due. Moreover, Article 30 declares that statistical data cannot be published or disseminated with express reference to individuals or entities to whom they refer directly or indirectly if prohibited by affected parties.

Furthermore, adequate procedures are in place to prevent disclosure of individual reporters' data. Access to individual price data is restricted to staff who requires the information in the

performance of their duties. Where unit records are required for further analysis within the NSI or another users, the confidentiality of individual data is protected by making all records anonymous. Strict measures are taken to secure the premises of the data-producing agency and its computer systems to prevent unauthorized access to individual data; only three members from the upper management may enter the computer system that allows information extraction and CPI computation.

In addition, the NSI has, on its website and on its premises, a list of principles among which it includes that "The information that is collected by statistical entities, from individuals and firms, is strictly confidential and should be used exclusively for statistical purposes."

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

Law 17374 confers legal authority to the NSI to collect data required to compile the CPI. Article 20 (referred also in 0.1.2) makes data reporting compulsory to the private sector, and Article 21 extends reporting obligations to the public sector. Noncompliance with statistical data reporting has penalties specified in Article 22, Law 17374. Penalties are referred to minimum wages (which are scaled regularly). Even though penalties are in some cases low and rarely levied they act as an effective deterrent for noncompliance.

0.2   Resources

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

The CPI program lacks the adequate number of staff to perform some of the required tasks to maintain a high-quality inflation indicator. The staff assigned to the CPI program adds up to 22. The structure allows for the accurate collection of prices since four coordinators permanently verify data collected by 12 field agents (and 10,000 are received directly from the users). The CPI basket is built with approximately 90,000 price quotes, of which about 80,000 are collected on a monthly basis directly at the outlets by the 12 field agents. Hence, the ratio of price quotes per field agent is relatively high (about 6,700 quotes per month) leading to a high outlet concentration within the sample.

The CPI program also lacks staff devoted to the continuous analysis and implementation of methodological improvements and of changes in the quality of products and services. The Price Statistics Department has one analyst collaborating in the production of the new CPI, but this is a temporary position for which the funding is not guaranteed after December 2007. The NSI plans to hire one additional staff member to study methodological and quality related issues; however, these positions are not designed to be permanent.

The staff mix involved in CPI compilation is as follows:

Price Statistics Department (CPI)	Permanent	Contract	Total
Department Unit			
Chief	1	0	1
Analyst	0	1	1
CPI Unit			
Chief	1	0	1
Processors	2	0	2
Coordinators	4	0	4
Field Supervisor	1	0	1
Field agents	0	12	12
Total	**9**	**13**	**22**

Computing resources for the CPI are sufficient although outdated and not flexible enough to introduce methodological improvements.

Protection for computer resources are inadequate. In the contingency that there is no access to the NSI facilities due to a natural disaster or an unusual event, there is no emergency back-up system that would allow CPI compilation at an alternate location (i.e., there is no business continuity plan).

The office building does not provide adequate working facilities, since space is limited and the cooling system is insufficient.

Funding for CPI compilation is adequate for regular needs. However, projects geared to improve the CPI accuracy and reliability, e.g., a Household Budget Survey (HBS) every five years, are not secure. Furthermore, the funding horizon is restricted to a one-year period, which is not amenable to undertake projects that require more than one year to be successfully developed, as it is the case of the HBS.

Recommendations:

- Allocate sufficient staff and office space. Specifically, to form a group of professionals devoted to the analysis of source data, methodologies, and quality changes in products and services. Also, increase the number of field agents to expand the outlet sample and avoid concentration.

- Design a contingency plan. Secure computing resources in order to have the ability to compile the CPI at an alternate location in case a natural disaster or unusual event impedes access to NSI building.

0.2.2   Measures to ensure efficient use of resources are implemented

Management ensures that resources are used efficiently. Staff evaluations are performed annually, efficiencies are sought through periodic reviews of work processes and sample size.

The NSI pursues outside expert assistance to evaluate methodologies and compilation systems.

0.3   Relevance

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

The CNE (referred in dimension 0.1.2) conducts periodic and structured consultation processes to review emerging data requirements. Also, the NSI keeps data users informed of specific aspects of the CPI through its webpage. In addition, the NSI regularly participates in statistical meetings organized by international and professional associations. However, scant studies are undertaken by the NSI to identify new and emerging requirements.

Recommendation: Conduct survey among data users to identify CPI requirements focusing on data dissemination and analysis.

0.4   Other quality management

0.4.1   Processes are in place to focus on quality

The NSI is quality conscious. The NSI's strategic objectives include the implementation of a quality management system focused on statistical processes. The staff training programs emphasize the importance of quality. In particular, permanent staff participates in diverse forums that deal with price statistics. However, field agents are not continuously trained on collection techniques.

The NSI has not implemented an externally recognized process to focus on quality, but it has participated in a previous Report on Observance of Standards and Codes (ROSC) exercise and it is planning to implement an ISO 9001:2000 quality management system on the CPI by December 2007.

Recommendation: Implement on schedule planned ISO 9001:2000 quality management system.

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

Quality achievement monitoring processes on price collection are conducted, but they are not informed to management on structured and routinely reports. In addition, random revisions are carried out by the Price Statistics Department Chief.

The NSI seeks actively that compilers have access to expert guidance on CPI quality and on strategies for improving data production. Permanent staff has been trained specifically on quality management systems.

The NSI Director delegated recently to the Technical Subdirection the task of conducting periodic reviews to identify and implement steps that are required to maintain and improve CPI quality.

Recommendation: Produce reports for management on price collection errors, data processing as well as product and outlet substitutions.

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

In general, quality improvements are identified from the ongoing monitoring that on a day-to-day basis is conducted, since the program lacks periodic quality reviews.

Feedback on quality standards and on new emerging data requirements is mainly derived from the National Statistics Commission and large users, but surveys among the general public are not conducted.

The sample design does not consider adequately the trade-offs between costs of data collection and accuracy. In particular, outlet selection is driven mainly by budgetary considerations without pondering statistical considerations.

Recommendation: Select CPI sample balancing budgetary restrictions and statistical requirements to attain an accurate representation of consumer habits.

1.   Assurances of integrity

1.1   *Professionalism*

1.1.1   Statistics are produced on an impartial basis

The Law 17374 recognizes the independence of the NSI to determine the methodology, release dates, design of surveys, and definitions used. Sample selection and data gathering is objective and impartial.

The NSI Director is appointed by the President from a group proposed by the Civil Service Council. Deputy directors are elected by the director from a group proposed by the aforementioned Council. However, the short tenure in both cases (three years plus one possible reelection) and discretion for removal are not supportive of professional independence.

Recruitment is based on relevant aptitude. Legal provision on Article 53 of the *Administrative Statute 18834*, and Decree 69 of the *Administrative Statute on Contests* mandates that staff promotions are contest based. Nevertheless, there is a significant legal rigidity to terminate contracts with nonperforming staff members.

Recommendation: Strengthen independence of the NSI by lengthening tenure of the NSI Director and Deputy Directors from three to six years, staggering appointments, maintaining the reappointment option, and limiting discretion for removal to specific causes such as breach of statistical secret or inappropriate use of confidential information.

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

HBS source selection and statistical techniques for CPI compilation are based solely on statistical considerations. However, product and outlet selection are not exclusively driven by statistical considerations due to budgetary restrictions (see dimension 0.4.3).

Dissemination decisions are based solely on statistical considerations.

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

The NSI responds to erroneous interpretations of the CPI through press releases, public appearances, and briefings to the media. There is a well-established custom to deal with misinterpretations or CPI misuse. For this purpose the NSI monitors media coverage regularly.

1.2   Transparency

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

The NSI's website reproduces the Statistics Law 17374, the National Statistics Plan, and other pertinent documents about the terms and conditions under which the CPI is compiled and disseminated. The website has a calendar for CPI publication, metadata, and a contact phone number to address questions.

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

No government officials outside the NSI have access to the data before their release to the public. However, there is vulnerability within the system in that staff from the Corporate Image Department (which does not belong to the Price Statistics Department) has access to the data prior to the release. The problem is mitigated by the signing by all the Corporate Image Department staff members of a legal commitment that forbids them to release confidential information.

Recommendation: Reinforce CPI confidentiality. Prior to data release, restrict access from units within the NSI outside the Price Statistics Department and upper management.

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

CPI publications are clearly identified, including the NSI name and its logo. The NSI requests attribution when its statistics are used or reproduced.

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

Users of statistics are made aware in advance of major changes in methodology, source data, and statistical techniques. The NSI informed the public through the media that it is conducting a new HBS and that a new CPI will be published by the end of 2008. Another recent example is the change in the public transportation computation methodology that was explained through a brief document (that might have been more detailed) and was published on the NSI's website.

1.3   Ethical standards

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

The *Administrative Statute Law* 18834/1989 details the public servants obligations and prohibitions (Article 84) and forbids specific activities to avoid conflict of interest (Article 85 and 86) specifying exclusions such as teaching appointments with the appropriate limitations (Article 87). In case of noncompliance, penalties are specified in accordance with the fault (Article 121). In addition, a strong culture for maintaining ethical standards discourages political interference.

Staff is made aware of ethical standards. Old and new NSI staff sign a legal pledge adhering to the "Statistical Secret." The NSI publishes on its premises and on its website a set of principles, among which the second principle is geared toward professionalism and ethics, stating that to maintain trust on official statistics, statistical institutions will decide strictly on professional grounds, embedded in scientific and ethical principles, about methods and procedures for data collection, compilation, storage, and dissemination.

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 concepts and definitions used in the CPI are generally in line with internationally accepted standards as defined by the International Labor Organization (ILO), the IMF, and others in the *Consumer Price Index Manual*, 2004. The prices and weights of the CPI broadly follow the national accounts concepts—based on the *System of National Accounts 1993* (*1993 SNA*) *and the European System of Accounts 1995* (*1995 ESA*)—for all monetary household consumption expenditures. Also, the expenditure estimates are compiled at a sufficient level of commodity and service detail for analysis of price movements at the level of divisions, groups, classes, and items.

The HBS showed that expenditures on video cameras, dishwashers, and car rentals was large enough to be included in the CPI basket (above 0.025 percent), but these concepts were purposively excluded because these expenditures were concentrated mainly in high-income families.

However, the CPI basket includes interest rates on consumption loans and mortgage payments. Nominal interest rates on consumption loans are scaled with UF investment units (double counting inappropriately inflationary effects) without disentangling capital formation components from the intermediation service component within nominal interest rates. Mortgage payments include amortization charges, which is an investment rather than a consumption concept. Hence, treatment of both concepts is inconsistent with best practices. The weight of both items in the CPI basket is significant, adding to about 3.6 percent.

Recommendations:

- Revise definition financial expenditures and mortgage payments in order to represent adequately the implicit charges for the purchase of financial services and avoid capital formation components embedded within interest rates.

- Add items with a large expenditure share from high-income families purposively excluded from the current basket.

2.2   Scope

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

The CPI measures the change in prices of a fixed basket of goods and services representative of the final consumption expenditures of households of Greater Santiago (about 40 percent of Chile's population). Therefore, the index lacks a national perspective since it excludes other cities as well as rural areas. However, the NSI is conducting a new national HBS and there are plans to update the CPI base with the expenditure results from this survey by December 2008.

The CPI coverage includes purchases of market goods and services. The index excludes illegal goods and services as well as rental equivalence on owner-occupied housing (which the NSI is considering including in the new CPI).

Recommendation: Expand the scope of the HBS to include expenditure patterns and price information from other regions in Chile and consider adding owner-occupied housing to the basket.

2.3 Classification/sectorization

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

The CPI is based on a domestic classification that has a close correspondence with the classification of the functions of government (COICOP), with some departures at group levels that hinder international comparisons. Examples of these departures are: (1) the Food category includes Restaurants and Alcoholic Beverages (COICOP distinguishes between the category Food and Non-Alcoholic Beverages from Alcoholic Beverages and yet in another category Restaurants), (2) Tobacco is classified as Other Expenditures (COICOP suggests to classify it in Alcoholic Beverages and Tobacco), and (3) Education is bundled with Recreational Services (COICOP suggests classifying each in a different category). Nonetheless, available information allows analysts to regroup domestic classification into COICOP.

Goods and services are classified in eight groups, 41 subgroups, 156 articles, 482 products, and more than 1,300 varieties. However, on its webpage the NSI publishes a list of 483 products, placing a zero weight on one of those (low octane gasoline).

The domestic classification used for the CPI splits educational services in different product payments for the same service (such as a school's annual fee, monthly payment, parents center fee). Due to geometric aggregation at a lower level the misclassification produces potentially an index bias that underestimates inflation in the educational sector, since the school's payment schedules may compensate increments of different type of payments.

Recommendations:

- Reclassify educational services at the product level. Particularly, merge within a product category all payment types of the same service (school's annual fee, monthly payment, parents center fee, etc.) to avoid index bias.

- Adopt COICOP classification system for CPI basket to facilitate international comparisons.

- Exclude low octane gasoline from CPI basket (since it has a zero weight).

2.4 Basis for recording

2.4.1 Market prices are used to value flows and stocks

The value of consumption used for determining CPI weights is based on expenditure data from the 1996–1997 HBS. Consumption expenditure is valued at purchasers' prices including trade and transportation margins, applicable taxes (value added tax) less subsidies. Product specifications include relevant price determining characteristics. Nonconditional discounts that apply on cash purchases to all consumers are considered.

2.4.2 Recording is done on an accrual basis

Prices of 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

Weights applied to the purchases of used cars are not in accordance with international best practice since acquisitions are not netted from disposals; in fact, the HBS did not specify if expenditure was on new or old cars and CPI weights were obtained from alternate sources (estimating used cars weight according to stocks and without the appropriate netting procedure). As a consequence the weight on used cars in the CPI is relatively high (1.12 percent on used cars vs. 0.67 percent on new cars).

Recommendation: Revise methodology to derive used cars weight in CPI by adopting internationally accepted standards and considering particular conditions of used cars market in Chile (imports are not allowed).

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

The CPI basket is currently built with approximately 90,000 monthly price quotes. These quotes have been reduced from an initial number of 130,000, excluding items which had similar dynamics. The sample reduction might have a positive effect on the accuracy of the surviving price quotes at the cost of decreasing variety and outlet representativeness.

The CPI weights and basket structure are based on the 1996–1997 HBS. Previous budget surveys were compiled by the NSI for the periods 1956–1957, 1968–1969, 1977–1978, 1987-1988. The 1996–1997 HBS, as in previous times, was levied during a 12-month period (August-July) taking into account seasonal variations on consumption patterns. The participating households added up to 8,445 and were selected with a stratified probabilistic sampling technique. The sampling frame for the HBS is the 1992 Census on Population and Housing, this frame had 1,150,947 households. The sampling frame was divided into three subpopulations according to a set of income-related household characteristics (house equipment, number of family members, parents' years of schooling, and work type). However, as was mentioned in dimension 2.2.1, geographic coverage is not comprehensive since the scope of the survey was restricted to Greater Santiago (which includes the Province of Santiago, Puente Alto, San Bernardo, and Padre Hurtado).

The NSI planned to update the HBS every five years but budgetary restrictions impeded implementation. A new national HBS is currently being conducted by the NSI. Nevertheless, the 10-year cycle that has prevailed to update consumption expenditures is, very probably, at

a lower frequency than the economic growth in Chile would suggest to be deemed appropriate.

A regular price survey is conducted to collect consumer prices. Information is levied at the field for about 80,000 specific products and services and the remaining 10,000 are provided directly by firms. In the latter, product availability at the retail point cannot be confirmed (which apparently is a relatively minor problem). Coverage does not include parallel market purchases.

Random sampling techniques were used for the selection of product varieties. However, outlets were selected solely on budgetary considerations, with a location criteria in which they would have to be on a six-block radius of the field agents daily routes.

New product identification is based on day-to-day observations from field agents, but insufficient staff does not permit conducting ad-hoc surveys or studies. Outlets are not routinely refreshed from the sample, new outlets are introduced only when the previous source is out of business.

Periodic meetings are not held with consumer groups to identify new developments that need to be taken into account in the CPI compilation system. The Price Statistics Department has requested its staff to read the *Consumer Price Index Manual* (2004) after it was published in Spanish, this has helped in monitoring developments in international standards.

Recommendations:

- Plan budget in order to collect HBS every five years.

- Analyze, refresh, and expand outlet and product sample. Selection should be statistically driven (and not solely based on budgetary considerations) so that it reflects adequately Chilean consumer habits.

- Conduct regular studies on new products and outlets to continuously refresh the sample.

- Establish periodic meetings with consumer groups to identify new developments that need to be taken into account in CPI compilation.

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

The frequency of the price collection survey (once per week for foodstuffs and on a monthly basis for all others) is adequate to support the monthly CPI publication. Price information levied is consistent with the definitions, scope, and classifications of CPI estimates. Price quotes are consistent with the time of recording and valuation of CPI estimates.

3.1.3   Source data are timely

The periodicity and timeliness of the price collection survey are adequate for disseminating the CPI. Respondents are aware of the deadlines set for reporting and compilers have follow-up procedures to ensure timely receipt of source data.

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

There are various validation procedures for the source data. However, there are no established procedures to verify the HBS response consistency with other sources of information. The international experience suggests that expenditure on alcoholic beverages and tobacco is usually underreported. On the other hand, rental equivalence on owner-occupied housing tends to be overreported.

Accuracy of price quotes provided by firms and government agencies directly to the NSI (about 10,000 quotes per month) are routinely assessed on a random basis. The procedure has proved to be effective and reporting is typically precise.

3.3   Statistical techniques

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

Compilation procedures minimize processing errors such as coding, editing, and tabulation errors.

Adjustments to individual records are made only when clearly warranted. Unusual values are not replaced or modified unless clearly required and can be identified in datasets.

In most of the cases, appropriate statistical methods are used to handle temporarily missing prices. Product or class imputation procedures are in place in case of nongeneralized scarcity. However, in case prices are missing for less than 35 percent of the varieties, a carry forward technique is applied. A product for which the price quote is missed repeatedly during three consecutive months is replaced.

Quality adjustments are restricted to variations in the product's weight or content capacity. Additional dimensions of quality changes in products and services are not considered, with the exception of computers (which is a procedure that needs to be revised since it might overestimate quality improvements, leading to a downward bias).

New products, that would modify the CPI basket structure, are introduced into the CPI only when a major revision of the index is carried out (change in the weight reference period). Varieties are incorporated as they gain market share on an opportunistic basis.

Recommendations:

- Determine procedures to adjust prices of products and services with quality changes, prioritizing procedures for large expenditure share products within the CPI basket and items that typically experience frequent quality changes such as electronic devices.

- Upgrade the existing methodology to adjust computer prices when quality changes.
- Discontinue the use of a carry forward method in the handling of missing prices.

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

Monetary household consumption expenditure, as defined in the *1993 SNA*, is used to establish weights. Expenditure weights include purchases in all markets for affected goods and services, excluding illegal markets and owner-occupied housing.

The value recorded for goods and services represents the economic cost to the consumer at the time the good or service is purchased regardless of the method for payment (cash or credit).

A geometric mean formula is used to calculate elementary indices. Although this is appropriate for most of the elements, in the case of educational services and other products within the CPI basket such as electricity, the formula might produce a downward bias in the index. As explained in dimension 2.3.1, educational services are split in different products that reflect payments toward the same service; on the other hand, geometric aggregation of varieties that are not substitutable should be revised. Elementary food indices are aggregated with a geometric mean to upper levels, the rest of the elementary indices use a Laspeyres formula.

In accordance with international best practice, the weight reference period 1996–1997 was adjusted to the current December 1998 CPI base with relative price movements (i.e., the CPI is a Lowe index). However, this procedure is not explained within the methodological documentation available on the NSI's website.

At the time the new weights were introduced (December 1998), the new index was linked using international accepted practices.

Recommendation: Review products in which varieties are not substitutable and adjust elementary index aggregation formula if appropriate.

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 is regularly compared with results from the Producer Price Index (PPI) and the wholesale price index. Plausible and widely accepted estimates are available for the part of the economy covered by regular CPI compilation.

3.4.2   Statistical discrepancies in intermediate data are assessed and investigated

A strict validation program for price quotes is set in place. Price quotes are permanently audited by four staff members. However, the thresholds for investigating unusual price movements of index components is invariant to items of particular characteristics. Specifically, a uniform +/- 10 percent is defined as the boundary to investigate price variations. However, presumably the mean and variance of price movements should differ across product categories and through time. Therefore, the established procedure might lead to under or over validate results.

Recommendations:

- Redefine thresholds for unusual price movements of index components. Base new boundaries for investigation on idiosyncratic characteristics of each item or group.

- Review boundaries periodically to take into account changes in economic trends and avoid stale thresholds.

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

Price data are checked for consistency with prices for items within the same product category. Appropriate adjustments are made to remove discrepancies.

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 HBSs are conducted on a 10-year cycle; largely because weight revisions are not carried out periodically to determine the effects of substitution bias on the CPI (although alternative sources of information such as income surveys and trade association reports could be used to analyze the optimal revision cycle).

The NSI does not study long-term trends in the revision pattern to identify systematic biases within HBS revisions. In particular, misreporting on specific products are not analyzed (e.g., alcoholic beverages).

Errors in the price data are under control but these are not registered (i.e., documentation is inadequate); hence, the NSI cannot analyze the sources of these errors.

Recommendations:

- Analyze alternate sources of information to the HBS to track expenditure patterns intra-HBS's.

- Document errors and intermediate data revisions.

4. Serviceability

4.1 Periodicity and timeliness

4.1.1 Periodicity follows dissemination standards

The periodicity of the CPI conforms to the IMF's Special Data Dissemination Standard (SDDS). The CPI is published on a monthly basis.

4.1.2 Timeliness follows dissemination standards

The CPI timeliness exceeds the IMF's SDDS. Publication of the index is within the first five working days after the end of the reference month (while the requirement is to publish within one month).

4.2 Consistency

4.2.1 Statistics are consistent within the dataset

The statistical series are internally consistent, the Chilean CPI has a unique classification typology item/expenditure class since the scope is restricted to Greater Santiago.

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

Consistent time series for the CPI's general index is available for the period starting on January 1960 on the NSI's webpage. As far as possible, historical series are reconstructed when changes in source data, methodology, and statistical techniques are introduced. However, on the NSI's webpage, price indices at the product level are available only from January 1999 (data from previous periods are available upon request).

Methodological notes identify and explain (scantly) the main breaks and discontinuities in time series, their causes, as well as adjustments made to maintain consistency over time.

The press release (or any other NSI publication) does not provide an explanation of unusual changes in economic trends.

Recommendations:

- Improve analysis on press release to facilitate proper interpretation. In particular, explain causes of contemporaneous CPI movements.

- Provide more detail in methodological notes that explain main breaks in CPI time series.

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

Consumer price statistics are largely consistent with producer price index (excluding copper) as well as with the wholesale price index.

4.3   Revision policy and practice

4.3.1   Revisions follow a regular and transparent schedule

The CPI is final upon its first release, and this is common knowledge among users. Use of the CPI in legal contracts and in determining investment units (UF) impedes revisions.

4.3.2   Preliminary and/or revised data are clearly identified

The CPI is final upon its first release, there are no preliminary CPI data.

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

The CPI is final upon its first release, hence no revision studies are conducted.

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 CPI presentation is not commensurate with users' needs. A monthly press release is published by the NSI, but the charts and tables that are included do not facilitate a good understanding of inflationary trends. In particular, relevant graphs and tables are not always considered (e.g., an incidence CPI breakdown table). Graphs have a short span (12 months) that does not portray medium-term CPI trends. The introductory summary in the release does not contain pertinent comparisons (annual variations are not reported in some cases, otherwise comparisons are not made with the results from the previous month). The press release does not offer meaningful analysis on contemporaneous price developments.

In addition, the press release does not report on its first page core inflation results either within the text, graphs, or tables (it is usually reported on the fourth page). The NSI does not report the CBCH core inflation measure X1 delaying unnecessarily public knowledge and hindering the understanding on medium-term inflationary trends (the CPI X1 indicator is produced by the CBCH instead of the NSI). CPI statistics are not disseminated in a seasonally adjusted form.

Recommendations:

- Improve presentation and content of press release to facilitate proper interpretation. In particular, the press release will benefit from further analysis, systematic inclusion of

relevant charts and graphs, use of pertinent reference points, and highlighting core inflation results (considering both the NSI and CBCH X1 definitions).

- Develop a more friendly webpage. In particular, publish X1 price index (CBCH core definition).

5.1.2 Dissemination media and format are adequate

The CPI dissemination format could suit better users' needs. Although CPI data are split between tradables and nontradables, the NSI does not publish core measures of tradables and nontradables.

CPI statistics are published on the NSI's webpage with detail starting in January 1999, while longer series are available upon request. Detailed time series are separated by calendar year. Both procedures do not facilitate economic analysis.

Recommendations:

- Publish core tradables and nontradables measures (with NSI and X1 CBCH definitions).

- Enhance access to historical time series at the product level.

5.1.3 Statistics are released on a preannounced schedule

The NSI publishes a calendar which announces twelve months in advance the CPI release dates on its webpage (http://www.ine.cl/canales/menu/calendario_de_indicadores.php). On the preannounced date at 8:00 a.m., statistics are punctually released.

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

The CPI is available to all users at the same time. The public is aware of access procedures (NSI webpage) which offer simultaneous availability of the statistics. The press is not briefed in advance.

5.1.5 Statistics not routinely disseminated are made available upon request

Statistics not routinely disseminated are available upon request. Customized tabulations can be provided with a fee (these are determined by an expert who estimates the amount of time that will be required to process the request). Procedures to obtain additional information are made known to the public through the NSI's consultation desk. The desk may be contacted by phone (http://www.ine.cl/canales/menu/telefonos_uso_frecuente.php). A list of several phone numbers is reported on the NSI's webpage with a specific contact person for each statistic.

Recommendations:

- Add an e-mail address for the consultation desk, in order to better track response time and quality content.

- Establish a unique phone number for consultations and route to pertinent specialist, in order to avoid nonresponse during absence of contact referred in the list.

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 NSI publishes on its website methodological documents for the HBS and the CPI compilation. In the case of the HBS, it would be useful to include the questionnaire that was used. The methodological document includes most of the relevant methodological aspects of the CPI compilation (concepts, definitions, classifications, data sources, compilation methods, and statistical techniques). However, the document has not been updated with changes that the CPI has experienced during the last decade (e.g., the number of price quotes and outlets in the sample has decreased since its publication). In addition, the methodological document does not explain with enough detail issues on the construction of the index weight structure (such as relative price updating of HBS results or the split between used and new cars from the generic "cars" expenditure item). Departures from internationally accepted standards in the CPI are not explained in the methodological document (e.g., differences with COICOP).

SDDS metadata and summary are reviewed regularly.

Recommendations:

- Upgrade CPI methodological document and update it periodically.

- Publish the HBS questionnaire on NSI's website.

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

General use information about the CPI is scant on the NSI's webpage. The methodological document which is available is geared mainly toward a specialist audience. Also, documents that explain methodological changes are specialist oriented (a recent example is the change on the compilation methodology on public transportation which was difficult to understand by the public).

Recommendation: Publish general use information about the CPI on the NSI's webpage (explain what is the CPI, what it is used for, and how it is built).

5.3   *Assistance to users*

5.3.1   *Contact points for each subject field are publicized*

Prompt and knowledgeable service and support is available for statistics users. Press releases include the NSI address, telephone number, and the e-mail from the press division. However, the contact point for the consultation desk is not provided. Assistance to users is monitored by the consultation department mainly on the timeliness of responses to requests, but the content of these are not routinely assessed by the Price Statistics Department.

Recommendation: Assess periodically quality content of responses offered by the consultation desk by the Price Statistics Department.

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

A catalog of NSI publications is available to users and regularly updated. The catalog discloses clearly the prices of statistical products. Products may be purchased electronically (http://www.ine.cl/canales/publicaciones/index_productos_y_servicios.php) or on the NSI's premises.

