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Norway: Report on the Observance of Standards and Codes—Data Module; Response by the Authorities; and Detailed Assessment Using Data Quality Assessment Framework

This Report on the Observance of Standards and Codes on Data Module for **Norway** 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 **July 3, 2003.** The views expressed in this document are those of the staff team and do not necessarily reflect the views of the government of **Norway** or the Executive Board of the IMF.

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

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NORWAY

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

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July 3, 2003

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ACRONYMS

1993 SNA	*1993 System of National Accounts*
1995 ESA	*1995 European System of Accounts*
BISC	Banking, Insurance and Securities Commission of Norway
COFOG	Classification of Functions of Government
COICOP	Classification of Individual Consumption by Purpose
CPA	Classification of Products by Activity
DQAF	Data Quality Assessment Framework
DPCS	Division for Public Finance and Credit Market Statistics
DSBB	Dissemination Standards Bulletin Board
EEA	European Economic Area
EU	European Union
GFS	Government Finance Statistics
GFSM 2001	*Government Finance Statistics Manual, 2001*
HBS	Household Budget Survey
HS	Harmonized System of Commodity Description and Coding
IMF	International Monetary Fund
ITRS	International Transactions Reporting System
MFSM	*Monetary and Financial Statistics Manual*
MOF	Ministry of Finance
NACE	Standard Classification of Economic Activities of the European Communities
PRODCOM	List of Products of the European Communities
ROSC	Report on the Observance of Standards and Codes
SDDS	Special Data Dissemination Standard
SSB	Statistics Norway (Statistisk sentralbyrå)
STA	IMF Statistics Department

EXECUTIVE SUMMARY

This Report on the Observance of Standards and Codes (ROSC) data module provides a review of Norway's data dissemination practices against the IMF's Special Data Dissemination Standard (SDDS), complemented by the in-depth assessment of the quality of the national accounts, consumer price index, producer price index, government finance, monetary, and balance of payments statistics. The agencies that compile the statistics assessed in this report are Statistics Norway (SSB), Norges Bank, and the Ministry of Finance (MOF). The assessment was carried out by a mission from the IMF Statistics Department that visited Oslo during November 11–26, 2002.

The mission reached the following main conclusions:

- **SDDS observance:** Norway is in observance of the SDDS. It meets the SDDS specifications for coverage, periodicity, and timeliness for all data categories, with two exceptions, and for advance release calendars. For the exceptions, which are the timeliness of data on general government operations and the periodicity and timeliness of data on central government operations, Norway uses the two flexibility options to which it is entitled.

- **Prerequisites of quality:** Norwegian statistical agencies demonstrate awareness of quality as a cornerstone of statistical work. In this regard, both SSB and Norges Bank have distinctive features in their human resource management and in their statistical practices that contribute to cultures of shared perceptions of quality.They have a legal and institutional framework that supports statistical quality and a high degree of coordination of national statistics. However, additional staff resources would be useful for the producer price and government finance statistics. In other datasets, resources are commensurate with existing statistical programs.

- **Integrity:** Agencies demonstrate professionalism, are transparent in their practices and policies, and provide guidelines on ethical conduct for their staff. Each agency has well-documented assurances of professionalism and impartiality in their work.

- **Methodological soundness:** The Norwegian macroeconomic statistics generally follow internationally accepted guidelines on definitions, scope, classification and sectorization. The recording basis for transactions in the monetary statistics and the scope of government finance statistics could come closer in some respects.

- **Accuracy and reliability:** The national accounts, consumer and producer price indices, and monetary statistics get high marks for accuracy and reliability. The source data for government finance statistics could be made more complete and timely. Similarly, the source data for balance of payments statistics have been affected by economic changes and are under review. Good use is made of assessment and validation techniques, but more use could be made of studies of revisions in several datasets to shed light on ways to improve the statistics.

- **Serviceability:** By and large, Norwegian macroeconomic statistics are relevant, consistent, and available on a timely basis with good frequency, with the exception of some government finance statistics that are deficient in terms of periodicity and timeliness. With respect to revision policy, most datasets follow the international good practices of providing the public with a clear statement of the revision schedule and of identifying provisional estimates; however, information about revision practices in the producer price index could be more transparent.

- **Accessibility:** All datasets are readily available to the public and are accompanied by convenient, albeit in some cases, brief documentation on concepts, scope, classifications, basis of recording, data sources, and statistical techniques. Service to users could be enhanced by the provision of better information on links between the different presentations of data on central government operations.

I. INTRODUCTION

1. The data module of this Report on the Observance of Standards and Codes (ROSC) provides a summary of Norway's dissemination practices relative to the Special Data Dissemination Standard (SDDS). It is complemented by an assessment of the quality of the national accounts, consumer and producer price indices, and government finance, monetary, and balance of payments statistics using the Data Quality Assessment Framework (DQAF) developed by the IMF Statistics Department (STA). This report is based on information provided prior to and during a staff mission from November 11–26, 2002,[1] as well as publicly available information.

2. Section II includes an assessment of Norway's data dissemination practices against the SDDS. Section III presents a summary assessment of the quality of the principal macroeconomic datasets, following the dataset-specific assessment frameworks. Finally, Section IV sets out recommendations to achieve further improvements in Norway's statistics.

II. DATA DISSEMINATION PRACTICES AND THE SPECIAL DATA DISSEMINATION STANDARD

3. Norway subscribed to the SDDS on June 18, 1996 and started posting its metadata on the Dissemination Standards Bulletin Board (DSBB) on September 19, 1996. Norway is in observance of the SDDS, having met the specifications for the coverage, periodicity and timeliness of the data, and for the dissemination of advance release calendars on April 28, 2000. The Data Template on International Reserves and Foreign Currency Liquidity was hyperlinked to the DSBB on June 7, 2000. The National Summary Data Page was hyperlinked to the DSBB on June 9, 2000.

[1] The mission team was headed by Mr. Neil Patterson and included Mrs. Carol Fisher, Messrs. Paul Armknecht, Johann Bjorgvinsson, Robert Dippelsman (all STA), Mr. Bent Thage (expert), and Mrs. Mabel Hollstein (STA—Staff Assistant).

4. Three official institutions are responsible for the compilation and dissemination of the SDDS prescribed data categories. Statistics Norway (SSB) compiles and disseminates data on the national accounts, production index, labor market, price indices, general government operations, central government operations, balance of payments, international investment position, merchandise trade, and population. Norges Bank has responsibility for the analytical accounts of the banking sector, the analytical accounts of the central bank, interest rates, the data template on international reserves and foreign currency liquidity, and exchange rates. The Ministry of Finance (MOF), in collaboration with SSB, is responsible for data on central government debt; SSB is the agency responsible for the SDDS category. The Oslo Exchange compiles and disseminates the share price index.

5. These data can be accessed in a variety of publications and on the following Internet websites:

SSB's website (http://www.ssb.no)
Norges Bank's website (http://www.norges-bank.no/)
MOF's website (http://odin.dep.no/fin/norsk/)
Oslo Exchange's website (http://www.ose.no/)

Data dimension: coverage, periodicity, and timeliness

6. Norway meets the SDDS specifications for the data dimension for all data categories, using a flexibility option on the timeliness of the general government operations data and a flexibility option for the periodicity and timeliness of the data on central government operations (Table 1). Periodicity and timeliness exceed the requirements of the standard for several data categories.

Access dimension

7. Norway meets the requirements of the SDDS in terms of access to data by the public. Advance release calendars that meet the SDDS requirements are disseminated on the Internet websites of SSB, Norges Bank, and the MOF. These advance release calendars are supplemented by a quarter-ahead presentation of release dates on the DSBB.

8. Data are released simultaneously to all interested parties, generally on the websites of the relevant agencies and on Norway's National Summary Data Page, which is maintained by SSB (http://www.ssb.no/en/indicators/dsbb/).

Integrity dimension

9. The SDDS-required disclosure of information on the terms and conditions that govern the collection, compilation, and dissemination of data, including the confidentiality of the data collected, is generally available to the public in Norwegian and English.

Table 1. Norway: Overview of Current Practices Regarding Coverage, Periodicity, and Timeliness of Data Compared to the SDDS

SDDS Data Category	Coverage (meets SDDS requirement)	Periodicity		Timeliness		Comments
		SDDS	Norway	SDDS	Norway	
Real Sector						
National accounts	Yes	Q	Q	1Q	5-9W	Timeliness exceeds SDDS requirements. Timeliness of provisional data is 9 weeks after the end of reference quarter for Q1, Q2, and Q3 data and 5 weeks after the end of reference quarter for Q4 data (the first annual estimates).
Production Index/indices	Yes	M	M	6W (M encouraged)	5-6W	
Employment	Yes	Q	Q	1Q	1Q	Timeliness is normally 5-6 weeks, and no later than one quarter, after the end of the reference quarter.
Unemployment	Yes	Q	Q	1Q	1Q	Timeliness is normally 5-6 weeks, and no later than one quarter, after the end of the reference quarter.
Wages/earnings	Yes	Q	Q	1Q	8W	Timeliness exceeds SDDS requirements.
Consumer price index	Yes	M	M	1M	Within 10 days	Timeliness exceeds SDDS requirements.
Producer price index	Yes	M	M	1M	Within 10 days	Timeliness exceeds SDDS requirements.
Fiscal Sector						
General government Operations	Yes	A	A	2Q	10M	Timeliness of revenue, expenditure, and balance is 4 months after the end of the fiscal year. Timeliness of data on financing is 10 months after the end of the fiscal year. Flexibility option utilized for the timeliness of the data.
Central government operations	Yes	M	Q	1M	2-4M	Timeliness is about 2 months after the end of the reference quarter for Q1, Q2, and Q3 data and 4 months after the end of the reference quarter for Q4 data. Flexibility option utilized for the periodicity and timeliness of the data.
Central government debt	Yes	Q	Q	1Q	40 days	Timeliness exceeds SDDS requirements.
Financial Sector						
Analytical accounts of the banking sector	Yes	M	M	1M	1M	
Analytical accounts of the central bank	Yes	M (W recom-mended)	M	2W (W encouraged)	2W	Balance sheet: 2 weeks after the end of the reference month for all months except December and January. December data, which must be approved by Norges Bank's Supervisory Council, are released in mid-February. January data are released one week later. Monetary base (M0): 1 month after the reference month.
Interest rates	Yes	D	D	1/	D	
Stock market: share price index	Yes	D	D	1/	D	

SDDS Data Category	Coverage (meets SDDS requirement)	Periodicity		Timeliness		Comments
		SDDS	Norway	SDDS	Norway	
External Sector						
Balance of payments	Yes	Q	M	1Q	8-9W	Periodicity and timeliness exceed SDDS requirements.
International reserves	Yes	M (W recom-mended)	M	1W	5D	
Reserves template	Yes	M	M	1M	21D	Timeliness exceeds SDDS requirements.
Merchandise trade	Yes	M	M	8W (4-6W encouraged)	2W	Timeliness exceeds SDDS requirements.
International investment position	Yes	A (Q recom-mended)	A	2Q (Q encouraged)	2Q	
Exchange rates	Yes	D	D	1/	D	
Addendum: Population	Yes	A	A	...	6W	

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.

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

10. Procedures on internal government access to the data prior to public release are disseminated on the DSBB for the data categories to which they apply. According to Norway's SDDS metadata, for most data categories there is no internal government access to the data prior to public release. However, in the case of the general government data, which are a major input into the National Budget, prior access is given to senior advisers in the MOF approximately one week before their release to the public. For the analytical accounts of the banking sector, pre-access to some monetary and credit statistics is only given to Norges Bank's Governor and Deputy Governor and certain senior Bank staff, half an hour before release. Concerning interest rates, the MOF is informed of changes in Norges Bank's lending rates and deposit rates before their release to the public.

11. Data released by the Norwegian statistical agencies are generally not accompanied by ministerial commentary. Regarding the annual central government data—central government operations and central government debt—(including annual financing data), the Minister of Finance may give comments on the annual accounts to the public.

Quality dimension

12. Summary methodology statements for all data categories have been provided to the IMF and posted on the DSBB, although some are in need of updating. In addition, methodological information is disseminated by SSB, Norges Bank, and the MOF. The mission found that methodological information could be improved for the fiscal sector.

Monitoring of data dissemination practices

13. In accordance with the IMF Executive Board's Third Review of the SDDS, the IMF staff began monitoring subscribers' performance under the SDDS in July 2000. Monitoring is carried out against the release dates stated in the advance release calendars and the metadata, i.e., to verify not only that the data are released according to the calendar, but also that the data disseminated correspond to the metadata posted on the DSBB. Norway's dissemination practices have generally been in observance of the SDDS. Notable exceptions in terms of timeliness of updating of Norway's National Summary Data Page pertain to data on central government debt and the analytical accounts of the central bank.

III. SUMMARY ASSESSMENT OF DATA QUALITY

14. An assessment of six macroeconomic datasets—national accounts, consumer price index, producer price index, government finance, monetary, and balance of payments statistics—was conducted using the Data Quality Assessment Framework (DQAF). This framework provides a structure and a common language to assess data quality. It comprises a generic framework and a set of dataset-specific frameworks that cover five dimensions of data quality—integrity, methodological soundness, accuracy and reliability, serviceability, and accessibility—and a set of prerequisites.[2]

15. As will become apparent in the assessments, Norway's membership in the European Statistical System shapes Norwegian official statistics and statistical policy in a number of ways.[3] Norway produces and disseminates a significant share of its data consistent with the legal requirements of the system. Norwegian statisticians participate with colleagues from other member countries in working groups, committees, and other fora to arrive at common decisions, often increasing opportunities for sharing good practices and extending the reach of professionalism. In the area of statistical methodology, Eurostat issues a range of documents that provide guidance. Some of the guidance allows substantial room for national practices in the collection and compilation of required statistical outputs. Other guidance mandates specific practices in data collection and compilation.

16. Information resulting from the application of the DQAF to the Norwegian system is presented below, following the structure of that framework. Conclusions are also presented in

[2] The generic framework is set out in Appendix II of the accompanying Detailed Assessments volume to this report.

[3] The European Statistical System comprises Eurostat and the statistical offices, ministries, and central banks that collect official statistics in the countries of the European Economic Area (EEA). These presently comprise the European Union Member States, Iceland, Liechtenstein, and Norway. With the extension of common policies, harmonization has been extended to nearly all statistical fields.

summary tables in which the assessment of data practices is made on a four-part scale. (Table 2 and Tables 1–6 in the accompanying Detailed Assessments volume).

17. **In summary, Norway's macroeconomic statistics are of generally high quality. They are adequate to conduct effective surveillance, although the mission identified some shortcomings that may detract from the accurate and timely analysis of economic and financial developments and the formulation of appropriate policy.** These shortcomings include deficiencies in the scope, periodicity, and timeliness of government finance statistics and evolving weaknesses in the source data for balance of payments statistics.

18. Norway's introduction in 2001 of an explicit inflation-targeting regime has created new challenges for policy makers to watch for early warnings—as provided by macroeconomic statistics and indicators—of the inflationary impact of public and private spending. In this context, it is noteworthy that projects are underway to upgrade data sources for government finance and balance of payments statistics, and a proposal exists to conduct a quality improvement project for the quarterly national accounts even though these statistics are already compiled and disseminated in broad conformity with international best practice. These initiatives illustrate the high degree of quality awareness of Norway's statistical managers.

Prerequisites of quality

This category in the DQAF identifies conditions within the agency in charge of producing statistics that have an impact on data quality. The elements within the category refer to the legal and institutional environment, resources, and quality awareness.

19. **Statistics Norway** is responsible for the national accounts, the consumer price index, the producer price index, government finance statistics (GFS), and balance of payments statistics (the latter two are done in cooperation with other agencies that supply data).[4] SSB operates under the *Statistics Act of 16 June 1989, No. 54* and associated regulations, which continue the Norwegian tradition of a legal and institutional environment that features a strongly centralized statistical system. That system gives SSB the role as the coordinator and major compiler of official statistics. The legislation provides for confidentiality of individual data, makes possible mandatory reporting, and creates a decision-making structure that takes into account data users' needs and the response burden. Having its own research function is a distinctive feature of SSB that it has found contributes to maintaining a strong focus on user needs, conceptual issues, and professionalism in general. Resources are generally commensurate with SSB's work program, except for a need for additional staff to address particular aspects of work on the producer price index and, especially, government finance statistics. Future changes in data sources for balance of payments may increase the

[4] Norges Bank and the MOF are among these agencies. The MOF cooperates with SSB in the compilation and dissemination of government debt data.

requirements for staff to undertake coordination and quality control. SSB is advanced in its quality awareness. SSB has implemented process controls, a system of quality indicators, and a program of training and quality pilots to act as facilitators in projects to improve quality. The quality work is conducted within a framework of "systematic quality work," inspired by the principles of Total Quality Management. This work is gradually spreading through the organization. (For more information on this good practice, see the Detailed Assessments volume, pages 10–11). SSB has shown an awareness of trade-offs within each of data collection, processing, and dissemination.

20. **Norges Bank** compiles and disseminates monetary statistics as well as running the international transactions recording system (ITRS), which is a major data source for the balance of payments. It also compiles and disseminates international reserves data and, in cooperation with SSB, financial accounts statistics. An interesting feature of Norway's statistical system is that the responsibility for monetary statistics is not clearly specified, but instead depends on a web of laws and formal and informal cooperation among national statistical and financial agencies. Norges Bank's relatively complex statutory and other arrangements do not give rise to inappropriate influence or interference in the production, compilation, or dissemination of statistics; in fact, this legal and institutional environment contributes to a highly effective coordination of national statistics. Against this background, the authority of Norges Bank to request information from other Norwegian depository corporations and certain other financial corporations is provided mainly in the *1956 Financial Supervision Act,* but also in the 1994 agreement between SSB and Norges Bank, and between these two agencies and the Banking, Insurance, and Securities Commission (BISC). These three data-producing agencies share a joint database maintained by Norges Bank for use in statistical compilation, analysis, and supervision. Norges Bank does not disclose the data on individual institutions or transactions. Statistical reporting by all units in the monetary and financial system is through the mandate of the *1956 Act*, which includes provisions for noncompliance. Norges Bank's staff resources are adequate for monetary and financial statistical programs; in conjunction with its planned exchange by 2005 of certain balance of payments and other statistical tasks with SSB, Norges Bank plans to streamline its statistical work program. In their *Action Plan*, managers of Norges Bank's Statistics Department promote their vision of ensuring the best possible trade-offs within quality. The quality awareness of staff is highlighted in the working papers of the Department and in an internal training program that provides guidance and coaching to new staff on standards and codes, contributing to a culture of shared perceptions of quality.

Integrity

Integrity identifies features that support firm adherence to objectivity in the collection, compilation, and dissemination of statistics so as to maintain users' confidence. Elements refer to the professionalism and ethical standards that should guide policies and practices, which should be reinforced by their transparency.

21. **Statistics Norway** maintains a high degree of professionalism, which is shown by its role in the forefront of research, statistical innovation, and early adoption of international

standards. It plays a significant role in regional and international statistical discussions. Choices of sources and statistical techniques are made on the basis of statistical considerations and international standards, but priorities are influenced by EEA requirements. Statistics are compiled on an impartial basis in line with the *Statistics Act* and SSB has a high reputation among its users, other statistical agencies, and the public. SSB is able to comment on misuse of statistics and has done so. (For more information, see the Detailed Assessments volume, pages 12–14). SSB is a leader in transparency of statistical policies and practices, achieved by the wide availability of information on its activities and the terms and conditions under which SSB works such as are described in the SSB publication *Strategy 2002*. SSB also encourages the identification of its products and gives advance notice of changes in sources and methods. Guidelines on ethical standards for staff are in place and well communicated to the staff through the signing of contracts, the internal website, and internal courses.

22. The professionalism of the staff of **Norges Bank** is reflected in their impartial compilation of statistics and their continuing contributions to national and international research projects and publications. An internal rule gives the staff of the Statistics Department independence from intervention or influence by the rest of Norges Bank; specifically, the choices of sources and methods reflect a combination of two statistical considerations—the need for monetary statistics consistent with national accounts statistics and the need for financial stability indicators for policy and surveillance purposes. (For more information, see the Detailed Assessments volume, pages 124–125). Norges Bank's statistics reflect transparency, with respect to the terms and conditions under which Bank staff undertake statistical work and in the procedures for the release of statistical information. Managers provide their staffs with guidance on ethical standards, which are defined in the staff handbook *Ethical Rules of Norges Bank*.

Methodological soundness

Methodological soundness refers to the application of international standards, guidelines, and agreed practices. Application of such standards, which are specific to the dataset, is indicative of the soundness of the data and fosters international comparability. Elements refer to the basic building blocks of concepts and definitions, scope, classification and sectorization, and basis for recording.

23. The concepts and definitions of the **national accounts** follow the *1993 System of National Accounts (1993 SNA)* and the *1995 European System of Accounts (1995 ESA)*, and the transition to these systems was implemented as early as 1995. (For more information, see the Detailed Assessments volume, page 15). The scope of the national accounts is very broad compared to international practices. In particular, the accounts include detailed annual supply and use tables and symmetric input-output tables that are fully integrated in the accounts in both current and previous year prices (chain indices). In addition it includes capital stock data, regional accounts by county, and satellite accounts for tourism and the environment.

For relevant categories of the accounts, a distinction is made between "Mainland-Norway" and "Petroleum activities and ocean transport." The production part of the accounts is based on kind-of-activity units, and the classification/sectorization and basis for recording are also in accordance with the most recent versions of the international recommendations.

24. The concepts and definitions and the basis of recording of the **consumer price index** are consistent with the *1995 ESA*. The scope of the index covers the expenditures of all resident households including consumption of household production but excluding illegal sales. The classification of expenditure is according to the Classification of Individual Consumption by Purpose (COICOP). The market basket includes 911 representative goods and services and the weights are derived from the Household Budget Survey (HBS). The recent weights are derived from the 1999, 2000, and 2001 (moving average) HBSs.

25. The concepts and definitions and the basis of recording of the **producer price index** are consistent with the *1995 ESA* and the European Union (EU) regulations on Short-Term Statistics. The scope of the index covers all resident market enterprises in industrial sectors as recommended by the EU. As such, it excludes services and illegal sales. The classification of establishments follows the Standard Classification of Economic Activities of the European Union (NACE), Rev. 1. The classification of products is based on a combination of Norway's own adaptation of the Classification of Products by Activity (CPA) and the Harmonized System of Commodity Description and Coding (HS).

26. For **government finance statistics**, the concepts and definitions are consistent with those of the general government sector defined in the *1993 SNA* and the *1995 ESA*. However, they are not presented in a comprehensive and fully integrated fiscal analytical framework, and plans to fully adopt the analytical framework of *Government Finance Statistics Manual, 2001* (*GFSM 2001)* have not been developed or documented. For annual GFS data, the scope of the general government sector is complete, but for sub-annual data on central government, the scope is only partial; extrabudgetary units are excluded. Similarly, the scope of transactions of the government units is not complete, because financing transactions are not fully covered. The classifications, produced according to the general government sector defined by the *1995 ESA*, can easily be linked to the classification of the *GFSM 2001*. The new version of the Classification of Functions of Government (COFOG) has recently been implemented. The basis of recording of stocks (including debt) and flows is broadly consistent with internationally accepted standards. Generally, the flows are valued at market prices, but not all stock categories. Budgetary central and local government securities and the foreign-currency denominated financial assets and liabilities are revalued regularly; while for the Government Petroleum Fund, all financial assets are regularly revalued.

27. In November 2000, Norges Bank began to disseminate its **monetary statistics** according to concepts and definitions that are in broad conformity with guidelines in the *Monetary and Financial Statistics Manual* (*MFSM*). This early adoption by Norway of the new framework is characteristic of the considerable attention devoted by Norges Bank staff to methodological guidelines. The scope of statistics is consistent with the *MFSM* recommendations. The classification of instruments and the sectorization of institutional

units are based on the *1993 SNA* and are consistent with the *MFSM* guidelines, except for the classification of repurchase agreements (repos) of Norges Bank.[5] The basis for recording flows and stocks is determined partly by internationally accepted standards and partly by current Norwegian accounting practices. For example, the *MFSM* recommends that the entire loan portfolio be valued at book value in loan data in the sectoral balance sheets. In particular, the loan valuation is not adjusted for expected loan losses. However, Norges Bank also seeks to follow Norwegian accounting standards and thus there is dual recording of loans on the asset side of the balance sheets of the other depository corporations. These loans are reported to Norges Bank both adjusted and unadjusted for expected loan loss provisions. The credit aggregates and sectoral balance sheets that are disseminated are those adjusted for expected loss provisions. Interest payable and receivable is recorded on an accrual basis. The interest is not allocated to each of the separate instruments in the balance sheets, but (apart from securities) recorded instead as a sum of accrued interest included respectively in other assets and liabilities. Another example of recording practices that follow guidelines other than those of the *MFSM* include the pricing of gold at a fixed margin of 20 percent below market prices.

28. **Balance of payments** statistics largely follow international concepts and definitions. The exceptions are noted and, where possible, data supplied to international organizations are adjusted to standard concepts. The scope is in accord with standards, as is the classification, although limited detail is included in the monthly balance of payments release. The basis for recording has a timing that approximates accruals, with some differences that occur because of the data sources used, such as a payments basis for interest and a customs clearance basis for merchandise trade.

Accuracy and reliability

Accuracy and reliability identifies features that contribute to the goal that data portray reality. Elements refer to identified features of the source data, statistical techniques, and supporting assessments and validation.

29. The source data for both the annual and quarterly **national accounts** are generally sound and timely, and sufficiently portray reality. They are based on a mixture of register data and statistical surveys. The enterprise surveys have a very high response rate. National accounts needs play an important role in setting the priorities for basic statistics. Results from the Structural Business Statistics surveys were fully introduced during the 2002 Data Revision, where in particular data on construction and the service industries were improved. The annual accounts could, however, benefit from more frequent surveys on the cost structure in manufacturing industries. The HBS suffers from a high non-response from households. For the quarterly accounts, improved or new short-term statistics on wages (compensation of employees is at present not included in the quarterly accounts), some

[5] The Norwegian practice is consistent with a practice accepted for IMF's *International Reserves and Foreign Currency Liquidity: A Guide to a Data Template.*

services, and local government are needed. Furthermore, the limited statistics on inventories that exist are not being systematically used. Explicit adjustments for the non-observed economy are made. Statistical techniques conform to sound statistical practices. The compilation processes are highly computerized for both the annual and quarterly accounts, characterized by use of the commodity flow method at a very detailed level in the annual calculations, and more aggregated in the quarterly calculations. Constant price calculations by the double deflation method (Laspeyres chain indices) are also carried out at this level of detail. All parts of the annual accounts, including the institutional sector accounts down to the capital account, are compiled in one single integrated system. There is no statistical discrepancy, but it is a weakness in both the annual and quarterly accounts that changes in inventories are mainly determined as residuals. Assessment and validation of source data and intermediate data are seen as an important part of the national accounts work, including feedback to producers of the primary data. Revision studies are conducted for major revisions. However, partly due to the changes in backward series caused by the two major revisions, systematic studies of current revisions to the accounts are not made at present.

30. The weights and prices source data for the **consumer price index** are obtained from comprehensive surveys. A continuous HBS enables calculation of an annual chain index. The HBS is based on a two-stage stratified random sample and provides the current consumer basket and weights (1999, 2000, and 2001). The monthly price survey collects data from 2,200 outlets on the 15th of the month and provides about 45,000 prices. A separate survey of 1,300 housing units collects rent data. The statistical techniques used in compiling the index are well-advanced for editing data, imputing missing prices, making quality adjustments, and calculating indices. The assessment and validation of the HBS could be improved to deal with the high non-response by households. The assessment and validation for the price surveys, on the other hand, are sound. Revision studies are conducted as part of the annual weight update.

31. The **producer price index** products and weights are obtained from the national accounts, from the PRODCOM survey, and from external trade data on exports. This basis enables the calculation of an annual chain index. The source data for the prices are obtained from a comprehensive monthly survey of about 900 establishments that report 6,000 transaction prices on the 15th of the month. The statistical techniques are well advanced for editing, imputing prices, making quality adjustments, and calculating indices. The assessment and validation of the price survey are sound. Revision studies are conducted as part of the annual weight update.

32. Source data for **government finance statistics** are mainly obtained by SSB from administrative records, maintained by the MOF and by local governments, but data on extrabudgetary units are obtained through accounting records of each unit. The administrative systems do not provide adequate data on financing transactions although Norges Bank produces financial transaction data, based on stock data compiled by SSB, and disseminates them on its website. Data on the budgetary central government are only available seven times a year from the MOF, apart from some tax revenue items that are available monthly. The MOF has recently decided to provide SSB with monthly revenue,

expenditure, and financing data on the budgetary central government within three-four weeks from the end of the reference month, starting in 2003. The MOF may require additional staff resources for this work. Statistical techniques are sound. Assessment and validation of source and intermediate data are routinely made. Prior to data release, quality controls are conducted, both within and between datasets. Data are continuously updated and corrected. Statistical discrepancies that are not within expected ranges are investigated and reconciliation exercises are performed. Revision studies are undertaken for major revisions but not on a routine basis.

33. The source data for **monetary statistics** are derived from comprehensive accounting records of Norges Bank and the other depository corporations. There is also complete coverage of other financial corporations through the coordinated collection system of the BISC, Norges Bank, and SSB. The monetary data capture the full range of financial instruments and economic sectors; they also contain sufficient detail to enable the classification of all financial instruments and economic sectors. Statistical techniques minimize duplication of reporting and primary compilation for statistical, prudential, and other purposes. Techniques of adjustment for breaks in time series and adjustments for revaluations also are sound. Electronic reporting and data processing, automated validation procedures, and documentation of data compilation practices contribute to the production of accurate and timely monetary statistics. Regular assessment and validation of source and intermediate data are undertaken, and revision studies take the form of notes describing investigations of sources of errors. Most recently the focus of such notes has been a comparison of growth rates of major monetary and credit aggregates as between first, sometimes preliminary, statistics and final statistics.

34. **Balance of payments** statistics have experienced problems with source data that are evident in the high and volatile values of net errors and omissions, which have made interpretation of the results more difficult in recent periods. As a result, Norges Bank has already announced its intention to discontinue the existing system. SSB and Norges Bank propose to introduce a new data reporting system by the beginning of 2005 that will address these problems. The scope and timeliness of the source data are otherwise suitable. Statistical techniques are sound and consistent with international practice. Assessment and validation of data are undertaken by suitable techniques, although investigations have had only partial success in solving the problems indicated by the net errors and omissions. Revision studies are conducted for major revisions, but not on a routine basis.

Serviceability

Serviceability focuses on practical aspects of how well a dataset meets users' needs. Elements refer to the extent to which data are relevant, produced, and disseminated in a timely fashion with appropriate periodicity, are consistent internally and with other datasets, and follow a predictable revisions policy.

35. The **national accounts** compilers maintain close contacts with important users. The accounts are widely used, and in general, given a high rating by the users. The Research

Department of SSB itself is a main user, which ensures that continuous feedback is provided on the relevance of the data. An advisory committee provides input about users' views, but no regular user survey exists. The periodicity and timeliness of the accounts are within SDDS requirements. Internal consistency in the accounts is secured by the integrated compilation approach, and the series are reconcilable back to 1970 for annual accounts and to 1991 for quarterly accounts. It is a major achievement that consistent annual series, including supply and use tables and input-output tables, have been maintained for more than 30 years following the major revisions in 1995 and 2002. (For more information, see the Detailed Assessments volume, page 42). Revisions of the current annual and quarterly accounts follow a predetermined cycle that is well established. Information about revision schedules and practices might, however, be made available to the public in a more transparent way. Comprehensive analyses of major revisions are published.

36. The **consumer price index** and **producer price index** generally meet users' needs. Their relevance is monitored by the Advisory Committee for Price Statistics. In addition, both programs would benefit from periodic user surveys to assess current and future needs. Their timeliness and periodicity are within SDDS requirements. The consumer price index has consistency between its commodity and delivery sector aggregations as well as in its historical time series from 1979. The new producer price index is consistent in its aggregations by products and end-use categories, and has consistent historical data from 1995. The revision policy and practice in the consumer price index is known to users, but it is less clear for users of the producer price index and could be improved to give users timely information on the nature and extent of revisions.

37. **Government finance statistics** meet the needs of government users for the budget preparation and monitoring. The relevance of GFS could be improved by seeking regular feedback from other users. Also, because SSB and the MOF present GFS for central government in slightly different formats, it would be useful to better document the differences for users. With respect to timeliness and periodicity, monthly data on central government operations are not produced, except for some principal tax revenue items, which are available 6 weeks after the reference month. Quarterly budgetary central government data (including the National Insurance Scheme) are available within two months, and therefore do not meet the SDDS timeliness and periodicity requirements. Quarterly debt data on budgetary central government are available within 40 days, and therefore are faster than SDDS requirements. Annual general government data on revenue, expenditure, and net lending/borrowing are available within 4 months, and on financial assets and liabilities within 10 months, and do not meet the SDDS timeliness requirement.[6] GFS are internally consistent for most of the government accounts, as well as between the government sectors (annual data). Weaknesses appear on the financial side, where reconciliation between stocks and flows, and between net lending/borrowing and financing, is not properly made. GFS are consistent and reconcilable over a reasonable period of time, and as well with most other

[6] To meet EU requirements, Norway will have to disseminate quarterly financial transactions and balance sheets by mid-2005.

macroeconomic datasets. Revisions follow a regular and well-understood pattern. Studies of major revisions are made public.

38. The relevance and practical utility of existing statistics in meeting the needs of the main users of **monetary statistics** (the Monetary Policy Wing and the Financial Stability Wing of Norges Bank) are regularly reviewed. An established process of consultation takes place regularly with SSB and periodically with the banking community and academia. Timeliness and periodicity are consistent with SDDS requirements. Monthly data on the analytical accounts of Norges Bank are disseminated, as required, within one month of the reference period, with the exception of the data for December and January. An exceptional restriction is placed on the timeliness of these data by Bank regulations dealing with the dissemination of its year-end balance sheet. The analytical accounts of the banking sector are disseminated within one month of the reference period. Quality control procedures and the application of good statistical techniques help ensure the internal consistency of the data as well as their consistency over time. The monetary statistics are regularly compared with those obtained by SSB in its national income compilations and they are fully reconcilable with balance of payments statistics. The revision policy and practice follow a well-established schedule that is in accordance with Norges Bank's principles and guidelines. Significant revisions and events affecting monetary statistics are explained in documentation in the relevant pages of Norges Bank's website and revision studies are disseminated on the website as well.

39. **Balance of payments** statistics have maintained their relevance by close formal contact (via an advisory committee) and informal contact with users, although no regular user survey exists. The timeliness and periodicity satisfy and are better than SDDS requirements. Consistency of the data over time and with other datasets has been a high priority. Balance of payments are particularly well integrated with the national accounts, although linkages with international investment position data could be improved. Revision policy and practice are appropriate and transparent, with a public revisions policy that reflects the availability of data and notification of changes. Comprehensive analyses of major revisions are published.

Accessibility

Accessibility deals with the availability of information to users. Elements refers to the extent to which data and metadata are clear and easily available and to which assistance to the user is adequate to help them find and use the data.

40. The **national accounts** are readily accessible free of charge on the SSB website. Press releases are supplied on paper on demand, and annual hard-copy publications on national accounts are available in identical Norwegian and English versions. The accounts are also published four times a year in the SSB publication *Economic Survey,* together with analyses of the data and forecasts. National accounts releases follow a 4-month advance release calendar that is continually updated on the SSB website, and the data are made available to all users at the same time. The documentation standard of the accounts is

excellent. Summary metadata are found on the website under "About the Statistics" and more detailed documentation is found in hard-copy in the series *Documents* and *Reports*; the latter is also available on the website. Knowledgeable assistance to users is readily available, and contact persons and other services to the users, including annual catalogues of publications, are well publicized.

41. Regarding data accessibility, the **consumer price index** and the **producer price index** are released on the pre-announced schedule and are made available to all users at the same time. The monthly indices provide sufficient detail in terms of analysis and indices. Metadata are accessible on the SSB website at various levels of detail for both consumer price and producer price index users, but detail could be further improved for the producer price index with the completion of a detailed publication on concepts, sources, and methods. Assistance to users for both indicators is provided through on-line identification of contact persons and lists of documents and publications.

42. Data accessibility for **government finance statistics** is adequate. Major aggregates and balance items can easily be identified and related to underlying data. Generally, the statistics are released to all users at the same time and in accordance with advance release calendars. Metadata are relatively complete on the SSB website. However, the relationship between the published tables and the standards upon which they are based are only briefly described, and some concepts and methods should be explained in more detail (e.g., cash and accrual concepts). Also, the relationship between the different presentations of central government operations should be made clearer. Assistance to users is prompt, knowledgeable, and supportive. Contact persons are in most cases identified.

43. Data accessibility for **monetary statistics** is readily provided through Norges Bank's Internet website. An advance release calendar specifying precise dates is published. The data are released simultaneously to all external users. Concerning metadata accessibility, an updated and comprehensive description of sources and methods underlying the monetary statistics is available on the Bank's website. Assistance to users is a strong feature of Norges Bank's website. Contact persons are identified and the staff are encouraged to respond effectively to user needs.

44. Suitable data accessibility for **balance of payments** statistics is provided. They are released on the pre-announced schedule and are made available to all users at the same time. The monthly releases provide adequate detail and some commentary with additional data available on request. There are transparent publication policies and advanced use of the internet for balance of payments statistics. Metadata accessibility is good, with a wide range of information available through the "About the Statistics" section of the SSB website. As well, there is a detailed hardcopy publication of sources and methods; accessibility would be improved by including it on the website. As for other SSB data, appropriate assistance to users is provided through on-line identification of contact persons and lists of documents and publications.

IV. STAFF'S RECOMMENDATIONS

45. Based on the review of dissemination practices, the results of the data quality assessment, discussions with the authorities in the statistics-compiling agencies, and responses from data users (see Appendix III of the Detailed Assessments volume), the mission has formulated a set of recommendations. They are designed to increase further Norway's adherence to international statistical standards and would, in the mission's view, enhance the analytical usefulness of Norway's statistics. The recommendations labeled "priority" stem from paragraphs 13 and 18 and from comments in the summary assessment tables. Those labeled "fine tuning" are, as their title suggests, refinements to an already strong set of statistics.

Cross-cutting Recommendations

Priority

- Ensure that the National Summary Data Page for the DSBB is updated on a timely basis in all data categories.

Fine tuning

- Regularize contact with users other than those on official committees and in government to learn more about their user needs. A possible strategy would be to conduct periodic user surveys.
- Investigate the reasons for the nonresponse by many households in the HBS and consider steps to improve response rates. Both the national accounts and the consumer price index depend heavily on accurate and reliable data from the HBS.

National Accounts

Priority

- In the light of the increased policy focus on short-term statistics, implement the planned quality improvement project for quarterly national accounts.
- Promote better public understanding of revisions by developing and publishing studies on current revisions.

Fine tuning

- Enhance the adequacy of national accounts statistics by improving the data sources on inventories.
- Make information about the complete publication and revision cycle for the accounts more readily available to the public.

Producer Price Index

Priority

- Strengthen staff resources for analysis and research activities, such as by adding an additional staff person to the unit that compiles the producer price index.
- Clarify revision policy, perhaps by adding a clear statement in the press release that the data are subject to revision.

- Consider a revision policy in which revisions are limited to once per year at the time of the annual weight update.

Fine tuning

- Complete the work on preparing detailed information on concepts, sources, and methods.
- Adopt a revision practice similar to that for the consumer price index, for example by notifying users six months in advance of a major revision and several weeks notice before minor revisions.
- Make public the analysis of the effects on the index of the annual weight update and other minor revisions.

Government Finance Statistics

Priority

- As planned for the budgetary central government, collect timely and comprehensive data from all central government units, including the extrabudgetary agencies.
- Regularly disseminate government finance statistics in a presentation that fully integrates revenue, expenditure, and financial transactions.
- Strengthen staff resources in order to meet present and future tasks.

Fine tuning

- Disseminate information that clarifies better the links between the different presentations of central government statistics.
- Implement the analytical framework and classifications of the *GFSM 2001* and develop a "migration" path for the full implementation of this methodology.

Monetary Statistics

Priority

- Adopt the guidelines of the *MFSM* on the basis of recording of (1) loans that are presently adjusted for expected loan loss provisions; (2) accrued interest that is presently reported separate from the underlying instruments; and (3) gold, which is presently valued at a fixed discount below market prices.

Balance of Payments Statistics

Priority

- The mission concurs with the authorities' decision to adopt new collection arrangements.

Table 2. Norway: Data Quality Assessment Framework:—Summary Presentation of Results

Element	National Accounts	Consumer Price Index	Producer Price Index	Government Finance Statistics	Monetary Statistics	Balance of Payments Statistics	Comments
0. Prerequisites of quality							
0.1 Legal and institutional environment	O	O	O	O	O	O	
0.2 Resources	O	O	LO	LO	O	O	See paragraph 19.
0.3 Quality awareness	O	O	O	O	O	O	
1. Integrity							
1.1 Professionalism	O	O	O	O	O	O	
1.2 Transparency	O	O	O	O	O	O	
1.3 Ethical standards	O	O	O	O	O	O	
2. Methodological soundness							
2.1 Concepts and definitions	O	O	O	LO	O	O	See paragraph 26.
2.2 Scope	O	O	O	LNO	O	O	See paragraph 26.
2.3 Classification/sectorization	O	O	O	O	O	O	
2.4 Basis for recording	O	O	O	O	LO	O	See paragraph 27.
3. Accuracy and Reliability							
3.1 Source data	O	O	O	LO	O	LO	See paragraphs 32 and 34.
3.2 Statistical techniques	O	O	O	O	O	O	
3.3 Assessment and validation of source data	O	O	O	O	O	O	
3.4 Assessment and validation of intermediate data and statistical outputs	O	O	O	O	O	O	
3.5 Revision studies	LO	O	O	LO	O	LO	See paragraphs 29, 32, and 34.
4. Serviceability							
4.1 Relevance	O	O	O	LO	O	O	See paragraph 37.
4.2 Timeliness and periodicity	O	O	O	LNO	O	O	See paragraph 37.
4.3 Consistency	O	O	O	LO	O	O	See paragraph 37.
4.4 Revision policy and practice	O	O	LO	O	O	O	See paragraph 36.
5. Accessibility							
5.1 Data accessibility	O	O	O	O	O	O	
5.2 Metadata accessibility	O	O	O	LO	O	O	See paragraph 42.
5.3 Assistance to users	O	O	O	O	O	O	

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

INTERNATIONAL MONETARY FUND

NORWAY

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

Response by the Authorities

July 3, 2003

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International Monetary Fund
Ms. Carol Carson
Director
Statistics Department
Washington D. C. 20431
U.S.A

Your ref.	Our ref.	Oslo,
	PPO STA/JTL 200300632	26.06.2003

Dear Ms. Carson,

On behalf of the Norwegian authorities - the Ministry of Finance, Norges Bank and Statistics Norway - we are pleased to give you our joint response to the finalized Report on the Observance of Standards and Codes (ROSC – Data Modul) and the Detailed Assessment using the Data Quality Assessment Framework (DQAF).

Our experience with the ROSC exercise has been clearly positive through the whole process. Both during the mission from the IMF Statistics Department in Oslo in November 2002 and during the following contacts, including our opportunity to give factual corrections, the discussions took place in an open and fruitful manner. I would like to express my appreciation to all the IMF staff involved.

Using the DQAF in producing the ROSCs has provided a most valuable approach to structuring the assessment of data quality in the six important data fields examined. This exercise has proved to be a very good way of promoting good practices and supporting developments to improve the quality of the statistics.

As the coordinating authority for the ROSC visit in Norway 2002, Norges Bank is pleased to inform you that all three institutions involved approve publication of the whole ROSC package, including this letter of response by the authorities, on the IMF's website.