Price Statistics (Consumer Price Index)

Table 7. Chile: Data Quality Assessment Framework (July 2003): Summary of Results for the Consumer Price Index
(Compiling Agency: National Statistics Institute)

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	O	LO	LNO	NO	Comments
			Assessment			
0. Prerequisites of quality						
0.1 Legal and institutional environment		X				
0.2 Resources				X		The CPI program lacks adequate staff, facilities, and computing resources. Insufficient staff impedes to attain a well diversified outlet sample, a continuous analysis and implementation of methodological improvements and to perform appropriate quality adjustments to price statistics. Computers and compilation software is outdated. In the contingency that there is no access to NSI facilities, business continuity is not guaranteed. Office space and equipment are not adequate to perform tasks.
0.3 Relevance			X			The NSI has periodic meetings with the CBCH and other ministries to identify emerging CPI requirements. However, scant studies are undertaken by the NSI to identify new and emerging requirements and no data users' survey is levied.
0.4 Other quality management		X				
1. Assurances of integrity						
1.1 Professionalism			X			Law 17374 recognizes the independence of the NSI to determine the methodology, release dates, design of surveys, and definitions used. Data gathering is objective and impartial. The NSI Director is appointed by the President from a group proposed by the Civil Service Council. Deputy Directors are elected by the Director from a group proposed by the aforementioned Council. However, the short tenure in both cases (three years plus one possible reelection) and discretion for removal are not supportive of professional independence. Product and outlet selection are not exclusively driven by statistical considerations due to budgetary restrictions.
1.2 Transparency		X				
1.3 Ethical standards		X				

Table 7. Chile: Data Quality Assessment Framework (July 2003): Summary of Results for the Consumer Price Index
(Compiling Agency: National Statistics Institute)

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	
2. Methodological soundness						
2.1 Concepts and definitions			X			The CPI uses concepts and definitions that broadly correspond to international practices and the recommendations of the *CPI Manual, 2004*. However, the CPI basket includes interest rates on consumption loans and mortgage payments, with a treatment inconsistent with best practices (nominal interest rates scaled with inflation not distinguishing capital accumulation components from consumption components).
2.2 Scope				X		The CPI measures the change in prices of a fixed basket of goods and services representative of the final consumption expenditure of households of Greater Santiago (about 40 percent of Chile's population) lacking a national perspective that includes other cities and rural areas. To address this issue the NSI is conducting a new national HBS and there are plans to update the CPI base with the expenditure results from this survey by December 2008.
2.3 Classification/sectorization				X		The CPI is based on a domestic classification, which has a close correspondence to COICOP, but some departures hinder international comparisons (e.g., Food category includes Restaurants and Alcoholic Beverages, Education is bundled with Recreational Services).
2.4 Basis for recording			X			The domestic classification of educational services splits into different product payments for the same service, producing a potential bias in the index. Erroneous netting procedures to obtain used cars expenditure, biases the CPI weight structure. As a consequence the weight on used cars is relatively high (1.12 percent vs. 0.67 percent on new cars).

Table 7. Chile: Data Quality Assessment Framework (July 2003): Summary of Results for the Consumer Price Index
(Compiling Agency: National Statistics Institute)

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	
3. Accuracy and reliability						
3.1 Source data			X			The CPI basket is currently built with approximately 90,000 monthly price quotes, which are obtained from about 2,200 outlets. Price quotes have been reduced from an initial number of 130,000, excluding items which had similar dynamics at the cost of decreasing variety and outlet representativeness.
						Although the NSI planned to update the HBS every five years, budgetary restrictions impeded implementation. A new national HBS is currently being conducted by the NSI. Nevertheless, the 10-year cycle that has prevailed to update consumption expenditures is, very probably, at a lower frequency than the economic growth in Chile would suggest to be deemed appropriate.
3.2 Assessment of source data			X			There are various validation procedures for the source data. However, there are no established procedures to verify the HBS response consistency with other sources of information (the international experience suggests that expenditure on alcoholic beverages and tobacco is usually underreported and the contrary in the case of rental equivalence on owner-occupied housing).
3.3 Statistical techniques			X			Data compilation procedures are sound and appropriate statistical methods are used to handle missing prices. New products are introduced in the sample as they gain market share, but a similar treatment for outlets is lacking. Adjustments for quality differences are not made, except for computers (but the procedure requires revision), leading potentially to an inappropriate introduction of new products and services.
3.4 Assessment and validation of intermediate data and statistical outputs		X				

Table 7. Chile: Data Quality Assessment Framework (July 2003): Summary of Results for the Consumer Price Index
(Compiling Agency: National Statistics Institute)

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	O	LO	LNO	NO	Comments
3.5 Revision studies			X			HBSs are conducted on a 10-year cycle; largely due to this, weight revisions are not carried out periodically to determine the effects of substitution bias on the CPI. No periodic weight revisions and no long-term trends studies for revision pattern.
						Errors in the price data are under control but these are not registered.
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			CPI statistics are punctually published on a preannounced schedule. The statistics are not presented in a way that facilitates proper interpretation and meaningful comparisons. Appropriate analysis of current-period developments is not included in the press release. Data dissemination formats hinder redissemination and analysis of inflationary trends.
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

The producer price index (PPI) is compiled by the National Statistics Institute (NSI). The responsibility for collecting, processing, and disseminating is clearly established in Law 17374/1970 (Article 2). The Law states that the NSI is a decentralized independent technical entity responsible for official statistics and censuses within Chile (Article 1). The National Statistics Plan includes the PPI as an official statistic.

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

Adequate procedures are in place to provide an effective and timely flow of producer prices, which are collected directly from the firms. Article 20, Law 17374, states that all individuals and firms are legally bound to provide statistical data and information that the NSI requires to produce official statistics.

Statistics are reviewed periodically by the National Statistics Commission (CNE), composed of the NSI Director, representatives from several public entities (such as the Central Bank of Chile (CBCH), the Ministry of Finance (MOF), and the Development Corporation (CORFO)), universities, the private sector and labor unions. This commission facilitates data sharing and coordination among statistics producing agencies, and also makes recommendations on processes and methodologies. However, there is no arrangement in place to facilitate consultation with the CBCH to study emerging requirements on the PPI.

Recommendation: Establish periodic meetings with CBCH to facilitate consultations.

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

The confidentiality of individual reporters' data is guaranteed and it is widely known. Specifically, Article 29 of Law 17374 states the National Statistics Institute, fiscal and semi-fiscal institutions, and state firms, as well as all of its staff members, cannot disseminate information from individuals or firms that they learned performing their professional activities. In addition, this article dictates that the "Statistical Secret" is constituted by the strict adherence to dissemination reserves. Breach of these reserves by any individual, subject to the law, is a crime punished by Article 247 of the Penal Code, for which a criminal punishment is due. Moreover, Article 30 declares that statistical data cannot be published or disseminated with express reference to individuals or entities to whom they refer directly or indirectly if prohibited by affected parties.

Furthermore, adequate procedures are in place to prevent disclosure of individual reporters' data. Access to individual price data is restricted to staff who require the information in the performance of their duties. Where unit records are required for further analysis within the NSI or another user, the confidentiality of individual data is protected by making all records anonymous. Strict measures are taken to secure the premises of the data-producing agency and its computer systems to prevent unauthorized access to individual data; only three members from the upper management may access the computer system, which allows information extraction and PPI computation.

In addition, the NSI has on its website and on its premises a list of principles among which it includes that "The information that is collected by statistical entities, from individuals and firms, is strictly confidential and should be used exclusively for statistical purposes."

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

Law 17374 confers legal authority to the NSI to collect data required to compile the PPI. Article 20 (referred also in 0.1.2) makes data reporting compulsory to the private sector, and Article 21 extends reporting obligations to the public sector. Noncompliance with statistical data reporting has penalties specified in Article 22, Law 17374. Penalties are referred to minimum wages (which are scaled regularly). Even though penalties are in some cases low and rarely levied, they act as an effective deterrent for noncompliance.

Instruments to collect price information are designed to reduce respondent burden, and an attempt is made to take into account the time constraints of respondents. About 60 percent of the prices are collected via e-mail, 20 percent by fax, and the remaining 20 percent by direct visits to firms.

0.2   **Resources**

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

 The PPI program lacks adequate staff to perform some of the required tasks to maintain a high-quality inflation indicator. The staff assigned to the PPI program adds up to five (including the Statistics Department chief). The structure does not allow continuous analysis and implementation of methodological improvements and changes in the quality of products and services. The PPI basket is built with approximately 4,000 specific price quotes levied on 738 firms. Field agents must collect, capture, review, and analyze price quotes, and the chief of the PPI unit is also responsible for the compilation of the wholesale price index.

The staff mix involved in PPI compilation is as follows:

Price Statistics Department (PPI)	Permanent	Contract	Total
Department Unit Chief	1	0	1
PPI Unit Chief Field agents	1 0	0 3	1 3
Total	**2**	**3**	**5**

Computing resources for the PPI are sufficient although computers are outdated. On the other hand, the compilation software is up to date and is flexible enough to introduce methodological improvements.

Protection for computer resources are inadequate. In the contingency that there is no access to the NSI facilities due to a natural disaster or an unusual event, there is no emergency back-up system that would allow PPI compilation at an alternate location (i.e., there is no business continuity plan).

The office building does not provide adequate working facilities. Space is limited, there is no cooling system, and there is only one telephone line for three field agents (telephone lines are required to remind firms about data requirement deadlines and attain targeted survey response rates).

Funding for PPI compilation is adequate for regular needs. However, there is no funding for projects geared to improve PPI accuracy and reliability. Furthermore, the funding horizon is restricted to a one-year period, which is not amenable to undertake projects that require more than one year to be successfully developed as it is the case with a new business registry.

Recommendations:

- Allocate sufficient staff, office space and adequate furniture. Specifically, form a group of professionals devoted to the analysis of source data, methodologies, and quality changes in products and services.

- Increase the number of field agents to expand the sample and increase control over nonsampling errors.

- Provide a cooling system and two additional telephone lines.

- Design a contingency plan. Secure computing resources in order to have the ability to compile PPI at an alternate location in case a natural disaster or unusual event impedes access to the NSI building.

0.2.2   Measures to ensure efficient use of resources are implemented

Management ensures that resources are used efficiently. Staff evaluations are performed annually, efficiencies are sought through periodic reviews of work processes. The NSI pursues outside expert assistance to evaluate methodologies and compilation systems.

0.3   Relevance

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

The CNE (referred in dimension 0.1.2) conducts periodic and structured consultation processes to review emerging data requirements. Also, the NSI keeps data users informed on specific aspects of the PPI through its webpage. In addition, the NSI regularly participates in statistical meetings organized by international and professional associations. However, scant studies are undertaken by the NSI to identify new and emerging requirements. No data user surveys are conducted. Public knowledge on the PPI is limited and index credibility has not been well established, resulting in lack of usage as a deflator for national accounts statistics. The statistics low index credibility may be a consequence of a combination of users' inertia which continues to use the wholesale price index and outdated laws which refer to the afore-mentioned index instead of the PPI.

Recommendation: Conduct survey among data users to identify reasons for the PPI's low credibility, and implement measures to address this issue.

0.4   Other quality management

0.4.1   Processes are in place to focus on quality

The NSI is quality conscious. The NSI's strategic objectives include the implementation of a quality management system focused on statistical processes. The staff training programs emphasize the importance of quality. In particular, permanent staff participates in diverse forums that deal with price statistics. However, field agents are not continuously trained on collection techniques.

The NSI has not implemented an externally recognized process to focus on quality, but it has participated in a previous Report on the Observance of Standards and Codes (ROSC) exercise and it is planning to implement an ISO 9001:2000 quality management system on the PPI by December 2008.

Recommendation: Implement on schedule planned ISO 9001:2000 quality management system.

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

Quality achievement monitoring processes on price collection are conducted, but they are not informed to management on structured and routine reports.

The NSI seeks actively that compilers have access to expert guidance on PPI quality and on strategies for improving data production. Permanent staff has been trained specifically on quality management systems.

The NSI Director delegated recently to the Technical Subdirection the task of conducting periodic reviews to identify and implement steps that are required to maintain and improve PPI quality.

Recommendation: Produce reports for management on price collection errors, data processing, and product and outlet substitutions.

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

Quality improvements are reported by participating firms. Source data are selected based on measurement objectives, data requirements, and budget restrictions.

Feedback on quality standards and on new emerging data requirements is mainly derived from the CNE and large users, but surveys among the general public are not conducted.

1.   Assurances of integrity

1.1   Professionalism

1.1.1   Statistics are produced on an impartial basis

The Law 17374 recognizes the independence of the NSI to determine the methodology, release dates, survey design, and definitions used. Sample selection and data gathering is objective and impartial.

The NSI Director is appointed by the President from a group proposed by the Civil Service Council. Deputy Directors are elected by the Director from a group proposed by the aforementioned Council. However, the short tenure in both cases (three years plus one possible reelection) and discretion for removal are not supportive of professional independence.

Recruitment is based on relevant aptitude. Legal provision on Article 53 of *Administrative Statute 18834* and Decree 69 on the *Administrative Statute on Contests* mandates that staff promotions are contest based. Nevertheless, there is a significant legal rigidity to terminate contracts with nonperforming staff members.

Recommendation: Strengthen independence of the NSI by lengthening tenure of the NSI Director and Deputy Directors from three to six years, staggering appointments, maintaining the reappointment option, and limiting discretion for removal to specific causes such as breach of statistical secret or inappropriate use of confidential information.

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

Source data and statistical methods are based on data requirements, measurement objectives, as well as on budgetary considerations. On the other hand, the PPI's methodology dissemination decisions, timing, and media are based solely on statistical grounds.

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

In principle, the NSI would respond to erroneous interpretations of the PPI through press releases, public appearances, and briefings to the media. However, this indicator is not frequently scrutinized by the public. Nevertheless, there is a well-established custom to deal with misinterpretations or misuse of price statistics. For this purpose the NSI monitors media coverage regularly.

1.2 Transparency

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

The NSI's website reproduces the Statistics Law 17374, the National Statistics Plan, and other pertinent documents about the terms and conditions under which the PPI is compiled and disseminated. The website has a calendar for PPI publication, metadata, and a contact phone number to address questions.

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

No government officials outside the NSI have access to the data before their release to the public. However, a vulnerability within the system is that staff from the Corporate Image Department (which does not belong to the Price Statistics Department) has access to the data prior to the release. The problem is mitigated by the signing by all the Corporate Image Department staff members of a legal commitment that forbids them to release confidential information.

Recommendation: Reinforce PPI confidentiality. Prior to data release restrict access from units within the NSI outside the Price Statistics Department and upper management.

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

PPI publications are clearly identified including the NSI name and its logo. The NSI requests attribution when its statistics are used or reproduced.

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

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

1.3   Ethical standards

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

The *Administrative Statute Law* 18834/1989 details the public servants obligations and prohibitions (Article 84) and forbids specific activities to avoid conflict of interest (Article 85 and 86) specifying exclusions such as teaching appointments with the appropriate limitations (Article 87). In the case of noncompliance, penalties are specified in accordance with the fault (Article 121). In addition, a strong culture for maintaining ethical standards discourages political interference.

Staff mentors are made aware of ethical standards. Old and new NSI staff sign a legal pledge adhering to the "Statistical Secret." The NSI publishes on its premises and on its website a set of principles, among which the second principle is geared toward professionalism and ethics, stating that to maintain trust on official statistics, statistical institutions will decide strictly on professional grounds, embedded in scientific and ethical principles, about methods and procedures for data collection, compilation, storage, and dissemination.

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 concepts and definitions used to compile the PPI are in broad conformity with guidelines outlined in the *System of National Accounts 1993* (*1993 SNA*) and the *Producer Price Index Manual* (2004). Output estimates are compiled at a sufficient level of industrial and commodity detail. In particular, PPI classifies at the industrial level with the International Standard Industrial Classification (ISIC) rev. 3, at a four-digit level. Commodity detail is classified with the Central Product Classification (CPC) ver. 1.0, at a five-digit level.

2.2   Scope

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

The PPI includes six economic categories: agriculture, livestock and forestry; mining; fishing; manufacturing; electricity, gas, and water; and construction. The index does not cover services such as telecommunication, transportation, financial services, tourism, and retail activity. Monthly surveys are used to collect prices for approximately 4,000 specific

goods in 738 establishments. Within the scope of the PPI, information from illegal markets and the army is not considered.

Recommendation: Consider covering services in a future PPI expansion.

2.3 Classification/sectorization

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

The classification and sectorization used in PPI compilation are in broad conformity with international recommended systems. Institutional units and transactions are classified according to the *1993 SNA*. ISIC rev. 3 is used to classify the economic activities of establishments and enterprises. Products are classified with the CPC, ver. 1.0. An exception is the classification of copper extraction and some copper manufacturing products (such as electrolytic and cathode copper rolls) that departs from international classifications but conform with CBCH national accounts.

2.4 Basis for recording

2.4.1 Market prices are used to value flows and stocks

According to best practice, PPI weights are valued at market producer prices. Intermediate goods PPI weights are in accordance with the *1993 SNA*. An exception, clearly identified within the PPI metadata, are some construction items that are estimated using indices from mining and forestry PPI, remuneration indicators, and the CPI. These are introduced into cost functions (which are consistent with those used by the CBCH). This procedure is followed due to the complexity of obtaining price quotes from construction contractors for certain building structures (e.g., bridges); however, cost functions need to be reviewed periodically since these might change as technology advances and relative prices shift.

Recommendation: Consider obtaining price quotes for different construction structures directly from contractors; alternatively, review periodically construction cost functions.

2.4.2 Recording is done on an accrual basis

In general, the timing rules used for recording flows are in accordance with the *1993 SNA*. Output of goods and services are recorded in the period they are produced. However, survey design does not allow for timely registry of copper prices, because prices are collected from specific transaction contracts which are referenced to an international price which is adjusted after product delivery according to metal quality. The effect is that copper prices are recorded with a lag (copper PPI weight is 13.3 percent).

Recommendation: Review methodology for price copper registries. The significant role of copper within the Chilean economy calls for timely accrual of price variations. An alternative to the method in place is to register international reference prices.

Price Statistics (Producer Price Index)

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

Intermediate goods PPI net weights are developed in accordance with the *1993 SNA* procedures. On the other hand, transactions between establishments are not recorded.

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*

Comprehensive data collection programs provide source data. Source data approximates the definitions, scope, classifications, valuation and time of recording required in the PPI. The data collection provides timely receipt of the data (respondents are aware of reporting deadlines). In general, sample design ensures that the population in scope is represented properly. However, the sample does not include information from firms of less than 10 employees (which are not covered in the business registry), enterprises within free zones, and household unincorporated enterprises. Export and domestic prices are considered but are not weighted according to sales.

The IPP base is December 2003. The weight structure is based on production for the years 2000–2002, while the classification between intermediate and final goods is based on the CBCH 1996 input-output matrix.

Adequate procedures are in place to delete dead business units or disappearing products. Substitutions are selected from various sources of information such as the industrial census (which has a two-year lag), yellow pages, or information available on the web. However, there is no established procedure to continuously refresh the sample of surviving firms and products. The sample selection renewal procedure is guided mainly by the information provided by the firms; scant resources impede independent NSI studies on new industrial products.

Survey questionnaires are constructed according to sound principles. Particularly, questionnaires are subject to pilot testing and observation studies are conducted during survey design. Periodic reviews are carried out to take into account changed circumstances, and proposed changes are tested for effectiveness.

Output coverage is comprehensive. Products in each economic sector were selected to cover at least 80 percent of production value. Exceptions were made to include low production share goods, which are relevant as input for other products or in consumption.

Sample design for firms was based on a probabilistic proportional to size method, while specific product selections within a firm include those that are most sold. Data collected is sufficiently detailed to derive PPIs at a four-digit industry level and five-digit product level for sectors within the scope of the indicator.

Recommendations:

- Implement procedure to continuously refresh surviving firms and products within the sample.

- Consider future expansion of PPI, including information from firms of less than 10 employees, enterprises within free zones, and household unincorporated enterprises.

- Weight export and domestic prices according to sales.

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

The output data obtained from the 2000–2002 framework is sufficiently detailed to support the PPI program requirements on scope, classifications, valuation and time of recording (with the exception of copper registries as referred on 2.4.2).

3.1.3 Source data are timely

In general the periodicity and timeliness of the price collection survey is adequate for disseminating PPI statistics. An exception is copper price registries that may experience significant variations during a month and carry a large weight within the PPI. These prices are recorded once a month among producing firms; however, the survey levying period leaves out information at least from the first and last week of the month.

Data from other sources that are used to compile the PPI construction component are received on a timely basis.

Respondents are aware of reporting deadlines. In addition, procedures are set in place to remind oblivious informants about deadlines and penalties for noncompliance (about 80 percent of the price quotes are received by e-mail or fax while 20 percent are collected in situ). However, lack of telephone lines hinders this task.

Recommendation: Increase recollection frequency of copper price quotes. Daily recording is attainable if international market prices are used (in fact copper contract sales are stipulated in relation to an international reference price).

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

Nonsampling information is well tracked. Starting on the last third of each month on a daily basis nonresponse, misclassification, and survey operations are verified by the PPI Unit Chief

and reported to the Price Statistics Department Chief. Sampling errors are monitored each month by establishing confidence intervals at the specific product level.

Procedures are in place to identify extreme price variations in periodic firms' responses. Extreme values are confirmed with respondents and records maintained on the confirmation. Outliers are defined as price increments or decrements which exceed 15 percent. However, thresholds probably lead to under- or overvalidation of price changes, since the price variance differs across sectors and products. PPI price surveys and administrative data are randomly audited by the Price Statistics Department Chief.

Validation procedures are in place to check for temporal consistency of PPI components and results are cross-checked with other datasets.

Excluded economic activities within the PPI (services) exceed 35 percent of Chile's total output. However, implicit deflators on national accounts are available for economic sectors not covered by the PPI.

Recommendation: Redefine thresholds for unusual price movements of PPI components. Base new boundaries for investigation on particular characteristics of each product or sector. Review periodically to take into account changes in production trends.

3.3   Statistical techniques

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

Compilation procedures minimize processing errors such as coding, editing, and tabulation errors. Unusual values are replaced only when they are clearly warranted and may be identified in datasets. Procedures for imputation and adjustment for nonresponse are soundly based. A product imputation technique is used for the cases where the nonresponse ratio for a specific variety is higher than 35 percent.

Missing prices for specific varieties in the agriculture, livestock, and forestry sectors are handled with a product imputation technique. Missing prices for the remaining economic sectors are carried forward from the last observed price. Products that become permanently unavailable are replaced with a twin product.

Adjustments for quality differences are not made. A product experiencing a quality change is replaced with the new product. However, this may lead to a downward index bias since it implicitly assumes that price changes that take place when a new model is out are due exclusively to the change in product characteristics (i.e., that the price increment is null). In addition, the copper price recollection procedure increases quality induced volatility since price quotes are derived directly from contracts that adjust the international price with quality variations of the metal.

Recommendations:

- Determine procedures to adjust prices of products with quality changes.

- Revise existing procedure to collect copper prices.

- Discontinue the use of the carry forward imputation technique.

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

As defined in the *1993 SNA*, PPI weights were established with gross output measures. Owner-occupied dwellings and army output are not considered within the PPI scope.

Lower level indices were aggregated with a geometric mean formula. Upper level aggregation is done with an arithmetic mean formula. The current weight reference period (2000/2002) was aligned to the price reference period (April 2003). Hence, the PPI may be described accurately as a Lowe index.

Although the PPI base is relatively up to date (April 2003), there are no plans to refresh the basket or weight structure in the near future.

3.4   Assessment and validation of intermediate data and statistical outputs

3.4.1   Intermediate results are validated against other information where applicable

Intermediate PPI results are validated against results from the wholesale price index and the CPI.

3.4.2   Statistical discrepancies in intermediate data are assessed and investigated

Unusual price movements of PPI components are investigated thoroughly. However, these are not explained in the press release to the public. As a consequence, the public does not understand clearly the reasons sustaining that the annual PPI variation has fluctuated between 24.2 and 6.5 percent during the past 12 months, while the CPI inflation moved within the range of 2.1 and 3.9 percent.

Recommendation: Explain in the press release unusual PPI price variations. Public understanding of underlying inflationary pressures within the productive sector could be better understood if the NSI published a PPI measure excluding copper.

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

The PPI unit conducts regular assessments on statistical discrepancies on missing data imputation. Appropriate adjustments are made to remove discrepancies.

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 periodic weight revisions are analyzed to determine the effects of the substitution bias on the PPI. The recent increase experienced in copper prices would suggest that some shift in production may take place inducing a large substitution bias.

Sources of errors are investigated but these are not studied in order to improve the methods to revise the data. The Price Statistics Department does not conduct studies on the optimal revision cycle for the PPI and there is a less well-established tradition than in the CPI on the updating frequency (the wholesale price index, which is still being published and is the PPI predecessor, has a base period dating from 1992).

Recommendations:

- Study PPI weight structure, estimating the effect of recent copper price increments on the productive structure.

- Study revision cycle and commit to a date for PPI update.

4.   Serviceability

4.1   Periodicity and timeliness

4.1.1   Periodicity follows dissemination standards

The periodicity of the PPI conforms to the IMF's Special Data Dissemination Standard (SDDS). The PPI is published on a monthly basis.

4.1.2   Timeliness follows dissemination standards

The PPI timeliness exceeds the IMF's SDDS. Publication of the index is within the first five working days after the end of the reference month (while the requirement is to publish within one month).

4.2   Consistency

4.2.1   Statistics are consistent within the dataset

The PPI is internally consistent by industry and product.

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

Consistent monthly time series are available since the start of PPI publication (April 2003). Detailed methodological notes identify and explain main breaks and discontinuities in time series. However, unusual changes in economic trends are not explained in the press release.

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

The PPI is largely consistent with other price statistics and national accounts.

4.3   Revision policy and practice

4.3.1   Revisions follow a regular and transparent schedule

The PPI is final upon its first release.

There is no predetermined revision cycle for the weight structure and PPI basket (see 3.5.1)
and no explanations are provided on the reasons for this indeterminacy.

4.3.2   Preliminary and/or revised data are clearly identified

The PPI is final upon its first release.

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

The PPI is final upon its first release.

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 PPI presentation is not commensurate with users' needs. A monthly press release is
published by the NSI, but the charts and tables that are included do not facilitate a good
understanding of inflationary trends. Particularly, relevant graphs and tables are not always
considered (e.g., index level graphs are presented instead of annual variations). Graphs have
a short span (12 months) that does not portray medium-term PPI trends. The introductory
summary in the release does not contain PPI results. The press release does not offer
meaningful analysis on contemporaneous price developments.

In addition, the press release does not report a measure of the PPI that excludes copper
effects on the index, a component that explains most of the PPI volatility.

*Recommendation: Improve presentation and content of press release to facilitate proper
interpretation. In particular, the press release will benefit from further analysis, systematic
inclusion of relevant charts and graphs, use of pertinent reference points, and highlighting a
PPI measure that excludes copper.*

5.1.2   Dissemination media and format are adequate

The PPI dissemination format does not suit users' needs. Specifically, detailed PPI time series are not published on the NSI's website (although they are available upon request).

Recommendation: Develop a user-friendlier website; in particular, publish on the NSI's website detailed PPI historical time series.

5.1.3   Statistics are released on a preannounced schedule

The NSI publishes a calendar announcing twelve months in advance the PPI release dates on its webpage (http://www.ine.cl/canales/menu/calendario_de_indicadores.php). On the preannounced date, at 8:00 a.m., statistics are punctually released.

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

The PPI is available to all users at the same time. The public is aware of access procedures (NSI's webpage) that offer simultaneous availability of the statistics. The press is not briefed in advance.

5.1.5   Statistics not routinely disseminated are made available upon request

Statistics not routinely disseminated are available upon request. Customized tabulations can be provided with a fee (these are determined by an expert who estimates the amount of time that will be required to process the request). Procedures to obtain additional information are made known to the public through the NSI's consultation desk. The desk may be contacted by phone (http://www.ine.cl/canales/menu/telefonos_uso_frecuente.php). A list of several phone numbers is reported on the NSI's webpage with a specific contact person for each set of statistics.

Recommendations:

- Add an e-mail address for the consultation desk to better track response time and quality content.

- Establish a unique phone number for consultations and route to pertinent specialist to avoid nonresponse during absence of contact referred in the list.

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 NSI publishes on its website a summary of its methodological document for PPI compilation. A more comprehensive document is available upon request (although there is no mention of its existence). The methodological summary document does not explain with enough detail relevant information on statistical techniques, definitions, and data sources.

Departures from international accepted standards are not covered in the aforementioned document. Also, the document lacks survey information such as response rates, survey monitoring, and studies on nonsampling errors.

SDDS metadata and summary are reviewed and updated regularly.

Recommendation: Publish full-fledged upgraded version of PPI methodological document. Update it periodically.

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

General use information about the PPI is not available on the NSI's webpage. Particularly, there is a need for a document that explains the differences between the PPI and its predecessor, the wholesale price index (which although outdated is more widely known and used). The methodological document, which is available, is oriented mainly toward a specialist audience.

Recommendations:

- Publish general use information about the PPI on the NSI's webpage (explain what the PPI is, what it is used for, and how it is built).

- Publish a document explaining the methodological differences between the PPI and wholesale price index.

5.3 **Assistance to users**

5.3.1 *Contact points for each subject field are publicized*

Prompt and knowledgeable service and support is available for statistics users. Press releases include the NSI address, telephone number, and the e-mail from the Press Division. However, the contact point for the consultation desk is not provided. Assistance for users is monitored by the Consultation Department, mainly on the timeliness of responses to requests, but the content of these are not routinely assessed by the Price Statistics Department.

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

A catalog of NSI publications is available to users and is regularly updated. The catalog discloses clearly the prices of statistical products. Products may be purchased electronically (http://www.ine.cl/canales/publicaciones/index_productos_y_servicios.php) or on the NSI,s premises.