Enclosed you will find specific comments on some of the points raised and recommendations given in the finalized report.

Sincerely yours,

Svein Gjedrem

Attachment

cc: Mr. Per-Kristian Foss
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Mr. Vilhjálmur Egilsson
Executive Director
International Monetary Fund

Attachment

Response from the Norwegian authorities

A. General response to the recommendations from the ROSC mission

The Norwegian authorities concur with most of the conclusions and priority actions recommended by the IMF. Some of the recommendations have already been implemented and have contributed to improving our statistical framework, and others will be followed up in the future development of our statistical systems.

While quality of the disseminated data was one of the four original dimensions of the SDDS metadata scheme (first layer), a more detailed layer was subsequently added by the IMF in the form of SDDS Summary Methodology, addressing summary information on analytical framework, concepts, definitions, scope of data, accounting conventions, nature of basic data, compilation practice and other aspects (second layer). Then the IMF decided to deepen its search for more such details even further: the ROSC, containing headings of prerequisites of quality, integrity, methodological soundness, accuracy and reliability, serviceability and accessibility (third layer). Each of the three layers are structured by statistical category (in the first layer typically resulting in 2-3 pages, in the second 4-6 pages and in the third layer 20-40 pages).

Norway's dissemination practices have generally been in observance of the SDDS, but there have been occasional deviations in Statistics Norway’s updating of Norway's National Summary Data Page (NSDP) for some of the categories. In particular, this has occurred for categories that include information relating to the Ministry of Finance and Norges Bank, even though the overall management is carried out by Statistics Norway. The measure now taken by Statistics Norway has been to update NSDP three times a day, compared to once a day at the time of the ROSC mission.

Regarding regular contact with users, the IMF has suggested conducting periodic user surveys. The value of such surveys has been borne out by the ROSC mission activities and Statistics Norway will start preparations for more regular activities in this field.

In respect of investigating the reasons for non-response by many households in the Household Budget Survey (HBS), resources have been used to maintain or improve the response rate and the quality of the HBS. Survey tools such as questionnaires and accounting books have been simplified. Extra training has been provided for interviewers to enhance their skills and improve their knowledge about and motivation for working with the HBS. A change in the use of incentives to encourage households to respond and alternative sources of information are under consideration.

The IMF mission is to be commended for its work on evaluating the legal and institutional environment. As written in the report, the mission found it interesting that our monetary statistics depend on a web of laws and formal and informal cooperation among national statistical and financial agencies, rather than being based on one single law. In accordance, we would like to inform you that the central bank Act was revised this summer. The revised Act will give Norges Bank a separate legal framework to collect data, and will help to make the legal environment less complex in the future.

B. National Accounts - comments by Statistics Norway

Statistics Norway regards short-term statistics as increasingly important. The planned quality improvement project for the quarterly national accounts (QNA) started early 2003. The quality of all aspects of the QNA compilation process will be reviewed and plans will be made for further improvement where necessary (a number of smaller improvements will also be implemented). Project participants include national accounts staff, as well as staff from other divisions in Statistics Norway that provide data for use in the QNA.

As to the recommendation of developing and publishing studies on current national accounts (NA) revisions, this will be followed up by making such studies more readily available in the future.

Regarding the recommendation of improving data sources on inventories, Statistics Norway will investigate the possibility of using data from structural business statistics in order to estimate changes in inventories in a more direct way (including the necessary adjustments).

More readily accessible information on the complete publication and revision cycle for the NA will be made available on the NA web site in the future. The publication schedule for the QNA for the fourth quarter has been changed from 2003 onwards, which means that the timeliness for releasing provisional data is now 9 weeks after the reference quarter for all four quarters.

C. *Prices* - comments by Statistics Norway

For the category of Producer Price Index (PPI), a report is underway that will recommend one extra staff member for PPI work, an issue to be decided in next year's budget allocation process.

Revision policy and information to users involve improving the web sites to include more information about revision policy (revisions once a year - each January publication - and extraordinary revisions to be announced several weeks in advance) and information on how the index is compiled, including an FAQ page, which will be added immediately. PPI figures are now available from StatBank Norway. Analysis of the effects on the index from the annual updates of weights (first time in January 2004) and minor revisions will be published.

A new register on newly-established enterprises, commodities and prices for the PPI survey will be effective in 2003. This will enable more resources to be allocated to other areas (such as analysis and documentation), as well as making the work on sample management easier. The PPI staff will start formal cooperation with the CPI - the aim of which is to solve common problems through joint effort.

D. Government Finance Statistics – comments by Statistics Norway

At present, Norway utilizes the two flexibility options of the SDDS for the timeliness of general government operations (GGO) financing data, and for the periodicity and timeliness of central government operations (CGO) data. Statistics Norway and the Ministry of Finance have made some improvements to GGO statistics, i.e. Statistics Norway receives the annual central government account earlier and a new and more suitable standardization of the financial transactions has been proposed that will help to meet the requirements for the timeliness of financing data. This will enable Statistics Norway to produce the statistics without recourse to this flexibility option next year (2004). With regard to CGO statistics, even faster progress should be possible since the Ministry of Finance has been collecting monthly information (on central government accounts) as from January 2003 and has forwarded this to Statistics Norway. During late summer, Statistics Norway expects to start reporting CGO statistics to the IMF on a monthly basis.

The valuation issue is under development, from currently cash-based accounts to the accrual accounting required by the new system. A committee appointed by Royal Decree this year submitted a report on government budgeting and accounting, in which accrual accounting was recommended. Statistics Norway will start introducing the Government Finance Statistics Manual (GFSM) 2001 system this summer, and this will include developing procedures for converting cash figures into accrued figures (already applied to taxes).

Statistics coverage for the government sector has been improved, as the Ministries of Health and Local Government and Regional Development - in cooperation with the Ministry of Finance - have ensured that quarterly reports are submitted by all the relevant entities (both for non-financial accounts and financial accounts).

Regarding relevance, timeliness and periodicity, the accrual-project in Statistics Norway will seek to obtain satisfactory results. The joint work with the ministries mentioned above will ensure that these goals are attained. Norway is also required to achieve these goals under the EEA Agreement, and by fulfilling its obligations under this Agreement, Norway will also be meeting the IMF requirements.

Staff resources in Statistics Norway have been strengthened even though recruiting trained staff is difficult. One positive measure has been for staff to attend different training programs.

E. Monetary Statistics - comments by Norges Bank

The following areas in monetary statistics were covered by the ROSC: the analytical accounts of the banking sector, the analytical accounts of the central bank, interest and exchange rates and the data template on international reserves and foreign currency liquidity.

In general, our view is that the mission has given a very thorough description of the Norwegian system, and has pointed out some weaknesses in the basis for recording data for some financial instruments where our monetary statistics processing was not in line with the guidelines in the Monetary and Financial Statistics Manual (MFSM).

Norges Bank has implemented the recommendation given by IMF to change the valuation of gold (and gold loans) in our accounts and thus in monetary statistics as our practice was not in line with the MFSM. In 1999 the method of valuing gold was changed from 'historical cost' to 'fair value'. 'Fair value' was defined as 20 per cent below 'market value' as gold was traded in an illiquid market. This was the prevailing method at the time of the mission. However, in Norges Bank's accounts for 2002 the gold reserves were written up to market prices.

The IMF also recommends that we adopt the guidelines of the MFSM, which state that the valuations of loans should not be adjusted for expected loan losses. As described by the IMF, Norges Bank collects figures for both gross loans and loan loss provisions on specified loans separately. However, in the dissemination of the statistics we focus on gross loans less loan loss provisions on specified loans. This concept is also used in our credit aggregates. We notice that our practice deviates from the principles in the MFSM, and encouraged by the recommendations from the IMF, Norges Bank this spring established an internal task force to reconsider the definition of loans to focus on in the different statistics. We also note with great interest that the treatment of nonperforming loans is one of the specific issues that will be considered during the revision process of SNA93.

The statistical reports from the Norwegian depository corporations are closely linked to their official accounts. Some of the deviations from the MFSM guidelines in our depository corporation survey, pointed out in the report, are due to the fact that accounting rules and accounting practice differs from the principle used in the MFSM. This applies to the lack of 'market' values of some financial instruments, the treatment of financial derivatives, and to the fact that parts of accrued interest are treated separately from the underlying instrument. All of the recommendations given by the IMF, however, will be considered in the future development of our systems.

F. Balance of Payments – comments by Statistics Norway

Statistics Norway and Norges Bank will introduce a new data reporting system in this field by the beginning of 2005. This is a comprehensive project that will involve a number of data

issues and also other data categories than balance of payments (BOP) as such, as related to the external sector and the rest of the world. The project is in good progress and has been underway for some considerable time already.

INTERNATIONAL MONETARY FUND

NORWAY

Detailed Assessments Using the Data Quality Assessment Framework (DQAF)

Prepared by the Statistics Department

Approved by Carol S. Carson and Michael C. Deppler

July 3, 2003

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

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ACRONYMS

1993 SNA	*1993 System of National Accounts*
1995 ESA	*1995 European System of Accounts*
BEC	Classification of Broad Economic Categories, United Nations, 1989
BIS	Bank for International Settlements
BISC	Banking, Insurance and Securities Commission of Norway
BPM5	*Balance of Payments Manual*, fifth edition
CATI	Computer Assisted Telephone Interviewing
CCCN	Norwegian Customs Tariff Nomenclature
c.i.f.	Cost, Insurance, and Freight
CMFB	Committee on Monetary, Financial, and Balance of Payments Statistics
COFOG	Classification of Functions of Government
COICOP	Classification of Individual Consumption by Purpose
CPA	Classification of Products by Activity
CPA-NA	Classification of Products by Activity for National Accounts
CPC	Central Product Classification
CPI	Consumer Price Index
CPI-ATE	Consumer Price Index Adjusted for Tax Changes and Excluding Energy Products
CS&M	Concepts, Sources, and Methods
DNA	Division for National Accounts
DQAF	Data Quality Assessment Framework
DPCS	Division for Public Finance and Credit Market Statistics
DSBB	Dissemination Standards Bulletin Board
EEA	European Economic Area
ECB	European Central Bank
EMU	Economic and Monetary Union
ESS	European Statistical System
EU	European Union
Eurostat	Statistical Office of the European Communities
FAWP	Financial Accounts Working Party
f.o.b.	Free on Board
GDP	Gross Domestic Product
GFS	Government Finance Statistics
GFSM 1986	*A Manual on Government Finance Statistics, 1986*
GFSM 2001	*Government Finance Statistics Manual, 2001*
HBS	Household Budget Survey
HICP	Harmonized Index of Consumer Prices
HS	Harmonized System of Commodity Description and Coding
ILO	International Labor Organization
IMF	International Monetary Fund
ISIC	International Standard Industrial Classification of all Economic Activities
ISWGNA	Intersecretariat Working Group on National Accounts
ITRS	International Transactions Reporting System

KAU	Kind-of-Activity Units
MFSM	*Monetary and Financial Statistics Manual*
MLGRD	Ministry of Local Government and Regional Development
MOF	Ministry of Finance
NA	National Accounts
NACE	Standard Classification of Economic Activities of the European Communities
NPISHs	Non-profit Institutions Serving Households
NSDP	National Summary Data Page
ODCs	Other Depository Corporations
OECD	Organisation for Economic Co-operation and Development
PPI	Producer Price Index
PRODCOM	List of Products of the European Communities
QNA	Quarterly National Accounts
ROSC	Report on the Observance of Standards and Codes
SDDS	Special Data Dissemination Standard
SIC	Standard Industrial Classification
SN94	Norwegian Standard Industrial Classification
SPC	Statistical Programme Committee
SSB	Statistics Norway (Statistisk sentralbyrå)
SITC	Standard International Trade Classification
STA	IMF Statistics Department
TQM	Total Quality Management
UN	United Nations
WPI	Wholesale Price Index
VAT	Value Added Tax
VPPI	Version of Producer Price Index Subject to Revisions

DETAILED ASSESSMENT USING THE DATA QUALITY ASSESSMENT FRAMEWORK (DQAF)

The following detailed information on indicators of statistical practices in the areas of the national accounts, prices, government finance, monetary, and balance of payments statistics was gathered from publicly available documents and information provided by the 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 Norway'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 statistics is clearly specified

The compilation and dissemination of statistical data in Norway is governed by the terms and conditions of the Statistics Act of June 16, 1989, No. 54. The Act stipulates in Section 3–1 that Statistics Norway (SSB) is the central body for the production and dissemination of official statistics and it bears the main responsibility for ensuring that the objective of the Act—to promote the efficient production of appropriate statistics—is fulfilled. The Act stipulates in Section 4-1 that Statistics Norway is a professionally autonomous institution. It is placed administratively under the Ministry of Finance (MOF) and its general work program and budget are decided by the Parliament. Information about the Statistics Act is published in the SSB booklet, *The Statistics Act of 16 June 1989, No. 54* in Norwegian and English and is also posted in the SSB website. The booklet also contains information on regulations concerning the implementation of the Act.

SSB produces and disseminates quarterly and annual national accounts as part of the official statistics of Norway, and as a service to the public, but the Statistics Act makes no explicit mention of national accounts, or for that matter any other specific type of statistics.

SSB is part of the European Statistical System and produces and disseminates a significant share of its data according to the legal requirements mandated within this system.[1] Under Section 3-1 of the Statistics Act, SSB bears the main responsibility for international statistical cooperation.

[1] The European Statistical System (ESS) comprises the Statistical Office of the European Communities (Eurostat) and the statistical offices, ministries, agencies, and central banks that collect official statistics in the countries of the European Economic Area (EEA). These presently comprise the European Union Member States, Iceland, Liechtenstein, and Norway. Member States collect data

(continued)

0.1.2 Data sharing and coordination among data producing agencies are adequate

According to the Statistics Act, Section 1-2, SSB has the right to decide which statistics are considered official. This right also concerns statistics that are produced by other Norwegian

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and compile and disseminate statistics for national and EU purposes. The ESS functions as a network in which Eurostat's role is to lead the way in the harmonization of statistics in close cooperation with the national statistical authorities. The ESS's work concentrates mainly on EU policy areas, but with the extension of EU policies, harmonization has consequently been extended to nearly all statistical fields.

The ESS also coordinates its work with international organisations such as the Organisation for Economic and Co-operation and Development (OECD), the United Nations (UN), the IMF, and the World Bank.

The System finds its legal basis in three major acts, all adopted in 1997. The constitutional basis derives from the Article 285 of the Treaty of Amsterdam, which stipulates that the Council of the European Union "…shall adopt measures for the production of statistics where necessary for the performance of the activities of the Community." In February 1997, the Council adopted a Regulation defining the division of responsibilities between national and Community statistical authorities. This Regulation also laid down the basic conditions, procedures, and general provisions governing official statistics at EU level. A Commission Decision of 1997 clarified the role of Eurostat. It also reaffirmed that Community statistics should be scientifically independent, transparent, impartial, reliable, pertinent, and cost-effective.

There are numerous statistical committees and working parties and task forces that are in various ways involved in the statistical cooperation process in the ESS. The Statistical Programme Committee (SPC) constitutes the most important of these. The SPC is chaired by the Director General of Eurostat and it convenes the heads of the Member States' national statistical offices. The Directors General of the statistical offices of Iceland, Liechtenstein, and Norway fully participate in the SPC's activities with exception of comitology matters (i.e., involvement in the procedures for the exercise of implementation powers conferred on the Commission). The SPC discusses the five-year statistical program of the Community statistical institutions before it is submitted to the European Parliament and Council for approval, and it approves the detailed annual work program, based on the five-year program. The SPC discusses draft regulations on statistics before they are submitted to the European Parliament and Council and it has comitology power in relation to much of the statistical legislation. Furthermore the SPC functions in general as a forum for discussion of all matters related to the statistical cooperation in the EEA, such as development of common classifications, methodology and definitions, implementation of statistical surveys based on harmonized methods, and collection, analysis, and dissemination of statistical data for the EEA. The European statistical legislation comprises at present more than 150 regulations that are binding and directly applicable in all member states.

A main advisory body closely linked to the ESS is the Committee on Monetary, Financial, and Balance of Payments Statistics (CMFB). This Committee mainly deals with statistics that are necessary for the European Economic and Monetary Union. Its members are high-ranking statisticians from the central banks and statistical offices of each EEA member state.

government departments. Section 3-3 of the Statistics Act authorizes SSB to coordinate statistical activities.

Close contacts, including regular meetings, are maintained with other data producing agencies, such as Norges Bank and various ministries, to ensure proper understanding of data requirements, to avoid duplication of efforts, and to take into account the response burden.

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

The Statistics Act (Sections 2-4 and 2-6) specifies that SSB is prohibited to publish or disclose data from which information about individual persons or firms can be derived. Researchers may be given access to such information under strict rules and conditions. Guidelines provided by the Norwegian Data Inspectorate form the framework for internal and management data security. SSB strictly enforces confidentiality restrictions. Not only are individuals' and establishments' reported data confidential, but any data aggregations that may reveal sensitive data may also be considered confidential. Decisions on confidential aggregations are made based on the data set in question. Individuals are subject to disciplinary action such as dismissal and fines for violation of confidentiality restrictions. There have not been any violations of confidentiality for national accounts data.

SSB informs respondents in writing on all statistical surveys of their rights and obligations with regard to the provision of information, and they are assured that the information they provide will be used for statistical purposes only.

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

Sections 2-2 and 2-3 of the Statistics Act provide for mandatory reporting and penalties for non-compliance. Altogether across SSB, there are about 7,000 cases annually in which respondents are fined for non-compliance. Appeals against decisions to impose fines may be lodged with the Ministry of Finance.

The SSB publication *Strategy 2002* states that it is the aim to reduce the response burden by replacing direct data collection with the use of administrative registers, motivating the respondents, improving the questionnaires, coordinating samples, and by offering the possibility to report electronically. Work towards these aims is given a high priority by SSB, as is also reflected in SSB's *Annual Report 2001.*

0.2 Resources

0.2.1 Staff, financial, and computing resources are commensurate with statistical programs

Statistics Norway has a staff of approximately 850, of which 500 are in Oslo and 350 are in Kongsvinger. It is divided into six departments. There are three statistical departments—Economic Statistics, Social Statistics, and Industry Statistics. The other three are for

Research, Coordination and Development, and Administrative Affairs. Staff turnover has been a problem for SSB. In 2001, 81 employees (9 percent) resigned, which was slightly more than the 77 in 2000. Among those who resigned, 81 percent had higher education and more than 60 percent had up to four years experience. This turnover, while not excessive, does cause meaningful losses of skill and experience in a number of programs. The economy-wide slowdown during the latest year has, however, reduced the turnover of staff.

The National Accounts Division (DNA) belongs to the Department of Economic Statistics. In recent years, it has employed 25–28 staff members, of which 18–20 are university graduates, mainly economists. Until 1991, it belonged to the Research Department. The allocation of staff years to the main fields of national accounts, including balance of payments, in 2002, is indicated below:

Central annual accounting framework*	11
Institutional sector accounts*	6
Quarterly accounts	4
Labour accounts	2
Regional accounts	1
Satellite accounts	2
Balance of payments	2
General administration	1

* Including 2002 Data Revision.

It should be noted, however, that the division of labour follows a matrix organisation according to national accounts (NA) category in such a way that the same person will be responsible for a category in both quarterly and annual accounts. Also, the persons working on supporting and satellite accounts will also be responsible for various parts of the central NA system. Thus, even though only four staff years are allocated to the quarterly national accounts (QNA), the "QNA team" includes as many as 20 persons who are responsible for different parts of the compilation process. For instance, one person is responsible for household consumption, a second person is responsible for the manufacturing industries, a third person is responsible for the transport industries, etc. In work related to the annual national accounts, the same person has the same responsibilities. An advantage with this matrix organisation is the sharing of knowledge of methods, sources and background information that is useful for compiling and analysing source data and results in both the annual and quarterly NA.

Specialized divisions on administrative tasks and computer processing support the DNA. It collaborates closely with the Division for Public Finance and Credit Market Statistics (DPCS)—also part of the Department of Economic Statistics—on institutional sector accounts, and with Norges Bank on balance of payments.

There is a long tradition for continuity in the staff of DNA. This continuity is reinforced by the close relationship to the Research Department of SSB that at any time represents considerable knowledge of national accounts. In addition to an intensive on-the-job training, staff actively participate in international cooperation and consulting in this field. At this time, it is not a problem to ensure the retention of a core contingent of trained staff in DNA or to recruit well-qualified new staff members.

Each person has his or her own workstation and there is a high level of computer technology used in DNA. A specially designed software (SNA-NT) is being used for compiling the annual accounts. The objective of the SNA-NT software has been to create an efficient set-up with respect to routines for establishing, balancing, correcting, and updating detailed supply and use tables in both current and constant prices (including chain linking). A more aggregated highly computerised calculation system is being used for the quarterly national accounts (see 3.2.1).

Overall, staff, computing, and financial resources are adequate for the current production of the annual and quarterly national accounts and their various extensions. Main revisions and development and renewal projects have, even though some extra staff have been allocated for these purposes, put considerable pressure on the timeliness and quality of the current releases.

0.2.2 Measures to ensure efficient use of resources are implemented

The management of SSB promotes a vision and direction for efficient use of resources that are shared with the staff and described in SSB's *Strategy 2002.* Process measurement and monitors of resource usage are in place and used in the national accounts program. Production schedules based on announced release dates are put in place in advance and adhered to.

Concepts and methodologies of statistical source data both in SSB and Norges Bank are influenced by, and partly directly derived from, those of the national accounts. However, they are not always identical to the national accounts concepts since surveys reflect the concepts used in business accounting in order to keep the response rate high and the response burden low.

Weekly review and follow up meetings are held between the head of division and those responsible for the various subjects in the DNA. The compilation process and any problems that may have arisen in the current production cycle are discussed so that preventive measures can be taken to avoid any future problems of a similar nature. As part of the budget

process, an annual review is in place to assess the efficiency of resource utilization during the past year including the allocation of staff time to various DNA activities. Very detailed timetables exist for the production processes of both the annual and quarterly accounts. Quarterly follow-up meetings related to all the projects of the DNA are held. In this setting, the work completed and the resources used are evaluated against the annual work programme. The routines and the working processes are continually up for debate and evaluation, and are regularly improved. Sometimes the routines remain unchanged because it would interfere with the planned timeliness or the human resources are not presently available.