Table 8. Chile: Data Quality Assessment Framework (July 2003): Summary of Results for the Producer Price Index
(Compiling Agency: National Statistics Institute)

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			The NSI operates under a legal framework that is adequate. The legislation supporting PPI compilation is established in Law 17374 (1970). This law guarantees the confidentiality of individual reporters' data. Statistical reporting is mandatory according to the law (in the case of noncompliance penalties apply). However, there are no consultation arrangements with the CBCH.
0.2 Resources				X		The PPI program lacks adequate staff, facilities, and computing resources. Insufficient staff impedes a continuous analysis and implementation of methodological improvements, as well as to perform appropriate quality adjustments to price statistics. Computers and compilation software are outdated. In the contingency that there is no access to NSI facilities, business continuity is not guaranteed. The office building does not provide adequate working facilities. Space is limited, there is no cooling system, and there is only one telephone line for the three field agents.
0.3 Relevance				X		The CNE conducts periodic and structured consultation processes to review emerging data requirements. Also, the NSI keeps data users informed of specific aspects of the PPI through its webpage. In addition, the NSI regularly participates in statistical meetings organized by international and professional associations.
0.4 Other quality management		X				In particular, public knowledge on the PPI is scant and index credibility has not been well established.

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Element	NA	Assessment				Comments
		O	LO	LNO	NO	
1. Assurances of integrity						
1.1 Professionalism			X			Law 17374 recognizes the independence of the NSI to determine the methodology, release dates, design of surveys, and definitions used. Data gathering is objective and impartial. The NSI Director is appointed by the President from a group proposed by the Civil Service Council. Deputy Directors are elected by the Director from a group proposed by the aforementioned Council. However, the short tenure in both cases (three years plus one possible reelection) and discretion for removal are not supportive of professional independence. Source data and statistical methods are based on data requirements, measurement objectives, as well as on budgetary considerations.
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			The classification and sectorization used in the PPI are in broad conformity with international recommended systems. Institutional units and transactions are classified according to the *1993 SNA*. ISIC rev. 3 is used to classify the economic activities of establishments and enterprises. Products are classified with the CPC ver. 1.0. An exception is the classification of copper extraction and some copper manufacturing products.

Table 8. Chile: Data Quality Assessment Framework (July 2003): Summary of Results for the Producer Price Index
(Compiling Agency: National Statistics Institute)

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	O	LO	LNO	NO	Comments
2.4 Basis for recording			X			According to best practice, PPI weights are valued at market producer prices. Intermediate goods PPI weights are in accordance with the *1993 SNA*. An exception, clearly identified within the PPI metadata, are some construction items that are estimated using some items from mining and forestry PPI indices, remuneration indices, and the CPI. These are introduced into cost functions (which are consistent with those used by the CBCH). In general, the timing rules used for recording flows are in accordance with the *1993 SNA*. Output of goods and services is recorded in the period they are produced. However, survey design does not allow for timely registry of copper prices, because prices are collected from specific transaction contracts that are referenced to an international price, which is adjusted after product delivery according to metal quality.
3. Accuracy and reliability						
3.1 Source data		X				
3.2 Assessment of source data		X				
3.3 Statistical techniques			X			Sound imputation techniques are used to handle missing prices in agriculture, livestock, and forestry. However, in the other PPI economic categories, missing prices are carried forward, a practice that should be used less frequently. Adjustments for quality differences are not made, leading potentially to an inappropriate introduction of new products and services. In addition, the copper price recollection procedure increases quality induced volatility since price quotes are derived directly from contracts that adjust the international price with quality variations of the metal.
3.4 Assessment and validation of intermediate data and statistical outputs		X				
3.5 Revision studies			X			Sources of errors are not routinely investigated.

Table 8. Chile: Data Quality Assessment Framework (July 2003): Summary of Results for the Producer Price Index
(Compiling Agency: National Statistics Institute)

Element	NA	Assessment				Comments
		O	LO	LNO	NO	
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			PPI statistics are punctually published on a preannounced schedule. The statistics are not presented in a way that facilitates proper interpretation and meaningful comparisons. Appropriate analysis of current-period developments is not included in the press release. Data dissemination formats hinder redissemination and analysis of inflationary trends. A PPI indicator that excludes copper effects on its volatility is not published. In addition, detailed product price series are not available on the NSI's website.
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 responsibility for collecting, processing, and disseminating fiscal statistics is clearly assigned to the Budget Directorate (DIPRES) of the Ministry of Finance (MOF) by the Decree Law (DL) No. 1263 of 1975 (*Law of the Financial Administration of the State*), Decree with Legal Power No. 106 of 1960, and *Annual Budget Laws.*

The DL No. 1263 regulates budgetary processes, accounting, management of funds, financial control, and public credit of all institutions comprising the budgetary central government. It assigns to the DIPRES responsibilities for the formulation and execution of the budget, to the Office of the Comptroller General (OCG) the functions of financial control and accounting, and to the Treasury the management of public cash and credit.

Law No. 10336 of 1964 (Basic Constitutional Act of the Office of the Comptroller General) sets the roles and responsibilities of the OCG regarding the financial control and accounting of the budgetary process. All units comprising the central government (including public universities), local governments and public corporations are required to report data to the OCG following a harmonized chart of accounts. Article 142 establishes that the accountant general must prepare and submit to the President and the Congress a consolidated budgetary and financial report for public sector finances of the previous year by end-April.

The DLP No. 106 sets the responsibilities of the DIPRES regarding the budgetary planning, execution, and reporting applicable to all levels of central government. In particular, Article 2, Numeral 22 establishes the obligation to compile and report fiscal statistics to the National Congress, international organizations, and the general public. In December the DIPRES must prepare and report the budgetary execution regulations applicable for the following year, which include rules and procedures for data provision.

Article 15 of the 2007 *Budget Law* (Law No. 20141 of 2006) establishes that the DIPRES must submit to the legislative branch several documents and fiscal reports according to a specified timetable. The fiscal reports that present government finance statistics (GFS), that is fiscal statistics that conform to the *GFSM 2001* principles, as well as the submission deadlines are detailed as follows: (1) a monthly report on budgetary central government transactions must be submitted within 30 days after the end of the month, (2) a quarterly report on consolidated central government transactions, that includes budgetary and extrabudgetary units and central government debt, within 30 days after the end of the month, (3) a biannual report on gross and net debt for the budgetary central government and the Central Bank of Chile (CBCH) within 90 and 120 days after the end of the semester, respectively, (4) a quarterly financial report on public corporations, and corporations where government equity holdings are higher than 50 percent (majority state-owned companies)

within 15 days after the deadline set up by the Superintendency of Securities and Insurance, and (5) a quarterly report on financial assets of the Treasury with no specific deadline.

More recently, as part of the general framework to improve fiscal transparency, the *Law of Fiscal Responsibility,* Law No. 20128 of 2006 (LFR) assigns to the DIPRES the responsibility for disseminating an annual report on contingent liabilities of the central government, as well as empowers the DIPRES to collect data on transactions regulated by the *Reserved Copper Law,* Law No. 13196 of 1976 (RCL).[46] In particular, Article 19 establishes that the Superior Council of National Defense must provide to the DIPRES quarterly information on revenue, expense, and outstanding debt within 15 days after the end of the quarter. The MOF and the Ministry of Defense will jointly determine the degree of detail of the information to be provided to the DIPRES by a superior decree.

The *Law on Municipalities (*Decree with Force of Law 1/18695 of 2006) and the *Law on Municipal Resources* (Decree-2385 of 1996) set the responsibility of local governments regarding the preparation of annual financial statements, and reporting to the OCG using a harmonized chart of accounts. Local governments are subject to the same accounting standards as the central government. Their financial activities are overseen by the OCG, which prepares quarterly consolidated statements based on budget data. These consolidated data for local governments are used by the DIPRES to compile GFS for the general government.

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

Responsibilities in the compilation of fiscal statistics are clearly stated by law. The level of coordination and data sharing among fiscal data-producing agencies—the DIPRES, OCG, and CBCH—are broadly adequate. However, there is room for improvement, in particular with the CBCH.

The development of the Integrated Financial Management System (SIGFE) has significantly improved the data sharing and coordination between the OCG and DIPRES.[47] Central government operations are directly recorded in SIGFE, using a harmonized chart of accounts.[48] This system is used by both the DIPRES and OCG for compiling fiscal statistics. At the same time, the OCG shares with the DIPRES information reported to it by local

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[46] The *Reserved Copper Law* assigns 10 percent of the gross income earned by the public Copper Corporation (CODELCO) to be transferred to the Armed Forces for military equipment purchases. These purchases are outside the budget, but are subjected to the MOF approval. In 2003, the GFS published by the DIPRES began to report data on the amount of transfers from CODELCO to the Armed Forces. At present, GFS are complete in terms of flows; however, liabilities of central government do not include the outstanding stock of debt related to these activities. In this regard, the *Law of Fiscal Responsibility* (LFR) enhances the legal framework that allows the DIPRES to collect relevant data to improve the compilation of GFS.

[47] In 2002, the OCG and DIPRES have signed a protocol agreement of cooperation to develop SIFGE.

[48] Except for the Treasury that reports information following a specific chart of accounts.

governments, and public corporations using harmonized chart of accounts. Although there is no permanent working group to address statistical issues related to the compilation process, informal procedures are in place to ensure effective and timely flows of source data among these agencies.

The CBCH provides timely data on stocks of financial assets and liabilities to the DIPRES to compile GFS. However, coordination between GFS and balance of payment and external debt data could be improved. The authorities are currently discussing a formal cooperation agreement between the DIPRES and CBCH.

Recommendation: Establish a technical working group integrated by the three data-producing agencies (DIPRES, OCG, and CBCH) to promote proper understanding of data requirements, to avoid duplication of effort and reporting, and to reconcile GFS reported by these agencies.

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

GFS are compiled based on publicly available data, except for transactions related to the *Reserved Copper Law* and "reserved expenses."

The Superior Council of National Defense reports to the DIPRES partial data on transactions related to military equipment purchases, on a specific format agreed by the MOF and the Ministry of Defense. However, this format is not fully consistent with statistical requirements.

"Reserved expenses" are particular expenses incurred by some ministries, such as the Presidency or security-related ministries, that are reported globally but not itemized following the economic classification. Currently, they are not significant in magnitude, representing less than 0.1 percent of total expense.[49]

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

Article 68 of the DL No. 1263 establishes the obligation of all public entities covered by the *Budget Law* to report detailed fiscal data to the OCG and to DIPRES for compilation of fiscal statistics. In particular, Article 19 of the *Law of Fiscal Responsibility* gives to the DIPRES the legal authority to collect data required to compile GFS for the activities regulated by the

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[49] A law approved in 2003 establishes the obligation to limit the amount of reserved expenses, restrain the ability to supplement them, limits the purposes they can be used for and the institutions that can use them, and makes them accountable to the OCG.

Reserved Copper Law.[50] The *Law on Municipalities* sets the responsibility of local governments regarding the reporting of fiscal data to the OCG.

Law No. 10336 empowers the OCG to collect financial reports from all units comprising the public sector to discharge its responsibility of reporting to the President and the Congress.

There are no legally mandated penalties for noncompliance in reporting information. However, the program for management improvement penalizes the units that do not comply with reporting deadlines, by diminishing the salary of their employees.

0.2 Resources

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

The number of staff is barely adequate to perform the tasks associated with current commitments. In the medium term, additional human resources may be necessary to complete the migration to the *Government Finance Statistics Manual* (*GFSM 2001*) methodology.

Staff is partially devoted to the compilation and dissemination of GFS.

GFS are disseminated by two different departments in the MOF: the DIPRES, and the Sub-Secretariat of Finance. Within the DIPRES, three sectors are responsible for compiling GFS: (1) the statistics sector compiles annual GFS, and is comprised of one deputy chief and two analysts,[51] (2) the coordination sector compiles monthly and quarterly GFS, and is comprised of one deputy chief and one analyst,[52] and (3) the financial programming sector compiles GFS on central government gross debt, and is comprised of one deputy chief and one analyst partially devoted to this task. The Sub-Secretariat of Finance disseminates GFS on public sector gross and net debt. Only one analyst is responsible for consolidating GFS compiled by the DIPRES, and other data-producing agencies, to report directly to the minister.

The qualifications of the staff are adequate to perform their assigned tasks. Moreover, senior staff in charge of compilation have participated in several courses based on *GFSM 2001* methodology. Staff turnover is manageable. Salary levels are competitive with other areas of public administration, as well as with the private sector.

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[50] At present, Article 19 of the *Law of Fiscal Responsibility* is not operational. The MOF and the Ministry of Defense will agree by a superior decree the level of detail to be reported to the DIPRES.

[51] The statistics sector comprises four analysts, but only two are devoted to compile GFS.

[52] The coordination sector comprises five analysts, but only one is devoted to compile GFS.

Sufficient resources are allocated to computing technology, both for hardware and software. Each staff member has a computer assigned for his/her personal use, and additional computers are available for other users. Back-up systems are in place to protect data. However, those servers related to SIGFE are placed within the MOF building that is not adequately protected in the event of natural disasters, accidents, and other unusual events. The authorities are currently taking corrective action to ensure business continuity.

The office buildings provide adequate working facilities. Office furniture and equipment are adequate to perform required tasks. Transportation arrangements are also adequate.

The funding for the identified needs of the statistical program is included in the overall budget of each compiling agency and is considered secure.

Recommendations:

- Allocate more human resources to compile and disseminate GFS.

- Concentrate the responsibility to compile and disseminate GFS in one sector of the DIPRES, to avoid duplication of effort and improve efficiency.

- Take corrective measures to ensure business continuity.

0.2.2   Measures to ensure efficient use of resources are implemented

The existing computing technology is not used to its full potential for compiling GFS. A significant level of manual data processing still exists, hampering the efficient use of resources. In particular, the DIPRES should made efforts to improve the automatic derivation of GFS categories from SIGFE to minimize processing errors and improve efficiency. Priority should be given to the derivation of expense by functions of government (COFOG) , and data on stocks of financial assets and liabilities.

The authorities have sought outside expert assistance to evaluate statistical methodologies and compilation systems. In July, 2003, the IMF's Fiscal Affairs Department provided an assessment of fiscal transparency practices. In addition, in May 2005 the IMF's Statistics Department (STA) conducted a government finance technical assistance mission. The mission reviewed the existing migration strategy for the implementation of the *GFSM 2001* methodology, made recommendations for improving GFS, and presented a course on the *GFSM 2001* statistical framework to government officials involved in compiling and analyzing GFS.

Recommendation: Improve the automatic derivation of GFS categories from SIGFE.

0.3 Relevance

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

Current fiscal statistics are geared toward compliance with existing legislations and regulations, as well as international statistical standards. The DIPRES also monitors the relevance of GFS through informal contacts with other departments and data users using e-mail inquiries, personal contacts, and press conferences, and occasional feedback is used to better meet data users' needs.

There are no user advisory groups. However, the authorities established a Statistical National Commission where both compilers and users of official data are represented. The CNE is composed of representatives from the MOF, OCG, CBCH, NSI, as well as other nonpermanent participants from the public and private sectors. The commission aims at promoting documentation on methodologies and processes used to compile national statistics, review current methodologies, and identify emerging data requirements. The extent to which the commission has helped to better meet the needs of data users is unclear.

The DIPRES regularly participates in statistical meetings and seminars organized both internally and abroad by international and regional organizations.

Recommendation: Implement a structured and periodic process of consultation with policy departments and other principal users, including those in the private sector, to review the usefulness of existing fiscal data and to identify emerging data requirements.

0.4 Other quality management

0.4.1 Processes are in place to focus on quality

Management is sensitive to all the dimensions of quality. Training is provided to staff through regional programs.[53]

Beginning in 2007, and in the context of the public sector program of management improvement, the DIPRES will be audited using the ISO 9001:2000 international quality standards.

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[53] In 2005, in coordination with the Latin American and Caribbean Institute for Economic and Social Planning (ILPES) and the Statistics Department of the IMF (STA), the DIPRES organized a seminar on the *GFSM 2001* methodology and its application to Chile, for the purpose of training 29 officials working in the budget and accounting areas.

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

Monitoring processes are in place to check the quality of the source data entered in the system database. Results of these processes are relayed to managers. Moreover, SIGFE includes built-in checks used to process data and reconciliation procedures. Finally, the public exposure of the fiscal data provides a strong incentive to ensure their quality.

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

A trade-off among quality considerations (such as accuracy and timeliness) is recognized by the DIPRES in the area of GFS. This trade-off has been explicitly recognized in the context of central government statistics on financial assets, produced by the financial programming sector. Due to legal timeliness requirements, the financial programming sector has recently change the source data for GFS on financial assets from OCG's accounting records to operational data from the Treasury.[54]

1.   Assurances of integrity

1.1   Professionalism

1.1.1   Statistics are produced on an impartial basis

The principal rules governing ethical conduct of civil servants are Law No. 18834 of 1989 *(Administrative Statute)*, and Law No.19653 of 1999 (*Law of Administrative Probity*).

Law No. 18834 establishes principles of probity, confidentially in legally restricted affairs, and prompt reporting of knowledge of irregularities in one's area of responsibility. The *Code of Conduct for Local Governments*, that governs local governments public servants, has similar principles.

Law No.19653 requires state and local officials to have blameless official conduct, and to subordinate individual interest to a common good. It also requires, the President, ministers, sub-secretaries, and governors to submit a declaration of interests within 30 days after taking office; this declaration must cover their professional and economic activities.

Recruitment is conducted through a competitive process based on the qualifications for the position being filled. Promotion is partly based on performance and seniority. Participation in relevant international seminars and courses is supported to expand the knowledge of statistical practices and garner easy access to professional literature.

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[54] The accuracy of the data have not been seriously compromised.

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

The choice of source data and statistical techniques is based exclusively on data and processing requirements. The GFS compiled and disseminated by the DIPRES are mainly based on records from their internal data systems, such as SIGFE. Neither further manipulation nor estimation or extrapolation techniques are needed.

Decisions to disseminate fiscal data are based mainly on legal obligations, and international data reporting commitments.

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

GFS publications are released at press conferences held by the Director of the DIPRES, who highlights the main developments of the period. The DIPRES has a tradition of being able to provide expert advice on technical aspects of reported data, and to respond to misinterpretations of fiscal data. A government official, responsible for press and communication within the DIPRES, monitors media coverage and coordinates a response when deemed necessary.

1.2   Transparency

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

The legislation referred to in Section 0.1.1 above is publicly available, except for the *Reserved Copper Law*. Terms and conditions for compiling and disseminating GFS are included in the *Budget Law*, that is readily available on the DIPRES's website. Most statistical publications identify official Internet websites where related legislations and regulations can be found.

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

No government officials outside the DIPRES have access to the data before they are released to the public, and data are made available simultaneously to all interested parties. Early access to fiscal data is limited to the Director of the DIPRES with the only purpose of commenting on the data in the press conference release. This early access is not formally communicated to the public, but it is known since the Director explains the data at the press conference.

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

All statistical products of the DIPRES are clearly identified, and the DIPRES requests attribution when its statistics are used or reproduced.

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

Advanced notice has been given to the public when major changes in methodology and source data were introduced. The main methodological changes introduced by the DIPRES in recent years occurred in 2003, related to the adoption of the *GFSM 2001* methodology. The DIPRES provided explicative notes and methodologies, which were presented to the public in press conferences, and are available electronically on the official Internet websites. Minor changes in methodology or source data are announced when they are introduced.

1.3   Ethical standards

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

Neither the MOF in general, nor the DIPRES in particular, have their own comprehensive ethical guidelines. Staff is guided mainly by the general rules and regulations as stated by Law No. 18834 *(Administrative Statute)*, and Law No.19653 (*Law of Administrative Probity).* Also, a strong culture for maintaining ethical standards in government discourages outside interference. Particularly in the DIPRES, the Internal Bulletin No. 34 of December 2005, reminds staff about the need to adhere to the ethical principles included in the *Law of Administrative Probity.*

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 used to compile GFS are broadly consistent with the *GFSM 2001* methodology.

The Chilean authorities have implemented the *GFSM 2001* statistical framework in the context of several reforms aiming to enhance fiscal transparency. As a result, Chile has become a regional leader in the implementation of international standards for government finance statistics.

In October 2003, the DIPRES included in the publication *Report on Government Finance, 2004 Draft Budget Law* an official migration plan to fully adopt the *GFSM 2001* methodology. Since then, Chilean authorities have made significant progress in accordance with the official migration plan. As a result of the first stage of the migration plan, which was completed at the end of 2004, GFS were improved essentially by reclassifying the existing data into the *GFSM 2001* framework. The report on *Government Finance Statistics 1987–2003*, published in October 2004, included accrual data for (1) unconsolidated GFS for

general government and nonfinancial public enterprises,[55] (2) financial assets and liabilities of the public sector, including the CBCH, (3) a description of the methodology used, (4) tables on institutional coverage, and (5) additional information on contingent liabilities and tax revenues.

The second stage of the migration plan calls for the compilation and dissemination of GFS on a full accrual basis, as well as on a cash basis, including an integrated balance sheet for the central government. This second stage was scheduled for completion in late-2006. However, the authorities faced some delays, mainly explained by lags in the implementation of SIGFE. SIGFE has recently released two operational modules that will significantly improve the quality of the information used to compile GFS.

2.2   Scope

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

Chile is a unitary state, with three independent powers.[56] The Executive Branch is represented by the President and his ministries at the national level, by regional governments—which only have delegated authority from the President and consequently are included in the central government—and by local governments. The legislative power includes the senate and the chamber of deputies. The judiciary comprises the Supreme Court, ordinary, special and superior tribunals, and the Court of Appeals.

Budgetary central government is comprised of centralized units (such as ministries), constitutional state bodies (Congress, the Judiciary, the OCG, the Office of the Public Prosecutor, and the Electoral Court), and decentralized agencies (e.g., the national tourism service). Universities and research institutes are part of central government but have their own budgets (autonomous nonprofit institutions). The extrabudgetary central government includes the Oil Price Stabilization Fund; transactions related to the *Reserved Copper Law*; accrued interest on recognition bonds; and funds in administration by the CBCH. Local governments and public corporations, including the *Banco Estado* and the CBCH, comprise the rest of the public sector.

GFS in Chile are focused on general government. However, the DIPRES and OCG disseminates fiscal data with a broader coverage. To facilitate understanding of the GFS coverage, the institutional structure of Chile's public sector is set out below.

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[55] Although data format allows for consolidation.

[56] Article 3 of the Political Constitution of 1980.

A.   Central government (1+2+3)

1.   <u>Budgetary central government</u>

Approximately 190 government institutions, the OCG, Judiciary, Legislature, Ministries, and Presidency. Particularly, it includes the Pension Reserves Fund, and the Economic and Social Stabilization Fund. [57]

2.   <u>Extrabudgetary central government</u>
Oil Price Stabilization Fund, accrued interest on recognition bonds, Funds in Administration by the CBCH, *Reserved Copper Law*, and universities and research institutes.

3.   Social Security Funds
Directorate of Social Security for Chilean Police, National Fund for Welfare Pensions, Social Security Fund for National Defense Employees, and Social Security Standardization Institute.

B.   Local governments: 341 municipalities.

C.   General Government Sector (A+B)

D.   Nonfinancial Public corporations:
-       Includes state-owned companies defined by law, and mixed companies where the government equity holdings represent more than 50 percent.

E.   Nonfinancial Public Sector (C+D)

F.   Financial public corporations:
-       Includes the state-owned public bank (*Banco Estado*) and the CBCH.

G.   Public Sector (E+F)

In compliance with Article 142 of Law 10336, the OCG collects and disseminates consolidated fiscal data for the public sector, based on the financial statements and balance sheets reported by all public entities. Although coverage is unusually and commendably broad, fiscal data disseminated by the OCG do not conform with the *GFSM 2001* principles, since the dissemination is mainly geared toward compliance with existing legislation and

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[57] In 2006, Articles 3 and 10 of the *Law of Fiscal Responsibility* created two government funds that are included in the budgetary central government: the *Pension Reserves Fund* ("Fondo de Reserva de Pensiones"), and the *Economic and Social Stabilization Fund* ("Fondo de Estabilización Económica y Social") which replaced the former Copper Stabilization Fund.

regulation. Consequently, the assessment included in this report is based on data compiled and disseminated by the DIPRES.

The DIPRES compiles and disseminates GFS, i.e., fiscal statistics following the *GFSM 2001* principles for the general government and its relevant subsectors (1) budgetary central government, (2) extrabudgetary central government, (3) social security funds, and (4) local governments. It also disseminates GFS for nonfinancial public corporations—even though they are not consolidated with the general government, as well as additional information for the CBCH. Despite the remarkable progress made by the authorities regarding institutional and transactional coverage, there is still room for further improvement.

First, in terms of institutional coverage, universities and ancillary units serving local governments (corporaciones municipales) are not included in GFS. These entities are controlled by the general government but do not represent a source of economic benefit. Therefore, following the *GFSM 2001* methodology, their activities should be recorded together with the controlling sector, i.e., the budgetary central government and the local governments, respectively. In addition, nonfinancial corporations owned by the Ministry of Defense are not covered in the nonfinancial public corporation subsector (FAMAE, ENAER, and ASMAR).[58]

Second, transactional coverage is incomplete. On the one hand, transactions of military entities regulated by the *Reserved Copper Law* are partially compiled and disseminated. While GFS include flow transactions related to this law, the stock of corresponding liabilities are not included in central government debt.[59] On the other hand, some transactions are not included in GFS following the *GFSM 2001* principles. Three main deviations have been identified.

One deviation corresponds to recapitalized interest in fiscal promissory notes with the CBCH (deuda subordinada) that are not recorded as expense interest of the budgetary central government.

A second deviation, relates to the stock of liabilities of the budgetary central government that do not include neither interest accrued and not due on debt instruments, nor the stock of recognition bonds—although for the latter, additional information is disseminated separately.

Finally, GFS does not follow the *GFSM 2001* treatment of nonautonomous defined benefit schemes (the Directorate of Social Security for Chilean Police, and the Social Security Fund for National Defense Employees). Defined benefit schemes are a type of retirement benefit scheme in which the government promises future benefits to employees based on factors

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[58] Fábrica de Maestranzas del Ejército (FAMAE), Empresa Nacional de Aeronáutica (ENAER), and Astilleros de la Armada (ASMAR).

[59] It must be noticed that Article 19 of the *Law of Fiscal Responsibility* empowers the DIPRES to collect, in the near future, all relevant information related to the *Reserved Copper Law* for compiling complete GFS.

such as length of service, wages, and salary at retirement. The benefits do not depend on funds invested in the past; therefore, there is no link between the schemes' assets and liabilities for the promised benefits. The value of the liability is equal to the net present value of expected future payments, taking into account such things as benefit levels and conditions, life expectancy, and projected future interest rates. This net present value should be included as liabilities of the central government. At the same time, it is necessary to impute an expense transaction—imputed social contributions—which is equal to an actuarial estimate of the increase in the net present value of the social insurance liability less any actual contributions made by the employees. In addition, social contributions payable by the household sector to pension schemes, and payment of benefits to retired employees, should not be recorded as revenue and expense transactions; instead they should be treated as financing transactions.

The DIPRES disseminates the two following annual reports:

- Report on Government Finance Statistics ("*Estadísticas de las Finanzas Públicas*") . This report includes GFS of central government—broken down by budgetary and extrabudgetary, as well as consolidated central government—local governments, nonfinancial public corporations, and the CBCH. It is published annually around the middle of the year.[60] It includes: a section on the methodological basis; the statement of general government operations on an annual basis; monthly and quarterly statements of consolidated central government operations; annual GFS on the functional classification of expense for the consolidated central government; annual data on the economic classification of tax revenue; and annual data on financial assets and liabilities of the consolidated central government and the CBCH. All tables are presented according to the *GFSM 2001* principles. The report also includes a full section of human resource statistics for the public sector, and appendices including detailed information on the institutional coverage of central government and nonfinancial public corporations, as well as additional detailed data on the central government functional classification of expense. The report is published in hard copy and is available on the DIPRES's website in PDF format. Time series are available in Excel-readable format.

- Report on Government Finance, Draft Budget Law (*Informe de Finanzas Públicas, Proyecto de Ley de Presupuestos del Sector Público*), which is disseminated annually in the last quarter of the year.[61] This report includes annual data on financial assets and liabilities of the consolidated central government, broken down by currency and instrument. In addition, background information on the budget aiming to increase transparency and facilitate the analysis of the central government's financial position is included. Particularly relevant is the dissemination of detailed data, as well as

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[60] The most recent publication was disseminated in August 2006. The next publication is scheduled for July 2007.

[61] The most recent publication was disseminated in October 2006.

methodological notes, on central government's contingency liabilities. The report is published in hard copy, and available on the DIPRES's website in PDF format.

Quarterly reports disseminated by the DIPRES are detailed below:

- Statement of consolidated central government operations (*Estado de Operaciones del Gobierno Central Consolidado*). The report is disseminated within 30 days after the end of the reference period. This report contains (1) data on revenue, expense, and transaction on nonfinancial and financial assets and liabilities following the economic classification, broken down by budgetary and extrabudgetary, as well as consolidated, central government, (2) detailed information on tax revenues, (3) stocks-and-flows data on Pension Reserves Fund, (4) stocks and flows data on the Economic and Social Stabilization Fund and the Oil Price Stabilization Fund, (5) data on gross debt of the consolidated central government, and (6) detailed information on budget execution by entities. All tables presented in the report broadly follow the *GFSM 2001* principles. The report is available on the DIPRES's website in PDF format and time series are available in Excel-readable format.

- Central government debt (*Deuda del Gobierno Central*). The report is disseminated within 90 days after the end of the reference quarter. It includes, annual and quarterly data for budgetary central government gross debt, broken down by domestic and external debt,[62] by currency, instrument, residual maturity, and by type of creditor. The report is published in hard copy, and is available on the DIPRES's website in PDF format.

- Report on public debt (*Informe de Deuda Pública*). This report is disseminated within 90 days after the end of the reference quarter. It includes data on gross and net debt of the budgetary central government and the CBCH, broken down by currency and instrument; data on gross and net debt of nonfinancial public corporations, broken down by maturity; a schedule of amortization payments for budgetary central government and the CBCH broken down by currency; and additional data on central government guaranteed debt to the rest of the public sector. The report is published in hard copy, and is available on the DIPRES's website in PDF format.

- Report on financial assets of the Treasury (*Informe de Activos Financieros del Tesoro Público*). This report is disseminated within 30 days after the end of the reference quarter. It includes data on financial assets of the Treasury broken down by instrument, currency, and residual maturity. In particular, it includes data on financial assets related to the recently created Pension Reserves Fund and the Economic and Social Stabilization Fund. The report is published in hard copy, and is available on the DIPRES's website in PDF format.

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[62] The breakdown of budgetary central government debt in domestic and external does not conform the residence criteria. Domestic and external debt correspond to debt issued domestically and abroad, respectively. The amount of debt issued abroad and held by residents, and/or the amount of debt issued domestically and held by nonresidents, are not adjusted in GFS.

- Report on the Pension Reserves Fund and the Economic and Social Stabilization Fund ("*Informe Ejecutivo Fondo de Reserva de Pensiones y Fondo de Estabilización Económica y Social*"). This report is disseminated within 30 days after the end of the reference quarter. It includes detailed data on the financial assets of both funds.

In addition, the DIPRES disseminates on a monthly basis the following report:

- Statement of budgetary central government operations (*Estado de Operaciones del Gobierno Central Presupuestario*). This report is disseminated within 30 days after the end of the reference period. This report contains monthly data on revenue, expense, and transactions on nonfinancial and financial assets and liabilities, presented in the statement of operations according to the *GFSM 2001* classification. All tables are presented according to the *GFSM 2001* principles. The report is published in hard copy and is available on the DIPRES's website in PDF format, and time series are available in Excel-readable format.

It should be noted that, the *GFSM 2001* framework prescribes the compilation and dissemination of three basic statements: operations, integrated balance sheet, and sources and uses of cash. In Chile, GFS include only the statement of operations for the different subsectors comprising the public sector. In May 2005, an STA technical assistance mission prepared the three basic statements for the consolidated central government using readily available data for the period covering 2000–2004, and recommended that the authorities verify and publish the results of the exercise.

In summary, the institutional and transaction coverage of the annual, quarterly, and monthly GFS for the general government broadly follows the *GFSM 2001* principles, with the exceptions noted above.

Recommendations:

- Include universities and ancillary units serving local governments in general government GFS.

- Record capitalized interest on fiscal promissory notes with the CBCH (deuda subordinada) as interest expense in the statement of central government operations.

- Include as liabilities of central government interest accrued and not paid for all debt instruments, and the stock of recognition bonds.

- Compile and disseminate the statement of sources and uses of cash and the integrated balance sheet for the general government and all subsectors using readily available data.

- Follow the guidelines of the GFSM 2001 in recording transactions of nonautonomous defined benefit schemes.

2.3   Classification/sectorization

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

Institutional sectors are generally defined in accordance with the *System of National Accounts 1993* (*1993 SNA*), and subsectors following the *GFSM 2001* principles, with the exceptions mentioned above. However, there are some asymmetries in the sectorization of entities between the GFS and the national accounts (NA) statistics, and different sectorization of transactions among subsectors of central government.

Asymmetries in the sectorization of entities between GFS and NA are twofold. On the one hand, certain entities are sectorized in GFS within the general government, while they are included as public corporations in NA. These entities are: Chilean Economic Development Agency (CORFO), National Mint (Casa de Moneda), Chattel Mortgage Directorate (Direccion de Crédito Prendario), and Public Health Institutions Supplying Central (Central de Abastecimiento). On the other hand, NA include in central government entities that are excluded from the central government in GFS, such as Family Allowance Compensation Funds (Cajas de Compensación) and Employees' Benefit Societies Hospitals (Hospitales de la Ley de Accidentes de Trabajo).

Similarly, there are discrepancies in the sectorization of transactions related to the recognition bonds. These bonds are liabilities of the budgetary central government with the workers that have previously been enrolled in the former pension scheme and were transferred to the Provident Fund Administrators (AFPs). Therefore, transactions related to these bonds should be recorded in the budgetary central government subsector. However, the interest accrued on these bonds are sectorized as transactions in the extrabudgetary central government. The asymmetric treatment of different transactions related to the same debt instrument hampers the reconciliation of stocks and flows at a subsector level.

While sectorization of public entities is broadly in line with the *GFSM 2001* principles, significant deviations exist in national classification practices. First, revenue from copper (cobre bruto) is presented separately in the national classification. It includes transfers made by the nonfinancial public copper enterprises to the central government. Those transfers comprise both taxes and dividends, and according to the *GFSM 2001*, they should be reclassified as taxes on income, profits and capital gains, and property income, respectively.

Second, expense data on subsidies and grants are aggregated in GFS. However, according to the *GFSM 2001,* subsidies and grants must be reported separately. Subsidies should be broken down into transfers to public or private enterprises, whereas grants should be broken down into transfers to foreign governments, to international organizations, and to other general government units. In addition, grants should be divided into current and capital.

Third, capital transfers are presented in GFS as net acquisition of nonfinancial assets. These are central government transfers to the private sector and local governments with the purpose

of encouraging capital formation in the entities that receive them. Consequently, they do not constitute an acquisition of nonfinancial assets by the general government. In accordance with the *GFSM 2001*, such transfers should be reclassified as expenses affecting the net operation balance of the government.

Four, GFS on financing transactions and the stock of financial assets and liabilities do not follow the *GFSM 2001* classifications. Financial assets and liabilities are presented by residency and instrument breakdown in a summary form, but do not conform to the *GFSM 2001*.

Lastly, GFS data on "reserved expenses" are not broken down into its different components, due to lack of detail in the source data. However, the amount and relevance of reserved expenses have been reduced significantly in the last years.

In terms of the expense classification of the function of government (COFOG), GFS follow the international standard. However, they are only compiled and disseminated for the consolidated central government.

In summary, although significant improvements have been achieved by the authorities in recent years, differences in sectorization and classification between national presentation and the international standard remain relevant.

Recommendations:

- Apply consistently the sectorization of entities comprising the general government in all sets of macroeconomic statistics.

- Follow the guidelines of the GFSM 2001 in classifying revenue, expenses, and transactions on nonfinancial and financial assets and liabilities, both for stocks and flows.

- Classify all transactions related to recognition bonds in the budgetary central government.

- Compile and disseminate the classification of expenses by functions of government (COFOG) for local governments on an annual basis.

2.4   Basis for recording

2.4.1   Market prices are used to value flows and stocks

Flows are recorded at market value, gross debt is recorded at face value, and financial assets are recorded at market value.

Debt denominated in foreign currency is converted into national currency using the average (between buying and selling) market exchange rates for the end of the period.

The recording of interest on indexed debt instruments does not conform to the *GFSM 2001* principles. According to *GFSM 2001* (which is consistent with the *1993 SNA*), in the case of index-linked debt, the total amount paid or received corresponding to the interest itself and any increase or decrease in the principal resulting from a change in the index, should be recorded as accrued interest. Thus, interest accrued through indexation, whether it is a price index or an exchange rate index, is recorded as a revenue or expense transaction, affecting the net operating balance and net lending/borrowing.[63] In Chile, accrued interest on debt instruments denominated in national currency and indexed to UFs (unidades de fomento) and debt instruments indexed to foreign currency, do not include changes in principal due to changes in the index.

2.4.2   Recording is done on an accrual basis

In general, transactions of the public sector are recorded on an accrual basis. However, tax revenue is recorded on a cash basis, following a prudential criteria.

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

Transactions are shown on a gross basis, except for refunds of taxes and overpaid expenses, which are shown as net, according to the *GFSM 2001* principles. GFS for financing transactions are presented on a gross basis.

Recommendations:

- Follow the GFSM 2001 principles in valuating stocks of assets and liabilities.

- Record tax revenue on an accrual basis.

- Record interest on indexed debt instruments according to the GFSM 2001 principles.

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

Data sources are broadly adequate to allow the compilation of GFS for the general government and its subsectors.

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[63] However, when a debt is denominated in a foreign currency, gains or losses resulting from exchange rate variations are recorded as other economic flows (OEFs). In this case, the amount of interest paid or received, which is recorded as a revenue or expense, does not include exchange rate variations and, consequently, leaves the operating balance and net lending/borrowing unchanged.

Budgetary central government operations are recorded in SIGFE in accordance with the accounting principles and regulations set by the OCG, using a harmonized chart of accounts. SIGFE provides comprehensive accounting records, both to the DIPRES and the OCG, for compiling complete GFS, as well as budgetary execution reports on a monthly, quarterly, and annual basis.[64] It should be noted that, although SIGFE reports reconciled data on flows and stocks for budgetary central government, the DIPRES compiles GFS on financial assets and liabilities position based on source data directly from the Treasury.[65] By using nonharmonized data to compile stock statistics, the DIPRES is introducing a source for internal inconsistency between stocks and flows that is finally reflected in GFS.

Data for extrabudgetary central government are collected quarterly by the DIPRES directly from the units that control the resources applicable to the corresponding fund or unit (the Treasury, the CBCH and the Social Security Standardization Institute), and from the Superior Council of National Defense for those transactions related to the *Reserved Copper Law*. For local governments annual source data are provided to the DIPRES by the OCG in an adequate and timely manner. Although there is no single chart of accounts applicable for the entire general government, charts of accounts used by all different levels of government are reconcilable and bridge tables have been constructed to compile consistent GFS.

Data for nonfinancial public corporations are prepared under private sector accounting standards. Although nonfinancial public corporations report to the OCG financial and balance sheet data in accordance with a harmonized chart of accounts, the quarterly report on public corporations is prepared by the Public Corporations System (Sistema de Empresas Públicas) using the financial statements required by the Superintendency of Securities and Insurance. Data for each corporation, as well as consolidated data, are submitted to the DIPRES for review. Afterwards the DIPRES delivers the data to the Congress budgetary commission

The institutional and geographical coverage is broadly complete (with the exception noted in 2.3.1). A comprehensive register of individual public sector units is also available in the annual *Budget Laws*.

The development of SIGFE has enhanced the integration of accounting records, budgetary data, and GFS. Although GFS codes are not currently embedded in the national chart of accounts, appropriate bridge tables have been constructed and included in SIGFE, that facilitate the compilation of GFS directly from the underlying accounting data. The new chart

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[64] In 2001, the authorities began a process of modernization of the financial management system for the public sector. In this context, and with financing from the World Bank, the development of SIGFE was initiated in 2002. Its achievements in terms of accountability, timeliness, and transparency of fiscal data are considered outstanding. The financing of future enhancement of the system is secure, since it has been included in the budget envelop of the DIPRES.

[65] The accounting records of the Treasury are included in SIGFE through a process of harmonization ("sistemas homologados") to ensure internal consistency within the system.

of accounts was developed in 2005, as a coordinated effort between the budgetary and the statistical sectors of the DIPRES, and submitted to OCG for review, which guarantees the consistency between accounting, budgetary, and GFS data.

The DIPRES and OCG regularly review data sources for budgetary operations to ensure that SIGFE's data collection systems remain comprehensive, but such policies and reviews are not documented. Maintenance of SIGFE, due to updates in the chart of accounts or changes in the accounting procedures and regulations, is done on a regular basis.

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

Data sources for general government are consistent with guidelines on the definitions, scope, sectorization, classification, and time of recording. The charts of accounts for all levels of general government provides sufficient detail to align them with GFS classifications. However, valuation of source data of stocks does not conform to the *GFSM 2001* principles. Following the principles established by the OCG, SIGFE provides data on flows valued at market value, while stocks of financial assets and liabilities are recorded in the system at face value. Similarly, the Treasury's accounting records on financial assets and liabilities, used by the DIPRES to compile net debt statistics, are also at face value. The DIPRES uses complementary data to adjust the valuation of financial assets, recording them at market prices. However, liabilities are reported at face value.

Source data are adequate to allow proper consolidation of different levels of government.

Recommendation: Improve the valuation module of SIGFE to align current accounting data to GFSM 2001 principles. Stock should be valued at market prices.

3.1.3 *Source data are timely*

Source data are available with sufficient timeliness and periodicity to meet dissemination standards of GFS for general government and its subsectors. Timely data collection from all units comprising the central government and local governments is guaranteed by the CGO's legal framework for reporting budgetary execution data.

In addition, data for budgetary central government are available almost in real time in SIGFE, which has helped to significantly reduce the lags in the publication of GFS, making the current flexibility option for the timeliness of central government operations nonbinding.

SIGFE employs follow-up procedures to ensure the timely delivery of source data (e.g., by maintaining regular contact with the reporting units).

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

SIGFE uses Oracle software that incorporates extensive built-in cross checks to monitor data accuracy. Furthermore, validation procedures based on budgetary regulations are embedded in the system. Data inconsistencies and out-of-trend values are confirmed with the reporting units. Budgetary analysts check these source data to further ensure data accuracy. At present, most of the data are entered directly into the system and reports are generated automatically.

Although source data for budgetary central government are carefully assessed through SIGFE, there are no audited records either from the OCG or from external audits. The functions of the OCG have historically been centered on accounting, normalizing budgetary procedures and regulations, as well as collecting and reporting extensive consolidated budgetary and financial data to the President and the congress for the entire public sector. Since the Decree Law 1263 of 1975, the accounting function has been decentralized to the different units comprising the public sector. However, the auditing function of the OCG has not been fully developed, and resources have been applied to this function on a selective basis.[66] A Draft Law No. 522-354 of December 2006, currently being discussed by the Congress, proposes that the OCG is no longer responsible for the accounting of the public sector, and focuses on internal audit function.

In 2005, the authorities, in collaboration with the Bank for International Settlements (BIS), undertook a reconciliation exercise for public external debt between national source data and creditor information that significantly improved the quality of fiscal data.

3.3   Statistical techniques

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

Data compilation is mostly computerized, with built-in checks to minimize processing errors. Data collection is comprehensive for all subsectors and therefore there is no need to estimate missing data.

Annual data are considered final when first released. Monthly and quarterly data are revised periodically and discrepancies of errors are corrected accordingly. However, compilation procedures are not documented.

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[66] The OCG performs audits on particular units on a selective basis. Due to this nonextensive audit process, some relevant central government units might not be audited in a specific year.

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

The use of other statistical procedures is rarely necessary. However, the DIPRES makes the following adjustments: (1) NA data for consumption of fixed capital provided by the CBCH are adjusted to account for coverage discrepancies with GFS, and (2) data on financial assets are adjusted to record stocks at market value.

3.4   Assessment and validation of intermediate data and statistical outputs

3.4.1   Intermediate results are validated against other information where applicable

In the context of SIGFE, procedures are in place to fully ensure that accounting data are accurate and that final reporting of GFS is based only on the most accurate and reliable source data.

3.4.2   Statistical discrepancies in intermediate data are assessed and investigated

Large fluctuations or discrepancies are investigated. Expense by economic type and by functions, and transfers paid by central government to local governments are cross-checked for consistency.

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

Discrepancies between subannual and annual data are identified and reconciled. However, discrepancies between flows and stocks are not monitored. The different valuation method used in source data for flows and stocks hinders a complete reconciliation.

Fiscal data and other macroeconomic data, except for NA data of the CBCH, are not usually compared or reconciled.

Data on selected external public debt stocks and related flows are compared with creditor information in a nonroutine manner.

Recommendation: Routinely reconcile fiscal data with data in other macroeconomic statistical areas and periodically document status of reconciliations.

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)

Revision studies are not routinely conducted. Annual data are considered final when first published. Monthly and quarterly budget execution data and GFS are compiled from a

comprehensive data collection system (SIGFE), therefore, revisions are few and usually associated with corrections.

4.   Serviceability

4.1   Periodicity and timeliness

4.1.1   Periodicity follows dissemination standards

Chile meets the SDDS requirements as follows:

- Data on general government operations are disseminated annually.

- Data on budgetary central government operations are disseminated monthly.

- Data on central government gross debt are disseminated quarterly.

In addition, Chile disseminates quarterly data on consolidated central government operations, and net debt, as well as quarterly detailed data on financial assets of the Treasury. Thus, SDDS periodicity requirements for GFS are met and exceeded.

4.1.2   Timeliness follows dissemination standards

Chile meets the SDDS requirements as follows:

- Annual data on general government operations are disseminated within two quarters after the end of the year.

- Monthly data on budgetary central government operations are disseminated within one month.

- Quarterly data on central government gross debt are disseminated within one quarter.

In addition, Chile disseminates quarterly data on consolidated central government operations within one month after the end of the reference period and quarterly data on net debt within one quarter after the end of the reference period. Although SDDS timeliness requirements for GFS are met and exceeded, Chile is availing itself of the flexibility option for timeliness of monthly central government operations.

4.2   Consistency

4.2.1   Statistics are consistent within the dataset

Monthly, quarterly, and annual GFS follow the same concepts, definitions, and classifications.

The aggregates are consistent with their components, and balances are consistent with these aggregates. The sum of the transactions data for subsectors of the general government, after consolidation, is consistent with data on the consolidated general government.

Regarding vertical consistency, the statistical discrepancy between above (revenue and expense) and below-the-line data (net acquisition of nonfinancial assets and financing transactions) is not significant due to use of consistent source data.

However, horizontal consistency, i.e., consistency between debt stocks and financing, is not held for the general government and its subsectors due to different data sources and valuation methods used to compile both sets of GFS.

Recommendation: Reconcile periodically debt stocks and flows to improve internal horizontal consistency of GFS.

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

Consistent time series are available from 1990 for annual data, from 1990 for quarterly data, and from 2003 for monthly data. For the latter, consistent data exist but are not disseminated by the DIPRES in its publications. Changes arising from major methodological improvements are explained before the series are released. In particular, the migration to the *GFSM 2001* methodology was broadly documented and disseminated to data users.

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

GFS are reconcilable with NA data. In May 2005, and STA's technical assistance mission helped the authorities with the reconciliation of NA aggregates such as savings, net lending/borrowing, government consumption, gross-fixed capital formation, and consumption of fixed capital with GFS categories, for the period 2002—2004. Discrepancies are explained due to coverage, sectorization, and classification in units and transactions. The results of the reconciliation exercise were published as an internal document of the CBCH. However, the reconciliation has not been updated, and is not done periodically.

GFS and external debt for the general government are not consistent due to discrepancies in the residence criteria. In GFS the classification of general government debt in domestic and external debt do not conform to the residence criteria used in the compilation of external statistics. In GFS the adjustment included in external statistics, to account for residents' holdings of government securities issued internationally, is not incorporated.

No reconciliation is done between GFS and monetary statistics.

Recommendations:

- Reconcile GFS periodically with NA statistics.
- Introduce the residence criteria to classify debt in domestic and external.
- Regularly check consistency between GFS and monetary statistics.

4.3 Revision policy and practice

4.3.1 Revisions follow a regular and transparent schedule

A revision policy has not been explicitly articulated. Data are considered final when published and there is no dissemination of preliminary data. Monthly and quarterly data are revised periodically, but revisions are rare and usually associated with corrections. When they are identified, corrections are included in the following annual, monthly, or quarterly report, respectively.

4.3.2 Preliminary and/or revised data are clearly identified

No data are identified as preliminary. Revised data are not usually identified as such.

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

The DIPRES has documented and disseminated to the public major revision studies related to methodological changes. Minor revisions are explained by press conference in the moment of release to the public.

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 GFS disseminated by the DIPRES are presented in a clear manner. Annual GFS on general government transactions are presented at current prices, constant prices, and percentage of GDP, with consistent times series for the last 10 years. Quarterly data for the consolidated central government operations include information on real change rates relative to an equal period of the previous year, and percentage of GDP. Monthly data for the budgetary central government include comparison of budgetary and execution data, as well as real change rates relative to equal a period of the previous year. Annual and quarterly reports include supplementary data on tax revenues by categories, and the stock of financial assets and liabilities by instrument, maturity, and currency.

Time series are available, mostly in Excel-readable format, and commentaries on current-period developments are included in the publications, and presented by the Director of the DIPRES at press conference.

As indicated in Sections 2.2.1 and 2.3.1, the scope and classifications of GFS for general government broadly follow the *GFSM 2001* principles, with some significant exceptions. The level of detail by instrument provided in financing transactions, and gross debt, is less than recommended by international guidelines.

5.1.2 Dissemination media and format are adequate

As explained above, the DIPRES's publications are available in hard copy as well as in electronic format on the official website (see 2.2.1). The latter gives access to time series, and broad documentation of national concepts and classifications. Data associated with the SDDS are disseminated on the DSBB.

5.1.3 Statistics are released on a preannounced schedule

The DIPRES has an advance calendar for data dissemination. The calendar is posted on the official website at the beginning of the year. GFS are released punctually, according to a regular and preannounced schedule.

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

GFS are made available simultaneously to all interested users. The public is informed of the statistics being released, and of the procedures to access them.

5.1.5 Statistics not routinely disseminated are made available upon request

GFS not routinely disseminated are made available upon request. Customized tabulations are not usually provided. The availability of additional statistics and the procedures for obtaining them are not made known.

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 annual Report on Government Finance Statistics (*Estadísticas de las Finanzas Públicas*) includes extensive information on source data and methodology used in the compilation of GFS. The methodological section of this report is regularly updated, and contains information on concepts, definitions, classifications, data sources, compilation methods, and statistical techniques used to compile GFS. Other publications also contain comprehensive descriptions of sources and methods of more specific fiscal data.

The SDDS metadata for GFS were updated on March 2007. The names of the contact persons for central and general government operations, and central government debt are accurate. However, metadata on methodologies need to be updated.

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

Only the information detailed in 5.2.1.is available.

5.3   Assistance to users

5.3.1   Contact points for each subject field are publicized

No contact person for GFS is identified in the DIPRES's publications. However, contact persons and contact details for each subject field are publicized in the SDDS metadata on the IMF's DSBB. In general, broad assistance is provided to general public users of GFS.

Recommendation: Contact persons and contact details should be included in the DIPRES's publications.

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

There are no catalogs of publications, documents, and other services. Most statistical publications are available free in hard copy and on the DIPRES's website.

Recommendation: Publish a catalog of publications.

Table 9. Chile: Data Quality Assessment Framework (July 2003): Summary of Results for Government Finance Statistics
(DIPRES, Ministry of Finance)

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 room for improvement in data sharing and coordination among the various units involved in the compilation process.
0.2 Resources			X			At present, the number of staff devoted to produce GFS is barely adequate.
0.3 Relevance			X			There are no user advisory groups.
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			Institutional and transactional coverage for the general government are incomplete.
2.3 Classification/sectorization				X		Sectorization is broadly in line with the *GFSM 2001*. However, significant deviations exist in national classification practices.
2.4 Basis for recording			X			Tax revenues are recorded on a cash basis. Interest of indexed debt instruments do not include changes in principal due to fluctuations of the index.
3. Accuracy and reliability						
3.1 Source data			X			Stocks of financial assets and liabilities are recorded at face value.
3.2 Assessment of source data		X				
3.3 Statistical techniques		X				
3.4 Assessment and validation of intermediate data and statistical outputs			X			The process for validating data is not well established.

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Table 9. Chile: Data Quality Assessment Framework (July 2003): Summary of Results for Government Finance Statistics
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Element	NA	Assessment				Comments
		O	LO	LNO	NO	
3.5 Revision studies		X				
4. Serviceability						
4.1 Periodicity and timeliness		X				
4.2 Consistency			X			GFS are not internally consistent due to differences in source data used to compile debt flows and stocks.
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			Catalogs of publications are not available to users of statistics.

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

According to Article 53 of the Law 18840/89 (*Basic Constitutional Act of the Central Bank of Chile*), the Central Bank of Chile (CBCH) "… shall timely compile and publish the main macroeconomic statistics, including those of a monetary and foreign exchange character …" However, the responsibility for the collection of monetary data does not lie with the CBCH but with the Superintendency of Banks and Financial Institutions (SBFI). The SBFI is an autonomous institution that supervises banking enterprises and "the financial entities whose control is not otherwise entrusted by the law to a different institution" (Article 2, Decree with Force of Law (DFL) 3/97, *General Banking Act*).[67]

The SBFI also disseminates data on individual banks' balance sheets, deposits, and interest rates, among others; but the CBCH is the only institution that compiles and disseminates monetary statistics. Agreement 1110-02-040122 of the Executive Board of the CBCH[68] establishes the macroeconomic statistics (including monetary statistics) to be disseminated by the CBCH, their content, periodicity, and timeliness. Monetary statistics comprise monetary aggregates and their components, the balance sheet of the CBCH, the monetary base, international reserve assets, deposits and loans of the financial system, and interest rates.

The *Functional Manual* of the CBCH endows the Monetary and Financial Statistics Group (GEMF) of the Statistical Information and Research Management Office (GIIE) with the responsibility to compile monetary and financial statistics and produce daily, monthly, quarterly, and annual reports; to prepare together with the Publications Department the Chilean monetary and financial publications; to approve the content of the statistical database of the CBCH; and to manage the files containing national monetary and financial statistics.

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

Data provision from the SBFI to the CBCH is covered by Article 53 of Law 18840/89, which gives the CBCH the authority to request and obtain from all public sector agencies any information it may deem necessary. Furthermore, Article 14 of DFL 3/97 mandates the SBFI to provide information with respect to the supervised entities to the Minister of Finance and

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[67] Pension funds are supervised by the Superintendency of Pension Funds, while the Superintendency of Securities and Insurance supervises insurance corporations, stock exchanges, securities issuing corporations, mutual funds, and certain other financial intermediaries.

[68] This agreement was modified several times, most recently in December 2006, through Agreement 1311-03-061221.

the CBCH. Coordination has always been adequate for data transmission from the SBFI to the CBCH, and the former has shown its readiness to attend requests from the CBCH in matters related to monetary statistics. Beyond the agreements signed between both institutions, they have designated staff responsible to channel requests on monetary data, ensuring a smooth flow of information. Periodical meetings take place between the CBCH and the SBFI to review data requirements.

The CBCH has a Statistics Committee, led by the manager of the GIIE and constituted by the managers of different offices dealing with macroeconomic data, which meets once a month to coordinate the work and discuss issues related with the flow of information within the CBCH and from the CBCH to third parties. To fulfill its duties, the GEMF receives data from other units within the CBCH, such as the Accounting Department (DGC) and the Open Market Operations Department. Furthermore, the GEMF has access to the databases relevant to its work. Actually, any unit of the CBCH can access the databases of other units upon approval by the proprietary unit and the Information Systems Management Office.

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

Data confidentiality is guaranteed by Article 66 of Law 18840/89, which states that the "… Bank shall be discreet with regard to the particulars of transactions executed and shall not advance information thereon except to the parties thereto, or to their agents or legal representatives." Furthermore, the CBCH's By-Laws states as one of the staff obligations "to keep reserve of the situations and businesses directly or indirectly related to the Bank and that due to their position or functions they may come to their knowledge..." Item II.2 of the *Ethics Code* of the CBCH deals with the use and confidentiality of the information, and indicates that the CBCH's employees shall abstain from disseminating any internal or sensitive information, or information that has any relation to the functions they perform. This requirement is incorporated in the work contract, and its breach is a justified cause to terminate the labor relationship.

Regarding the data transmitted by other depository corporations (ODCs) to the SBFI, Article 7 of DFL 3/97 indicates that "it shall be forbidden for any employee, agent, or individual who at any title renders services to the Superintendency, to disclose any detail on the reports that he or she may have issued, or provide any information whatsoever to third parties with respect to any facts, businesses or situations of which he or she may have become acquainted with in the performance of his or her duties. In the event these prohibitions were infringed, the violator shall be subject to the penalties of the Criminal Code." Due to the sensitive nature of the information it manages, the SBFI has issued several internal communications to make its personnel aware of the importance of protecting the confidentiality of the data and precise instructions, including the use of personal computers, connection to networks, and the cleaning of the desks.

ODCs transmit daily and monthly data to the SBFI using the National System of Financial Communications (SINACOFI), which is a subsidiary of the Association of Banks and Financial Institutions created to manage, operate, and develop an electronic network for

financial data transmission. Data are transmitted using dedicated encrypted lines protected against external attacks through a double firewall, and once within the SBFI protected through restricted access to authorized personnel, and not accessible by external users. Personnel of the SBFI are aware that their access to the data is being internally audited to detect unusual requisitions.