In addition to the above, the fact that a very comprehensive suite of national accounts products is being compiled on a timely basis and in accordance with good practices by a staff that, in international comparison, must be characterised as relatively small, is alone an indicator of efficient use of human as well as computing resources.

0.3 Quality awareness

0.3.1 Processes are in place to focus on quality

Quality work in SSB has been conducted in recent years within a framework of "systematic quality work", inspired by the principles of Total Quality Management and similar work in other national statistical institutions such as Statistics Sweden. No separate quality report is published, but the quality dimensions and their fulfilment are discussed in the *Annual Report* and in *Strategy 2002.* For individual statistics, several of the quality criteria are documented in “About the Statistics” on the SSB website. Furthermore SSB is actively working on exchanging experiences, methods, and technology with other statistical institutions, and participates in Eurostat’s task forces on quality indicators.

The systematic approach started in 2001 and encompasses all activities and all employees in SSB. Commitment from all levels of management is seen as a precondition for success. To ensure this several seminars and training schemes for managers have been carried out. All directors and heads of divisions and office heads (in total 50) have been given two days of training. During 2001 SSB has trained 18 so-called quality pilots who participate in improvement projects as facilitators to ensure that quality principles are followed. Another 20 quality pilots are being educated in 2002. Systematic quality thinking has also been incorporated in other training schemes in SSB.

Each year numerous quality improvement projects are undertaken throughout SSB. In 2003 one of the improvement projects planned is for the quarterly national accounts. In the draft description of the project the importance of improving existing short term statistics and developing new source data is underlined. It is further seen as an aim to make the QNA the central instrument for publishing short-term statistics, and to discuss and examine user needs. The needs of Norges Bank under its new mandate for monetary policy (inflation targeting) are explicitly mentioned. The outcome is a master plan for the further development of QNA with the main emphasis on quality awareness.

0.3.2 Processes are in place to monitor the quality of the collection, processing, and dissemination of statistics

The processes differ somewhat between the annual and the quarterly data, but as the various versions of the annual data (except in connection with main revisions) are always published at the same time as a set of quarterly data (and the first two versions of the annual data are obtained as sum of quarters), the following process for the quarterly accounts is broadly speaking also used for the annual accounts.

During the working process the calculation model is run in several rounds, each time with more updated indicators and finally using adjustment factors (see 3.2.1) if necessary. Working meetings are organized with persons responsible for the various types of short-term statistics in other divisions of SSB. In these meetings different events or situations in the economy that might or should influence the short-term statistics and the QNA figures are discussed, as well as possible weaknesses in the short-term statistics and/or the indicators. Information about factors behind the specific data in the short-term statistics might be of vital importance for analysing the data and for describing the final results.

A meeting is also organized with the team working with forecasts in the Research Department in SSB. A close examination and analyses of the preliminary QNA results, which is necessary when using the results for making forecasts, might point to specific curiosities or mistakes in the QNA figures.

At the end of the working process, a meeting is organized with the management in SSB for approval of the QNA figures. Usual participants include representatives from the QNA team in DNA, from the team making forecasts in the Research Department, managers from divisions producing short-term statistics used as indicators in the QNA, the Director for the Department for Economic Statistics, The Director for the Department of Industry Statistics, and the Director General of SSB.

The minutes from these meetings, including the meeting for approval of the QNA, are distributed to all parts involved in the QNA production process. To secure quality in the data, the routines and the working process are continually being discussed and evaluated, and are sometimes changed to make improvements.

0.3.3 Processes are in place to deal with quality considerations, including tradeoffs within quality, and to guide planning for existing and emerging needs

In addition to the internal SSB and DNA staff reviews, the Advisory Committee for National Accounts and Balance of Payments, which was set up in 2000, provides input about user needs. These are evaluated and are considered for current and future improvement projects. Furthermore, the participation in international fora, such as the Committee for Monetary, Financial, and Balance of Payments Statistics, contributes to these ends.

In 1997 the EU Commission and Eurostat completed a quality evaluation of the national accounts in all EEA countries. The evaluation concluded that the Norwegian national accounts are of a high quality, soundly based on reliable and exhaustive sources, and integrated in a system with a detailed product breakdown (*Report on the sources and methods used in compiling GNP in Norway*. Eurostat/B1/CPNB/237/EN, December 9, 1997, Luxembourg).

1. Integrity

1.1 Professionalism

1.1.1 Statistics are compiled on an impartial basis

The Statistics Act underlines that SSB is an independent institution when it comes to the content of its statistics and analyses. SSB decides on an independent basis what the institution is to publish of official statistics, and when and how this will be done. Independence is seen as necessary for the credibility and the authority that official statistics must have to fulfil its role in the Norwegian and the international society. This independent role is also described in SSB's *Strategy 2000*, page 8.

There is no evidence of other agencies placing undue pressure or interfering with SSB in its compilation and dissemination of official statistics. Nor is there any evidence of political influence being placed on the SSB Director General. SSB Directors General have traditionally served long and notable careers. The current Director General has served for 12 years in his present position.

Statistics Norway is administratively under the Ministry of Finance and has a Board appointed by the government. The Board has 7 members. The chairman of the Board is appointed by the government. The Director General attends the meetings of the Board, but is not a member. The Board discusses and stipulates the long-term program and the draft budget and the annual work program proposed by the Director General, and it places these matters and the annual report before the Ministry of Finance. Otherwise the Board plays a general supervisory role with respect to the development of official statistics and to the activities of SSB.

User-funded assignments have increased in recent years and now cover about 25 percent of the total budget. In addition, there has been an increase in international obligations and the extent of earmarked grants for special projects within the government assignment. The budget SSB itself can control is therefore more limited than the government assignment indicates. In *Strategy 2002* it is stated that: "The extent of user-funded commissions must not be of such a magnitude that it threatens SSB's independence and the primary priorities the institution has as central statistical producer." For national accounts, user-funded assignments count for only one person-year of the total staff. Funding agencies are not able to influence outcomes and the results are publicly available and it is clearly stated when work has been done on a contract basis.

Professionalism is actively promoted. Staff members receive training in statistics, computer processing, teamwork, and management. Substantial on-the-job training is provided, usually through the use of mentors. SSB commitment to enhance the professionalism of its staff is set out in *Strategy 2002* (pages 39-41).

During 2001 a personnel policy document was prepared and approved. The most important steps taken are those to retain employees with higher education longer than today, thereby improving quality and efficiency. In addition to a redesigned training programme for new employees that was in place in 2001, a qualification scheme for professional statisticians was introduced. In 2002 the first round of the qualification scheme was implemented as a pilot project. A special screening committee, also with external participation, found that about half of the 25 applicants for the new title: Statistical Adviser, qualified for it. Along with the title also came a significant increase in pay.

The longer-term aim is to create a generally accepted title as specialist in official statistics that will be associated with a high prestige, both nationally and internationally.
This general statistical qualifications required in this scheme may, however, not be of immediate relevance for the needs of DNA, where the emphasis has traditionally been more on qualifications in economics.

Staff members are encouraged to do research and publish their findings. There is an agency review process for published research to ensure that it meets the high professional standards set by SSB.

The IMF's user survey that was conducted with this ROSC (Appendix III) and a Norwegian survey that rated national institutions indicate that SSB has a high reputation.

1.1.2 Choices of sources and statistical techniques are informed solely by statistical considerations

The Statistics Act gives the SSB independence through its Board and Director General to choose sources and methods, which are made as part of agency-wide discussions taking into account actual costs and resources. Decisions on data sources and statistical techniques are based on applying best practice and state-of-the-art methods. Agency-wide decisions on data collection methods are made on the basis of costs and productivity. In national accounts the most difficult question is the trade-off between continuity on the one hand and accuracy and reliability on the other, when new data sources become available.

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

SSB is entitled to comment on erroneous interpretations and misuse of official statistics and has done so when serious infractions have occurred. In the case of national accounts, this has happened in a few cases.

1.2 Transparency

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

The complete set of documents that articulate the terms and conditions under which SSB executes the statistical program is available to the public on the SSB website. The terms and conditions are summarised on the IMF's Dissemination Standard Bulletin Board (DSBB).

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

There is no access by government officials outside SSB to national accounts data prior to release. The website release (see also 5.1.4) ensures a strict policy of non-differential treatment of national accounts data users; ministries and all other users are treated equally. This policy is described on the DSBB. For SSB, in general, it is noted on the *Annual Report 2001* (page 46). Within SSB, forecasters from the Research Department, the directors of the Departments of Economic Statistics and Industry Statistics, and the Director General participate in the approval of the national accounts data at a meeting about a week before the data are released. (See also 0.3.2 above).

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

All SSB publications are identified as being produced by SSB including information on the SSB website. Publications prepared jointly with other agencies clearly identify SSB and other agencies as joint producers. SSB also requests that users of its data identify SSB as the source when its statistics are reproduced.

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

In national accounts there have been two major changes in methodology, source data, and statistical techniques during the last decade: The 1995 Main Revision, where the 1993 *System of National Accounts* (*1993 SNA*) and the 1995 *European System of Accounts* (*1995 ESA*) were also introduced, and the 2002 Data Revision, where important new data sources and updated classifications were introduced.

In both cases, advance notice was given by SSB. The extent of the Main Revision, the work in which took place over a five-year period, was first announced in an article in *Økonomiske Analyser (Economic Survey*) in 1991, and later in comprehensive article in *Økonomiske Analyser* in 1994, and in various other connections. The Data Revision was outlined in a box in *Economic Survey* in February 2002, and also mentioned in SSB's *Annual Report* for 2001 as the major project to be completed in national accounts during 2002. Advance notice concerning release of the subsequent backwards series has been given with a shorter notice.

1.3 Ethical standards

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

The employment contract that is signed by all new staff of SSB, includes references to the general rules applying to all civil servants and to the obligation to obtain special permission to take any secondary job that may interfere with the "duty of loyalty." In addition, the contract refers to a separate "declaration of secrecy" that must be signed at the same time. Within the past two years, these documents were revised and all employees were given new contracts to sign. Employees are given the booklet *Staff Policy in SSB: Values, Aims and Principles,* which is on the internal SSB website.

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

With the Main Revision in 1995, Norway became the first country in Europe to institute the new international guidelines for national accounts published in the *1993 SNA* and the *1995 ESA*. The Main Revision changed definitions and classifications and integrated new statistics and new estimation methods. The 1995 Main Revision was completed in 2000 with the publication of revised time series back to 1970. The 2002 Data Revision introduced these additional steps in line with the guidelines: the 1999 versions of the Classification of Functions of Government (COFOG) and the Classification of Individual Consumption by Purpose (COICOP), methodological changes to calculate output from forestry as growth in cultivated forest, and a geometric method in the calculation of consumption of fixed capital.

2.2 Scope

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

The national accounts cover all tables and accounts that the Intersecretariat Working Group on National Accounts (ISWGNA) determined as the minimum requirement for the implementation of the *1993 SNA/1995 ESA* as listed below, and these are compiled on a regular basis.

- annual value added and gross domestic product (GDP) at current and constant prices by activity,
- annual expenditures of GDP at current and constant prices,
- annual value added components at current prices by activity,

- sequence of accounts for the total economy (until net lending) with an annual frequency,
- annual rest of world accounts (until net lending).

The *1993 SNA* tables and accounts that the ISWGNA determined as recommended for its implementation, as listed below, are compiled on a regular basis.

- quarterly value added and GDP at current and constant prices by activity,
- quarterly expenditures of GDP at current and constant prices,
- annual supply and use tables.

The scope of the Norwegian accounts is, however, much broader than these core tables, and includes in particular the following: annual institutional sector accounts (that is, through net lending), annual symmetric input-output tables of the industry-by-industry type, capital stock by industry and type of capital, tourism satellite accounts, environmental accounts, and regional accounts by county. (Activities in connection with oil and gas extraction on the Norwegian Continental Shelf are allocated to an extra region that also include activities on Svalbard and Jan Mayen as well as economic activities abroad.)

Most notable concerning the scope of the accounts is the compilation of detailed annual supply and use tables (about 1200 products and 150 industries) by use of the commodity flow method. The supply and use tables and the input-output tables are compiled in the framework of an integrated system, both at current and previous year prices.

For relevant categories of the accounts, such as for production and fixed capital formation, a distinction is made between, on the one hand, Mainland-Norway and Petroleum activities and ocean transport, on the other.

The scope of national accounts published by SSB does not include financial accounts (but annual financial balance sheets and revaluation accounts by institutional sectors are compiled (the most recent referring to the year 1997). Norges Bank does, however, in cooperation with SSB, compile and publish annual and quarterly financial transaction accounts by institutional sector on a current basis, including annual financial balance sheets.

The Norwegian national accounts define residence in accordance with the *1995 ESA* and the fifth edition of the IMF's *Balance of Payments Manual.* The Norwegian territory includes Mainland Norway, the Norwegian part of the Continental Shelf, Svalbard, Jan Mayen, Bjørnøya, territorial enclaves in the rest of the world, free zones/bonded warehouses/factories operated by offshore enterprises under customs control, and workers who work part of the year in another country. In particular, wages for non-residents employed with resident producers, such as Norwegian ships and oil rigs, not fulfilling the one-year criterion as to their center of economic interest are seen as paid to the rest of the world.

The production boundary is in accordance with the *1995 ESA*.[2] Mineral exploration, whether successful or not, is capitalized. Output of goods for own-account fixed capital formation, in particular for buildings and main repairs, is separately identified. The coverage of production of entertainment, literary or artistic originals, and of own-account production of computer software is only implemented to the extent that data are available, and thus at present incomplete in the Norwegian national accounts. Furthermore, the Norwegian practice for capitalizing expenditures on computer software is, as a matter of principle, rather restrictive. Research and development carried out by market producers on own-account is in general not identified and valued separately.

According to the *1995 ESA* conventions, estimates of illegal output sold to willing buyers are not included, and own-account production for own final consumption includes, in addition to owner occupied dwellings and domestic services, only estimates for production, storage, and processing of agricultural, fishing and hunting products and construction of dwellings (mainly major repairs).

The asset boundary[3] is in accordance with the *1993 SNA* and the *1995 ESA*. Among tangible assets this is, in particular, the case for defense related assets that could be used for civilian purposes and valuables and historical monuments (valuables are grouped with fixed capital formation). Agricultural work-in-progress is in Norway relevant for quarterly national accounts only, and in these accounts output of crops are recorded at the time of the harvest. Growth in cultivated forests is treated as work-in-progress.

Among intangible assets, mineral exploration, whether successful or not, was treated as capital formation in Norway already before the introduction of the *1993 SNA* and the *1995 ESA*. Systems and standard applications computer software and databases (purchased or built in-house), and entertainment, literary or artistic originals are also in principle within the asset boundary, although the coverage of the latter is in practice limited to the actually marketed part.

Transactions in patented entities and leases and other transferable contracts are not separately identified in the institutional capital account and although in principle included, the coverage is very limited, and mainly related to the transactions identified in the balance of payments. At present the regular Norwegian capital stock calculations do not include non-produced assets. Sale of mobile phone licenses (that took place in Norway in 2000) is treated as a sale of a non-produced asset.

[2] Irrespective of the coverage that is actually achieved.

[3] Irrespective of the coverage that is actually achieved.

2.3 Classification/sectorization

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

The classification and sectorization used in the compilation of national accounts are in conformity with internationally recommended systems and follow the *1995 ESA* classifications for institutional units, transactions, and other flows.

The Norwegian Standard Industrial Classification (SN94), where the first four digits coincide with the Statistical Classification of Economic Activities of the European Communities (NACE, Rev.1), is used to classify the principal economic activity (industry) of establishments and enterprises, and an aggregated version of Classification of Products by Activity (CPA), is used to classify products.

Producing units are furthermore classified into market and non-market producers, and the latter category further into production for own final use and government non-market producers, and producers belonging to private non-profit institutions serving households.

The COICOP is used to classify household consumption. The 1999 version was introduced in connection with the 2002 Data Revision. At the detailed level, 98 consumption groups are specified. The COFOG is used to classify functions of government. The 1999 version was introduced in connection with the 2002 Data Revision. The most detailed breakdown contains 67 groups. The classification by type of capital formation is also relatively detailed. The number of groups is 66, of which four relate to intangible assets. Gross fixed capital formation is also broken down by kind of activities to have full accordance with the activity classification in production.

In the Norwegian institutional sector accounts, social security funds are always grouped together with central government, and no quasi-corporations owned by households are identified to be included in the non-financial corporations sector. The latter is the case primarily because all private business activity of importance is already formally organized as corporations.

2.4 Basis for recording

2.4.1 Market prices are used to value flows and stocks

Market output is valued at producers' and basic prices. Producers' prices are used in the institutional sector accounts and as one of the price concepts in the supply and use tables. Output for own final use is in principle valued at equivalent market prices, but in some cases it has been necessary to rely on a cost approach, such as for own-account major repairs.

Sales and excise taxes are included in the valuation of intermediate consumption. Value added taxes are included in the valuation of intermediate consumption, excluding the deductible part of the value added taxes. The deductible part of the value added taxes is excluded from the valuation of final uses.

No attempts are made to identify transfer prices, and therefore no corrections are made. Expenditures on insurance and freight for merchandise imports are estimated in connection with the compilation of the balance of payment. Total imports and exports are valued on a free on board (f.o.b.) basis. Transactions in foreign currency are converted to Norwegian Krone in connection with the compilation of foreign trade statistics and the balance of payments, and the results are applied in the national accounts without any corrections.

2.4.2 Recording is done on an accrual basis

Transactions are in principle recorded on an accrual basis and work-in-progress is recorded in the period it is produced. Source data are, if needed, adjusted to reflect as closely as possible an accrual recording.

Even though the source data on central government accounts are on a cash basis, and the local government source data on a so-called modified accrual basis (the source data from hospitals and universities that have been separated out from local government are on an accrual basis), the national accounts data on the government sector as a whole are in principle on an accrual basis. The transformation from cash to accrual (when needed) is carried out in the DNA (for product taxes) and in the Research Department (for income taxes), both for annual and quarterly data. The adjusted data are subsequently also used in the Division for Public Finance and Credit Market Statistics for the accrual version of the government finance statistics.

Value added tax (VAT) is calculated as the theoretical VAT in the supply and use tables. Theoretical VAT exceeds in principle what has actually accrued according to the *SNA/ESA* definitions. After the Data Revision in 2002 the theoretical VAT exceeds actual VAT receipts by 1-4 percent over the years, which is regarded positively, as a negative difference would have indicated exhaustiveness problems. This method will in principle lead to a slight overvaluation of the GDP because VAT on black market activities, for example, is included.

For other taxes and subsidies on products, accruals values are often estimated from cash values by assuming a fixed time lag for each category. No attempts are, however, made to convert the cash payments of interest into accrued interest.

For other revenues and expenditures, data for central and local government can in most cases be taken to represent accrual values, although, for example, for wages, central government data are received on cash basis and local government data on accrual basis. A working group, of which SSB is also a member, will in January 2003 submit a report to

the MOF proposing a transition of the central government accounts and budget from a cash to an accrual basis. The expectation is that it will take a number of years before these recommendations can be fully implemented.

In compiling the accounts for general government, SSB is following the modifications to the *1995 ESA* introduced in 2000, according to which taxes and social contributions that accrue, but are never paid to government, must be excluded from the government net lending/borrowing. This is obtained by means of a capital transfer from general government to the sectors on which the unpaid taxes were assessed. SSB is responsible for the calculation of the government deficit according to the EU Excessive Deficit Procedure for past years.

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

Transactions between establishments within the same enterprise are recorded on a gross basis, except for two cases: agriculture, where the principle of "the national farm" according to the *1995 ESA* convention has been introduced, and producers of electric power, for practical reasons. Furthermore, existing data sources do not allow full gross accounting in some service industries, in particular business services.

3. Accuracy and reliability

3.1 Source data

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

In Norway, the data situation has traditionally been characterized by more abundant statistics on domestic production, exports, and imports than statistics on incomes and expenditures. The production approach has therefore been the main approach used (see 3.2.1). In recent years, more income related statistics have, however, become available. In practice, none of the three approaches (production, expenditures, and income) are used independently. Even at the industry level, value added may not always in the first place be estimated from using the production approach, because reliable data may not exist.

Below data sources for the three approaches are discussed in turn, first for the annual accounts, and then for the quarterly accounts:

Sources and adequacy of data for the annual national accounts

The main classification schemes used in the estimation of GDP according to the **production approach** are the activity classification based on NACE Rev.1 and the product classification based on CPA. The number of activities specified is about 150 (altogether 190 when also including the market/non-market distinction), and the number of products is about 1,200, of which 700 are goods and 500 are services. There is a 60–40 distribution between goods-

producing and services-producing activities. Separate categories are introduced for market production, production for own final use, and three categories for other non-market production**,** i.e., in central government, local government, and non-profit institutions serving households (NPISHs).

In general, a mixture of administrative records and statistical surveys is used as sources. The relative importance of the two kinds of sources is seen from Table 1 below. During the last decades, there has been increased focus on exploiting administrative data for statistical purposes. The continued efforts on improving the business register are clear evidence in that respect.

The business register

SSB's business register—*the Central Register of Establishments and Enterprises*—is an important instrument of the Norwegian statistical system. It comprises in principle all production units, including one-person enterprises.

In 1994, SSB introduced a revised Standard Industrial Classification (SIC94**)**. The basis for SIC94 is primarily the NACE Rev.1. The units of the Business Register have been coded according to SIC94. The business register is since 1995 linked to Norway's new *National Register of Legal Units* (The Brønnøysund Register) and also to the *Value Added Tax Register* of the Directorate of Taxes, and the *Register of Employers* of the National Insurance Administration. Many administrative registration purposes are thus coordinated in a uniform way for the units. For SSB, this contributes to more efficient use of administrative data.