From the SBFI to the CBCH data are transmitted via SINACOFI's encrypted lines and received in a central repository. Some data are transmitted directly from ODCs to the CBCH, also via SINACOFI. There is no external access to the data stored at the CBCH, which are protected against unauthorized internal access with firewalls at different levels of security and passwords. Staff of the CBCH has selective access to the data stored in the central repository, according to its functions, with security modules administered by the responsible management office. The managers of the offices in charge of the information indicate to the Systems Management Office who may have authorization to access the data. The list of authorized users is updated every three months. Highly sensitive information is transmitted internally using encrypted electronic mail. Information stored at the CBCH must be safeguarded for a period of five years, and afterwards the magnetic supports storing it may be reused.

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

As already mentioned, Article 53 of Law 18840/89 gives the CBCH "… the authority to request and obtain from the various agencies and departments of the Civil Service Administration, decentralized entities, and generally the public sector, any information it may deem necessary." Although the private sector is not covered by this empowerment, it does not constitute a problem to collect monetary data, because ODCs are covered by the General Banking Act. The faculty of the SBFI to request data from financial institutions under its supervision is established in Article 16 of DFL 3/97, which states that "… the Superintendent shall have the right to request from the institutions subject to his supervision any information, document or book that, in his opinion, may be necessary for purposes of control or statistics."

Penalties for noncompliance are foreseen in Article 19 of DFL 3/97, which covers the institutions incurring a violation as well as their directors, managers, and officers. For the institutions, fines can be up to 5,000 Unidades de Fomento (UF)[69] and up to five times this value in case of repeated offenses. For directors and managers, fines can be up to 1,000 UF. Additionally to the fines, the SBFI may downgrade the managerial qualification of an institution that fails to comply with its reporting obligations.

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[69] The Unidad de Fomento is an indexed unit of account, which at end-April 2007 had a value equivalent to approximately 35 U.S. dollars.

0.2   Resources

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

At end-April 2007, the SBFI had 172 professional, technical, and administrative staff, half of them in the areas of risk supervision, either onsite or offsite. Staff of the SBFI regularly attends training courses offered by national and international organizations, other supervisory agencies, central banks, or private financial institutions. Staff working at the SBFI is governed by the rules of the private sector, in the sense that it does not enjoy the stability granted to public sector employees and serve at the exclusive confidence of the Superintendent. On the other hand, their salaries are subject to the scales of public supervisory agencies, which are higher than the general public sector but somewhat lower than the salaries paid by the private banking sector. This salary difference reflects in a higher than desirable turn-over ratio, with one third of the personnel working in supervision and one fourth of staff working in analysis having less than two years experience.

The GEMF had at end-April 2007 a total of three professional and two technical staff, including the Group Chief, all dedicated full time to the compilation and dissemination of monetary statistics. Four staff have a university degree, and the Group Chief holds a post-graduate degree in economics. The remaining technical staff members have completed high-school education. Most of the personnel have a long experience working at the CBCH and in monetary statistics. In fact, one of the problems facing the GEMF in the near future is the need to replace staff who will soon retire. Taking into account that data collection and validation is carried out by the SBFI, the number of people working at the GEMF seems adequate. The CBCH has the possibility to establish its remunerations independently from the rest of the public sector, resulting in salaries and benefits that are competitive with the private sector.

Each staff has his/her own personal computer connected to the CBCH's network, with the usual office software plus database applications, and access granted to the CBCH's database according to their functions. Internet and communication access for working purposes is unlimited, and staff receives newspapers and technical publications upon request. The existing infrastructure provides for optimal working conditions at the CBCH.

At the SBFI, collected data are periodically backed-up and two safety copies stored in different floors of the main building, while a third copy is stored in the vaults of a commercial bank. The SBFI has an outside alternative facility where it can conduct its operations in cases of nonaccessibility to the headquarters. Similar arrangements are in place at the CBCH, which runs a mirror system in a processing center outside headquarters. Back-up copies are produced daily and stored inside and outside the CBCH'sH headquarters.

0.2.2   Measures to ensure efficient use of resources are implemented

The process of data transmission from the SBFI to the CBCH, and the access of the GEMF to the CBCH's central repository are fully automated, ensuring reliability and an efficient use of

resources. The process of compiling central bank and ODCs surveys are also fully automated at the GEMF.

Staff performance at the CBCH is evaluated once a year by the heads of the units and the managers of the departments. Performance bonuses and salary increases are associated with the evaluation. Resources for statistical purposes are allocated in accordance with the strategic plan of the CBCH. Currently, the GIIE is conducting a process of documenting the statistical processes with the aim to gaining efficiencies.

0.3   Relevance

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

Although the CBCH does not have a policy of periodically consulting users about their needs, it has continually shown its commitment to improve the relevance of its monetary statistics. Users may channel their comments and suggestions through the CBCH's website, which contains a specific window for that purpose. Furthermore, staff of the CBCH regularly participates in national and international seminars and courses, including the ones offered by the IMF.

Data collected by the SBFI are mainly for supervisory rather than for statistical purposes, making the SBFI the main user of the data it collects. As provider of source data to the CBCH, the SBFI has consistently adapted its requirements from ODCs to meet the CBCH's emerging needs on monetary statistics. Additionally, the SBFI publishes financial data on its website and provides users with analytical tools to process this information. Staff of the SBFI regularly attends technical meetings on banking supervision.

0.4   Other quality management

0.4.1   Processes are in place to focus on quality

The CBCH has produced a strategic plan for the period 2006–2008. One of the stated objectives of this plan is "to contribute to an understanding of economic and financial affairs by preparing and broadcasting relevant reports, studies and statistics." To this aim, the strategic objective of the Statistical Information and Research Unit is "to compile and publish national, regional, and sectoral statistics pertinent to the scope of the CBCH and to the conduct of its monetary policy, maintaining high standards of quality, timely information and using the best technology available."

Staff of the GEMF is fully aware of the importance of quality in building trust among monetary statistics users, and they are sensitive to the different data dimensions of data quality. Processes are in place to check the quality of the published data. Although normally monetary statistics do not present a trade-off between timeliness and accuracy, data are published by the CBCH as provisional during two months and after that presented as final.

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

The GIIE reports systematically to the authorities of the CBCH any development that may affect the quality of the statistical process, in order to improve the program. When needed, the GIIE requests assistance from outside sources, such as the consultations with the IMF during the recent revision of the monetary aggregates.

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

The working program of the GIIE outlines developmental and functional objectives. One of its ongoing projects focuses specifically on the issue of statistics quality. The GEMF systematically checks different aspects of the monetary statistics, such as coverage, to guarantee their relevance.

Comments by users are incorporated through the launching of ad-hoc projects, when relevant. For instance, recently the GIIE prepared both a document and a new set of tables with the CBCH's balance sheet information in response to requests received from users, and distributed a preliminary version of them for comments before their public dissemination.

1.   Assurances of integrity

1.1   Professionalism

1.1.1 Statistics are produced on an impartial basis

By Constitution (Chapter XIII, Article 108), the CBCH is an autonomous entity, of a technical character, with an organization and functions given by an organic constitutional law. The SBFI is an autonomous institution with financing sources provided by the institutions it supervises. These legal provisions guarantee the independence of both institutions and protect them against outside pressures during the process of collecting and compiling statistics. Technical criteria alone are applied by data compilers and analysts of the CBCH and the SBFI, and they are totally independent in their choice of data collection methods.

Staff of both institutions is hired on a permanent basis following a competitive process, with openings posted on their websites, indicating even the stage of the recruitment process. Internal promotions follow also a competitive process that takes into account the professional qualifications of the candidates and their past performance.

The training policy of the CBCH fosters a culture of professionalisms. Staff participates in internal seminars, attends national and international courses, and is supported by the CBCH to pursue postgraduate studies abroad; although the emphasis has shifted now in favor of specific courses and seminars. Staff of the CBCH is encouraged to publish articles in the CBCH's own and in external technical journals.

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

The source data for monetary statistics are the balance sheets of the CBCH, the 25 commercial banks, the state owned Banco Estado, the five credit unions, and the 21 mutual funds. Full coverage of all units in each subsector restricts the possibilities of manipulation through changes in the sample. Other financial statistics not based on accounting records, such as interest rates, are produced using responses by all institutions of the system. For the classification of financial instruments and sectorization of the accounts, the GEMF follows the methodology of the *Monetary and Financial Statistics Manual* (*MFSM*).

The dissemination of monetary data follows established procedures and strictly complies with an advance release calendar. 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

In case of misinterpretation or misuse of published monetary data, the CBCH provides comments and clarifications mainly through its Communications Management Office (GC). The GC follows the daily press and other publications, to produce the necessary clarifications when needed. Staff of the CBCH receives electronically a summary of the daily press headlines pertaining to their area of responsibility, allowing them to detect any misinterpretation of the published data. The CBCH's *Ethics Code* strictly regulates the form its staff may communicate with the press.

1.2   Transparency

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

Chile is a participant in the IMF's Special Data Dissemination Standard (SDDS). Its metadata on monetary statistics are accessible on the IMF's Dissemination Standards Bulletin Board (DSBB) and were last updated in December 2006. The CBCH's website provides a link to the country page on the DSBB. Law 18840/89 and DFL 3/97 are quite explicit regarding the legal terms and conditions for collecting and compiling monetary information, and are posted on the CBCH's and the SBFI's websites. Also posted on the CBCH's website is Agreement 1110-02-040122, and its successive modifications, specifying the monetary statistics to be disseminated by the CBCH, their content, periodicity, and timeliness.

The SBFI's website contains the legal regulations governing its activities, as well as a detailed description of the work and responsibilities of its different departments.

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

There is no prior governmental access to published monetary data. The GEMF prepares high-frequency monetary indicators that are distributed to the authorities of the CBCH and also to the Minister of Finance, some of them not published on the CBCH's website. However, the nonpublished indicators are only estimates.

Article 14 of DFL 3/97 indicates that notwithstanding the restrictions on banking secrecy, the SBFI shall provide to the Minister of Finance and the CBCH information on the supervised entities. However, this access by the Minister of Finance is intended for cases of institutions facing solvency problems, and does not affect the dissemination of monetary statistics.

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

All publications of the CBCH and the SBFI are clearly identified as products of these institutions, with their logos and addresses. Tables published in the CBCH's *Monthly Bulletin* contain the source of the data when it is external to the CBCH, but do not identify the unit within the CBCH responsible for them, something indicated in an explanatory note in the publication. Data published in the *Monthly Bulletin* may be reproduced, always quoting the source.

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

The CBCH informs methodological changes through a series of meetings and seminars with the press and economic analysts, where the changes in methods, techniques, or sources are presented and feedback from participants encouraged. Before the new series are released to the public, interested parties receive an advance copy for comments. Major methodological changes are published in advance in the CBCH technical publication *Estudios Económicos Estadísticos*.

1.3   Ethical standards

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

The CBCH's *Personnel By-Laws* detail the obligations and prohibitions applying to its staff including working arrangements, confidential handling of the information, restrictions on the use of electronic mail, sexual harassment, etc. Serious breaches of labor obligations include substance abuse, alteration of accounting records or other important documents, and noncompliance with personal financial obligations. Staff working at the CBCH cannot have any other paid employment, except for academic positions. Conflict of interest covers employees' activities as well as their spouses, who are forbidden from entering into commercial relationships with the CBCH. Sanctions for not complying with these dispositions can reach even the termination of the working relationship.

The CBCH's *Ethics Code* reflects the by-laws and deals with issues of incompatibilities and conflict of interest, use and safeguarding of the information, communications with the press, participation in seminars and conferences, use of working elements, and gifts and invitations.

When joining the CBCH, new employees go through an induction where they are informed of these restrictions. In 2003, there was a serious case of breach of confidentiality and transmission of privileged information to private investors by an assistant to the President. Once the case was exposed, the assistant was criminally prosecuted and the President resigned. As a consequence of this episode, controls were heightened to avoid a repetition of similar incidents.

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 GEMF to compile the central bank survey and the ODCs survey is consistent with the guidelines of the *MFSM*. A depository corporations survey is compiled consolidating the central bank survey with the ODCs survey. The main monetary aggregates, revised in mid-2006, are:

- Monetary base: notes and coins issued by the central bank plus deposits of ODCs with the central bank.

- M1: notes and coins in circulation outside the banking system, checks issued by the central bank, demand deposits of the private sector in national currency (net of checks to be cleared), other sight deposits of the private sector in national currency, and savings deposits of the private sector in national currency with a maturity of less than 30 days.

- M2: M1 plus time deposits of the private sector in national currency, savings deposits of the private sector in national currency with a maturity longer than 30 days, mutual funds' shares of the private sector with a maturity of less than one year, plus credit unions' deposit liabilities, less investment of mutual funds and credit unions in instruments included in M2.

- M3: M2 plus foreign currency deposits of the private sector, central bank bills held by the private sector in other depository corporations, treasury promissory notes held by the private sector in other depository corporations, letters of credit held by the private sector in other depository corporations, mutual funds' shares of the private sector with a maturity longer than one year, plus voluntary savings quotas of pension funds, less investment of mutual funds and pension funds in instruments included in M3.

2.2 Scope

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

At end-April 2007, Chile's depository corporations sector comprised the CBCH, 25 commercial banks, the state owned Banco Estado, five credit unions, and 21 mutual funds. There are no banks in liquidation. Coverage of the ODCs survey is complete, with data comprising the headquarters and all domestic branches.

Going beyond the scope of monetary statistics, Chile should compile an Other Financial Corporations (OFCs) survey. Currently, the GEMF compiles a survey of the pension funds in line with the recommendation of the *MFSM*, using data received from the Superintendency of Pension Funds (SPF). This survey should be expanded to include also insurance corporations and other relevant financial intermediaries, with data collected by the Superintendency of Securities and Insurance (SSI). The SSI is already transmitting to the CBCH data on insurance corporations, health insurance companies, and investment funds, but in a format that is not adequate for compiling an OFCs survey. Therefore, the CBCH should request from the SSI to review the format of the data transmitted on insurance corporations and other financial intermediaries, in order to facilitate the compilation of an OFC survey.

Recommendation: Start compiling an OFCs survey, with data from pension funds, insurance corporations, and other relevant financial intermediaries.

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*). Identification of accounts of residents and nonresidents and domestic resident sectors is facilitated in Chile by the use of a uniform tax register (Registro Único Tributario—RUT). To properly sectorize the accounts of the ODCs the GEMF supplements the information contained in the monthly balance sheet with additional data disaggregated by instrument and sector.

The accounting records of the CBCH do not provide a detail of the holders of securities issued by the CBCH. Sectorization of these instruments is done subtracting the holdings reported by ODCs from the total issued by the CBCH, and assigning the difference to OFCs. An ongoing project at the CBCH aims at improving the sectorization of these instruments, identifying their final holders and grouping them into commercial banks, pension funds, investment funds, insurance corporations, and foreign corporations; calculating by difference the holdings by national nonfinancial corporations.

Another shortcoming is the nonsectorization of the liabilities of mutual funds, which are lumped into one item *Participations in mutual funds*. In the ODCs survey, all these liabilities are classified as securities held by OFCs.

Recommendation: Properly sectorize the securities issued by the CBCH according to their final holder, and the liabilities of mutual funds.

Classification of financial instruments also follows the recommendations of the *MFSM*. Instruments are classified according to type, maturity, and currency denomination (local currency, indexed to UF, and foreign currency). Repurchase agreements are classified as collateralized loans, financial derivatives are properly recorded, but advances on insurance premiums are recorded as *Other assets* rather than as *Insurance technical reserves*. Valuation adjustments are transferred to profits and loss accounts. The proportion of *Other assets* and *Other liabilities* in the total of the balance sheet of the CBCH is less than 0.5 percent, and in the aggregated balance sheet of ODCs of around 7.5 percent, indicating a correct classification of instruments.

2.4   Basis for recording

2.4.1   Market prices are used to value flows and stocks

In general, market prices are used to value flows and stocks. Accounts in foreign currency are converted into national currency at the end of the month using the CBCH's "observed" peso per U.S. dollar exchange rate. This "observed" exchange rate is calculated as the weighted average of the interbank transactions (excludes operations with the CBCH), resulting in a mid-point market exchange rate.

ODCs value their holdings of securities at market prices, which is consistent with the *MFSM* methodology. However, for prudential reasons the CBCH values its holdings of securities at the lower of the market price or the amortized cost (acquisition cost plus accrued interest). Securities issued by the CBCH or ODCs are valued on the liability side at amortized cost.

To value its holdings of monetary gold, the CBCH follows a conservative approach not fully in line with the *MFSM*, which recommends valuing them at market prices. Gold holdings are valued at the end of the month on the basis of the simple average of the international gold prices of the last 90 days, then discounted by 10 percent and converted into national currency using the "observed" exchange rate of that day. The difference between the results produced by this method and the use of the market value is nonmaterial due to the small stock of monetary gold held by the CBCH (0.02 percent of the CBCH's international reserves).

2.4.2   Recording is done on an accrual basis

The CBCH and ODCs record on an accrual basis and the accrued interest is presented together with its underlying instrument. For prudential reasons, interest is not accrued on loans overdue for more than 90 days.

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

Assets and liabilities of the CBCH and ODCs 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. Loans are recorded on a gross basis at nominal values plus accrued interest, with the provisions for loan losses reported as a separate item under *Other liabilities*.

When producing the ODCs survey, the GEMF consolidates the intrasectoral accounts of the commercial banks, credit unions, and mutual funds in *Other items net*. The DC survey consolidates the accounts of the CBCH 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

The use of a common chart of accounts and the RUT greatly simplify the compilation of monetary statistics. The SBFI has issued precise instructions on the different forms ODCs must complete, the use and recording of the accounts, validating procedures, and timeliness. The codification of the accounts allows for a classification based on instrument, sector, maturity, currency denomination, type of operation, risk, etc.

To prepare the analytical accounts of the CBCH, the GEMF makes use of an automated program (ANABAL) that permits the reordering of the accounts of the trial balance according to the different needs of the user.

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

The depository corporations survey is based on actual accounting records of the CBCH and the ODCs. Therefore, no sampling or estimations are employed by the GEMF. The supplemental information provided together with the monthly balance sheets of ODCs permits an adequate sectorization and identification of the accounts of residents and nonresidents. Reporting errors are minimized by the use of the RUT of the account holder. ODCs follow national accepted accounting standards when recording their transactions, and are in the process of adopting International Financial Reporting Standards (IFRS). The migration to IFRS would imply minimal changes in the current system. The balance sheet of the CBCH is also prepared in accordance with national accepted accounting standards and audited by an external international firm selected through a competitive process for a period of three years, which can be renewed on a yearly basis for up to two years. The 2006 financial statements were approved with an unqualified opinion.

3.1.3   Source data are timely

The CBCH's data are available on a daily basis to the GEMF, which has online access to the accounting records. ODCs transmit to the SBFI—with a one-day lag—daily data, which are utilized by the GEMF for the production of some indicators. The ODCs monthly balance sheets are transmitted within eight working days to the SBFI, and forwarded also with a time lag of eight working days to the CBCH. The whole process is automated, allowing the GEMF 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

Before submitting data to the SBFI, ODCs run internal consistency checks with programs provided by the SBFI. After receiving the data, the SBFI performs automatic validation and consistency checks, which include the comparison of assets and liabilities, logical validation of the data, cross-checking of interbank positions, and data analysis.

On top of those validations, the GEMF also runs consistency checks at the level of individual institution, to verify that the data reported in the monthly balance sheets are consistent with the disaggregated data reported in other forms. This verification is done automatically, with macros flagging any discrepancy. If inconsistencies are found, the GEMF contacts the reporting institution to solve the problem.

Daily data reported by ODCs are analyzed to detect unusual movements, and also used to verify the accuracy of the monthly data.

3.3   Statistical techniques

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

Because both CBCH and ODCs data are processed electronically, the risk of mistakes is minimal. Monthly data reported by ODCs are complete and the GEMF does not estimate missing information. In cases of missing daily data from ODCs, the GEMF delay (by hours) the posting of the indicators and wait for the data if they pertain to a large institution, or simply repeat the value of the previous day in cases of small institutions.

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 depository corporations survey 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 the 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*

Interbank positions are validated by the SBFI, but not at an aggregated level by the GEMF. Data reported by ODCs on deposits with the CBCH are not cross-checked against the CBCH's own accounting records.

Data reported by ODCs on securities issued by the CBCH cannot currently be cross-checked against own data because the latter do not exist, forcing the GEMF to accept as correct the data reported by ODCs.

The GEMF checks daily that changes in international reserves, calculated by the Balance of Payments and External Debt Department (DBPDE), are consistent with monetary data. Some discrepancies arise due to different valuation methodologies, but the discrepancies are explained.

Consistency checks between monetary and fiscal data are not performed by the GEMF, but by the Macroeconomic Analysis Unit (UAM). The UAM controls data of the Ministry of Finance (MOF) on debt to and deposits with the CBCH, and if discrepancies exist contacts the MOF to solve them. However, the UAM does not cross-check monetary data on loans to government by ODCs, central government securities held by ODCs, and central government deposits with ODCs against fiscal data.

Recommendation: Perform systematic validations of reported monetary data, including aggregated interbank positions, data reported by ODCs vis-à-vis the CBCH against its own accounting records, data reported by ODCs on holdings of central government securities against CBCH's records on central government debt, and monetary and fiscal data on credit to government by ODCs.

3.4.2 *Statistical discrepancies in intermediate data are assessed and investigated*

If discrepancies arise during the validation process of ODC data, the GEMF contacts the reporting institution to solve the problem.

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

Procedures are in place to investigate classification/sectorization errors or omissions as a source of fluctuations or discrepancies. If errors are detected, all involved parties are informed about them.

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)

For the very nature of monetary statistics, revision studies are not routinely performed. This notwithstanding, the CBCH conducted some revisions of monetary statistics in the recent past, and informed users beforehand. For instance, at end-2006 new monetary tables were introduced and some existing ones reformatted to better monitor the CBCH's foreign exchange interventions, its international reserves situation, its foreign currency exposure, and its consolidated foreign liquidity position with the central government. Prior to their final introduction, the proposal was posted on the Internet for comments, the CBCH called a press conference to explain them, and also held meetings with experts. A detailed explanation of the new methodology was published in *Estudios Económicos Estadísticos* at end-2006. A similar process took place for the revision of monetary aggregates in mid-2006.

4. Serviceability

4.1 Periodicity and timeliness

4.1.1 Periodicity follows dissemination standards

Daily data on some financial indicators are posted on the CBCH's website, including interest rates. Monetary aggregates are disseminated twice a month by the CBCH, first as an advance to the monthly data. This periodicity fully complies with SDDS requirements.

4.1.2 Timeliness follows dissemination standards

Monetary aggregates are disseminated on the 7th and 23rd day of each month. The first release does not contain ODC data from the previous month, and is intended as an advance of the monthly data. On the 23rd, the CBCH's *Boletín Mensual*, containing among others monetary data, is posted on the CBCH's website, and later distributed as a hard copy. This timeliness complies with SDDS requirements. More detailed monetary data is published once a year in the CBCH's *Síntesis Monetaria y Financiera*.

4.2 Consistency

4.2.1 Statistics are consistent within the dataset

ODCs claims on the CBCH are fully consistent with liabilities to ODCs recorded by the CBCH, but this is not the case for loans to ODCs recorded by the CBCH, which are considerably lower (on average only one fifth) than the liability to the CBCH for this concept reported by ODCs. The mission also found a large discrepancy between the claims on ODCs reported by ODCs and the liabilities to ODCs reported by them, largely explained by the nonsectorization of mutual funds' liabilities.

Recommendation: Systematically review aggregated source data reported by ODCs to eliminate internal inconsistencies.

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

Time series are consistent. When the new monetary aggregates were introduced in mid-2006, the series were revised from January 1986 onwards. Series discontinued from publication are nevertheless updated internally, to preserve their historical continuity and usefulness for research.

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

Monetary data are consistent with balance of payments data because both datasets have a common source. Data on stocks of international reserves published in the CBCH's *Boletín Mensual* are consistent for the monetary and balance of payments tables. Although a discrepancy between them should exist due to different valuation methods, the data published in balance of payments table are adjusted to the market values used in monetary statistics.

Monetary data on credit to the central government by the CBCH, and deposits of central government with the CBCH, are fully consistent. The mission attempted to reconcile monetary data and fiscal data on net credit to government by ODCs, but it was unable to do so due to lack of disaggregation of fiscal data.

4.3 Revision policy and practice

4.3.1 Revisions follow a regular and transparent schedule

Monetary data posted on the CBCH's website and published in its *Boletín Mensual* are provisional for the last two months, and made final after this period.

4.3.2 Preliminary and/or revised data are clearly identified

Preliminary data are identified through a footnote in the tables.

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

Studies and analyses of revisions are made public in the CBCH's *Estudios Económicos Estadísticos*, and also explained through notes in the corresponding tables.

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)

Monetary statistics are first disseminated on the CBCH's website and then published as a hard copy in the CBCH's *Boletín Mensual*. Similarly, more disaggregated, data are published annually in the CBCH's *Síntesis Monetaria y Financiera*. The tables present the information in a clear form and with an adequate level of detail. Notes accompany all the tables, including explanations due to revisions.

5.1.2 Dissemination media and format are adequate

The CBCH's *Boletín Mensual* and its fortnightly advance are available through the CBCH's website. The CBCH's *Boletín Mensual* and *Síntesis Monetaria y Financiera* are available in hard copies. Time series posted on the website are accessible in an Excel format and graphs can be generated. The latest available series at the time of the mission's visit to Santiago correspond to March 2007.

5.1.3 Statistics are released on a preannounced schedule

The CBCH posts a release calendar, which is strictly followed, on its website and includes it in its *Boletín Mensual*.

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

Monetary statistics are released through the CBCH's website, making them available to all users at the same time. The press is not informed in advance of the data to be released.

5.1.5 Statistics not routinely disseminated are made available upon request

The accessibility of monetary data in an Excel format through the CBCH's website has significantly reduced individual requests. However, additional data may be made available upon request with authorization of the general manager.

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 on monetary statistics are available on the IMF's DSBB. The latest update of the metadata on the DSBB took place in December 2006. The CBCH's website contains 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 level of disaggregation contained in the CBCH's publications is sufficient to meet different audiences' needs.

5.3 Assistance to users

5.3.1 Contact points for each subject field are publicized

Contact points for each subject field are available on the DSBB, accessible through the CBCH's website.

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

A catalog with the publications of the CBCH and their prices is posted on the CBCH's website and included in its *Boletín Mensual*. Several of the publications can be downloaded from the Internet.

Table 10. Chile: Data Quality Assessment Framework (July 2003): Summary of Results for Monetary Statistics
(Compiling Agency: Central Bank of Chile)

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	O	LO	LNO	NO	Comments
0. Prerequisites of quality						
0.1 Legal and institutional environment		X				
0.2 Resources		X				
0.3 Relevance			X			No structured and periodic process of consultation with users.
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			Securities issued by the CBCH and liabilities of mutual funds are not sectorized.
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			No systematic cross-checking of aggregated interbank positions, or data reported by ODCs against the CBCH's own accounting records. No validation of data reported on securities holdings by ODCs. Only limited validation of monetary and fiscal data.
3.5 Revision studies		X				
4. Serviceability						
4.1 Periodicity and timeliness		X				
4.2 Consistency		X				
4.3 Revision policy and practice		X				

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(Compiling Agency: Central Bank of Chile)

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Element	NA	Assessment				Comments
		O	LO	LNO	NO	
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

Chile's balance of payments are compiled and disseminated by the BCCH. The Constitutional Organic Law of the BCCH (Law No. 18840 published in the official gazette on October 10, 1989) stipulates in its Article 53 that the Bank shall compile and publish, in a timely manner, the country's principal macroeconomic statistics, including monetary, foreign exchange, and balance of payments statistics, and the national accounts.[70]

In addition, the coverage, periodicity, and timeliness of these statistics are established by Decision No. 393-07-941207 of the Central Bank Board of Directors, published in the official gazette on December 13, 1994, and last updated in 2006.(The decision is available at: http://www.bcentral.cl/esp/normativa/acuerdos/pdf/1311-03-061221.pdf).

The unit compiling the balance of payments within the BCCH is the Balance of Payments and External Debt Department (DBPDE), a part of the Information and Statistical Research Directorate (GIIE), which reports to General Management.[71]

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

The BCCH has traditionally enjoyed a close relationship with other entities, mainly governmental agencies that provide data used by the DBPDE for compiling the balance of payments.

The major external compiler of basic statistical data for this purpose is the National Customs Service (NCS), which provides data on exports and imports. The flow of source data from the NCS to the CBCH is regulated by an agreement between the two institutions. Data are received as individual operations and are processed by the Database Department (DBD) and the International Exchanges and Statistical Compilation Directorate (DCIE). These data are entered in the institutional database and retrieved from there by the DBPDE for balance of payments purposes as well as by the National Accounts Department. Information from customs documents is transmitted via a dedicated telephone line thus ensuring timely receipt of the information on a weekly basis. Information received by the CBCH is checked for consistency prior to release for statistical compilation purposes. Any errors detected are corrected with the agreement of the NCS. These data are also supplemented with information

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[70] http://www.bcentral.cl/esp/fuyorg/leyorganica/ley03.htm

[71] http://www.bcentral.cl/esp/fuyorg/organigrama

supplied mainly by the government and free zones so as to make the necessary adjustments in terms of coverage or time of recording prior to their final inclusion in the balance of payments. Most customs declarations fields are systematically processed by the computer system, which means that they can be used not only for the measurement of flows of goods, but also for estimating or validating other items in the balance of payments, external debt and international investment position, such as transport, export charges and trade credits.

Another external source of balance of payments data is the National Tourism Service (SERNATUR), with which the CBCH has an agreement since 1991. The format and requirements of this agreement have been amended on various occasions to bring them in line with the methodological needs of the CBCH. The agreement regulates the conduct of inward and outward tourism surveys by SERNATUR, establishes the terms for the delivery of information and includes technical specifications. This work is financed by the CBCH and by SERNATUR's own resources (salaries, logistics, data processing, etc.). Historically information was gathered in three survey periods (high, medium, and low season) and findings were delivered to the CBCH within a maximum of six months. Work is currently on the final step to a new amendment in order to require year-round information gathering. Therefore since January 1, 2007 SERNATUR has been implementing the new methodology, which requires delivery of findings monthly, quarterly, and with a three-month lag.

This data source is supplemented by information from the International Police, which provides data on the number of travelers entering and leaving the country with a geographical breakdown. This information is compiled monthly and received with a lag of less than one month.

Additionally, information is sourced from external entities, such as the Superintendency of Pension Fund Administrators (SPF), the Superintendency of Securities and Insurance (SSI), the Budget Directorate of the Ministry of Finance (DIPRES) and the banking system. This includes both data in the public domain, obtained directly from their respective websites or publications, as well as data provided in response to requests by letter or other means. Information from the banking system is received by the monetary unit of the GIIE and by the DBPDE either through the Superintendency of Banks and Financial Institutions via a data transmission system known as the National Financial Communications System (SINACOFI) or directly from the banks themselves.

The data used for balance of payments purposes include the external assets and liabilities positions of reporting banks, broken down by original maturities and categories such as cash, deposits, and loans. Data from the SSI, either publicly available or sent directly (insurance enterprises), relate to the external assets position of entities supervised by this Superintendency, and to public data on the income statements of enterprises under its supervision, from which data on income can be derived. Lastly, data from the SPF relate to monthly international portfolio buying and selling and a quarterly statement of changes in foreign investments by pension funds, which provides information on balances, flows, and other changes in the foreign investments of pension funds.

Although there is no formal agreement between the Internal Taxation Service (ITS) and the CBCH, the ITS serves as another external compiler of source data for various purposes in

response to specific requests on a case by case basis. The data on additional tax, for instance, are used to estimate imports of various services items.

Data is also provided by the Foreign Investment Committee (CIE) in response to official contacts between the two institutions. This information is used to supplement data obtained through other channels, and to establish breakdowns by county or by sector.

Lastly, there is a large amount of data from external sources that has been compiled and validated by the *International Exchange and Surveys Department* (DCIE). This information is managed by the Compendium of International Exchange Regulations (CIER), through various forms available on the Internet, in various periodicities and formats, and is supplemented by various reporters and by information reported daily on foreign exchange operations by the banks and bureaus de change comprising the formal foreign exchange market. Reporters may consult their information provided previously and make any changes necessary. Further, since the beginning of the year, the DCIE is responsible for processing data from surveys conducted by the CBCH, most of which are available on the Internet.

To ensure appropriate monitoring of agreements and the delivery of data there are ongoing meetings between SERNATUR and the CBCH, as well as with other external providers who report via the CIER. In recent years, there have been significant efforts to improve internal and external coordination procedures.

Access to customs records is expeditious and without confidentiality restrictions, while tax records are available on an anonymous basis. The quality and coverage of administrative records is good and appropriate filters have been developed for using these records in the various balance of payments compilations.

If the tax records were more timely they could make a broader contribution to the preparation of the quarterly balance of payments as well as to a better breakdown of expenditure under the Reserved del Copper Law by residence.

Recommendation: provide more timely access to tax records with a view to improving the quality of quarterly estimates. Thus, DIPRES must take into account the statistical information requirements of the CBCH (balance of payments, international investment position, external debt, and national accounts) within the framework of Article 19 of the Fiscal Responsibility Law.

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

The confidentiality of data reported by individuals and legal entities is guaranteed under Article 66 of the Organic Law of the CBCH [72] It is also guaranteed by the *Manual of Ethical Principles*[73] and the Personnel Regulations[74] that prohibit officials from divulging

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[72] http://www.bcentral.cl/esp/fuyorg/leyorganica/ley05.htm

[73] Agreement No 1052E-01-030331 – Internal Circular No. 422.

confidential information as well as information that is pending publication. In addition, the employment contract establishes the need to "maintain the confidentiality of situations and matters that are, directly or indirectly, related to the Bank and that they may come to know by virtue of their position or functions." In fact, the individual employment contract establishes this confidentiality as an essential duty and violation of that duty constitutes reasonable grounds for termination of employment.

In surveys and accompanying letters, respondents are informed that the information they provide will be used for statistical compilation purposes and that said information will remain confidential.

In individual CBCH employment contract, maintaining the confidentiality abovementioned is deemed an essential duty, violation of which constitutes reasonable grounds for termination of employment.

The BCCH data processing platform has a hierarchical system of privileges ensuring protected access to information sources and to the processes used by the compilers of balance of payments. There are also policies on "clean desks" and mechanical destruction of hard copy information.

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

The Central Bank is authorized under Article 53 of its Organic Law to obtain information from public institutions for compiling the balance of payments.[75] Access to the administrative records of the aforementioned NCS and ITS falls within this framework.

Article 40 of the same law also authorizes the CBCH to request information on foreign exchange operations carried out by economic agents. This provides the legal basis on which information can be requested using the CIER.

Although there are no legal means empowering the Bank to require private institutions to respond to requests for information other than on foreign exchange operations for compiling the balance of payments, there is broad cooperation with the BCCH among private agents. The response rate to requests for information through surveys that the Central Bank makes through the DCIE varies in qualitative terms on transactions of importance for the country. These include portfolio investment 78 percent (95 percent); direct investment 70 percent (70 percent); international institutions excluding embassies 50 percent (100 percent); and services 64 percent (57 percent). The values in parentheses correspond to the quantitative response rate. Given their relative importance, an improvement in the receptiveness to direct investment and services surveys would contribute to better recording of nonfinancial private sector operations.

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[74] Title I, F, I, (j); Internal Circular No. 294 of July 7, 1999; and Employment Contract.
[75] http://www.bcentral.cl/esp/fuyorg/leyorganica/ley03.htm

In any event, given that there is no legislation in force explicitly authorizing the CBCH to request information from the private sector for statistical purposes, the response rates observed could be seen as an indication of the level of confidence enjoyed by the CBCH among private agents.

As an incentive for reporters to deliver timely information of good quality on an ongoing basis, consideration is being given to finding interesting ways of providing feedback to reporters, such as through the daily bulletin[76] published on the website.

Without prejudice to the above and to the fact that for recalcitrant cases preference is being given to the use of methods of persuasion rather than the application of sanctions even when these are provided for by law (in the case of the CIER), with a view to further supporting the DBPDE's efforts to improve the coverage of private sector transactions and, nonfinancial transactions in particular, it would be advisable to proceed as follows:

Recommendation: Seek to improve the legal framework authorizing the CBCH to request information for statistical purposes from the private sector as a whole to complement the existing legislation applicable to the public sector.

With a view to facilitating the delivery of information, the CBCH designs its forms and surveys taking account of the way in which enterprises record their data so as to make filling in the questionnaires the least time-consuming possible for respondents. Some formats also include a question on the time it takes to complete them. In addition, pilot tests are done to ensure that the forms can be easily completed and properly understood by respondents as in the case of the direct investment survey, for instance.

Once the formats have been finalized, mass meetings are held with reporters to provide detailed explanations on the concepts and how to fill in the forms and surveys. For example, in the first quarter of this year, six meetings were held with approximately 400 people drawn from the major importing and exporting enterprises to explain the new forms, Chapters IV and V of the CIER. Further, during the period when responses are sent in, the DCIE is constantly available to reporters to clarify any doubts regarding the filling in of the forms and to facilitate this contact, the telephone numbers and e-mail addresses for each area are posted on the website[77]. Simultaneously, the data collection unit (DCIE) and the compiler (DBPDE) have organized themselves in thematic groups that meet periodically to ensure that the concepts are properly understood and passed on to the reporters. The work of the groups is supervised monthly by the management of both departments.

In determining the information requirements, the CBCH has also sought alternative sources of data, so as to avoid making unnecessary demands on reporters. For instance, publicly available information from banks, Pension Fund Administrators, and insurance enterprises is used.

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[76] http://www.bcentral.cl/esp/publ/estad/dinban/dinban01.htm

[77] http://www.bcentral.cl/esp/servicios/cnci/otros/

0.2   Resources

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

The DBPDE has a flexible structure comprising two working groups that deal with the processes related to the compiling of goods, services and transfer accounts, on the one hand, and the income, financial, international investment position and external debt accounts, on the other. As the DBPDE works very closely with the DCIE and the DBD in carrying out its work on all matters related to the collection of source data, the main characteristics of each entity are described below.

The DBPDE has 20 full-time and two fixed-term professional staff, 60 percent of whom have 10 or more years of experience in compiling external accounts statistics, either balance of payments per se or the external transaction account of the national accounts or in external debt statistics, while the remainder have an average of less than five years experience. In addition, three very experienced administrative assistants provide support in the compilation of the information. The DBPDE's professional staff members are commercial engineers (15), statisticians (3), industrial engineers (1), engineers in international trade (1), accountants/auditors (1), and systems analysts (1). More than one third of them hold post-graduate degrees (masters and doctoral candidates).

Basic training is provided for new professional staff joining the team, and staff members also attend training courses on balance of payments and external debt methodology (IMF and CEMLA). In recent years, they have also visited centers of excellence in these areas (Office for National Statistical in England, Bank of Spain), participated in seminars (OECD and others), and had the benefit of a seven-month in-service training session at the Bank of Spain. Added to this, professional staff also attended seminars and training programs in Chile, while one staff member signed up for a Statistics Diploma program. The DBPDE also organized a course on balance of payments methodology, which took place in November 2005, and a workshop on external trade price indices delivered by an expert with seasoned international experience.

Since the last assessment, the CBCH has conducted a restructuring exercise and the former capital control units were done away with in 2001. The CIER was refocused more specifically on statistics and this has resulted in a marked increased in the professionalism of its statistics personnel, with concentration on data collection and validation in the DCIE. Three very experienced administrative staff also provide support in data compilation.

The DCIE in turn has one fixed-term and 13 full-time and one fixed-time professional staff members. Its administrative staff also has seasoned experience in data compilation and an indepth knowledge of the principal reporters. The professional staff comprises commercial engineers (9); accountants/auditors (3); civil engineers (1) and statisticians (1). More than one-third have post-graduate qualifications and, in addition, another four are currently pursing post-graduate degrees in finance.

Consideration is currently being given to requiring a good working knowledge of English for potential new recruits. Regarding training, staff members have attended courses on financial markets, balance of payments statistics; monetary and financial statistics; processing of surveys, and sample design at the IMF, CEMLA, and the National Institute of Statistics of Spain. They also participated in one-year in-service training programs in 2005 in the Netherlands, Sweden, and Denmark, to learn how these countries optimized their data collection and validation processes. Prior to that, in 2002, in-service training programs took place in Australia, New Zealand, Spain, and Portugal for skills training in the two main approaches to data collection. The administrative staff, in turn, continually upgrade their skills and mastery of technological tools and basic statistics.

For this year, arrangements are being made to hold a workshop with the Head of the Balance of Payments Department of the Bank of Spain on financial data collection and validation, as well as an internship on surveys at the National Institute of Statistics of Spain.

Lastly, the DBD has 10 professional staff (commercial, industrial, and computer engineers) and two administrative staff in charge of managing the operational databases for the collection of statistics on external trade in goods, and has as its broader objective to use best practices and technologies to develop, manage, and provide access to economic databases for CBCH users. The DBD, therefore, coordinates and oversees relations between the CBCH and the providers of information used for the statistics databases, particularly public sector agencies such as the NSI, NCS, and SERNATUR.

The CBCH compensation levels and structure are competitive with the market, particularly if nonmonetary benefits are included. These benefits include access to overseas training, making it possible to retain qualified professionals. In mid-2006, all staff were reclassified to make salary mobility more flexible. The salary scale is currently being adapted to the achievement of objectives and to provide performance bonuses for achieving such objectives.

The computing resources available for compiling the balance of payments comprise individual staff desktop computers that are at least a Pentium 4HT, with networked Windows XP Operating Systems. The DBPDE has color printers and photocopiers and black and white printers and copiers for heavy-duty work, as well as portable computers and overhead projectors. In addition to Microsoft Office software (Excel, Word, Power Point, and Access), there are more analytical tools like EVIEWS, GAUSS, and SPSS. The corporate database tool is Sybase. In addition, there are other applications that make it possible to access data used in the compilation of balance of payments, external debt, and international investment position (IIP) statistics, such as the Debt Management and Financial Analysis System (DMFAS) and other institutional systems such as OLAP tools for user-friendly data handling. There are also projects underway that will provide applications for more secure and efficient warehousing and calculating of standard balance of payments outputs as well as for incorporating FAME as the database for time series at the institutional level. The first is a DBPDE project, called Balance of Payments Database. It consists of a repository of disaggregated balance of payments series (but not microdata) that can be used to automatically generate, by aggregation, the various outputs for publications or analysis and can also handle other versions, including historical, published, in progress, or simulations.

The CBCH is planning an initial rollout of the software in 2007-2008. The aim of the project is to create a database that is capable of both storing time series data and providing analytical and statistical functions for handling such data. The database will consist of a computer platform run on FAME Software, which has the advantage of making it possible to store and manage time series in a centralized form, making them available in a single location for internal use by the CBCH and, also, at a future date, for public information dissemination. The new platform is expected to bring significant efficiency gains by making it possible for the units that generate statistical information to work more closely with the IT staff and data users. Further, this system opens the way for a gradual change in the culture of working with statistical series by reorganizing and making the databases more transparent within the organization, and by the making the functions in the statistical chain more specialized with the ultimate aim of facilitating the work of the analysts who use the data.

All staff members are connected to the Internet and there is an active Intranet for developing the various compilation and communications processes. However, a more efficient and secure compilation process, capable of responding to different analytical needs in a timely manner, requires the development of efficient systems for storing and accessing the microdata that underlie the aggregated series, as well as for creating the algorithms used to perform calculations on basic information from various sources.

Recommendation: Design and create a data warehouse for external statistics (balance of payments, IIP, external debt) to meet the data handling needs of the DBPDE more efficiently by making it possible to fully utilize the available information currently stored in a large number of spreadsheets with complicated and unstable links requiring the use of an inefficient and unreliable repository to handle the large amount of information available.

The staff of the DBPDE, the DBD, and the DCIE carry out their work using individual workstations that meet international standards in terms of size. They have adequate lighting, cooling, and heating facilities.

Office furniture and equipment (e.g., desks, chairs filing cabinets, telephones, and related equipment) are adequate to perform required tasks.

Annual budgets include adequate funding to perform the tasks required for the normal collection and compilation of balance of payments statistics. In addition, these budgets have been supplemented with additional resources to implement specific projects aimed at improving the work of collecting and compiling such statistics. Thus in 2007 a project will be conducted on balance of payments and IIP data application processes, which will serve as a basis for improving these processes and streamlining the computer platforms that support these calculations.

0.2.2 Measures to ensure efficient use of resources are implemented

Staff is assessed annually on the basis of criteria such as teamwork, individual contribution, and the achievement of previously defined objectives. This approach was revised recently to bring it in line with new practices related to salary mobility and the granting of performance bonuses.

There are also projects in the pipeline that will be useful for assessing and streamlining work procedures to make them more efficient.

The CBCH has a sophisticated process of budget formulation and monitoring of budget execution that enhances resource allocation and the achievement of results in the context of the three-year strategic plan and its annual update.[78] The performance of executives is assessed on the basis of the achievement of objectives that are aligned with the achievement.

0.3 Relevance

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

Searches and suggestions can be made via the bank's website (http://www.bcentral.cl/esp/tools/sugerencia.htm), and information is available on some specific aspects of the data, such as periodicity and timeliness. (http://www.bcentral.cl/esp/infoeconomica/publicacion). In addition, the DBPDE has, on two occasions—November 2005 and 2006—conducted interviews of majors users of statistics to get feedback and suggestions from them on the quality, timeliness, and coverage of the statistics. There are no user groups.

Recommendation: Set up a CBCH statistics users group to provide a permanent forum for discussing ways of better meeting user needs.

There is a high level of sensitivity, and capacity to respond, to needs expressed by various entities to the CBCH, as well as to enquiries emanating from the research and management units of the CBCH aimed at making their work more relevant.

By way of example, one could mention the dissemination of supplementary information on the CBCH balance sheet and international reserves, in September 2006, and the preparation of a quarterly IIP series, which was used by the CBCH for research purposes, and will be publicly disseminated along with a methodological document in the first half of this year. Further, the 2007 project on holders of resident debt securities, the financial account and income statement series, and the series on direct investment with a breakdown by geography, have all been developed in response to information requests from internal and/or external users.

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[78]Central Bank of Chile Strategic Planning: Focus and initiatives for 2007.

The DBPDE participates actively in meetings and seminars on statistics organized by regional institutions (CEMLA and others), and has started working with extra-regional institutions (OECD).[79] It has also sat on the IMF Committee on Balance of Payments Statistics. All of these activities make it possible to keep abreast of changing international statistical needs.

The CBCH Statistics Committee meets once a month to assess requirements and new needs arising from both in-house and through requests from other economic agents.

0.4   Other quality management

0.4.1   Processes are in place to focus on quality

To achieve the objectives outlined in the CBCH strategic guidelines for 2006-2008, a number of high-impact plans (initiatives) aimed at improving the quality of statistics have been formulated. In that context, in 2007, the DBPDE is involved in the following projects, either as project leader or participant:[80]

- Documentation of methods and processes used to produce statistics.

- Impact of Valuation Change Reports (IVV) on the measurement of exports.

- Study on services exports by mode of supply.

- Foreign direct investment series with a geographical breakdown.

- Financial account and income statement series for the 1985-1995 period with categories consistent with the *Balance of Payments Manual*, fifth edition, (*BPM5*).

- Holders of resident debt securities (jointly with the DCIE).

- Application of processes for balance of payments and IIP (jointly with the DCIE).

These clearly defined objectives underscore the importance of quality and the achievement of these objectives is binding on the management of the DBPDE. Training programs will also be implemented to help staff enhance their skills and improve their performance, thereby improving the quality of the statistics produced.

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[79] Chile's accession to the OECD as an extra-regional member will probably be considered by the end of this year.

[80] Central Bank of Chile Strategic Planning: Focus and Initiatives for 2007.

The DCIE's strategic initiatives and budget for this year, include:

- Application of processes for the development of balance of payments and IIP statistics (jointly with the DBPDE).

- Achievement of compliance with international standards for data collection and validation, by working on the following areas:

  - Replacement of forms for measuring trade credits.

  - Incorporation of portfolio investment forms into the CIER.

  - Holders of resident debt securities (jointly with the DBPDE).

  - Measurement of family remittances (jointly with the DBPDE).

In addition, the annual performance objectives set for professional staff include activities aimed at strengthening efficiency and improving data quality, taking into account international standards and the cost to reporters of providing data to the CBCH.

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

The processes in place to monitor the quality of the balance of payments are as follows:

- Structure the initiatives mentioned in 0.4.1 to improve the quality of statistics through specific projects in the balance of payments units, using the *focus on gaps* between the local situation and best practices in terms of sources, methods, and results or statistical products, by applying the Data Quality Assessment Framework (DQAF). It is expected that the recommendations of the IMF mission on Reports on the Observance of Standards and Codes will allow for adjusting and prioritizing the components of these initiatives.

- Analyze the history of the different versions of the balance of payments and the level and sign of errors or omissions. In this regard, in addition to a one-off analysis of the causes and amounts of the reviews, as well as the errors or omissions, each time new figures were produced, in 2005, 2006, and 2007, special projects were conducted on these topics. In the case of the reviews, in 2004 a database of reviews of the main balance of payments accounts was built to assess frequency statistics (number of reviews and lags); in addition, a detailed analysis was conducted, using volatility and coverage indicators, on the case of exports whose valuations are continuously subject to review as a result of IVVs. The findings of the latter study provided valuable input for determining the timetable of reviews. In 2006, a statistical study on reviews was conducted (see 4.3.3, which made it possible to conclude that: (1) intermediate versions could be creating distortions, and (2) the gross component indicators performed well, both in terms of time and in relation to the Euro zone. Indicators need to be carefully observed with overlooking qualitative aspects. With regard to

errors or omissions, in 2006 a project was developed to evaluate their level and possible causes (see 3.4.3).

- Monitor the *quality of processes and methodologies* by documentation of the processes. This work was started in 2006, with the preparation of fact sheets that provide detailed explanations on sources and methods of the various balance of payments items and versions at the most disaggregated level of the data, including an assessment of the quality of each piece of data. The evaluation of procedural quality would make it possible to assign a certain level of reliability to each record used in the compilation as well as contribute to an objective measurement of data quality for purposes of incorporating improvements in sources and/or methods.

In addition, the DCIE has established data validation commitments in conjunction with the DBPDE that are permanent and subject to continuous revision.

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

As mentioned above, projects were defined on the basis of a comparative assessment of current methods and practices and known best practices, as well as quality improvements identified through ongoing monitoring and periodic reviews and feedback from users on new data requirements.

1.   Assurances of integrity

1.1   *Professionalism*

1.1.1   Statistics are produced on an impartial basis

The professional independence of the BCCH is established in Article 1 of its Constitutional Organic Law.[81] Although there are no specific standards or statutes preventing external influence on the content and dissemination of the balance of payments statistics, in practice there is no external or internal interference that has an impact on the results of these figures, something perceived by users interviewed as being a part of the culture of the CBCH.

With a view to strengthening internal independence and following the recommendations of an external consultant, in October 2005, the Board of the CBCH approved a proposed restructuring of the organizational chart by which the GIIE no longer reports to the Research Division but rather to general management. Internal communication procedures and information requests have been adjusted accordingly. The BCCH Statistics Committee plays a role in ensuring that formal relations exist between the GIIE and the rest of the CBCH.

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[81] http://www.bcentral.cl/esp/fuyorg/leyorganica/ley01.htm

At the end of 2006, and with a view to rationalizing statistical development, the GIIE and the DCIE were restructured to focus primarily on compilation, and, secondly, on collection and validation.

Staff of the CBCH, up to the level of department management, are recruited through vacancy announcements on the website and internal/external competitions. There is no special or separate treatment for staff working in balance of payments statistics.

The existing policy on promotions is based mainly on open competition within the Bank, designed to promote staff mobility within the institution. The other form of promotion is through reclassification formally validated by an audit of posts.

Training is provided in areas directly related to the production of statistics, through participation in courses, seminars and internships. Without prejudice to the above, it has already been mentioned that DBPDE staff turnover is on average low, which contributes to an adequate level of specialization in the compilation of statistics.

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

The balance of payments are compiled by the DBPDE in accordance with professional criteria and with complete independence. Compilers select the sources and methods that allow them to carry out their mandate appropriately.

In addition, regarding the CIER, this is a source in which the Organic Law stipulates that there can be no discrimination in information requests; in addition, thresholds are established against which all agents must report. For example, in the case of information on commercial credits, information is requested from all exporters and importers having concluded export/import arrangements whose annual f.o.b value is equal to or more than \$5 million[82].

Data is disseminated in accordance with clearly defined procedures and commitments in terms of timing, media and content (see agreement, at http://www.bcentral.cl/esp/normativa/acuerdos/pdf/1311-03-061221.pdf).

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

The DBPDE provides the necessary clarifications in both cases but does not comment. Comments are reserved for the GIIE—which may consult the DBPDE, if necessary— in response to a prior request from the Board.

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[82] http://www.bcentral.cl/esp/normativa/cambiointernacional/compendio/pdf/CapIV.pdf

1.2 Transparency

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

The terms and conditions under which balance of payments statistics are prepared are stipulated in Article 53 of Organic Constitutional Law 18840, as previously indicated.[83]. The law may be obtained in print version from the Publications Department of the CBCH (copies are also available in English).

Information is also available to the public on the terms of the agreement establishing specific obligations regarding the coverage and timeliness of the information published. (http://www.bcentral.cl/esp/normativa/acuerdos/pdf/1311-03-061221.pdf)

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

The balance of payments is released simultaneously to all users outside the CBCH, with the exception of the Ministry of Finance, which has access to the data 24 hours before publication. The public is informed of this by a footnote in the SDDS metadata.

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

The balance of payments data released to the public are not identified as a product of the DBPDE but rather of the institution. In the case of the technical notes circulated through the publication *Chilean Economy*, which has an independent editorial committee, the authors of articles included in the various issues are identified. (Examples of documents with participation from DBPDE professional staff members are: *Chilean Economy*, volume 7, Nº 3: *Measurement of Foreign Direct Investment in the Balance of Payments*, and Economic Research Series Nº 46: *Effects of Valuation of the IIP of Chile.*

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

Users are informed of any major change in methodology, source data, or statistical techniques simultaneously with the publication of the data in the new form depending on the magnitude of the changes. In that case, users are notified by means of notes or other texts, press releases, and press conferences, and/or briefings with analysts. This was done in the case of the inclusion of reinvested earnings on direct investment in 1998, and the adoption of the *BPM5* and the dissemination of the IIP in mid-2002.

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[83] http://www.bcentral.cl/esp/fuyorg/leyorganica/ley03.htm

1.3   Ethical standards

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

There is a *Manual of Ethical Principles* (March, 2003) that establishes clear standards describing the procedures that the organization and its staff must follow when potential conflict of interest situations arise (Section II, 1). It also includes clear ethical standards on measures to be adopted to prevent the misuse or misinterpretation of statistics (Section II, 2) The manual includes standards on:

- Incompatibilities and conflicts of interest.
- Use and confidentiality of information.
- Communication (with the press and public appearances).
- Participation in seminars and conferences.
- Use of the work of the CBCH.
- Acceptance of gifts and invitations.
- Service fees.
- Use of the name and image of the CBCH.

In addition to the above, there is a special regulation for the handling of highly sensitive information (HSI).

The manual is available on the CBCH's Intranet and new staff joining the organization are made aware of the manual in orientation courses organized by the Human Resources Directorate.

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 current, capital and financial accounts of the balance of payments are broadly in conformity with the *BPM5* guidelines. In constructing the balance of payments statement, the double-entry system is applied to the extent possible, and the net residual is embedded in the errors and omissions item.

A clear distinction is made in the system between the income component and the goods and services components and, in the financial account, transactions in assets and transactions in liabilities are recorded separately.

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

- Enterprises, including unincorporated branches are considered to be residents.

- For construction enterprises that operate as unincorporated establishments in the economy where work is being performed, the one-year guideline is applied flexibly together with other considerations (e.g., maintain a complete set of accounts, pay income taxes to the host country, etc.).

- The residence of units operating mobile equipment in international waters or airspace is attributed to the operating enterprise's country of residence.

- The residence of offshore entities and enterprises operating in free zones is attributed to the economy in which they are located.

- The residence of Special Purpose Entities (SPEs) is attributed to the economy in which they are located.

- International organizations and supranational authorities with headquarters in Chile are not considered residents of any national economy.

- All units of general government, including embassies and military bases, are considered to be residents of Chile.

Balance of payments transactions are defined according to the guidelines of the *BPM5,* for example, in that context both exchanges and unrequited transfers (transactions without a quid pro quo) are registered. The type of transaction is identified using the *BPM5* concepts and definitions for example:

- Foreign direct investment transactions are defined by applying the 10 percent of ownership rule, strictly in the case of the outward investment, and in principle, in the case of direct investment in Chile;[84]

- Reserve assets are defined considering the concept of monetary authorities' effective control and availability for use; they include the gross assets related to the Reciprocal Credit System of the Latin American Integration Association (ALADI) while the liabilities are shown as short-term drains in the reserve and international liquidity template. However, in this system assets and liabilities cannot be separated in the compensation sessions, and therefore registries should be made on a net basis (assets net of liabilities).

Recommendation: Record under reserve assets the net balance of the Agreement on Reciprocal Payments and Credits of ALADI, that is, A accounts (exports or asset balances) minus B accounts (imports or liabilities balances) in consolidated form for all the member countries of said Agreement.

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[84] In some cases the data sources used to estimate these entries do not allow to determine clearly the percentage owned by nonresident investors. However, for these cases, it is estimated that the participation of nonresident investors in the capital of the enterprises exceeds the 10 percent.

- The distinction between inbound and outbound transportation is made at the point after goods are loaded on board at the customs frontier of the exporting country, that is, consistent with the f.o.b. valuation of the goods.