The statistical units employed by SSB in its business register form the basis for the compilation and production of economic statistics. The units are legal units, enterprises, local units, kind-of-activity units (KAUs) and local kind-of-activity units (local KAUs), of which the local units and the KAUs can be derived from the other units. In most cases, an enterprise will be identical with a sole legal unit, e.g. a limited company. The local KAU is equivalent to the definition of an establishment in International Standard Industrial Classification for All Economic Activities (ISIC) Rev.3. In order to divide a local unit into several different local KAUs, the individual activity must be of a certain size. The majority of entries to the business register in SSB are taken from the Brønnøysund register that contains all enterprises in the *Value Added Tax Register*, and in the *Register of Employers*. These two administrative registers are also the most important sources for updating the various units of the business register.

SSB has had a long tradition and experience in utilizing detailed production data based on the local KAU (the establishment) as the statistical unit for compiling GDP estimates according to the production approach. The business register has an important role in the identification of the population as well as in securing exhaustive data.

In recent years, and in particular in connection with the 2002 Data Revision, more emphasis has put on utilizing accounting data. With the new structural business statistics—a main source for the compilation according to the production approach—use is made of a complete

set of statements from 12,000 enterprises to the tax authorities. For the other enterprises, sales figures and other essential accounting data have been obtained from annual accounts data in the *Norwegian Register of Company Accounts.*

Table 1 below summarizes for each economic activity the main sources from the production side for the annual accounts and assesses their adequacy of coverage.

Table 1. Main Sources for the Production Approach in the Annual National Accounts

PRODUCTION APPROACH		
Activities	**Main sources**	**Assessment of adequacy of coverage**
Agriculture and forestry	Aggregated accounts for agriculture compiled by the Budgeting Committee for Agriculture. SSB's annual forestry statistics.	Adequate
Fishing	Catch statistics from the Directorate of Fisheries and register based annual census data for fish farming. Annual cost surveys of fishing boats and fish farming.	Adequate
Crude oil and gas production Mining	Based on census type sources collected from operators. Mining statistics cover mining.	Adequate
Manufacturing industries	Manufacturing statistics including structural business statistics in recent years. Product statistics according to the List of Products of the European Communities (PRODCOM).	Adequate
Electricity and water supply.	Annual electricity statistics for electricity and steam and hot water supply. Local government accounts for water supply.	Adequate
Construction	Construction statistics, including the new structural business statistics (major impact in the 2002 data revision). Own-account construction of dwellings, primarily major improvements that are based on surveys from 1988 and 1989. Non-market output of central and local government.	Adequate, except for major improvements
Wholesale and retail trade	Annual wholesale and retail trade statistics. Structural business statistics. Sample surveys on trade margins (1996 and 1998).	Adequate
Hotels and restaurants	Statistics from SSB's business register. Structural business statistics. Hotel statistics	Adequate
Transport, storage and communication	Structural business statistics. Annual accounts and reports for various types of transport and communication. Annual maritime statistics. Foreign trade statistics. Statistics from SSB's business register.	Adequate

PRODUCTION APPROACH		
Activities	**Main sources**	**Assessment of adequacy of coverage**
Financial intermediation	Credit market statistics for banks, insurance companies and other financial institutions.	Adequate
Real estate, renting and business activities	Housing and rent statistics. Household budget survey. Structural business statistics.	Adequate
Public administration and defence, compulsory social insurance	Central government accounts. Local government accounts. Annual cost survey data on defence activities.	Adequate
Education and health	Central government accounts. Local government accounts. Annual statistics of health institutions. Ad hoc surveys for education and health activities. Ad hoc costs data for education in local government.	Adequate
Other community, social and personal service activities	Central government accounts. Local government accounts. Cultural statistics including various reports. Structural business statistics.	Adequate except for some personal services
Private households with employed persons	Household budget survey.	Adequate

Unlike the production statistics based on data from local KAUs, the source data from the structural business statistics relate to enterprises only. However, more detailed data on enterprises than previously are now obtained and more focus is on accounting data. In spite of these changes, SSB has put great emphasis on retaining the local KAU dimension in the basic data.

In manufacturing statistics, all local KAUs with at least 10 employees are included. The same applies to all local KAUs in multi-enterprises with at least one manufacturing local KAU with 10 or more employees. A form and a copy of the standard financial report that the tax authorities collect from the enterprises—the Standard Industry Form—are therefore collected from all enterprises with manufacturing activity with at least 10 employees. For the remaining local KAUs, a complete data set is estimated based on annual company accounts, employment and sales.

All legal corporations are required to send their annual accounts to the *Norwegian Register of Company Accounts*. These annual accounts include the revenue account statement as well as the balance sheet, but the specifications vary and are not as detailed as the Standard Industry Form.

For industries other than manufacturing, including mining and quarrying, the structural business statistic*s* were not fully utilized until the 2002 Data Revision. For these other industries, in particular construction and business services, the data revisions were caused not only by the new data source, but also by an improved coverage of the business register.

Traditionally the respondents have been required to adapt their data to the required national accounts concepts and definitions. With the tendency to explore the possibility for a wider use of administrative data in the compilation, adapting to national accounts standards will be done by SSB itself. There is, however, also a right for Statistics Norway through the Statistics Act to influence the administrative data set-up in a way that suits the statistical system.

The main classification schemes used in the Norwegian national accounts for the estimates according to the **expenditure approach** are the purpose classifications of COFOG and COICOP used for final consumption expenditure of general government and households, respectively. Furthermore, they include the classifications of fixed assets and activities used for GFCF, and breakdowns on categories of inventories, and on exports and imports. In general and typically, a mixture of administrative records and statistical surveys is used as sources in the expenditure approach.

Three classes of sources are utilized in the estimation of household final consumption expenditure: household budget surveys, retail trade statistics and the commodity flow method. While estimations of NPISH final consumption expenditure are indirectly based, most often government accounting data are utilized. Central government accounts and local government accounts are the sources used for the calculation of central and local government final consumption expenditure**.** Fees from households and/or other sectors are deducted from output in this calculation.

For GFCF**,** the industry-based sources used for the production approach also provide useful information. The estimation is first directed at the use of these sources and the expenditure approach, while the commodity flow approach takes a substantive role in the next phases. The main approach to estimating changes in inventories is through balancing of supply and use for each product by using the commodity flow method.

Exports of goods and imports of goods are based on aggregated external trade statistics, distributed on 540 and 635 products (exports and imports, respectively). Exports of services and imports of services are generally estimated on the basis of settlement statistics from Norges Bank, but in combination with accounting statistics for industries that are almost entirely export-oriented, such as oil and gas activities and maritime ocean transport.

By the end of 2004, the foreign exchange statistics will cease and by that time another main challenge has to be faced by SSB in developing new reliable statistics on foreign trade in services. SSB and Norges Bank are already putting strong efforts in planning of new statistics in this area, based on direct reporting from the enterprises.

Table 2 below summarizes the main sources for the annual accounts from the expenditure side and assesses the adequacy of their coverage.

Table 2. Main Sources Used for the Various Categories of Final Use in the Annual Accounts

Expenditure approach		
Expenditure category	**Main sources**	**Assessment of adequacy of coverage**
Household consumption expenditures	Household budget survey. Annual retail trade statistics. Output data and commodity flow method. Statistics on new registrations of motor vehicles. Annual accounts and statistics of various transportation services. Electricity and energy statistics. Central and local government accounts. Social and health statistics.	Adequate except for certain personal services.
Final consumption of NPISHs	Central government accounts. Local government accounts. Commodity flow method.	Reasonable
Government final consumption expenditures	Central government accounts. Local government accounts.	Adequate
Gross fixed capital formation	In general same sources as for output by activity. Annual construction statistics. Register of vehicles. Annual cost survey data on defence activities. Commodity flow method.	Adequate for tangible assets Not adequate for intangible assets.
Changes in inventories	Only scattered or unreliable information exist. Commodity flow method. Expert judgements.	Poor
Acquisitions less disposals of valuables	Works of art based on commodity flow method. This main category otherwise not introduced.	Poor
Exports and imports of goods	Foreign trade statistics.	Adequate
Exports and imports of services	Foreign exchange statistics from Norges Bank. Maritime transport statistics. Oil and gas activity statistics. Tourist/travel statistics.	Not adequate, except for the oil industry

NPISH consumption expenditures have been explicitly estimated in the Norwegian national accounts only since 1995. Originally only indirect methods were applied, but the coverage of the business register is currently being improved in this area, and new sources have become available in connection with the John Hopkins Project—an international project for estimating activities of nonprofit institutions. As part of the project, business statistics were prepared for the activity NACE 91 (activities of membership organizations n.e.c.).

The **income approach** is less developed than the output and expenditure approaches. Its main role is to estimate the income components of GDP, although recently independent information on the operating surplus from accounting statistics has changed this somewhat.

The role of the income approach has become more important with the integration of the institutional sector accounts and supply and use tables in connection with the 2002 Data Revision. Independent sector accounts are compiled for the non-financial corporations sector. For the household sector, estimates are primarily based on tax information.

The household budget survey

In Norway household budget surveys (HBS) have been carried out annually since 1974 on a continual basis. National accounts are mentioned as one of the important users of the data. A comprehensive and representative survey is carried out annually, and combined with data from income and education registers. The sample is made up of the households to which 2,200 representatively selected persons aged between 0 and 79 years belong. Institutional households are not included. Computer assisted telephone interviewing (CATI) is applied together with records kept by alternating households for 14 day periods. In the editing, particular attention is paid to outliers. Imputation methods are used to handle non-response. In the 1998, survey the non-response rate was 45 percent.

The product classification is based on COICOP. From the 1996-98 release, the classification COICOP-HBS is also applied. The most detailed level published contains 470 groups of goods and services. Standard aggregations contain 150, 37 and 9 groups, respectively. Production for own-consumption and ownership of durable goods are included. The results are also shown by socio-economic groups and by regions (counties). Because of the limited sample size, only aggregated results are published for a particular year. The more detailed tables are based on three-year averages (in the prices of the last year).

The results of the HBS at the detailed level are subject to random fluctuations because of the limited size of the sample. For the 2002 Data Revision of the national accounts, a specific graduation method was developed. Based on data from each quarter 1979-1999, and for 92 product groups, the Research Department of SSB has developed a statistical model based on Kalman filter methods. For the assessment of household consumption expenditures, raw data for single years have been available as well.

Comprehensive government statistics are available (see also 2.4.2). For central government quarterly and annual statistics for income and expenditures are compiled and for local government similar data are available annually. Monthly statistics on paid taxes (cash basis) are available. Taxes on products are adjusted to an accrual basis for use in the national accounts. Annual statistics on local government purchases of goods and services (including government owned enterprises) are being compiled.

The general government accounts (down to the capital account) are compiled annually according to national accounts concepts, including expenditures classified according to the 1999-version of COFOG. For local government, data used in the quarterly national accounts are based on a non-representative (voluntary) sample that does not, for the time being, include the municipality of Oslo. It is expected that a new government instruction on local government accounts will make the quarterly reporting compulsory from 2004.

All hospitals and universities in Norway, with a few exceptions, are government-owned and are now organized as separate units outside direct central and local government control. They have a separate accrual accounting system from which quarterly reporting takes place since 2002. Both hospitals and universities are, however, classified with central government.

When annual surveys do not exist, periodic (two to five years) surveys/censuses are in some cases conducted on a regular basis. Thus the latest survey of the composition of intermediate consumption in manufacturing industries refers to the year 1997, and this survey has usually in the past been carried out with five-year intervals. Considering the central role played by the annual supply and use tables, the DNA has asked for a new survey covering the year 2002 and in general for more frequent statistics in this area.

Sometimes ad hoc surveys are conducted to fill data gaps. Thus surveys on trade margins in retail and wholesale are conducted with irregular intervals. The most recent ones are from 1996 for retail trade and from 1998 for wholesale trade. The earlier surveys were conducted in the mid-eighties. On the other hand, these type of statistics are not compiled at all in most countries.

Sources and adequacy of data for the quarterly national accounts

The adequacy of coverage of the main sources for the quarterly accounts is summarized below inTable 3 for production sources and in Table 4 for expenditure sources.

Table 3. Main Sources for Production Data in the Quarterly Accounts

Production approach		
Activities	**Main sources**	**Assessment of adequacy of coverage**
Agriculture, forestry and fishing	The estimates for agriculture, forestry and fishing are mainly based on physical quantity indicators.	Adequate
Mining, manufacturing and electricity	The output of mining, manufacturing and electricity at constant prices is estimated using SSB's monthly index of industrial production.	Adequate
Crude oil and gas production	The indicator for the output of crude oil is the monthly data on tons of crude oil produced. The output of natural gas and pipeline transport are obtained from foreign trade statistics and the balance of payments, as practically all gas is being exported.	Adequate
Construction	A quarterly production index for construction is used together with some other sources.	Reasonable
Wholesale and retail trade	There exist no short-term information about the development in the trade margins. The output of wholesale and retail trade at constant prices is therefore calculated by the commodity-flow method in the input-output model.	Not adequate

Production approach		
Activities	**Main sources**	**Assessment of adequacy of coverage**
Hotels and restaurants	For output of accommodation services (hotel services, camping site services etc) at constant prices the number of guest nights is used. For hotel services we also use the information on revenue. For restaurants, sale statistics based on VAT-reports are used for estimating output at current prices. The current price figures are deflated with the appropriate detailed index in the consumer price index.	Adequate
Transport and communication	Railway transport: Physical indicators. Other public transportation: Revenue. Air transport: Quarterly accounts for Scandinavian Airlines and number of passengers for other companies. Ocean water transport: Integrated with balance of payments. Other transport services: Various indicators Post and telecommunication: New types of statistics.	Adequate except for other transport services and post and telecommunication
Dwellings	The services of dwellings are calculated by extrapolating the figure for the base year with the housing stock.	Reasonable
Other private services	For the bank services a volume index for payment transactions is used as an indicator for paid services. Employment data are used as an indicator for insurance services at constant prices. For business services employment data are used together with sale statistics based on VAT reporting. For other private services the compilations are partly based on trend extrapolation.	Adequate for bank services Not adequate for business and other private services
Government non-market services	Central government accounts on national accounts form. For local government a non-representative sample is used. The general government's consumption of fixed capital is now computed in the model, using a geometric method.	Adequate for central government Not adequate for local government
Intermediate consumption	For most industries the share of intermediate consumption (in constant prices) is assumed to be the same as in the base year.	Not adequate

Table 4. Main Sources for Expenditure Data in the Quarterly Accounts

Expenditure approach		
Expenditure category	**Main sources**	**Assessment of adequacy of coverage**
Household final consumption expenditures	The most important indicator for household final consumption expenditure on goods is the Retail sales index. For some of the consumption groups, volume indicators are used, i.e., the number of new car registrations and sales of beer, mineral water and tobacco, electricity and petroleum products. Quarterly indicators only to a limited extent cover services.	Adequate for goods Not adequate for services
Final consumption expenditures by government and NPISHs	Final consumption expenditure in general government is based on quarterly data for central government, and on a sample for local governments. The final consumption expenditures of NPISHs are assumed to be a fix share (like the share in the base year) of output in these industries.	Adequate for central government Not adequate for local government and for NPISHs
Gross fixed capital formation	SSB's quarterly investment statistics for manufacturing, mining and quarrying and electricity supply. Building statistics and statistics on registration of cars and trucks. Acquisitions of ships and airplanes are mainly based on import and export data. For other industries there is no concrete short-term information.	Adequate for manufacturing industries. Not adequate for most other activities
Changes in inventories	Changes of inventories are calculated residually by the commodity balance method in the input-output model.	Not adequate
Exports and imports	Data for exports and imports of goods and services are available from foreign trade statistics and the balance of payments.	Adequate for goods Not adequate for services

Statistics Norway has since 1997 published employment data in connection with the quarterly national accounts. The data refer to employees and self-employed persons by industry. Quarterly estimates on total hours worked are published from 1999. The sources are registers and the Labour Force Survey. Employees in central and local government, and NPISHs, are, however, calculated from the quarterly estimates of compensation of employees and average wages and salaries in these activities.

Compensation of employees is at present not included in the QNA, but SSB is planning to compile and publish such data in the near future.

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

In Norway, considerable emphasis has been placed on having the national accounts play a coordinating and integrating role in relation to other economic statistics, for the use of joint definitions, classifications, recording principles, etc. Concepts and methodologies of official statistics both in SSB and Norges Bank are thus influenced by, and partly directly derived from, those of the national accounts. However, they are not always identical since concepts in surveys reflect the concepts used in business accounting in order to keep the response rate high and the response burden low.

In connection with the statements to the tax authorities (the so-called NO statement) SSB has taken the initiative to collect supplementary information for some industries to improve the statistical usefulness of this source, in particular for national accounts purposes. This concerns for example data on inventories, goods purchased for resale and the trade margin, more details about purchase and sales of both tangible and intangible assets (such as software), and a breakdown of the main data categories by KAU for multi-KAU-enterprises. Furthermore, user needs influence the collection of source data by SSB's emphasis on bringing together its role as producer and main user of national accounts. Also within SSB, activities such as economic modeling work with national accounts as the basic structure, analysis of business cycles based on quarterly accounts data, and describing external economy (balance of payments fully integrated in national accounts) are important tasks.

3.1.3 Source data are timely

In Norway, basic statistics are released on a timely basis. As part of the quality management system, timeliness has been increased considerably during recent years. Both quarterly and annual accounts follow a sequence of revisions that is mainly governed by data availability. The source data for the first or preliminary versions are thus more limited than for later versions. There is thus an interaction between the production schedule for the various versions of the national accounts and for basic statistics.

Setting aside source data for the first version of the quarterly accounts for the fourth quarter, existing source data are, broadly speaking, timely compared to the present production and revision schedules for both quarterly and annual national accounts. To the extent that the source data are inadequate for the first version (after nine weeks for the first, second, and third quarter) of the quarterly accounts, it is simply because it is unavoidable that certain types of short-term statistics have a production period that exceeds eight weeks. Restructuring of basic statistics that usually is supportive to national accounts in the longer run may cause timeliness problems in a transition period. Thus the implementation phase of the structural business statistics is at present causing timeliness problems for data needed for the first proper version of the annual accounts (i.e., a version not obtained by adding quarterly data) that is released 16 months after the reference year. There is close cooperation between the national accounts compilers and the producers of source data, and follow-up

procedures, to ensure that procedures for the timely provision of source data are established and adhered to.

The first version of the QNA for the fourth quarter, which is published only five weeks after reference quarter in connection with the first annual estimate for the preceding year, is based on rather incomplete data sources. Many indicators are only available for the first two months of the quarter so that projections and assumptions play an important role. The second version for the fourth quarter, which is released in April in connection with the second version of the annual accounts, will often contain significant revisions compared to the first version. The SSB has just decided to discontinue the compilation of this early fourth-quarter version from 2003 onwards. In the future, the timeliness of all four quarters will thus be nine–ten weeks.

3.2 Statistical techniques

3.2.1 Data compilation employs sound statistical techniques

In Norway, national accounts work has since its beginning been based on the commodity flow method and for more than 30 years supply and use tables have been compiled. This has served as a basis for a complete integration between national accounts and input-output tables. The production and input-output chapters of the *1993 SNA* (as well as the *1968 System of National Accounts*) were influenced by Norwegian experts, and the Norwegian practice represents a comprehensive implementation of the international recommendations concerning compilation techniques.

The commodity flow system consists of a main system and a number of sub-systems. The full system of annual national accounts contains several million elements, although most of them are zero-value cells. In the tables for supply and uses for the products, there are about 200,000 elements, of which 70-80,000 are non-zero elements and consequently have to be estimated. The work is highly computerized in order to cope with data at this level of detail.

The basic concept is to create a framework that can utilize all kinds of specific information, that is robust to changes in definitions and classifications, and that allows users of data a maximum of flexibility. To provide a good basis for deflation is another important concern, with positive impact on the quality of the constant-price estimates.

Technically, a specially developed software, the SNA-NT, is currently used for compiling the annual Norwegian integrated economic accounts for institutional sectors, the supply and use tables, the input-output tables, the tourism satellite accounts, and the monthly balance of payments. The SNA-NT application represents a precisely defined and efficient set-up with respect to routines for compiling annual national accounts, based on the international guidelines of the *1993 SNA* and the *1995 ESA*. Its computational procedures are well documented.

The SNA-NT application has been developed as a Client-Server-System, where the "Clients" are Windows PCs and the "Server" is an Oracle relational database. The application was developed using Microsoft Visual C++ and it uses the Oracle Data Base Management System (RDBMS). SNA-NT is used within a network as a multi-user system in SSB.

The SNA-NT software contains modules to establish, balance, and update supply and use tables in current prices and also by different types of valuation, i.e., basic values, producers' values, purchasers' values, etc. The software also enables the user to calculate the supply and use table for the particular year in prices of a previous base year. An integrated set of price and volume measures (chain indices) are compiled within the framework of the annual supply and use tables. A special procedure converts the supply and use tables into industry-by-industry input-output tables in current and previous year prices.

For valuation, the most important value components are contained in the difference between purchaser's price and basic price of each commodity flow. They are the trade margins and other kinds of margin combined, non-deductible VAT, and the Norwegian-typical investment levy (that was abolished on October 1, 2002), and other taxes on products and subsidies on products. They are attached to specific product flows. For net taxes, this articulated approach also makes an accrual valuation possible.

In the balancing process the compilers use the SNA-NT's interactive functions to analyze the balanced accounts, including residuals. The balancing process includes, however, also a manual process, in which it is sometimes necessary to go back to the most detailed primary statistics. The work is shared between a number of staff. The whole balancing process with constant price compilation, using the interactive functions of the SNA-NT to balance supply and use within the system, usually takes one–two months.

The compilation system for quarterly accounts is discussed under "specific quarterly compilation techniques" below.

Production approach procedures

For product-related information, the basic idea in the system is to work on a very detailed level, both for products and industries. The 1,200 product groups in the system are nonetheless far below the number of product in the two main sources. At present, some 6000 products are specified for exports and imports of goods in the external trade statistics, while some 5000 products are specified for manufacturing output according to the PRODCOM nomenclature. Thus, the national accounts level of 565 product groups for manufacturing output represents a considerable aggregation compared to the source data. In the services area, the number of products is to a large extent defined as characteristic output from more detailed activities than the 150-industry national accounts activity classification.

For industry-related information, the national accounts level of detail is reasonably well matched with the availability of production statistics and similar industry-related sources. For services industries, the less fortunate data situation is more related to the product composition of intermediate consumption than to industry totals of intermediate consumption.

The size of the supply matrix is approximately 1,200 products by 150 industries. Imports are added at the level of the 1,200 products as well. Customs duties are considered taxes on products. Supply in basic prices thus consists of output in basic prices and imports in c.i.f. prices. Imports of services are derived from the integrated balance of payments statistics, but some elaboration is required because more detail is needed. The classification by activity in the national accounts is based on aggregations from the NACE, Rev. 1, where primarily 2-digit, 3-digit levels, but in a few cases also 4- and 5-digit levels, are used.

For manufacturing and mining and quarrying, a file is established and updated annually to transform the data from manufacturing statistics to national accounts products. These data are fed directly from the database into the system. For non-manufacturing industries, a great number of different sources and methods of estimation are used. For some data sources, such as those for government services, only few adjustments are required, while there is a varying degree of closeness to source data in other industries, and in some industries a large number of adjustments are needed.

Total intermediate consumption in each industry is based on much the same sources as for output, but in general the estimation problem is more complicated. In some areas, even when statistical coverage may be good, some categories of expenditure are only given at the enterprise level and not for the establishments. For manufacturing industries, intermediate consumption data broken down by products were, until 1988, readily available yearly along with the data on output. Later on, comprehensive censuses on intermediate consumption were only conducted at irregular intervals (the most recent for 1993 and 1997). A rather summary input structure is, however, available from the structural business statistics. In recent years, however, the situation has deteriorated, and only a rather summary input structure is available from the annual structural business statistics. A new comprehensive census on intermediate consumption in manufacturing industries is, however, planned for the year 2002.

For industries outside manufacturing industries, the data situation varies from sound accounting information to estimating total intermediate consumption as rather unfounded fixed shares of output. New reliable source data were, however, introduced for a significant part of the service industries in connection with the 2002 Data Revision.

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The estimation process for each year starts from the balanced data from the preceding year. There is thus not any specific benchmark year and on the whole the use of benchmarks is very limited. Thus only about 5 percent of intermediate consumption (i.e., totals by activity) is estimated from sources that are not normally available annually. Even though the input structure and the structure of some categories of final demand by product are as a point of

departure assumed to be identical to those of the preceding year, the structures will be modified during the commodity flow balancing. Statistics that are compiled periodic (such as the census on intermediate consumption in manufacturing industries) or with irregular intervals (such as the statistics on trade margins), are normally introduced when they become available.

In connection with major revisions, the revised levels for the national accounts estimates are usually established for a benchmark year in the first place. For the 1995 Main Revision, 1988 was used as the benchmark, and in the 2002 Data Revision, 1998 and 1999 were used. The new levels obtained for the benchmark year are subsequently extrapolated to other years, often from the same quality sources that were used to establish the benchmark year. That may, however, not be the case for the backward revisions.

The estimation of imputed rents for owner-occupied dwellings is carried out according to the stratification method described in the Commission Decision 95/309/EC on dwelling services (owner-occupied dwellings are assumed to have the same rent per square meter as rented dwellings in the same strata), although in Norway, the owner-occupier share in dwelling services is at least 80 percent. Rents have been stratified into 15 strata, i.e., five geographic locations and three sizes of dwellings.

The Norwegian national accounts treat work-in-progress only partially in conformity with international guidelines. Whereas work-in-progress on modules for oil platforms is now correctly treated as gross fixed capital formation, work in progress on ships is still treated as changes in inventories, the reason for which is partly practical considerations in treating discrepancies against exports in external trade statistics, partly due to circumstances where contracts for purchase/sale may not be finally settled (tradable contracts and the like). Crops are recorded when they are harvested, but the 2002 Data Revision changed the production concept for forestry, so that it now includes the net growth in cultivated forests. Changes in livestock for slaughter is considered work-in-progress, and this is also the case of smolt breeding in fish farming.

Changes in inventories on goods are the result of individual changes in inventories for as many as 565 product groups. No reliable source on total changes in inventories exists, although scattered information on changes or level of inventories is being collected either through short-term indicators or some annual basic statistics (e.g., accounting statistics and annual statistics for manufacturing industries). Thus, there is a weak basis for comparison or verification of the estimates on changes of inventories. The main approach to the estimation of changes in inventories by products is through the balancing of supply and use of each product total as described above. These estimates are not just taken as the initial residuals, but in many cases adjusted estimates based on expert judgment in connection with the product balancing. However, persistent positive changes in inventories constitute a problem.

The capital stock is calculated by the perpetual inventory method, and the consumption of fixed capital by industry is calculated by a geometric method. The capital stock has recently been re-estimated based on the geometric depreciation, reassessed service lives of capital, and new information on gross fixed capital formation. The change has led to a larger revision in the consumption of fixed capital for general government than for other industries. As output in general government is calculated as the sum of costs including the consumption of fixed capital, the new estimates have increased government output and consumption as well. The service life for hardware, office equipment, etc., has been is now eight years up to and including 1990 and five years from 1991 and the service life of software is four years. This is in line with service lives for this type of asset in other countries.

Procedures for compiling volume measures of GDP

In the final annual accounts an integrated set of price and volume measures is compiled within the framework of the detailed supply and use table. The definition relationships inherent in the current price supply and use tables are maintained in the constant price tables. Norway follows international recommendations and best practice by applying the double deflation method (i.e., volume measures for value added are calculated as the difference between production and intermediate consumption), and by compiling the volume measures in the prices of the previous year (chain indices).

Based on the time series of supply and use tables in current and previous year prices, Laspeyres volume indices and (implicit) Paasche price are compiled. Aggregates are calculated from these time series, and chaining takes place for detailed and aggregate series separately. The year-to-year growth rates from the original supply and use tables are maintained at all levels of aggregation. No attempt is made to impose additivity between detailed series and aggregates. The latest final year is used as the reference year for the time series**.**

Volume measures in the preliminary annual data and the current quarterly data are in principle calculated using the same method, but at a more aggregated level. For these volume measures, the latest final annual year serves as the base year (or a preliminary annual year established by the same methods as for the final annual year), and there is therefore no additivity problem for these data. Chain indices are thus only applied for the final years, and for the quarterly series when benchmarked on these years.

The constant price calculations in the annual national accounts take place at the detailed level by deflating current price values by price indices, whereas in the quarterly accounts volume indices are also to some extent relied on.

All price information in the annual national accounts that is used in the deflation is first collected in a “price catalogue” so that a complete overview of the price data, also as time series, is obtained. The catalogue includes practically all existing price information at the

detailed level. For each product there are in principle at least: price for production to the domestic market, import price, and export price. The prices for exports and imports are mainly based on specially selected unit value indices from the foreign trade statistics. Prices for production to the domestic market are primarily from the producer price index, and price indices from the consumer price index are used for both private consumption and as producer prices (after adjustment for changes in VAT) for some services. For many services that are primarily used for intermediate consumption, price data are weak or missing. In these cases either volume indicators or the cost method are used. Adjustments for quality changes are carried out to the extent that they are included in the compilation of the source price data.

Volume measures for trade margins and for product taxes/subsidies are calculated by applying the percentage margins and the tax rates from the previous year (final accounts) or from the base year (preliminary accounts).

Volume measures for non-market output from government and from NPISHs are calculated as the sum of deflated costs. Compensation of employees is deflated by the wage rate (hourly) by employee category. For non-market output from government (except military expenditures) an annual productivity increase of 0.5 percent is assumed.

Expenditure approach procedures

Most of the expenditure approach procedures follow from what has already been said about the source data and the integrated compilation system. For categories of final uses, the level of detail has a reasonably good matching between detailed products and detailed breakdown of 67 groups of government final consumption expenditure (classified according to the 1999 version of the COFOG) with basis in government accounts linked to a common database with the national accounts. There is also a good matching between the household budget survey results and the 98 groups of household final consumption expenditure (classified according to the 1999-version of the COICOP). For government final consumption expenditure, the number of categories is about 66 types of fixed assets. In this area—more than is the case for the consumption flows—the estimation benefits from the detailed product breakdown and the nature of the known product supplies. Changes in inventories are, as mentioned above, mainly obtained as residuals, and the detailed product breakdown is used to monitor and estimate change in inventories for each product, but the changes are not classified by economic activity.

There is practically no reliance on fixed ratios derived from benchmark years. Government final expenditure is exclusive of incidental sales. Household final consumption expenditures include expenses of residents abroad (included in imports) and exclude expenses of non-residents (included in exports). The estimates of valuables are made, but are deemed to be incomplete as source data are insufficient.

Specific quarterly compilation techniques

Compilation of the quarterly national accounts implies the use of comprehensive input data sets, in total about 2300 series. The compilation is mainly based on the short-term statistics from SSB, such as price indices, the index of production, the quarterly investment survey, the index of retail sales, the foreign trade statistics, etc. (see 3.1.1). In addition, some short-term information from other sources is used. Source data are arranged according to the classification of commodities, industries, and use categories in the QNA.

The computing system in the QNA contains three different steps: (1) the indicator compilations, (2) the harmonisation model (input-output model) and (3) the result databases (for internal checks and analyses) and table programs. The data systems are programmed in FAME and TROLL.

Based on the development of short-term indicators and the current-price data from the base year, the national accounts data for the current quarter are computed**.** The base year (normally t-2) is the most recent year for which annual national accounts are available, either a final or a preliminary version.[4] The method is the same for most variables: The value in the base year is carried forward with the growth rate the appropriate indicator, or a (weighted) set of indicators. If an indicator does not cover the whole period from the base year to the current quarter, a projection method, based on the development in the previous periods is used. For some variables information on short-term development is lacking. Data for these variables are computed by breakdown of annual estimates into quarters. Part of production in agriculture is computed in this way.

The variables calculated on the basis of indicators are subsequently transferred to the so-called harmonisation model as exogenous variables. The model is an input-output model that assumes fixed ratios between output and intermediate consumption in most industries. For most goods, changes in inventories are obtained as a residual. For services and goods that cannot enter into inventories, the residuals are checked, but may nonetheless be kept as part of "changes in inventories and statistical discrepancies."

The approach used in compiling the QNA is highly computerized. This concerns the updating of variables of the national accounts based on short-term statistics as well as the balancing of products, the computation of taxes on products and value added, and the overall balancing of main aggregates. Apart from the data sources and the time spent on editing and balancing the system, there are many similarities to the system used in the annual calculations.

[4] In the last few years, a preliminary version of the annual national accounts has not been calculated. This is mainly due to current timeliness factors in the deliveries of annual data. The base year in the QNA, therefore, has been the last final version of the annual national accounts, which is t-3. For the following years, it is an aim again to compile a preliminary version of the annual national accounts and to incorporate this as a base year t-2 in the QNA.

Methodologically, the calculations for a current quarter are not formally based on benchmark-to-indicator ratios in the sense of the IMF's *Quarterly National Accounts Manual* according to which the (movement in) relationship between an indicator and the final or revised QNA value is automatically taken into account. However, by introducing so-called factors of adjustment, the indicators may be modified in order to have experiences or new information reflected in the resulting ("forward") series. The factors of adjustment are completely integrated in the compilation process, both at current and constant prices.

The quarterly data are benchmarked on the preliminary and final annual accounts primarily by means of the proportional Denton method (Min D4 Method), as also recommended in Chapter Six of the IMF's *Quarterly National Accounts Manual.* For some data series, which cannot be adjusted with the Min D4 Method, other acceptable methods are used.

The compilation system derives the series from seasonally unadjusted source data, thus providing unadjusted quarterly estimates. These are subsequently being seasonally adjusted by using the X-12–ARIMA method. Both seasonally unadjusted and seasonally adjusted quarterly accounts data are published.

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

Procedures are developed to adjust data sources to improve the coverage, definitions, classifications, and valuation conforming to the international guidelines.

Explicit adjustments for exhaustiveness were made in connection with the Main Revision 1995 and subsequently on a current basis. In total, adjustments to basic sources to cover the unrecorded economy amount to 2-3 percent of GDP. The adjustments for exhaustiveness take into account the EU Commission Decision on Exhaustiveness and the special subject areas having been dealt with by task forces. The special areas include, in particular, best practices for achieving exhaustive estimates for such activities as construction and distribution**,** and for utilizing the household budget surveys for these estimates**.**

3.3 Assessment and validation of source data

3.3.1 Source data—including censuses, sample surveys and administrative records—are routinely assessed, e.g., for coverage, sample error, response error, and non-sampling error; the results of the assessments are monitored and made available to guide planning

Systematic information about sampling errors in the data sources used for the national accounts is only to a limited extent available, whereas various types of information about non-sampling errors such as: over/under coverage, misclassifications, measurement problems, and non-response are available. Information is also available about imputation methods for non-response in the surveys and percentages of source data imputed.

The compilers of the national accounts are in close contact with producers of the source data and regularly review and assess the source data together with the producers. Thus, the accuracy of budgetary data, international trade, price statistics, and other secondary sources used to compile national accounts statistics is also routinely assessed.

3.4 Assessment and validation of intermediate data and statistical outputs

3.4.1 Main intermediate data are validated against other information where applicable

The data compiled from the main sources used to compile national accounts statistics are checked with other primary/secondary sources. The efficiency of these checks is reinforced by the systematic use of the commodity flow method.

3.4.2 Statistical discrepancies in intermediate data are assessed and investigated

The potential discrepancies in intermediate data are routinely assessed and appropriate adjustments are made to remove the discrepancies.

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

As already described the supply and use framework is used to investigate discrepancies and make the statistical outputs consistent. Changes in inventories by product which are basically calculated as a residuals, are also used as indicators of problems in the basic data.

Existing and new data sources are continually being studied and compared to the national accounts to identify possible biases. The 2002 Data Revision can be seen as the result of such a process from which it was concluded that over some years a downward bias had developed in the GDP estimate.

3.5 Revision studies

3.5.1 Studies and analyses of revisions are carried out routinely and used to inform statistical processes

In published documentation on the 1995 Main Revision, there are analyses in great detail of the results of the revision compared to the previous data. The changes are subdivided into those that are caused by new definitions and classifications (formal changes), and those that are caused by new or improved source data (real changes). Similar analyses are carried out in relation to the 2002 Data Revision.

In the course of the current compilation of quarterly and annual national accounts, the direction and magnitude of revisions between the various versions are looked into. This may lead to changes in the way source data are utilized. However, systematic studies of current revisions to the accounts for routine use in the compilation process are not conducted.

4. Serviceability

4.1 Relevance

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

SSB organizes a committee of users of national accounts and balance of payments statistics. The committee includes representatives of various government ministries, Norges Bank, universities, and the private sector. It meets approximately once a year, most recently in October 2002. It provides input to SSB about users' needs.

While SSB has not conducted a formal survey of national accounts data users, there is a high level of contact with users on a less structured basis in the form of telephone calls and e-mails. Although having a large research department is unusual among statistical agencies, SSB considers that it provides a particularly strong link between the compilers and data users.

The survey conducted with this ROSC assessment show national accounts data are widely used by the respondents. (See Appendix III). The general impression is that users are satisfied with the national accounts data, and a larger proportion (relative to the responses for other types of statistics) rate them as being better than those for other countries in the region. Some users do, however, express dissatisfaction with information about revisions that may primarily pertain to the 2002 Data Revision, but could also refer to the current revisions of quarterly and annual data. Some users would like to see timeliness improved (presumably for QNA). About one third of the respondents were not satisfied with the access to metadata. During the last decade the national accounts program has to a great extent been determined by the legal obligations to report national accounts data for both statistical and administrative uses to the EU. This concerns both the scope of the accounts, their timeliness, and other aspects of the data quality. In this respect Eurostat and the European Commission can be seen as important users. Lack of resources in SSB has led to a situation where the annual financial transaction accounts and balance sheets are being compiled and reported to Eurostat by Norges Bank (although the final financial balance sheets are compiled in SSB).

Norwegian national accountants have a very long and strong tradition for participation in international cooperation, and in giving significant contributions to the international development in this field. This tradition is still being followed by active participation in international meetings and seminars, and in giving technical assistance in national accounts to developing and transition countries.

4.2 Timeliness and periodicity

4.2.1 Timeliness follows dissemination standards

The quarterly national accounts are published with a timeliness of five weeks for Q1 and nine weeks for Q1, Q2, and Q3, and thus well within the Special Data Dissemination Standard (SDDS) requirements of three months. From 2003 onwards Q4 will be published with a timeliness of about 10 weeks (see 3.1.3).

4.2.2 Periodicity follows dissemination standards

National accounts are compiled on quarterly basis, thus meeting the SDDS requirements.

4.3 Consistency

4.3.1 Statistics are consistent within the dataset

In Norway, the annual national accounts are compiled within an integrated system (the SNA-NT application) that encompasses integrated economic accounts for institutional sectors, the supply and use tables, the input-output tables, the tourism satellite account and the monthly balance of payments. An integrated set of price and volume measures (chain indices) are compiled within the framework of the annual supply and use tables. A consistent set of activity and expenditure components is thus derived.

It should, however, be noticed that the change in inventory component is called “changes in stocks and statistical discrepancies.” This name is based on the fact that changes in inventories are primarily obtained as residuals in the commodity flow system balancing.

Since the chaining in the constant price calculation is carried out separately for all items, the components do not necessary add to the totals in the tables. This is, however, an unavoidable consequence of the introduction of chain indices, as recommended in the *1995 ESA*, and requested in the reporting to Eurostat.

The quarterly accounts are also compiled within an integrated system that in principle is of the same type as the annual system, though more aggregated, and without institutional sector accounts. As for the annual system, a consistent set of activity and expenditure components is thus obtained for each quarter, and concepts, definitions, and classifications are the same as those used to compile the annual accounts.

In the course of calculation, the quarterly series are benchmarked on the annual data for those years for which independent (i.e., not as sum of quarters) annual estimates have been compiled. The series are compiled in the prices of the latest final year, but later the benchmarked series follows the chain-indexed series for the annual accounts. This as well as the seasonal adjustment implies that the published data do not necessary show consistency

between activity and expenditure components in the individual quarters. This is, however, an unavoidable consequence of the use of state-of-art methods in the compilation of quarterly accounts.

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

Following the 2002 Data Revision, the results of which were released in June 2002 with annual series back to 1991 and quarterly series carried back to 1999, consistent time series for annual accounts back to 1970 (for institutional accounts to 1978) were published in November 2002), and quarterly accounts back to 1991 are planned to be published in January 2003. The quarterly accounts may at a later stage be carried further backward to 1978 at a more aggregated level.

Results following the1995 Main Revision were included in the first round annual data back to 1988. In 1997 data were revised back to 1978, and in 2000 further back to 1970. The quarterly accounts were revised back to 1978. For the whole period the *1995 ESA* definitions were implemented, series were recoded to NACE, Rev. 1, and the data adapted to the proper levels.

In both revisions the annual data were revised back to 1970 at the most detailed level in the supply and use tables, including new constant price calculations (chain indices). The maintenance of consistent time series at this level of detail for more than 30 years must be seen as a major achievement, that has only been possible because an integrated and highly computerized compilation system has existed during all these years. It might be added that also the backward *1968 System of National Accounts* major revision was implemented in two steps, first back to 1962 at the detailed level, then considerably later back to 1949 in a more summary way.

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

The national accounts statistics are consistent with the balance of payments statistics compiled in DNA and the government finance statistics compiled in the DPCS. There are significant differences between the net lending/borrowing by institutional sector obtained from the capital account in SSB and from the financial transaction accounts published by Norges Bank.

4.4 Revision policy and practice

4.4.1 Revisions follow a regular, well-established and transparent schedule

The revision cycle for the Norwegian annual and quarterly national accounts is predetermined and reasonably stable from year to year. It is made known to the public on the SSB website for annual and quarterly national accounts statistics in the section “About the Statistics”, although not in a very transparent way. The timetable for releases and the revision

cycle is also described in publications in the series *Official Statistics of Norway* and in several documentation reports, but is for example not shown in the issues of *Economic Surveys* that contain the hard copy release of the current national accounts data.
New source data are incorporated as early as possible, if they do not lead to significant breaks in the time series. Otherwise the introduction in levels is postponed to the following main revision, but the new source data may in the meantime be used as indicators for growth rates. Following the 2002 Data Revision, SSB aims at main revisions with five–seven years interval in the future.

The revision schedule is primarily governed by the availability of source data, but the timeliness of the releases in April and September is critical, as the Ministry of Finance uses these data in the budget process.

4.4.2 Preliminary data are clearly identified

Users are informed in the text of the releases that the initially published data are preliminary and subject to revision, but preliminary data are not labeled in any special way. Most often releases of quarterly data will only contain preliminary data. The revised data are disseminated with the same level of detail as previously published for the data being revised.

4.4.3 Studies and analyses of revisions are made public

The 1995 Main Revision and the 2002 Data Revision are well documented, and the reasons for, and the extent of the revisions explained in detail. These revisions are also broken down according to whether they are caused by change of definitions or classifications (formal) or change in data sources (real).

Very comprehensive documentation was published in 1996 for the 1995 Main Revision (identical to the "Inventory" supplied to Eurostat according to the GNP Regulation and decisions in the GNP Committee and covering about 600 pages that are updated regularly). More summary documentation is also available. The 2002 Data Revision has been documented in several reports from SSB that also in detail explain the reasons for the Data Revision and the background for the particularly big revisions in some years. (See *Revised national accounts figures: Stronger growth in the 1990s* on the SSB website and in *Economic Survey* 2/2002, and several industry specific documentation *Reports* in both hard copy and on the SSB website).

No analysis of preliminary versus revised data is published on a current basis to allow assessment of the reliability of the preliminary data. Some comments are, however, made in the current releases, on the extent and causes of revisions. The latest published study on the relationships between preliminary and final annual data was published in 1990 and refers to the period 1972–87.

SSB has found that revision studies where pre-revision growth rates are compared to the growth rates after the Main Revision or Data Revision would be of only limited relevance.