The balance of payments transactors are defined, on the one hand, as all economic entities resident in Chilean economic territory and, on the other, as residents in the rest of the world. Some transactions are not included in the financial accounts where it is not possible to make a strict distinction between transactions conducted between residents and nonresidents, in which case the transactions are recorded with a broader criterion (transactions in assets issued by nonresidents and held by residents, and liabilities whose debtors are resident in Chile and whose holders are nonresidents).[85]

The above concepts and definitions are regularly reviewed by the DBPDE to detect any deviations.

2.2 Scope

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

In terms of coverage, as specified in the *BPM5* all resident-nonresident transactions are covered in the balance of payments statistics (e.g., repairs on goods, nonmonetary gold, purchase of computer software, mineral exploration, e-commerce transactions, leases and other transferable contracts, reinvested earnings, intercompany lending, private sector portfolio investment, trade credit, short-term debt transactions, debt arrears, and noncash transactions). In practice, some resident-nonresident transactions are not measured or are only partially covered because of a lack of information. For example, information is not available on goods for processing, shuttle trade, or smuggling, the estimated flows of which are insignificant. Estimates for such transactions are not included in the national accounts either[86].

In that context all resident units engaged in transactions with nonresidents are covered, including:

- Incorporated or unincorporated affiliates of nonresident enterprises.

- Resident territorial enclaves in the rest of the world (e.g., embassies).

- Free zones, bonded warehouses and factories operated by offshore enterprises under customs control and within Chilean economic territory. In the case of exports from free zones to the rest of the world, adjustments are made on the basis of estimates of trade margins along with the national accounts statistics.

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[85] See recommendations in 0.1.4

[86] See second recommendation in 2.3.1

With regard to securities issued by resident economic units on the domestic market and held by nonresidents, in some cases they are excluded from the balance of payments when they are not captured by DBPDE surveys. A new project is, however, being formulated to broaden survey coverage so as to improve the distinction of these liabilities held by noresidents.

Regarding securities issued abroad by residents of Chile and in turn acquired by other resident units, information is obtained from institutional investors and other residents through DBPDE surveys, which means that they can be excluded from the external assets and liabilities of the balance of payments and the IIP.

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 the *BPM5,* for example:

- Government guaranteed external debt transactions are attributed to the institutional sector of the borrower.

- Public enterprise claims and liabilities are attributed to Other Sectors. For instance, Ministry of Public Works bond issues were assigned to the general government.

Transactions are classified to the relevant standard component of the *BPM5,* for example:

- Transactions in goods and services by government entities abroad are classified under the government services not-included-elsewhere component.

- Long-term construction projects, for example those of more than one year, are classified under the foreign direct investment component.

- Borrowing and lending between direct investors and direct investment enterprises are classified under Foreign Direct Investment (FDI), except when those transactions are between affiliated financial intermediaries. Trade credits between affiliates are excluded from this treatment and recorded under Other Investment, Liabilities for Trade Credits, Other Sectors.

Recommendation: Reclassify the trade credit flows granted by the matrices to their affiliates in the case of enterprises included in the directory of FDI enterprises as flows of Direct Investment Liabilities, Other Capital in the case of imports with customs information registered under the "collect mode."

Similarly, the directional approach to compiling and recording the foreign direct investment component is not consistent with the guidelines outlined in the *BPM5* as only assets are recorded under investment abroad, while under direct investment in Chile, only liabilities are recorded. This means that investment flows to and from abroad do not discount reverse

investments. The latter are treated as investments abroad in cases where direct investment enterprises in Chile invest in their parent companies and as investments in Chile in the opposite instance.

Recommendation: Apply the directional principle to foreign direct investment in cases where enterprises resident in Chile invest in their parent companies (reverse investments) using the CBCH's available information in accordance with the guidelines outlined in the BPM5.

- In the case of direct investment in Chile, the 10 percent rule is not strictly applied, however the distortionary effect of this is estimated to be small. Thus, almost all of the investments recorded pursuant to Decree Law 600, which is the legal instrument most used in Chile for conducting investments, fall within the more than 10 percent ownership criterion.

- Loan transactions of the banking sector are classified separately from currency and deposits transactions of this sector.

- The short-term and long-term attribution of transactions in the other investment component is made according to the original maturity of the financial instrument.

- Coverage of the capital account is partial: to date, debt forgiveness, grants (capital transfers, based on customs information, as of 2003), and sporadic information on the sale of licenses have been recorded. This year, a survey will be conducted to collect data on the latter transactions.

- Goods for processing are not measured in the goods item of the balance of payments. At present, the feasibility is being looked into of creating new customs statistics codes—the principal source of trade in goods—to gather this type of information. In any event, this type of transaction is not seen as being relevant to the Chilean economy.

Recommendation: Work with the NCS to agree on a distinction in the customs concepts that would make it possible to identify operations involving goods for processing and for repair. Under this agreement the CBCH would need to properly clarify the conceptual criterion for this type of operation to ensure that there is no confusion with operations that may appear to be similar but which are very different from a conceptual standpoint (for example the temporary admission regime is not necessarily linked to goods for processing operations).

2.4   Basis for recording

2.4.1   Market prices are used to value flows and stocks

The principle of market valuation specified in the *BPM5* is used to value transactions, for example:

- Total imports and exports are valued on an f.o.b. basis.

- Monetary gold is valued at market prices.

- Financial instruments generally traded on a regular basis are valued by directly using the price quotations from markets.

- Nontradable financial instruments are valued at nominal value.

- Financial derivatives are valued at market prices.

In general, transactions are calculated directly, that is, they are not estimated from stock data or estimates. Short-term borrowing (liabilities) and, for the moment, trade credits are not included. Regarding trade credits, under the CIER tests are being conducted on a new data source that provides consistent information on transactions and balances. [87] In these cases, the value of the transaction does not exclude valuation adjustments and other changes. For the other assets and liabilities of the financial account, information is available that can be used to estimate the effect of valuation and other changes, thus making it possible to reconcile the initial and final values of the IIP.

In the case of exports of goods for which market prices are not known at the time of change of ownership, provisional price estimates are made, and subsequently replaced by actual prices. No adjustments are made in the case of transactions between affiliated enterprises.

Recommendation: Work with the NCS, and possibly the ITS, to agree on an amendment to the rule that authorizes a lag of up to nine months for exporters to submit the final values of their exports for which prices are recorded under the "not firm" mode so as to substantially reduce these lead times in line with the present reality of external trade operations conducted subject to this rule.

Transactions are measured in U.S. dollars and are generally reported in the same currency. When the U.S. dollar is not the original currency, in the case of goods, transactions are converted using the customs rate for the respective month which remains valid for one calendar month and is fixed by the National Customs Service. In the case of financial account transactions, operations in currencies other than the U.S. dollar are generally reported in

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[87] See in addition the first recommendation in 2.3.1

U.S. dollars converted using the market rates prevailing on the date of the transaction. In the case of international reserves, flows are calculated daily using the respective rates.

2.4.2   Recording is done on an accrual basis

In general, change of ownership as specified in the *BPM5* is the principle governing the recognition of transactions and their time of recording, for example:

- Services are recorded when rendered (delivered or received).

- Dividends are recorded as of the dates payable or the dates declared payable.

- Reinvested earnings on direct investment are recorded in the periods when earned.

- Loan drawings are entered in the accounts at the time of actual disbursement, and loan repayments are entered when due for payment.

- Interest on the main asset holdings are recorded on an accrual basis (international reserves and assets of institutional investors).

An exception to accrual accounting is applied for goods, for which the main source is customs, with no adjustments for concepts at the time of time of recording. This is because, customs information is extraordinarily rich, and because it is estimated that in general, there are no major distortions. Nor are there any other reliable sources with sufficient coverage for the trade in goods. In any event, for imports, which prior to final clearance into the country are lodged in free zones, the first date of entry is used as this is in line with the criteria used for general merchandise.

Another exception to the accrual criterion applies in the case of external loan liabilities and portfolio investment, (both public and private sectors) when the time of recording of the interest is the date of effective payment. In 2006, a project was conducted with the aim of incorporating the accrual criterion for such interest. The results will be available shortly, which will make it possible to assess its impact and decide on its definitive incorporation into the official figures. In the same vein, such liabilities are managed by the DMFAS system, of which version 5.2 is installed with a module that makes it possible to calculate interest accrual, thus facilitating migration to the criterion recommended by the *BPM5*.

Recommendation: record transactions related to government external debt liabilities on an accrual basis.

In the case of pension fund investments in mutual funds abroad, the criteria of the draft (March 2007version) of the new balance of payments manual (version 6) have been adopted. In keeping with the traditional methodology, only the dividend distributed by the mutual fund are recorded as income in the balance of payments. The rest of the returns generated by the mutual fund portfolio, which translates into a change in value in the IIP balance, is reflected in this statement as a change in price. With the new treatment, income is imputed in the current account, and a counterpart in the financial account, as a "reinvestment" of the gains

in the same instruments. Thus, in the IIP this is reflected in the "transactions" column, alongside the value recorded in the balance of payments.

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

In line with the recommendations of the *BPM5*, current and capital account transactions are recorded on a gross basis. Some financial account transactions are recorded on a net basis (trade credits, assets and liabilities of the banking system, reinvested earnings, currency and deposits and short-term loans), consistent with the *BPM5* standards, and others on a gross basis (direct investment in equity capital and other capital, portfolio investment, financial derivatives, reserve assets and other long-term investment). This is done with a view to providing more information. Individual asset and liability components are recorded separately.

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*

The composition of the source data in the data collection program provides the necessary coverage for recording balance of payments transactions reliably and adequately.

The core data sources for Chile's balance of payments are: (1) the CIER, (2) customs documents, (3) surveys with different periodicities (mainly for services and direct and portfolio investment in Chile), and (4) estimates.

The current collection system is mixed (by itemized transaction and consolidated) and has been evolving gradually towards direct reporting by the entity that provides consolidated information.

The CIER was reformulated in normative terms in April 2001, transitioning from a capital controls system to one aimed mainly at collecting statistics, which was developed in 2002 with a balance of payments approach. There have subsequently been several changes to better adapt it to statistical requirements, with a view to somehow filling the legal vacuum in the CBCH normative framework with respect to its authority to request information from the private sector.[88]

The current CIER maintains a system of daily reporting of income and outlays of foreign currency conducted through the banks and exchange bureaus, which constitute the *formal exchange market.* The new CIER expanded the traditional concept of foreign currency

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[88] See recommendation in 0.1.4.

purchases and sales to a broader one that covers transfers of foreign exchange not associated with purchases or sales, and adopted a new coding system more suited to statistical requirements. The daily reporting system was supplemented with a number of different forms for use by direct respondents, which supply additional information for a closer approximation to balance of payments, external debt and IIP concepts, and which have improved data quality.

As such, the CIER regulations approximate an open International Transaction Reporting System (ITRS). In addition to the daily reporting system, the CIER includes forms for resident enterprises that engage in international cargo and passenger transport and for representatives of nonresident enterprises (quarterly); for insurance and reinsurance companies (quarterly); for credit and debit card operators (quarterly); for residents making direct, portfolio, or other investments abroad—with monthly, quarterly, or annual reports depending on the respondent; for residents trading financial derivatives abroad (monthly, and daily for banks only, with respect to foreign exchange); for residents receiving capital or credit from abroad (each time this is contracted); and for merchandise importers and exporters for their trade credits (quarterly with a monthly breakdown).

Information from other available sources supplement core compilation, for example:

- Financial statements or other information on enterprises, such as the Uniform Coded Datasheets (FECUs), etc.

- Information from regulatory institutions, such as SPF (pensions), SBFI (banks and financial institutions), SSI (insurance), based on their financial statements and the attached reports.

- Monetary and financial statistics on the external positions of resident units are used to validate the financial transactions for those units.[89]

- The CBCH accounts provide data on reserve assets that can be used to distinguish transactions from valuation changes.

- Government sources—Ministry of Finance (MOF), national Treasury, Internal Taxation Service (ITS)—provide information on the government's external transactions (e.g., transactions in the government's external debt, its foreign assets, and data on embassy expenditures abroad).

- Information from the administrative records of foreign agencies (international police, Foreign Investment Committee).

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[89] *Monetary and Financial Statistics Manual* (IMF. 2000), Chapters V and VII.

- Information from international sources (BIS statistics) on deposits of nonbanking sector residents in Chile.

- Estimates.

Surveys used to compile the balance of payments are the following:

Services:

- Travel surveys (for credits and debits) used by SERNATUR (periodicity: monthly, with quarterly reports for 2007).

- Communications survey for the national accounts, which includes balance of payments information for measuring credits and debits (periodicity: annual by census).

- Courier national accounts surveys, which include balance of payments data for measuring credits and debits (periodicity: annual–census; part of the national accounts survey).

- Survey of other land transport to estimate credits for passengers traveling by land (periodicity: every three years).

- National accounts survey of sea and air transport agencies, which includes information for the balance of payments, to measure business services credits (periodicity: annual by census).

- Surveys of royalties and license fees to measure services and capital account credits (anchor survey, the last one of which was conducted in 2000 by sampling).

- Survey of cultural and recreational services for the sporting activities item, to measure credits (anchor survey, the last one of which was conducted in 2000 by sampling).

- Survey of cultural and recreational services for the audiovisual services item, to measure credits (anchor survey, the last one of which was conducted in 2000 by sampling).

- Survey of government services to measure credits (periodicity: annual by sampling, as it is only applied to international agencies).

- Survey of various business, professional, technical services to measure credits (periodicity: every two years by sampling).

- Survey of information technology services to measure debits (periodicity: every two years by sampling).

- Survey of information services to measure credits and debits (periodicity: every two years by sampling).

- Surveys of commissions on foreign trade activities to measure credits (periodicity: every three years by sampling).

- Survey of represented imports to measure credits (periodicity: every three years by sampling).

Financial account, income and position:

- Survey of investment (periodicity: annual).

- Survey of custodian bank portfolios to measure portfolio investment liabilities (periodicity: annual).

Other surveys:

- In addition, an interinstitutional technical group is currently preparing an exploratory survey on services exports including the four modes of supply defined in the General Agreement on Trade in Services (GATS), which will be applied in 2007.

- A special project will also be developed in 2007 to define a methodology for measuring remittances, which provides for an exploratory survey to measure credits and debits under this component.

Directories and sample design of services surveys conducted by the CBCH:

Even if the universe of transactors involved in this type of transaction is unknown, there is a population of respondents that uses different reporting channels (CIER, customs, etc.). The size of the services survey sample ensures that the population is statistically represented. In this case, the sample was divided into two strata: the first is a forced inclusion stratum, which covers enterprises with the highest volume of transactions, and the second is a sample stratum, which includes small enterprises. Selections for the services survey samples are evaluated every one, two, or three years. These directories are compiled on the basis of information available for each type of transaction, for example, the background data available in the ITRS, which includes information at the individual level (tax code) for transactions above a particular threshold showing which entities participate in the different types of transactions. Another source is the list of services exporters reported to Customs, the directory of the Industrial Property Department, an arm of the Ministry of Economy; the Economic Activity Classifier directory, which identifies the main economic transactors (tax codes) by economic sector; and information from the Internal Taxation Service (ITS). No services directories are available for the NSI to date. Work is being done on this within the framework of the exploratory survey of services exports, including the four modes of supply.

Established procedures provide for frequently integrating new transactor units into the register(s) and accounting for mergers, cessation of operations, and other changes. These are part of the activities of the new DCIE.

The questionnaires are revised for each application in order to cover as accurately as possible the new ways of doing business.

Each time a questionnaire is changed, it is pilot-tested with respondents. Survey instruments are designed for efficient data capturing/processing that minimizes nonsampling errors. The questionnaires therefore contain questions arrived at by consensus, which are clear and concise and include automatic verification of squares (*cuadratura*) and consistency. All these surveys can be answered online. All the information collected in the surveys is downloaded by the different users through standardized databases.

Different data sources are used to validate the survey methodology. In the case of surveys of professional and IT services, for example, coefficients are derived for the most frequent indicators (foreign exchange codes, customs data, ITS), which can be used to calculate intermediate estimates.

Survey of direct investment in Chile:

The selection criterion for the sample includes, on the one hand, companies with the largest accumulated investments (forced inclusion) and, on the other hand, companies which, although they do not have large investments, generate significant earnings.

The instruments used in the survey are designed to obtain and process data efficiently in order to minimize nonsampling errors. For this reason, the questionnaires include automatic validations of form and consistency. This survey can be answered online. All the information collected in the surveys is downloaded into a standardized database.

An evaluation is conducted every year to update the directory, incorporating any changes in name, organizational structure, new investments, or changes in investment ownership. And assessment is also made based on the response rate (in percent) compared with previous years.

Instructions are given to survey respondents on how to complete the form using various methods, including mass meetings. The survey also includes a section dedicated exclusively to gathering the views and suggestions of respondents.

Finally an attempt is made to minimize nonsampling errors using validation criteria to test the consistency of the figures relative to the results and to the rate of participation. Other basic data are collected for this purpose, such as information from the FECU.

Recommendation: Reach an agreement with the SSI for enterprises to report using the FECU, including a breakdown by residents and nonresidents.

The coverage of reporting banks in the ITRS is integrated with the bank records prepared especially for the CBCH.

Reporting instructions request information on all purchases/sales and transfers, requiring that any transaction over USD10,000 or associated with a transaction over USD10,000 be properly coded for balance of payments purposes.[90]

Instructions for reporting annual data (statistical annexes to the system) request information on transactions that are above a given reporting threshold (as means of verification that they have been correctly classified in reports submitted by banks and to guarantee adequate representation).

The largest unclassified transactions executed through the banks are fully checked on a monthly basis to ensure that content-wise they do no correspond to balance of payments transactions. The data used from the forms received through CIER is reported information that has been checked against the financial statements for the largest companies that submit balance sheets to the superintendency. Transactions that fall below the threshold are estimated using the information available on exchange operations received through the banks.

Measures have been taken to minimize the number and value of transactions that are not classified by category, namely a reduction in the "Other" heading. To that end, the largest transactions are investigated, reclassifying them where appropriate and reporting periodically on their nature in the other cases.

Data reporting instructions can be used to calculate net values for balance of payments transactions (e.g., credits net of debits). Data on increases and decreases in the financial account are usually requested.

For transactions that are not recorded because they fall below the reporting threshold, no sample survey of banks and nonbanking institutions with accounts abroad is conducted to obtain information in order to classify the low-value transactions across the balance of payments components. Unclassified transactions channeled through the banks are exhaustively checked on a monthly basis to verify whether they correspond to balance of payments transactions in terms of content. The forms received through CIER contain reported data that have been checked against the financial statements.

The structure of the reporting system for banks with accounts abroad is consistent with the accounting practices employed by banks and thus individualized data can be readily extracted from the operational records. The main problem arises when an economic transactor is asked to indicate the source or intended use of foreign exchange in order to obtain a useful balance of payments classification. In addition, this classification also requires the administrative personnel of banks to interpret how they should classify the transactions.

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[90] http://www.bcentral.cl/esp/normativa/cambiointernacional/manual/pdf/CapIDispGenerales.pdf

The information obtained from enterprises reflects all investments, including the accounts the companied hold abroad in currency and deposits.

The ITRS report forms are processed electronically. They are also pilot-tested using a sample of respondents. This information is easy to send since it can be provided over the Internet resulting in efficiency gains for both the respondent and the compiler.

In large measure, this system serves as a directory for assessing compliance with reporting requirements in other areas. It also serves as a directory for implementing surveys, and an essential additional source for establishing a more reliable classification of the transactions channeled through the system.

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

Meetings are held with financial market participants and the business community to identify new developments that need to be taken account in the balance of payments compilation system. For example, the banks were contacted to analyze the impact of the new accounting standards that took effect at the beginning of 2007. Meetings were also held with exporting and importing companies when the new data reporting forms on trade credits were introduced in early 2007.

The financial press is monitored for information on international transactions and transactors that need to be taken account in the balance of payments compilation system. The idea is to permanently monitor the markets to broaden compilation coverage when there are significant capital movements. This review is ongoing.

International standards, guidelines, and practices are monitored for changes that need to be taken into account in the balance of payments compilation system.

Finally and as a result of the constant contact with reporting units, situations that need improvement can be detected in a timely manner, provided that the internal system for modifying surveys or forms is flexible and responsive enough to incorporate new requests or correct the wording of the questions.

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

Source data drawn from surveys and the ITRS are consistent with the definitions, scope and classifications, valuation and time of recording of the balance of payments statistics employed by the DBPDE. Pilot tests have been conducted to ensure that data collected will allow compilation of estimates according to international guidelines.

Administrative records and other external sources used to compile balance of payments statistics provide reasonable approximations of the methodological requirements of the balance of payments.

Information on deviations of the source data (e.g., international merchandise trade data from customs documents) from requirements of the balance of payments is sufficiently detailed to ensure the appropriate adjustment. Some adjustments are therefore made to the coverage of customs statistics to more closely approximate balance of payments concepts. For example, some service items are not counted even though, by fiscal standards, they should be included in exports, and information on items not included in the customs statistics, such as restricted imports, etc. is incorporated.

The information on private external debt balances comes mostly from CIER and published DMFAS data, both of which are consistent with the *BPM5* recommendations.

3.1.3 Source data are timely

Data collection and processing timetables adequately meet the standards of timeliness and periodicity recommended for disseminating balance of payments statistics. In some cases however, owing to the periodicity of the source data or established deadlines, preliminary figures are published based on estimates derived from indirect indicators. This is the case of the transport enterprise forms, which are produced with such a lag that they can only be incorporated in the balance of payments one quarter later. It is also the case of the annual survey forms, which are generally entered in the second round of production of the year-end balance of payments.

Respondents are made aware of the deadlines set for reporting.

A different unit from the compiling unit in the CBCH is in charge of collecting data from the core data sources (NCS, CIER, and surveys). This unit, the DCIE, through its two departments—DCIE and DBD— employs rigorous follow-up procedures to ensure the timely receipt of respondents' data. In the case of goods account source data obtained from customs records, practically 100 percent of the information is available online, meaning that it is received by the CBCH collection units at the time it is sent by Customs. Updated directories of institutional investors and banking institutions are kept by the corresponding superintendencies, which guarantee optimum data coverage. In addition, as mentioned earlier, online reporting is available, with the corresponding systems of notification and validation, where appropriate.

However, it should be noted that an improvement in the legal framework to ensure that the private sector is required to provide information for statistical purposes would help bolster efforts to provide coverage of this sector's for the transactions of this sector of the Chilean economy.[91]

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[91] See recommendation in 0.1.4.

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 information collected on nonsampling errors (survey operations, biases, misclassification, processing, and nonresponse) is monitored and analyzed on a regular basis to reduce these errors. See 3.1.1 on sample design.

Whenever changes are made to the questionnaire, any effects they may have on the estimation of the statistics is assessed. Generally speaking, the questionnaire should be user friendly and should not vary greatly from one application to another.

Source data are analyzed in the context of the revisions. All major changes made on the basis of the available data updated during the course of the revision cycle are incorporated in the balance of payments, thereby avoiding an accumulation of revisions over extended periods of time.

Users identify outliers and other atypical differences in periodic responses by individual survey units. Extreme values are confirmed with respondents, and records maintained on the confirmation. Respondents to services surveys are contacted directly to confirm their responses. In the surveys for the financial accounts, the information needed for validation sometimes exists, and in cases where data do not tally, the best quality information is kept and the atypical values are confirmed with respondents.

The source data are analyzed for underreporting/misreporting, in particular to check for temporal consistency and consistency with related data sources.

Information about nonsampling errors is monitored: undercoverage, misclassification, processing, and nonresponse.

In addition, data on total purchases and sales are cross checked with the accounts of banking institutions.

Discrepancies in ITRS transactions that are not of the balance of payments nature are carefully analyzed (e.g., type of transaction, spread, and sign of fluctuation) to ensure that they are canceled out. The "Other" code is reviewed extensively.

High-value transactions are confirmed with respondents. In general, transactions exceeding the US$100,000 threshold are reviewed in detail and, if there are any doubts, the respondents are consulted.

The accuracy of the data taken from the administrative records and other sources used are checked regularly against additional secondary sources. For example, FECU data are

compared with survey and report form data; SERNATUR definitions, ITS classifications, and Treasury figures are checked against public information on general government

3.3 *Statistical techniques*

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

Compilation procedures minimize processing errors such as coding, editing, and tabulation errors. In the case of goods, the data are subject to validation by the unit receiving the data, which checks them against the spreadsheets to detect inconsistencies in the codes, units of measure, etc. In addition, the squares (*cuadraturas*) of values are revised and errors detected in the prices reported through a price checker (*depurador de precios*), which compares the reported prices with the historical prices of goods under the same tariff heading. The errors detected are corrected online as soon as they are caught.

Adjustments to unit records are made only when clearly warranted (e.g., unusual values are not replaced or modified unless clearly required), and can be identified in datasets.

Procedures for imputation and adjustment for nonresponse are soundly based. Appropriate use is made of ancillary and benchmark information in compiling estimates. For example, the measurement of direct investment is based on surveys or forms, but in cases where there is no response, other available data are used, such as exchange rates. In the case of direct investment in Chile in the mining sector, for example, growth in profits is measured by the price of copper applied to information on production volumes.

When the reported values are out of range or improbable, adjustments are made replacing them with information from other sources or with estimates.

Estimation techniques are employed to adjust data for missing observations in statistical collections. For example, the trends in the most recent information reported, the link with related indicators, etc. are analyzed. This is done regularly to supplement information on transport and insurance, where necessary, or to make initial estimates when there is a lag in the receipt of information from some data sources.

Adjustments for undercoverage and/or population units out of scope are based on other sources or related indicators.

Uncoded ITRS data are individually researched if significant, and are reassigned to the specific balance of payments components to which they correspond. The remaining uncoded data are not attributed to any balance of payments component and therefore it is concluded that they largely correspond to transactions between residents.

Any discrepancy between the sum of the quarterly data and data from annual surveys is removed through benchmark procedures or indicators.

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

Specific procedures are developed to adjust data from various sources to improve coverage, classification, and valuation and conform to guidelines set out in the *BPM5*, for example:

* The c.i.f../f.o.b. factor in customs declarations for valuing imports reported in c.i.f. values only (free zones, etc.);

* Adjustments are made to record payments for services, including taxes withheld at source, using ITS information;

* Adjustments are made to SENATUR's travel estimates to take account of some differences in definitions (of residence, for example). This situation could be resolved based on the data that this service provides to the CBCH starting in 2007, since the survey will cover the entire year and periods outside the time frames previously surveyed will not have to be estimated;

* Data on net transactions in telecommunication services reported in the ITRS are adjusted to a gross basis using information collected from a sample of telecommunications firm and quarterly estimates based on in direct indicators.

* The prices of major exports reported initially by Customs at provisional values are adjusted to approximate market values.[92]

3.4   Assessment and validation of intermediate data and statistical outputs

3.4.1   Intermediate results are validated against other information where applicable

Intermediate results are checked across a wide range of data sources, including, for example:

* Data received from the ITS on withholding taxes on income are used to assess the accuracy of reported information on income transactions.

* Information reported in the financial press is used to verify high-value direct investment and other transactions. For example, the record of a very large and complex direct investment transaction in 2006 was checked against information reported in the press. This type of transaction is monitored specifically from its origin up until the final compilation of the balance of payments, external debt, and IIP. For this purpose there is a system for tracking transactions on a weekly basis, including projects that require more than one fiscal year for completion.

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[92] See recommendation in 2.4.1.

3.4.2   Statistical discrepancies in intermediate data are assessed and investigated

The behavior of series is routinely assessed against related series, for instance:

- Reported data on investment income payments and receipts are regularly assessed in relation to the corresponding stock data in the international investment position statistics.

- Data on freight earnings are regularly assessed in relation to the value/volume of the trade flows.

- The reported financial flow data are reconciled with changes in the corresponding stock data collected for external debt and for other elements of the international investment position. Since February 2005, information has been published on the IIP which includes crosschecks of the initial and final stocks and flows, valuation changes, identifying the price and parity effects and other changes.

- The discrepancies between merchandise trade and the associated financial flows from the ITRS are reviewed.

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

Staff involved in producing balance of payments data closely monitor developments in the errors and omissions item and seek to understand them, e.g., by cross-checks between entries in the current, capital, and financial accounts. In 2006, a project was developed to examine trends in this residual account over time in order to find the possible causes of the negative value recorded in recent years. This project resulted in better coordination with data compilers (training in completing report forms and compliance with delivery deadlines), and very careful monitoring of the relevant operations, either through the press or the ITRS. Despite the increasing flows of current, capital and financial account transactions, the net errors have remained at acceptable levels. Thus, in the last 11 years the ratio of errors and omissions to the sum of current account credits and debits has remained at about 2 percent.

Data on selected external debt transactions are compared with the Joint BIS-IMF-OECD-World Bank Statistics on external debt or the BIS locational international banking statistics. Chile also contributed to the IMF's comparative study of its short-term external debt statistics, used to prepare the *Guide for Compilers and Users of External Debt Statistics* (Part II, Chapter 14, Country Experiences: Chile, 14.6 4 – 14.79).