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 first release of national accounts data at 10.00 a.m. on the pre-announced release day on the website is a two-three page press release ("Statistics of the Day") that contain summary tables for a limited time period, but mainly text that comments on, and explains the data, including references to revisions of earlier released data. Quarterly data are seasonally adjusted. More detailed tables and longer time series can also be accessed on the website. Somewhat later the data are published in hard copy in *Economic Survey* that also includes forecasts for the following two-three years based on an economic model (KVARTS) run by the Research Department of SSB. An annex contains very detailed tables (not seasonally adjusted), and in a comprehensive text section the quarterly accounts data (seasonally adjusted) are analyzed in connection with the discussion of the forecasts.

5.1.2 Dissemination media and formats are adequate

The primary dissemination media is the SSB website (see above). The data are also published in hard copy in *Economic Survey* and in annual publications in the series *Official Statistics of Norway* in identical versions in both Norwegian and English. There are three separate publications in the series: For the annual accounts: *Production, Uses and Employment*, and *Institutional Sector Accounts*, and for quarterly accounts: *Quarterly National accounts: Production, Uses and Employment*.

Statistikbanken (Statistics Bank) is a new facility presently being developed on the SSB website. It offers user-determined tabulations of SSB's time series via the Internet. It will be extended to national accounts data during the first half of 2003.

5.1.3 Statistics are released on a pre-announced schedule

An advance release calendar covering the next four months is permanently updated on the SSB website. According to SSB Annual Report 2001, 87 percent of all statistics were released at the announced time in 2001**.** For national accounts the percentage was 100. The same schedule is also available on the DSBB on a quarter-ahead basis.

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

The statistical series is released simultaneously to all interested users on the SSB website at 10.00 a.m. on the date specified in the pre-announced schedule.

5.1.5 Non-published (but non-confidential) sub-aggregates are made available upon request

In addition to the data published on the website and in *Official Statistics of Norway* hard copy publications, it is possible to obtain more detailed tables national accounts tables (such as the supply and use tables and the input-output tables) by applying directly to SSB. A fee may be charged. Contact persons who can assist with such inquiries are named on the website and in the hard copy publications.

5.2 Metadata accessibility

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

The metadata are disseminated in a manner that facilitates its access (e.g., websites, statistical publications) and their availability is well publicized (e.g., in a catalogue).

Metadata for national accounts are available in summary form in the "About the Statistics" sections on the SSB website, and for the quarterly accounts also on the DSBB summary page.

Comprehensive documentation is found in specialized publications in the *Document*s series and in the *Reports* series. The latter is also freely available at the SSB website. A considerable share of the documentation is available also in English.

The metadata include information on concepts, definitions, classification and other methodology, data sources, and statistical techniques are prepared and disseminated to the public. The metadata also provide information on weaknesses in the data sources and possible biases in the results and linkages with other major data systems.

Documentation has been developed to educate users of contents of the national accounts and compilation methods used.

Despite these practices, about one third of respondents to the user survey conducted with this ROSC assessment were not satisfied with access to the national accounts metadata (see 4.1.1). See also the comments under 5.3.1.

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

Documentation (e.g., brochures) is available to inform general users about the statistical series. Comprehensive sources and methods documents are produced to inform analysts and other users of statistics. These documents are updated regularly.

5.3 Assistance to users

5.3.1 Contact person for each subject field is publicized

All statistical releases list contact persons who may be reached by telephone or by e-mail. Certain users have complained that the e-mail addresses are sometimes invalid and responses to e-mail questions are not always forthcoming.

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

The SSB website indexes the current and previous issues of the quarterly and annual releases of national accounts and related tabulations of longer time series.

A catalogue of SSB publications is produced annually and lists paper publications, including those that deal with national accounts. However, it does not list web-only publications, such as the "Statistics of the Day" first releases of the national accounts data.
The SSB website includes information on publication prices and charging policy for supply of nonpublished data.

Table 5. Norway—Data Quality Assessment Framework: Summary of Results for National Accounts
(Compiling Agency: Statistics Norway)

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. Pre-requisites of quality						
0.1 Legal and institutional environment		X				
0.2 Resources		X				
0.3 Quality Awareness		X				
1. Integrity						
1.1 Professionalism		X				
1.2 Transparency		X				
1.3 Ethical standards		X				
2. Methodological soundness						
2.1 Concepts and definitions		X				
2.2 Scope		X				
2.3 Classification/Sectorization		X				
2.4 Basis for recording		X				
3. Accuracy and reliability						
3.1 Source data		X				
3.2 Statistical techniques		X				
3.3 Assessment and validation of source data		X				
3.4 Assessment and validation of intermediate data and statistical outputs		X				
3.5 Revision studies			X			Revision studies are undertaken for major revisions but not on a routine basis.
4. Serviceability						
4.1 Relevance		X				
4.2 Timeliness and periodicity		X				
4.3 Consistency		X				
4.4 Revision policy and practice		X				
5. Accessibility						
5.1 Data accessibility		X				
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 statistics is clearly specified

The compilation and dissemination of statistical data in Norway is governed by the terms and conditions of the Statistics Act of 16 June 1989, No. 54. The Act stipulates in Section 3-1 that Statistics Norway (SSB) is the central body for the production and dissemination of official statistics and it bears the main responsibility for ensuring that the objective of the Act—to promote the efficient production of appropriate statistics—is fulfilled. The Act stipulates in Section 4-1 that Statistics Norway is a professionally autonomous institution. It is placed administratively under the Ministry of Finance (MOF) and its general work program and budget are decided by the Parliament. Information about the Statistics Act is published in the SSB booklet, *The Statistics Act of 16 June 1989, No. 54* in Norwegian and English. The booklet also contains information on regulations concerning the implementation of the Act.

SSB produces and disseminates the Consumer Price Index (CPI) as part of the official statistics of Norway and as a service to the public, but the Statistics Act makes no explicit mention of the CPI, or for that matter, any other specific type of statistics.

The SSB is part of the European Statistical System and produces and disseminates a significant share of its data according to the legal requirements mandated within this system. (See 0.1.1 of the Detailed Assessment of National Accounts Statistics.) Under Section 3-1 of the Statistics Act, SSB bears the main responsibility for international statistical cooperation.

0.1.2 Data sharing and coordination among data producing agencies are adequate

Section 3-3 of the Statistics Act authorizes SSB to coordinate statistical activities. There are, however, no issues in the CPI program related to data sharing and coordination among Norwegian agencies as all data collection, processing, and compilation for the CPI are done within SSB.

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

The Statistics Act (Sections 2-4 and 2-6) specifies that SSB is prohibited to publish or disclose data from which information about individual persons or firms can be derived. Researchers may be given access to such information under strict rules and conditions. Guidelines provided by the Norwegian Data Inspectorate form the framework for internal

and management data security. Not only are individuals' and establishments' reported data confidential, but any data aggregations that may reveal sensitive data may also be considered confidential. Decisions on confidential aggregations are made based on the data set in question. SSB strictly enforces confidentiality restrictions. Individuals are subject to disciplinary action such as dismissal and fines for violation of confidentiality restrictions. There have not been any violations of confidentiality for CPI data.

SSB informs respondents in writing on all statistical surveys of their rights and obligations with regard to the provision of information, and they are assured that the information they provide will be used for statistical purposes.

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

Sections 2-2 and 2-3 of the Statistics Act provide for mandatory reporting and penalties for non-compliance. Altogether across SSB, there are about 7,000 cases annually in which respondents are fined for non-compliance. Reporting for the CPI is mandatory under the Act. CPI respondents typically comply with reporting requirements. In 2001, there were 103 firms that were fined 1,965 Kroners each for not reporting under provisions of the Act.

SSB also has voluntary surveys and encourages participation by working with respondents to ease reporting burden. In some instances they offer incentives, such as in the Household Budget Survey (HBS) where families are paid 300 Kroners to participate.

0.2 Resources

0.2.1 Staff, financial, and computing resources are commensurate with statistical programs

About 13 staff years are used annually on CPI processes. Eight staff years are used in the Division of Economic Indicators. Of these, five are full time staff with university degrees and two are staff with internal training whose functions are equivalent to professional staff. These staff are involved in the monthly CPI review (3), research projects (2), information technology (IT) issues (1), and coordination of outlet contact and price collection (1). There are two professional staff who work part-time (one staff year) on CPI sampling issues. The additional five staff equivalents are in other SSB Divisions. Two are involved in the HBS, two or three in initiating new outlets into the CPI sample and collecting rents for dwellings, and one in data entry for CPI questionnaires.

At this time, staff turnover in the CPI is not a problem although in other SSB areas there is a staff retention problem. Periodically there has been substantial staff turnover.

The CPI uses a high level of computer technology. Each person has their own work station and there are many computer assisted edit routines to help analysts with the review of data for unusual observations and circumstances. Computer technology has also been expanded to

improve data collection in the housing survey using computer assisted telephone collection (CATI), electronic scanning of data collection forms, and electronic data transfer of scanner data from grocery chain stores.

Overall, staff, computing, and financial resources are adequate for producing the CPI.

0.2.2 Measures to ensure efficient use of resources are implemented

The management of SSB promotes a mission and direction for efficient use of resources that are shared with staff and is described in the publication *Strategy 2002*.

Process measurement and monitors of resource usage are in place and used in the CPI program. Production schedules based on announced CPI release dates are put in place a year in advance and adhered to on a monthly basis. Monthly review meetings of all CPI staff are held to discuss the process and any problems that may have arisen in the current monthly cycle so that preventive measures can be taken to avoid any future problems of a similar nature. As part of the budget process, an annual review process is in place to assess the efficiency of resource utilization during the past year including the allocation of staff time to various CPI activities. There is continuous testing of new technology to improve processes such as the implementation of CATI in the rent survey, electronic data transfer, and the collection of electricity prices via the internet.

0.3 Quality awareness

0.3.1 Processes are in place to focus on quality

Quality work in SSB has been conducted in recent years within the framework of "systematic quality work," inspired by the principles of Total Quality Management (TQM) and similar work in other national statistical institutions such as Statistics Sweden. No separate quality report is published, but the quality dimensions and their fulfillment are discussed in the *Annual Report* and in *Strategy 2002.* As well, for individual statistics, several of the quality criteria are documented in "About the Statistics" on the SSB website. Furthermore, SSB is actively working on exchanging experiences, methods, and technology with other statistical institutions, and participates in Eurostat's task force on quality indicators.

The systematic work started in 2001 and encompasses all activities and all employees in SSB. Commitment from all levels of management is seen as a precondition for success. To ensure this, several seminars and training schemes for managers have been carried out. All directors, heads of divisions, and office heads (about 50) have been given two days of training. During 2001, SSB has trained 18 so-called quality pilots who participate in improvement projects as facilitators to ensure that quality principles are followed. Another 20 quality pilots are being trained in 2002. Systematic quality thinking has been incorporated in other training schemes in SSB.

The CPI program was one of the first in SSB to participate in the agency program of TQM in 1998-99. Initially, the program started using International Standardization Organization methodology but later adopted the TQM approach. Each year numerous quality improvement projects are undertaken throughout SSB. The CPI has contributed to these efforts and currently has two quality improvement projects underway. One project is the use of scanner data for collecting of food prices in the CPI as well as a source of weights for the CPI annual weight update. The other is documentation of various CPI monthly processes so that operational manuals with written procedures are in place. In the CPI work plan for next year there are two additional projects. The first involves estimating CPI measures of variance with the assistance of the Survey Methods Division. The second is investigating improved weights using national accounts data, e.g. for alcohol, tobacco, yeast, etc.

0.3.2 Processes are in place to monitor the quality of the collection, processing, and dissemination of statistics

As part of the CPI production process, status tables are available to monitor the data flow and completion of each production process (data collection, data entry, micro data review, macro data review, and dissemination). CPI staff meet weekly to discuss progress and any potential problems. Immediately after the CPI release another meeting is held to assess the success of the previous month's production cycle.

0.3.3 Processes are in place to deal with quality considerations, including tradeoffs within quality, and to guide planning for existing and emerging needs

In addition to the internal SSB and CPI staff reviews, the Advisory Committee for Price Statistics provides input about user needs for the CPI. This committee consists of representatives from government ministries, labor organizations, trade associations, and academia. It meets annually to review the CPI program and discuss potential program changes. The Committee also provides input on user satisfaction with existing CPI data and user needs for additional data. This input is evaluated and is considered for current and future TQM projects as well as for program enhancements. As a result of this input, SSB has considered several program changes such as regional CPIs and implemented others such as the series adjusted for the effects of energy and the effects of taxes.

1. Integrity

1.1 Professionalism

1.1.1 Statistics are compiled on an impartial basis

The Statistics Act ensures the professional independence of SSB and provides it with the authority to determine the official statistics for the government. There is no evidence of other agencies placing undue pressure or interfering with SSB in its compilation and dissemination of official statistics. A code of professional conduct for staff exists, is known and practiced

by the staff, available on SSB internal website and in print (*Staff Policies: Values, Aims and Principles*), and stressed by management. There is no evidence of political influence being placed on the SSB Director General. The SSB Directors General have traditionally served long and notable careers. The current Director General has been in SSB for 34 years and has been is his current position for about 12 years.

The independent role of Statistics Norway is described in the SSB's publication *Strategy 2002* (page 8). Here it is explained that the Statistics Act underlines that SSB is an independent organization when it comes to the content of its statistics and analyses. It decides on an independent basis what the institution is to publish in official statistics, and when and how this will be done. SSB has set out a commitment to enhance the professionalism of its staff in this same publication (pages 39-41). Steps envisaged include adjusting tasks to develop staff, providing incentives for personal development, working out a human resources strategy, rotation of staff, and cooperation with universities.

CPI staff receive training in statistics, computer processing, team work, and management. University training is also available to them. Substantial on-the-job training is provided, usually through the use of mentors. Staff are encouraged to do research and publish their findings. There is an agency review process for published research to ensure that it meets the high professional standards set by SSB.

The IMF's user survey that was conducted with this ROSC (Appendix III) and a Norwegian survey that rated national institutions indicate that SSB has a high reputation.

1.1.2 Choices of sources and statistical techniques are informed solely by statistical considerations

Decisions on data sources and statistical techniques are made by applying best practice and state-of-the-art methods. Agency-wide decisions on data collection methods are made on the basis of costs and productivity. In the CPI, the statistical methods selected are based on those suggested in the draft *CPI Manual* (available on the International Labor Organization website) and those recommended by Eurostat. Examples are the use of geometric means for estimating basic level indices, annually chaining the CPI, and the introduction of the Classification of Individual Consumption by Purpose (COICOP) in the CPI.

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

SSB is entitled to comment on erroneous interpretations and misuse of official statistics and has done so when serious infractions have occurred. In the CPI, the Head of the Division of Economic Indicators has occasionally provided written commentary to news media when substantial misrepresentation or misinterpretation has occurred.

1.2 Transparency

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

The complete set of documents that articulate the manner in which SSB executes its statistical programs are available to the public on the SSB website. See the *Annual Report 2001*. Other information on the CPI can be found at the SSB CPI webpage. Additional summary metadata about the SSB program can also be found on the IMF's Dissemination Standards Bulletin Board (DSBB).

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

There is no access by government officials outside SSB to CPI statistics prior to release. The website release (see also 5.1.4) ensures a strict policy of non-differential treatment of CPI users; ministries and all other users are treated equally. This policy is described on the DSBB. For SSB, in general, it is noted on the *Annual Report 2001* (page 46). Within SSB the Director of the Department of Economic Statistics does not receive the CPI release until the afternoon prior to the release. The Director General receives the press release at 8:00 a.m. on the morning of the release.

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

All SSB publications are identified as being produced by SSB including information on the SSB website. Publications prepared jointly with other agencies clearly identify SSB and the other agencies as joint producers. SSB also requests that users of its data identify SSB as the source when its statistics are reproduced.

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

In the CPI advance notice is provided for major changes in methodology, source data, and statistical techniques. The changes are discussed with the Advisory Committee as early as 12 months in advance. Normally an article will be published on the CPI web page four to eight weeks in advance. Such notice was given in 1999 when geometric averaging and the COICOP classification were introduced. It was also given when the rent survey changed from quarterly to monthly collection. For minor changes, advance notice of several weeks is provided on the CPI website. The notice discusses the nature of the changes. In the press release there is a link to this notice.

1.3 Ethical standards

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

The employment contract that is signed by all new staff of SSB, includes references to the general rules applying to all civil servants and to the obligation to obtain special permission to take any secondary job that may interfere with the "duty of loyalty." In addition, the contract refers to a separate "declaration of secrecy" that must be signed at the same time. Employees are given the booklet *Staff policy in SSB: Values, Aims and Principles*, which is on the SSB internal website. Within the past two years, these documents were revised and all employees were given new contracts to sign. In the CPI, managers periodically discuss this ethical code because of the high sensitivity of the CPI in Norway.

2. Methodological Soundness

SSB made a major revision of the CPI in 1999 to comply with European Union (EU) standards and recommendations and changed the reference year to 1998=100. Geometric means were introduced to calculate elementary index series. The COICOP classification system was also introduced. The CPI has been produced as an annual chain index since 1982 with new weights and products introduced every year in August.

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 of the national CPI are generally in line with the specifications recommended in the *1995 European System of Accounts* (*ESA 95*). The main departures from the *ESA 95* are with the expenditure weights for insurances, the recording of services prices, and the exclusion of illegal goods and services. The insurance weights represent the gross expenditures by households on insurance premiums rather than the net expenditures (premiums less benefits). The recording of service prices occurs in the month for which consumption at the observed price commences, not the month in which the actual price is paid. For example, annual highway toll fees could be paid, for instance, in November, but they do not take effect until January. The new price will not be reflected in the index until January. The exclusion of illegal goods and services is standard practice in price indices and in agreement with specific EU regulations for price statistics.

2.2 Scope

SSB compiles the national CPI as the key measure of inflation in Norway and calculates the Norway Harmonized Index of Consumer Prices (HICP) for use by Eurostat. The two indices are derived from the same source data, and the HICP is compiled according to EU standards. They are used mainly for economic analysis and escalation of pensions and contracts. No

regional or city indices are produced. The CPI described below is the national CPI produced by SSB. A sub-aggregate series that is adjusted to exclude the effects of taxes and energy in the CPI (CPI-ATE) is compiled by SSB, in part, for use by the Norges Bank in their inflation targeting regime.[5]

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

The CPI covers the expenditures of all resident, non-institutional households (both urban and rural), except for those whose head of household is 80 years or older. The CPI reflects purchases of all goods and services offered to households in Norway including the shelter services of owner-occupied dwellings. It also includes own-account production of goods and services for own final consumption, but it excludes illegally sold goods and services.

2.3 Classification/sectorization

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

ESA 95 is used to classify institutional units and transactions. The COICOP is followed in the classification of household expenditure for individual products and further refined by the addition of a 5th digit for grouping products in the HBS. The Norwegian industrial classification SIC94, derived from NACE rev. 1, is used for classification of retail outlets in the business register.

2.4 Basis for recording

2.4.1 Market prices are used to value flows and stocks

The goods and services in the consumer basket are valued at market purchasers' prices including value added tax (VAT) except for consumption for own use, which is valued at market producers' prices.

2.4.2 Recording is done on an accrual basis

Prices are recorded for the 15th of the reference month and collected monthly for most items. Prices for several items such car insurance and newspaper subscriptions are collected quarterly, while prices for kindergarten fees, after school activities, sporting activity fees, and

[5] On March 29, 2001 the Norwegian government adopted a new Regulation on Monetary Policy. The Norges Bank is to implement a monetary policy aimed at an annual growth rate over time of 2.5 percent in consumer prices. According to the regulation, the direct effects of consumer prices caused by changes in interest rates, taxes, indirect taxes, and special temporary disturbances are not to be taken into consideration.

dental services are collected twice per year. Other items such as television license fees, cable TV fees, and new boats, whose prices typically change annually, are collected once per year. Services (e.g., road tolls) are recorded when actually consumed.

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

The weights for used cars in the CPI are calculated using net weights, i.e., purchases less sales of vehicles. This conforms to international best practice. However, weights for car insurance are based on premiums paid rather than net premiums (premiums-benefits).

3. Accuracy and Reliability

3.1 Source data

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

SSB has a comprehensive register of housing units that is updated on a regular basis with information provided by municipalities. This register serves as the sampling frame for the annual household budget survey (HBS). SSB also maintains a business register that includes up-to-date industry codes for establishments and annual turnover data. The retail trade industries in the business register serve as the sampling frame for selection of the outlet sample in the CPI.

The HBS is conducted monthly using 26 panels of households surveyed every two weeks. It covers all non-institutional households in Norway. The households in the survey are selected using a two-stage sampling process. The first stage divides the geographic area of Norway into 109 geographic strata. All municipalities with 30,000 or more inhabitants are included in the sample and for the remaining strata the largest municipality in each is selected. The second stage involves the selection of individual households in each area. Individuals under 80, who are not institutionalized, are selected from the population register in each area and the household in which they live becomes the sample unit. Approximately 2,200 households participate in the survey throughout the year, averaging 85 per two-week period. The non-response rate of about 50 percent is high.

Each sampled household maintains a diary of purchases for a two week period. This is followed by an interview survey to recall all major purchases during the 12 months prior to the survey period. The expenditure information is collected for 840 items classified into 5-digit COICOP categories. From this information SSB estimates the annual household expenditures for each item. Because of the small sample size, SSB uses a three-year average

of HBS expenditure estimates to provide the weights for the CPI items at the national level.[6] The municipalities selected in the HBS also serve as the geographic sample for the CPI in the monthly price survey. A sample of outlets for each municipality is selected from the retail trade industries in the business register using probability proportionate to size of turnover. Approximately 2,200 outlets are in the sample. The sample of outlets is rotated on a six year cycle so that new outlets are entering and leaving the sample each year. The new outlets are introduced in March.

The previous year's turnover data reported for retail establishments in the business register is used to develop weights for regional aggregation of CPI elementary indices. The establishments are first identified by industry. Then for each industry the turnover data are aggregated by eight geographic regions (Oslo, Bergen, Trondheim, and five other regions). Regional turnover shares are then calculated for each retail industry. These shares are used to aggregate CPI item price relatives in each region to the national level.