The balance of payments and IIP results are checked against the Coordinated Portfolio Investment Survey to validate or detect any inadequacies in regular data sources.

The available information on banks is also compared with BIS data. The BIS is the basic data source for external deposits of nonbanking institutions.

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 2004-2005, a largely descriptive study of revisions was carried out, quantifying the number of versions and their magnitude. In 2006, a revisions project was developed that consisted of calculating internationally developed data quality indicators to measure different dimensions of quality, such as reliability, relevance, timeliness, and consistency.

The 2004-2005 study of revisions was carried out to assess the revision practices employed up until that date in the main balance of payments accounts, and was used to define a revisions policy. This was announced to the public in May of 2006 together with the figures for the end of the first quarter of that year.

The results of the revision studies have been used to improve price estimates for exports.

Since 2006, a description of the causes of revisions has been published and a database on the revisions was created, making it possible to access all the published versions of each balance of payments account and the magnitudes involved.

4. Serviceability

4.1 *Periodicity and timeliness*

4.1.1 *Periodicity follows dissemination standards*

The periodicity of dissemination of some of the indicators exceeds the requirements of the Special Data Dissemination Standard. Information on goods transactions is disseminated weekly, information on financial account flows and the international reserves and liquidity template monthly, and information on reserve assets flows bi-weekly.

4.1.2 *Timeliness follows dissemination standards*

Quarterly balance of payments statistics are disseminated within three months after the end of the reference period, as established in the SDDS. The balance of payments for the first three quarters of each year is published within the first two months after the end of reference period (May 23, August 23 , and November 23), as the preliminary data for the end of the fourth quarter are published within three months (March 23 of each year). This is consistent with the IIP and external debt figures.

4.2   *Consistency*

4.2.1   *Statistics are consistent within the dataset*

Concepts, definitions, and classifications for producing quarterly and annual balance of payments statistics are the same as those used to compile annual estimates. However, the summary balance of payments publications for the current year, which are released quarterly before the first year-end publication, are less detailed than the annual presentation.

The sum of the quarterly statistics is consistent with the annual statistics.

Financial transactions data are reconcilable with changes in the international investment position and a table explaining the reconciliation (e.g., transactions, exchange rate, price, and other changes) is disseminated every six months.

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

Consistent balance of payments time series are available from 1996.

When changes in source data, methodology, or techniques are introduced, historical series are reconstructed as far back as reasonably possible. For example, implementation of the *BPM5* in 2002 meant having to recalculate the balance of payments series dating back to 1996. A project is currently being developed to extend this series to 1990.

The methodological notes accompanying the first publication of data in accordance with the *BPM5* (*Balance of Payments of Chile, 1996-2001*, section on major data sources and methodological aspects of the new series), explain the main breaks and discontinuities in the time series. Also, the statistical database and other publications present the time series separately, in blocks of comparable periods. The notes are included in other publications (see, for example, CBCH's *Monthly Bulletin*), indicating the periods in which the series presented are comparable.

Comments describing trends in the key variables and indicating and explaining any unusual changes are included in the quarterly publications and the annual publication (preliminary data) of the balance of payments in the CBCH's *Monthly Bulletin* and on the CBCH's website.

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

The main source of balance of payments data on trade in goods is the custom statistics, which are adjusted, mainly for coverage and valuation for balance of payments purposes, and are therefore reconciled with the data on international merchandise trade.

The balance of payments statistics are consistent with the national accounts statistics. One of the sources for compiling the national accounts is the balance of payments and data

submission deadlines and cross-checking requirements have been established, largely resulting in a consistency between both statistical systems based on the current methodological frameworks.

Banking sector transactions in the balance of payments statistics are consistent with the monetary and financial statistics. Regular procedures have been established for checking the monetary figures reported for balance of payments purposes. In particular, the balances of reserve assets can be reconciled distinguishing variations resulting from transactions, prices, and the exchange rate.

The balance of payments components that include external debt data are consistent with the respective debt balances. The only exception are bond liabilities, which, for purposes of the debt, are recorded at nominal value, while in the balance of payments and the IIP they are recorded at market value. In both cases the figures are adjusted for repos.

Recommendation: Facilitate reconciliation of the IIP and external debt statistics, in particular the portfolio investment liabilities issued by the government, given that different criteria are used in each of these statements (market and nominal values, respectively).

4.3 Revision policy and practice

4.3.1 Revisions follow a regular and transparent schedule

The revision cycle follows an established procedure, which is reasonably stable from year to year. In May 2006, coinciding with the dissemination of first-quarter balance of payments statistics, a note was included in the CBCH's *Monthly Bulletin* (*Annual and Quarterly National Accounts and Balance of Payments Records for 2006*) explaining the policy and specific timetable for revisions for balance of payments figures for that year. This policy was set for both the balance of payments and the national accounts. In March 2007 the same was done for the 2007 figures by means of a note published in the March *MonthlyBbulletin* of the CBCH and on its website (*Annual and Quarterly National Accounts and Balance of Payments Records for 2007*).

The notes on the revisions (May 2006 and March 2007) generally describe the reasons for the revision cycle. A document was prepared internally describing in detail the main reasons for the revision schedule.

The comments accompanying the end-of-quarter and end-or-year data include a section on revisions, which quantifies and explains the most significant changes.

The revision policy allows for revisions outside the regular cycle where necessary, which are explained accordingly. This is indicated in the notes to the revisions disseminated to the public.

4.3.2   Preliminary and/or revised data are clearly identified

When the first quarterly data are published, the text indicates that the figures are preliminary. The revisions then follow the cycle established in the publicly released calendar, without specifying the nature of the information.

At the time of data dissemination, users are informed whether or not the published data are revised.

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

The revisions are quantified and explained in the CBCH's *Monthly Bulletin* in hardcopy and on the website, as a section of the note accompanying the release of end-of-quarter and end-of-year balance of payments data. Studies of revisions have been carried out internally, with a view to assessing the reliability of the preliminary data and revision cycle. The most recent study, which was conducted in 2006, introduced measurement by means of statistically reliable international indicators.

In the case of the MAPE (Mean Absolute Percentage Error), reliability is measured as the average size in percent of the revision (sum of the differences between versions) and gross variables are used. In the case of the MARE (Mean Absolute Relative Error), the variability of the average standardized revisions is considered (standard deviation) and net variables are used. The result of applying these methods to Chilean statistics in comparison with those of the euro area shows that for the current account Chile has relatively better MARE levels, whereas for the income and investment accounts the European figures are higher. With respect to MAPE, the results applied to goods and services are much the same for the euro area and Chile. Other indicators are also used, such as directional reliability, which measures whether the changes obtained in the final version show the same trend as the changes obtained in the preliminary estimates, in other words, whether the signals initially sent were in the same direction as the subsequent revision. These indices produce very good results, generally over 70 percent.

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 balance of payments statistics are disseminated according to the standard components of the *BPM5*, and with time series. A summary version of the balance of payments is distributed quarterly and the more detailed version annually, based on the standard *BPM5* components.

Additional series are disseminated to meet a range of users' needs with various levels of detail (disaggregation). The summary quarterly versions of Chile's balance of payments for the current year are accompanied, in some cases, by more detailed information for analytical

purposes. This information is also published with greater periodicity, either monthly, bi-weekly, or even weekly.

The statistics are published clearly with tables to facilitate their analysis. The statistical database on the CBCH's website is able to plot graphs of the different series, and to transfer the series to electronic spreadsheets.

Comments on events in the current reporting period are included in the note accompanying the end-of-quarter data, which is published in the monthly bulletin and on the CBCH's website.

Seasonally adjusted series for goods imports are published monthly.

5.1.2   *Dissemination media and format are adequate*

The end-of-quarter and end-of-year data on the CBCH's website are highlighted by a short report entitled *Informe de Coyuntura* (http://www/bcentral.cl/esp/inforeconomica/coyuntura/) Press releases are also drafted with highlighted comments. (See, for example, the press release of March 23, 2007 in the Press Room and Current Affairs sections: http://bcentral.cl/esp/prensa/informacion/pdf/23032007a.pdf .

More complete and detailed balance of payments and external debt statistics than those that are published quarterly on the web and in the CBCH's *Monthly Bulletin* are disseminated in the Annual Reports (*Balance of Payments of Chile and External Debt of Chile)*, which are published in hard copy, on electronic media (balance of payments) and in PDF format on the CBCH's website.

Recent data on the longest time series can be accessed free of charge through an electronic database maintained by the CBCH entitled *Base de Datos Estadísticos,* and in electronic spreadsheet format, *Estadísticas Económicas* at (http://www.bcentral.cl/esp/infoeconomica/seriesindicadores/index_se.htm).

5.1.3   *Statistics are released on a preannounced schedule*

A schedule announces in advance the dates on which the statistics are to be released. That schedule is published in the *Monthly Bulletin* on the CBCH's website.

The statistics are released punctually, that is according to the preannounced schedule.

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

The public is informed of the statistics being released and of the procedures to access them (e.g., Internet, publications).

The statistics are made available to all interested users simultaneously.

5.1.5   Statistics not routinely disseminated are made available upon request

In addition to the statistics routinely disseminated, other general statistics are made available when requests are made in compliance the requirements established in a procedure agreed by the CBCH Board in October 2005: http://www.bcentral.cl/esp/normativa/acuerdos/2005.htm.

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 methodological bases and data sources are presented in the *Balance of Payments Yearbook*, which is available in printed and electronic form and in PDF format on the CBCH's website. Important methodological changes are explained when the information is published, either by means of explanatory notes, or directly, if these changes are significant (for example, when the revision of a series that included reinvested profits was made public, a press conference was called and a meeting with expert analysts was held). As a result of a project on documentation that is being carried out in 2007, a document will be prepared for external users that will update and broaden the documentation on the sources and methods used for compiling Chile's balance of payments.
The SDDS metadata, methodological summaries relative to the SDDS, and other related descriptions are reviewed and updated annually and can be consulted on the CBCH's website (http://www.bcentral.cl/esp/infoeconomica/fminedd/ecofinantialdata/).

Recommendation: It is recommended that the version of the methodological notes on the balance of payments and the IIP and the Chile's Annual Balance of Payments Report be included in a separate, easily identifiable manner in the Statistical Publications section of the CBCH's website.

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

More specialized information documents have been prepared and made public (research paper entitled *Measurement of Foreign Direct Investment in the Balance of Payments*, in the series *Economía Chilena,* Vol. 7, No. 3, December 2004). A methodological document on the calculation of external trade deflators, a study on balance of payments revisions, and one on a quarterly IIP series are in the final stages of preparation.

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 users of statistics. The CBCH's webmaster forwards any questions not sent to a specific addressee.

The SDDS website, from which the CBCH's webpage can be accessed, identifies contact points for each topic for enquiries by mail, telephone, facsimile, or by e-mail.

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

Publication catalogs exist in hardcopy and on the CBCH's website. (http://www.bcentral.cl/esp/publ/index.htm). The prices of these products are clearly indicated to the public.

Table 11. Chile: Data Quality Assessment Framework (July 2003): Summary of Results for Balance of Payments Statistics
(Compiling Agency: Central Bank of Chile)

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	Assessment					Comments
	NA	O	LO	LNO	NO	
0. Prerequisites of quality						
0.1 Legal and institutional environment			X			Improve the legal framework to allow the CBCH to request information from the private sector.
0.2 Resources		X				
0.3 Relevance			X			There is no users' group.
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			Reclassify trade credit flows of enterprises included in the directory of FDI enterprises as FDI liability flows in the case of inputs with custom information registered under the "collect mode." Follow the *BPM5* in applying the directional criteria to the reverse investment transactions of resident FDI enterprises using the CBCH's available information.
2.4 Basis for recording			X			Record transactions related to interest on public and private external debt on an accrual basis.
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				

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Element	NA	Assessment				Comments
		O	LO	LNO	NO	
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				

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 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

- 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
0. Prerequisites of quality	**0.1 Legal and institutional environment**—*The environment is supportive of statistics*	0.1.1 The responsibility for collecting, processing, and disseminating the statistics is clearly specified. 0.1.2 Data sharing and coordination among data-producing agencies are adequate. 0.1.3 Individual reporters' data are to be kept confidential and used for statistical purposes only. 0.1.4 Statistical reporting is ensured through legal mandate and/or measures to encourage response.
	0.2 Resources—*Resources are commensurate with needs of statistical programs.*	0.2.1 Staff, facilities, computing resources, and financing are commensurate with statistical programs. 0.2.2 Measures to ensure efficient use of resources are implemented.
	0.3 Relevance—*Statistics cover relevant information on the subject field.*	0.3.1 The relevance and practical utility of existing statistics in meeting users' needs are monitored.
	0.4 Other quality management—*Quality is a cornerstone of statistical work.*	0.4.1 Processes are in place to focus on quality. 0.4.2 Processes are in place to monitor the quality of the statistical program. 0.4.3 Processes are in place to deal with quality considerations in planning the statistical program.
1. Assurances of integrity *The principle of objectivity in the collection, processing, and dissemination of statistics is firmly adhered to.*	**1.1 Professionalism**—*Statistical policies and practices are guided by professional principles.*	1.1.1 Statistics are produced on an impartial basis. 1.1.2 Choices of sources and statistical techniques as well as decisions about dissemination are informed solely by statistical considerations. 1.1.3 The appropriate statistical entity is entitled to comment on erroneous interpretation and misuse of statistics.
	1.2 Transparency—*Statistical policies and practices are transparent.*	1.2.1 The terms and conditions under which statistics are collected, processed, and disseminated are available to the public. 1.2.2 Internal governmental access to statistics prior to their release is publicly identified. 1.2.3 Products of statistical agencies/units are clearly identified as such. 1.2.4 Advance notice is given of major changes in methodology, source data, and statistical techniques.
	1.3 Ethical standards—*Policies and practices are guided by ethical standards.*	1.3.1 Guidelines for staff behavior are in place and are well known to the staff.

Quality Dimensions	Elements	Indicators
2. Methodological soundness *The methodological basis for the statistics follows internationally accepted standards, guidelines, or good practices.*	**2.1 Concepts and definitions**—*Concepts and definitions used are in accord with internationally accepted statistical frameworks.*	2.1.1 The overall structure in terms of concepts and definitions follows internationally accepted standards, guidelines, or good practices.
	2.2 Scope—*The scope is in accord with internationally accepted standards, guidelines, or good practices.*	2.2.1 The scope is broadly consistent with internationally accepted standards, guidelines, or good practices.
	2.3 Classification/ sectorization—*Classification and sectorization systems are in accord with internationally accepted standards, guidelines, or good practices.*	2.3.1 Classification/sectorization systems used are broadly consistent with internationally accepted standards, guidelines, or good practices.
	2.4 Basis for recording—*Flows and stocks are valued and recorded according to internationally accepted standards, guidelines, or good practices*	2.4.1 Market prices are used to value flows and stocks. 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.
3. Accuracy and reliability *Source data and statistical techniques are sound and statistical outputs sufficiently portray reality*	**3.1 Source data** – *Source data available provide an adequate basis to compile statistics.*	3.1.1 Source data are obtained from comprehensive data collection programs that take into account country-specific conditions. 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 Assessment of source data—*Source data are regularly assessed.*	3.2.1 Source data—including censuses, sample surveys, and administrative records—are routinely assessed, e.g., for coverage, sample error, response error, and nonsampling error; the results of the assessments are monitored and made available to guide statistical processes.
	3.3 Statistical techniques—*Statistical techniques employed conform to sound statistical procedures*	3.3.1 Data compilation employs sound statistical techniques to deal with data sources. 3.3.2 Other statistical procedures (e.g., data adjustments and transformations, and statistical analysis) employ sound statistical techniques.
	3.4 Assessment and validation of intermediate data and statistical outputs—*Intermediate results and statistical outputs are regularly assessed and validated.*	3.4.1 Intermediate results are validated against other information where applicable. 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 Revision studies—*Revisions, as a gauge of reliability, are tracked and mined for the information they may provide.*	3.5.1 Studies and analyses of revisions are carried out routinely and used internally to inform statistical processes (see also 4.3.3).

Quality Dimensions	Elements	Indicators
4. Serviceability *Statistics, with adequate periodicity and timeliness, are consistent and follow a predictable revisions policy.*	**4.1 Periodicity and timeliness—** *Periodicity and timeliness follow internationally accepted dissemination standards.*	4.1.1 Periodicity follows dissemination standards. 4.1.2 Timeliness follows dissemination standards.
	4.2 Consistency— *Statistics are consistent within the dataset, over time, and with major datasets.*	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.
	4.3 Revision policy and practice—*Data revisions follow a regular and publicized procedure.*	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).
5. Accessibility *Data and metadata are easily available and assistance to users is adequate.*	**5.1 Data accessibility—** *Statistics are presented in a clear and understandable manner, forms of dissemination are adequate, and statistics are made available on an impartial basis.*	5.1.1 Statistics are presented in a way that facilitates proper interpretation and meaningful comparisons (layout and clarity of text, tables, and charts). 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.
	5.2 Metadata accessibility— *Up-to-date and pertinent metadata are made available.*	5.2.1 Documentation on concepts, scope, classifications, basis of recording, data sources, and statistical techniques is available, and differences from internationally accepted standards, guidelines, or good practices are annotated. 5.2.2 Levels of detail are adapted to the needs of the intended audience.
	5.3 Assistance to users— *Prompt and knowledgeable support service is available.*	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.

Appendix III. Users' Survey

Summary of results of survey of data users

With the assistance of the Central Bank of Chile (CBCH) and the National Statistics Institute (NSI), the mission conducted an informal survey of users to ascertain their views on selected aspects of the quality of Chile's macroeconomic statistics. The survey used a questionnaire developed by IMF staff, was conducted by the NSI, and targeted users of macroeconomic statistics. Questionnaires were sent to 207 users with 50 responses received from a broad range of users, including the academia, financial institutions, international organizations, the media, government agencies, embassies, producers' associations, and consulting companies. As a complement to the survey, and the mission's own assessment of macroeconomic statistics, six meetings with key users of Chile's macroeconomic data were organized by the CBCH.

Most users were satisfied with the methodological soundness, timely dissemination, accessibility, and frequency of official macroeconomic statistics. However, they identified some areas where there is scope for improvement. In particular, it appears that the PPI lacks credibility and is not used much. The coverage and detail of GFS and PPI are seen as insufficient, and some users did not know whether an early release calendar for GFS existed and was met. A number of users indicated that the information on revisions on NA, PPI, GFS, and BOP could be improved. They also found somewhat difficult the access to metadata on NA, PPI, and GFS. Some users expressed an interest in more detail and longer time series on NA, BOP, PPI, the monthly index of economic activity (IMACEC), and GFS. A considerable number of users emphasized the need for data on household income distribution, average prices by industry, volume of sales by industry, and reliable and consistent series on employment statistics.

The survey showed that users were satisfied with accessibility to the official statistics. The data were considered reasonably accessible, primary through electronic means, publications and press releases. About 50 percent of the respondents felt that methodological concepts and analytical presentations were clearly described.

Meetings with users

To complement the users' views of official statistics in Chile, the mission met with several key users of macroeconomic statistics from the public and private sectors, consulting agencies, academia, and international organizations in Chile. Overall, users' views were consistent with the findings of the survey, and the main areas for improvement identified by users were in line with the findings of the IMF staff. A common denominator in all the meetings was the need to improve the coverage and consistency of labor statistics.

Users expressed a general view that statistics in Chile had improved recently, but further improvements in some areas were needed. The CBCH was cited as the agency with the most reliable information. The NSI's website was cited as very useful because detailed data are available on line. Users also wanted more information on revision policies and better

coverage, as well as an expanded breakdown of national accounts, price, government finance, and balance of payments statistics.

Table 12. Chile: Questionnaire Results Analyzed by Type of User
March, 2007

Type of Respondent	Total Sent	Total Received	In % Received
Government	20	6	30.0
Financial institutions	45	20	44.4
Embassies and international organizations	7	2	28.6
Universities, researchers, and consultants	94	14	14.9
Media	29	1	3.5
Supervisory, regulatory institutions	7	2	28.6
Private nonfinancial enterprises	1	1	100.0
Producers' associations	4	4	100.0
Total	**207**	**50**	**24.2**

Source: Users Surveys conducted by the NSI

Table 13. Results of Chile's User Survey
March 2007

General Information about Uses of Official Macroeconomic Statistics of Chile	Total Number of Responses
15. Which official statistics do you use regularly?	
a. National accounts (NA)	38
b. Prices	48
c. Government finance statistics (GFS)	35
d. Monetary statistics (Monetary)	32
e. Balance of payments (BOP)	30
f. Other:	38
• Production indices	31
• Labor market	38
• Merchandise trade	20
• International reserves and foreign currency liquidity	21
• External debt	24
• International investment position	15
• Other	3
16. Where do you obtain the official statistics?	
a. Official press releases and publications on macroeconomic statistics	46
b. Private sector summaries and analyses	20
c. Official policy papers	31
d. Publications from international organizations about the country	23
e. Other sources	5
17. Do you refer to official descriptions of the sources and methods that were used to **18.** compile the official statistics?	
• Yes	36
• No	12
19. For what purposes do you use the official statistics?	
a. Analysis of current developments for short-term decision making	32
b. Analysis of trends for longer-term policy formulation?	31
c. Econometric model building and forecasting	34
d. Economic research	31
e. Comparison with economic developments in other countries	20
f. General economic background	19
g. Other	4

General Information about Uses of Official Macroeconomic Statistics of Chile						
	NA	Prices	GFS	Mone-tary	BOP	Other
20. Coverage and detail						
5.1 In general, are you satisfied with the coverage of official statistics?						
• Yes	34	40	23	33	33	5
• No	8	9	14	3	4	3
5.2 In general, are you satisfied with the official statistics in terms of their level of detail?						
• Yes	30	38	21	31	27	3
• No	12	10	17	4	8	6
21. Periodicity and timeliness						
6.1 Are you satisfied with the frequency of compilation of the official statistics (e.g., weekly, monthly, quarterly, annual)?						
• Yes	36	44	29	36	31	4
• No	3	1	8	1	4	1
6.2. In general, do you consider that the official statistics are disseminated with the appropriate timeliness (the time lag after the period to which they pertain, e.g., 60 days after the reference period)?						
• Yes	33	45	27	35	32	7
• No	6	2	11	3	4	1
22. Other dissemination practices						
7.1 Do you know if there is a publicly disseminated calendar that announces in advance the dates on which the various official statistics will be disseminated?						
• Yes	26	36	15	25	26	3
• No	18	13	27	13	12	3
7.2 If there is a calendar of release dates, in your experience, are the official statistics released on the dates announced?						
• Yes	26	37	15	28	26	3
• No	0	1	5	0	0	0
7.3 Is there enough information about revisions to official statistics?						
• Yes	23	29	18	25	23	1
• No	15	15	20	9	11	1
23. Accessibility						
8.1 Can you easily access the official statistics?						
• Yes	36	44	29	37	35	7
• No	6	5	13	2	2	2

General Information about Uses of Official Macroeconomic Statistics of Chile						
	NA	Prices	GFS	Mone-tary	BOP	Other
8.2 Can you easily access information pertaining to official statistics you use (explanatory notes, methodological descriptions, reference concerning concepts, classification, statistical practice)?						
• Yes	22	34	18	25	25	5
• No	15	11	20	11	10	3
					Yes	No
8.3 Is the above information on methodology sufficiently clear and at an adequate level of detail to be useful to you?					18	18
8.4 How do you get access to official statistics?						
• Official releases					22	
• Hard copy publications					30	
• Data specifically requested					10	
• Official website					49	
• Other					2	
• E-mail requests					9	
	NA	Prices	GFS	Mone-tary	BOP	Other
24. Overall assessment						
9.1 In your opinion, is the underlying methodology of official statistics sound and appropriate?						
• Yes	34	36	31	34	32	4
• No	4	7	8	2	2	2
9.2 In general, do you consider the official statistics to be unbiased and accurate?						
• Yes	34	38	35	36	33	3
• No	5	6	4	2	3	2
9.3 How would you compare the quality of official statistics of the country with those of other countries in the region?						
• Better	25	30	25	23	25	2
• Same	11	9	7	10	8	0
• Worse	0	3	4	0	0	0
9.4 How do you assess the overall quality of the official statistics? (1 rated as poor and 5 as excellent) *1*	1	1	0	0	0	0
2	2	2	5	0	1	1
3	6	7	8	2	2	1
4	24	24	22	23	21	2
5	8	16	5	14	12	1
Average rating	3.9	4.0	3.7	4.3	4.2	3.6

NA = National Accounts; Prices refers to: CPI (Consumer Price Index) and PPI (Producer Price Index);
GFS = Government Finance Statistics; Monetary = Monetary Statistics; and BOP = Balance of Payments Statistics

Box 1. Chile: Comments by Users of Macroeconomic Statistics

Additional comments, including areas where you see room for improvement (this section includes a summary of comments):

Respondent 1
- Information of income and its distribution, and information on households and dwellings are published at aggregated level.

Respondent 2
- A greater breakdown is required sometimes, particularly for employment surveys and the surveys used to compile the balance of payments; detailed data on line of easy access are needed. On government finance statistics, more explanations on the data are required.
- There is no available methodology on government finance statistics.
- In general, our statistics are very good, except in the case of labor statistics. In addition, sometimes regional detail is required and it is not available on time, but several years later as in the case of regional GDP. It would be interesting to have official statistics of investment projects of the public and private sectors.

Respondent 3
- Data on volume of sales and average prices by industry are needed.

Respondent 4
- I need more detailed balance of payment statistics, e.g., by sector, enterprise, and region.

Respondent 5
- The base year of the CPI is outdated and it has limited coverage (Great Santiago).

Respondent 6
- There is no sufficient clarity with respect to a methodology recently adopted; e.g., imputation of the transport cost of Transantiago in the CPI.

Respondent 7
- A major deficiency in national accounts is the absence of statistics on inventories and investment by sectors. On government finance statistics, there has been important progress, but it is still not possible to reconcile the numbers of the budget law with an economic classification of expenditure, which is comparable with that of the budgetary execution. The figures of financial services of the balance of payments are too vulnerable to assumptions on reinvested earnings and dividends, and present noticeable revisions, contaminating the figures on Direct Foreign Investment. This has been applied since the accrual criterion was adopted and the price of copper increased.
- The data on trade are good. There is an issue with the data on earnings.

Respondent 8
- More breakdowns on the IMACEC are needed.

Respondent 9
- The CPI only covers Great Santiago. Government finance statistics only cover central government. There is a need for a functional classification of government expenditure.

Respondent 10
- The frequency is relatively satisfactory. However, I insist that more processing of the information is required. The NSI has all the information on line. The central bank also, but it is difficult to interpret it, one requires more training. The Ministry of Finance does not publish the data observing a regular calendar. For example, the data of the Treasury are published once a year, but the Comptroller General is the one that disseminates them.

Respondent 11
- There is some issue of transparency with respect to the data of the Ministry of Finance. The problem is the access to the budgetary topics, public enterprises, and others subjects in that area; for example, what have been done with the large resources from copper or the resources allocated to the Defense Minister. Another example is the access to the System of Evaluation of Investments that Mideplan has. Available information is little on these matters.

Respondent 12
- The revisions of the CPI are not clear.
- One does not know how the deflators and the monthly indicator of economic activity are calculated. In general, there is lack of clarity with respect to the compilation of the national accounts.
- The information on inventories and the IMACEC needs improvement. Changes in weights cannot be arbitrary (transport and communications in 2006). In the case of the CPI, it is necessary to improve the impact of quality changes and varieties available and avoid making arbitrary weight changes (telecommunication in 2006). Employment statistics possibly improved with the update of the sample to 2002, but there are doubts with respect to the quality of the link with the old series. It would be desirable if information on underemployment (voluntary and involuntary) was published and the treatment of the emergency employment was improved (Is it employment? Is it social security/subsidies? Is it a combination?) In general, the quality of the national information is acceptable, but the regional one is poor.

Respondent 13
- The last household budget survey is more than 10 years old.

Respondent 15
- In general, statistics are too aggregated. In the United States for example, price indices are released by type of good and service and the series are quite long. Similarly, the level of detail of the tax data is greater than that disseminated in Chile.

Respondent 16
- Chile lacks an important number of data for policy and decision making. Some examples are: hours worked, duration of unemployment, term of contracts, payment of indemnifications per years of service, household wealth and its composition, breakdown of household consumption expenditure. Some of these exist and are of low quality, they are disseminated with a too low frequency to be useful, or simply they are not public and are not available for academic investigation.

Respondent 17
- There are doubts with respect to the quality and the methodology of the surveys for the calculation of the CPI.
- There are no official backward links of indices and long series. No seasonally adjusted data. However, the timeliness of the quarterly national accounts was improved from 53 days to 35-40 days. Greater budgetary allocation for the NSI is needed. Prices of monthly exports and imports of other basic products (salmon, steel, wood, wine, etc) are needed. Detailed Publication of the Balance Sheet. To improve information on hours worked /wages, publish a monthly index of worked hours and unitary labor costs.

Respondent 18
- Although the statistics are solid and some progress has been made, citizens need greater participation in the process. Also, statistics that show details on the minorities are needed.