SSB field staff visit each new outlet to explain the CPI reporting process and identify the CPI items for collection in that outlet. The field agent works with the outlet respondent to select the most representative transaction for the CPI items. In the month that data collection begins, the field agent again visits the outlet to assist the respondent in completing the CPI questionnaire. In subsequent months, the questionnaire is mailed to the respondent who completes the form and returns it by mail. The prices reported are those as of the 15th of the month.

For grocery stores, SSB receives electronic scanner data from the four largest chains and uses the detailed price data for the CPI. The scanner data generally report prices for the week that includes the 15th of the month and the price used is the average for the week.

Each month approximately 45,000 price observations are reported for the CPI.

A separate survey of rental units is conducted monthly with about 1,300 responses from tenants. The probability sample of tenants was selected from the 2001 Housing and Population Census.

SSB occasionally conducts ad hoc surveys and investigations to supplement CPI and HBS information. In the past, a special question on energy usage was added to the HBS. A survey of personal computer sales was conducted to provide data on the types of computers bought by consumers and their expenditures so computers could be entered into the CPI. A survey of financial institutions to obtain data on financial services used by consumers was also conducted. The CPI staff are also in contact with trade associations and monitor the media to keep up with current consumer buying trends and identify goods and services that might be added to the CPI basket.

[6] The CPI has 911 items while the HBS has 840 items. Thus, some expenditures from the HBS are further refined using additional information primarily from trade associations and scanner data.

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

The SSB HBS and CPI data are closely coordinated so that definitions, scope, and classifications are the same. This also applies to the time of recording, reference periods, and the valuation of CPI estimates. For a few items such as some municipal fees, adjustments to prices are needed to add the VAT to reflect the correct purchasers' price. Expenditures on tobacco, alcohol, yeast (used in the making of alcohol products at home), and mobile phones in the HBS are not adjusted for potential under reporting. CPI staff are investigating alternative source data to make such adjustments.

3.1.3 Source data are timely

The HBS expenditure estimates for the most recent calendar year are available by the end of June. The CPI staff use these data along with those for the two prior years to develop the expenditure share weights and make decisions about new items to add to the basket and those to drop. Prices used for certain home repairs in the price survey are lagged. Quarterly wage indices for painters, plumbers, and carpenters are lagged by one quarter. Prices for cement and other home repair material are taken from the construction cost index and are lagged by one month.

3.2 Statistical techniques

3.2.1 Data compilation employs sound statistical techniques

The HBS provides the CPI with national weights at all levels of the COICOP classification as well as for a national extension of the COICOP to a 5th digit. Below this level the HBS has expenditures for 840 items while the CPI basket has 911 items. The CPI items may be taken directly from the HBS items, derived by combining HBS items, or by splitting HBS items into more detail. Additional source data are available to further break down the HBS estimates in the few cases where needed. The rental value of owner-occupied dwellings is taken from the rent survey. Goods and services purchased are valued at actual prices paid by households regardless of the method of payment. A separate CPI item for consumer finance charges is included in the basket. Goods and services for own final consumption are valued at producers' prices.

Since 1999 a geometric mean formula has been used for the elementary indices. The current transaction price reported by the outlet is compared to the July price to form a long-term price relative. An unweighted geometric average of these price relatives is calculated for each item at the regional level. Each CPI item is assigned to one of 15 retail industries except items that are nationally priced (e.g., electricity prices on the internet). The regional weights from the business register for the CPI item's industry type is used to weight the CPI item's price relative across regions using a weighted arithmetic average to obtain the national index

for the item. At the national level, the CPI item indices are similarly aggregated to higher level indices using the weights derived from the HBS. The national indices are annual chained indices using fixed weights from the three previous calendar years. The new weights are introduced in August, and the new July based index is linked to the old 1998=100 index.

Temporarily missing prices are imputed using the short-term price change for other similar products within the region or at the national level depending on the number of observations (a minimum of three) available at the regional level. Observations that are imputed for more than three months are dropped and replacement transactions sought. For missing seasonal items' prices (specific CPI items designated by SSB as seasonal such as fruits and vegetables), the imputed prices are the average of the observed prices during the in-season months. For example, if the in-season period is January through May, the average price for these five months is used during the remaining months that prices are missing. For observations that are permanently discontinued, outlets are requested to select replacement transactions for varieties of the same quality. If the replacement is dissimilar, the outlet is asked to provide detailed information about the differences. In August of each year, new items are added to the CPI basket and old items dropped.

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

Detailed CPI components are provided to the Division of National Accounts in SSB for deflation of consumer expenditures in deriving household final consumption. As the CPI covers more than 90 percent of the resident households' expenditures, there is little need to resort to micro-surveys of activities that are not covered by the regular CPI compilation. There is little or no household capital formation included in the CPI. The rental equivalence approach used for estimating the shelter component of owner-occupied housing excludes household capital formation. Also, only minor repairs of dwellings are included in the CPI, with the cost of major additions to dwellings excluded.

3.3 Assessment and validation of source data

3.3.1 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 planning

Sampling errors for the HBS expenditure data are available at the 4-digit COICOP level and above. These are published in the Norway Official Statistics series *Survey of Consumer Expenditures, 1997-99*. The non-response rate for the survey is high at about 50 percent, but imputation procedures for non-response are used appropriately. Post-enumeration surveys in the HBS are conducted on a sample basis and reveal the surveys are accurate. The high non-response rate indicates the possibility of significant bias between sample respondents and non-respondents. Best practice suggests that a non-response follow-up survey should be

conducted to determine any potential bias. SSB says that this is not an option because the rules of the Data Inspectorate prohibit any attempt to re-contact individual households who refuse to participate in voluntary surveys. SSB might consider mandatory reporting for the HBS, if feasible, similar to that for the Housing and Population Census. Because households are only in the survey for a two-week period, the reporting burden is not that great.

For the price survey, sampling errors are not available at this time; however, SSB has variance calculation in the work plan for calendar 2003. The non-response rate for the price survey is quite low at about five percent. Substantial computerized editing procedures are in place to capture outliers and identify unusual price changes. Respondents usually provide comments on the CPI questionnaire when unusual price changes occur. These are reviewed as part of the monthly editing process and follow-up with respondents or other means are regularly taken to verify such price changes. In general, source data are analyzed frequently for consistency with CPI concepts as the CPI is revised each year.

3.4 Assessment and validation of intermediate data and statistical outputs

3.4.1 Main intermediate data are validated against other information where applicable

For analytical checking purposes, the CPI data are regularly compared with similar component series from the PPI.

3.4.2 Statistical discrepancies in intermediate data are assessed and investigated

Part of the regular CPI review process involves investigating large or unusual changes in aggregate indices. Reasons for the changes are documented based on analysis of component movements and use of secondary source data. For example, large movements in key components such as energy can be verified by analyzing the movements in petroleum and electricity prices. Often secondary information from trade associations can also provide explanatory information for changes in some index components.

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

There are no inconsistencies in the overall CPI for Norway. The index is calculated item by item to derive the national index two ways. First, the items are aggregated by the COICOP classification (4, 3, 2, and 1-digit). Second, the items are also aggregated for delivery sectors (i.e., for agriculture, fish, other domestic consumer goods, imported consumer goods, rent, and other services). Each item at the national level is assigned to one of these groups and aggregated to the total using the same item weights as in the COICOP aggregation.

3.5 Revision studies

3.5.1 Studies and analyses of revisions are carried out routinely and used to inform statistical processes

The CPI weights are revised every year in August with HBS data from the three previous years. As part of each revision, the CPI staff calculate the effects of the new weights on the published indices and explain this in an article or note for the press release. When major changes in methodology occur as in 1999, detailed analysis of the effects of changes in classification, methodology, and weights are prepared. The analyses of revisions is used to guide future decisions on potential changes in methods and the CPI basket.

4. Serviceability

4.1 Relevance

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

The Advisory Committee on Price Statistics meets annually to discuss program content and changes. This group provides input on user satisfaction with existing CPI data and user needs for additional data. Also, SSB conducted a user survey in 1997 and found users were satisfied with the CPI program. One area of interest for additional data in the 1997 survey was for regional indices. SSB discussed this and determined it was too costly to implement. The user survey conducted for this ROSC assessment indicates the users are generally satisfied with the timeliness, accuracy, coverage, and level of detail of the existing CPI products. (See Appendix III.) Some users, however, would like to see more detailed CPI items published. CPI staff are regular participants in Eurostat meetings and discussions related to the HICP. They regularly attend the ECE/ILO biannual meeting on Consumer Prices and have occasionally contributed research papers to the Ottawa Group meetings on price measurement issues.

4.2 Timeliness and periodicity

4.2.1 Timeliness follows dissemination standards

The CPI is published about the 10th of the month, which is better than SDDS requirements.

4.2.2 Periodicity follows dissemination standards

The CPI is published monthly according to the SDDS requirement.

4.3 Consistency

4.3.1 Statistics are consistent with the dataset

The all item CPI by COICOP and the all sector CPI by delivery sector are the same.

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

As a result of linking the new CPI time series to previous series, consistent time series are available back to 1979. A longer series is available back to 1865 but suffers from a number of breaks and discontinuities. Methodological notes available on the SSB website explain the main breaks and discontinuities in the series. The publication *Konsumprisindeksen: 1995-2000* in the Norway Official Statistics series analyzes long-term price trends in the CPI for 12 COICOP groups. Also, the SSB journal *Economic Survey* contains periodic articles explaining unusual movements in the CPI and their inflationary impact.

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

The CPI data are consistent with national account deflators for household final consumption and with the PPI for consumer goods.

4.4 Revision policy and practice

4.4.1 Revisions follow a regular, well-established, and transparent schedule

The CPI weights are updated annually with the release of the August data. This is well known and users are notified several weeks in advance on the CPI webpage about the new weights and basket to be introduced with August data. If major revisions are envisaged, users are notified officially four to eight weeks in advance, but they are discussed with main users at an early stage.

4.4.2 Preliminary data are clearly identified

There are no preliminary CPI data. The index is final when published.

4.4.3 Studies and analyses of revisions are made public

The CPI weights are revised every year with the data for August. As part of each revision, the CPI staff calculate the effects of the new weights on the published indices. For major revisions, a detailed article explaining the changes and their effects is published. For example, a detailed article was prepared for the SSB journal *Economic Survey* to explain the changes in the 1999 CPI revision. This revision article analyzed the effects of introducing geometric averaging and discussed the new COICOP structure for the index. Another article

on the CPI web page explained the effects of going from quarterly to monthly pricing of rents in January 2000.

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 data on the SSB website have clear presentation of analysis and data, which facilitates meaningful comparisons and analysis by users. The press release structure is clear and concise and presents analysis of monthly developments, of 12-month changes, and of changes in the annual growth rates. The overall CPI is presented both seasonally adjusted and in actual terms. Tables in the press release are clear showing monthly and annual changes, historical series for aggregate indices, and 6-month indices. It also contains graphs of the CPI and CPI-ATE (the inflation target index). Data are available on the SSB website for 12 major COICOP divisions, 34 groups, 45 sub-groups,124 representative items, and six delivery sectors with nine sub-sectors. Time series for these indices are available back to 1979.

5.1.2 Dissemination media and formats are adequate

The CPI release is available at 10:00 a.m. on the 10th of the month and includes the Norwegian HICP. There are multiple means of getting the press release: the internet, fax, and hard copy publication. Most users are aware of the electronic availability of data series and take advantage of it. The *Weekly Bulletin* and *Monthly Bulletin of Statistics* are available for free on the internet and are no longer available in hard copy.

The SSB's quarterly general publications *Økonomiske Analyser* and *Economic Survey* include some broad CPI data and an occasional article that addresses CPI issues. Some summary annual data are also published in the *Statistical Yearbook* (Norwegian and English). These publications are produced on paper as well as being available on the SSB website.

Statistics Bank is a new facility on the SSB website that offers user-determined tabulations of data on various CPI time series via the internet. This facility is only available in Norwegian but will be available in English in 2003.

5.1.3 Statistics are released on a pre-announced schedule

It is widely known that the CPI for the previous month is released about the 10th of each month. An Advance Release Calendar, which gives dates four months in advance, is posted on the SSB website and the DSBB.

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

The CPI is released simultaneously to all users. No advance information is provided to any users.

5.1.5 Nonpublished (but nonconfidential) subaggregates are made available upon request

Additional nonpublished data are available on request from SSB. Their availability is not mentioned in the CPI release. SSB evaluates each request for unpublished data based on the use of the data. Data for research purposes, which will not be published or released, are generally supplied. Other requests are evaluated on the basis of the need for the data, the use to which it is put, and the likelihood that the user will not release the data. There may be a processing fee charged for the requested data. This policy is stated to individuals making requests but is not widely publicized to CPI users.

5.2 Metadata accessibility

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

A variety of metadata exist that discuss the details of the CPI including potential biases, response rates, and relationships to other data systems. These also include information on deviations from international standards. On the CPI web page there is a link to "About the Statistics" where some information is provided on the scope, concepts, methods, and statistical techniques. In addition, the DSBB contains summary information and is updated regularly. More detailed information on methods and potential bias in the CPI is published in the Norway Official Statistics series volume *Konsumprisindeksen: 1995-2000.* A number of reports on specific CPI issues are published in the SSB Notater series (e.g., airline fares, COICOP classification, financial services, HICP, use of geometric means, etc.).

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

SSB publishes documentation on various levels of detail according to users' needs as indicated above. Comprehensive methodologies are provided in Norwegian on the SSB website and in hard copy. Less elaborate descriptions are provided in Norwegian and English on the SSB website. In addition, SSB staff are available to answer queries from users by telephone or e-mail, as stated on the SSB website.

5.3 Assistance to users

5.3.1 Contact person for each subject field is publicized

The CPI press release lists contact persons, including telephone numbers, fax numbers, and email address to whom users can direct their queries and requests. There is also a telephone answering machine with CPI information and a telephone reply service in Kongsvinger.

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

The SSB website indexes the current and previous issues of the monthly CPI releases and related tabulations of longer time series.

There is a catalogue of publications, *Publikasjonsoversikt 2001*, available on the SSB website and in hard copy. However, it does not list web-only publications, such as the monthly CPI release.

The SSB website includes information on publication prices and the charging policy for the supply of nonpublished data.

Table 6. Norway—Data Quality Assessment Framework: Summary of Results for Consumer Price Statistics
(Compiling Agency: Statistics Norway)

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. Pre-requisites of quality						
0.1 Legal and institutional environment		X				
0.2 Resources		X				
0.3 Quality Awareness		X				
1. Integrity						
1.1 Professionalism		X				
1.2 Transparency		X				
1.3 Ethical standards		X				
2. Methodological soundness						
2.1 Concepts and definitions		X				
2.2 Scope		X				
2.3 Classification/Sectorization		X				
2.4 Basis for recording		X				
3. Accuracy and reliability						
3.1 Source data		X				
3.2 Statistical techniques		X				
3.3 Assessment and validation of source data		X				
3.4 Assessment and validation of intermediate data and statistical outputs		X				
3.5 Revision studies		X				
4. Serviceability						
4.1 Relevance		X				
4.2 Timeliness and periodicity		X				
4.3 Consistency		X				
4.4 Revision policy and practice		X				
5. Accessibility						
5.1 Data accessibility		X				
5.2 Metadata accessibility		X				
5.3 Assistance to users		X				

III. PRICE STATISTICS (PRODUCER PRICE INDEX)

0. Prerequisites of quality

0.1 Legal and institutional environment

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

The compilation and dissemination of statistical data in Norway is governed by the terms and conditions of the Statistics Act of 16 June 1989, No. 54. The Act stipulates in Section 3-1 that Statistics Norway (SSB) is the central body for the production and dissemination of official statistics and it bears the main responsibility for ensuring that the objective of the Act—to promote the efficient production of appropriate statistics—is fulfilled. The Act stipulates in Section 4-1 that Statistics Norway is a professionally autonomous institution. It is placed administratively under the Ministry of Finance (MOF) and its general work program and budget are decided by the Parliament. Information about the Statistics Act is published in the SSB booklet, *The Statistics Act of 16 June 1989, No. 54* in Norwegian and English. The booklet also contains information on regulations concerning the implementation of the Act.

SSB produces and disseminates the Producer Price Index (PPI) as part of the official statistics of Norway and as a service to the public, but the Statistics Act makes no explicit mention of the PPI, or for that matter, any other specific type of statistics.

SSB is part of the European Statistical System and produces and disseminates a significant share of its data according to the legal requirements mandated within this system. (See 0.1.1 of the Detailed Assessment of National Accounts Statistics.) Under Section 3-1 of the Statistics Act, SSB bears the main responsibility for international statistical cooperation.

0.1.2 Data sharing and coordination among data producing agencies are adequate

Section 3-3 of the Statistics Act authorizes SSB to coordinate statistical activities. There are, however, no issues in the PPI program related to data sharing and coordination among Norwegian agencies as all data collection, processing, and compilation for the PPI are done within SSB.

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

The Statistics Act (Sections 2-4 and 2-6) specifies that SSB is prohibited to publish or disclose data from which information about individual persons or firms can be derived. Researchers may be given access to such information under strict rules and conditions. Guidelines provided by the Norwegian Data Inspectorate form the framework for internal and management data security. Not only are individuals' and establishments' reported data

confidential, but any data aggregations that may reveal sensitive data may also be considered confidential. Decisions on confidential aggregations are made based on the data set in question. SSB strictly enforces confidentiality restrictions. Individuals are subject to disciplinary action such as dismissal and fines for violation of confidentiality restrictions. There have not been any violations of confidentiality for PPI data.

SSB informs respondents in writing on all statistical surveys of their rights and obligations with regard to the provision of information, and they are assured that the information they provide will be used for statistical purposes.

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

Sections 2-2 and 2-3 of the Statistics Act provide for mandatory reporting and penalties for non-compliance. Altogether across SSB, there are about 7,000 cases annually in which respondents are fined for non-compliance. Reporting for the PPI is mandatory under the Act. Practically all PPI respondents comply with reporting requirements. The PPI staff works closely with respondents to explain the survey and provide several ways of reporting. The respondent can send a paper form or respond by email using an Excel spreadsheet. A new internet reporting system will be implemented in 2003. These approaches help to reduce respondent burden. In 2001, there were perhaps one or two firms fined for not reporting or for misreporting under provisions of the Statistics Act.

0.2 Resources

0.2.1 Staff, financial, and computing resources are commensurate with statistical programs

About five staff years are used annually on PPI processes. Four staff years are used in the Division for External Trade. All of these are full time staff with university degrees or training and experience equivalent to professional staff. These staff are involved in the monthly PPI review (2), new production system project and information technology (IT) issues (1), and coordination of establishment contact and price collection (1). One clerical person in Kongsvinger is involved in data entry for PPI questionnaires. Staff time is almost entirely devoted to production activities, staff development, and staff training, and there is little time for research and analysis.

Staff turnover has been a problem in the PPI as two staff have less than one year's experience in SSB. This situation reflects the overall turnover problem in SSB.

The PPI uses a high level of computer technology. Each person has their own work station. There are many computer assisted edit routines to help analysts with the review of data for unusual observations and circumstances. Computer technology has also been expanded to improve data collection with the use of email and Excel spreadsheets using macros. The test of using web technology for PPI reporting will lead to a new and powerful tool in the next year.

Overall computing and financial resources are adequate for producing the PPI, but an additional staff person is needed to enhance the analytical and research function of the unit.

0.2.2 Measures to ensure efficient use of resources are implemented

The management of SSB promotes a mission and direction for efficient use of resources that are shared with staff and described in the publication *Strategy 2002*.

Process measurement and monitors of resource usage are in place and used in the PPI program. Production schedules based on announced PPI release dates are put in place a year in advance and adhered to on a monthly basis. The PPI staff work very closely together and continuously discuss the process and any problems that may have arisen in the current monthly cycle. As a result, preventive measures can be taken to avoid any future problems of a similar nature. As part of the budget process, an annual review process is in place to assess the efficiency of resource utilization during the past year including the allocation of staff time to various PPI activities. There is continuous testing of new technology to improve processes such as enhancements to data editing and implementing an internet-based reporting system.

0.3 Quality awareness

0.3.1 Processes are in place to focus on quality

Quality work in SSB has been conducted in recent years within the framework of "systematic quality work," inspired by the principles of Total Quality Management (TQM) and similar work in other national statistical institutions such as Statistics Sweden. No separate quality report is published but the quality dimensions and their fulfillment are discussed in the *Annual Report* and in *Strategy 2002*. As well, for individual statistics, several of the quality criteria are documented in "About the Statistics" on the SSB website. Furthermore, SSB is actively working on exchanging experiences, methods, and technology with other statistical institutions, and participates in Eurostat's task force on quality indicators.

The systematic work started in 2001 and it now encompasses all activities and all employees in SSB. Commitment from all levels of management is seen as a precondition for success. To ensure this, several seminars and training schemes for managers have been carried out. All directors, heads of divisions, and office heads (about 50) have been given two days of training. During 2001, SSB has trained 18 so-called quality pilots who participate in improvement projects as facilitators to ensure that quality principles are followed. Another 20 quality pilots are being trained in 2002. Systematic quality thinking has been incorporated in other training schemes in SSB.

Each year, numerous quality improvement projects take place throughout SSB. The PPI program has only recently become involved in these TQM related projects. One staff member has been documenting various PPI monthly process flows so that operational manuals with written procedures are in place. Considerable development work is ongoing to refine aspects

of a new computer system during the next year. This work also will involve projects to document the new system and develop new procedural manuals.

0.3.2 Processes are in place to monitor the quality of the collection, processing, and dissemination of statistics

As part of the new PPI production system, process status tables will be available to monitor the data flow and completion of each production process (data collection, data entry, micro data review, macro data review, and dissemination). Much of this information is available currently but must be directly retrieved from the computer system. PPI staff discuss progress and any potential problems on a regular basis. After completion of the monthly process, a meeting is held to assess the success of the previous month's production cycle. The primary user of the PPI data is the Division of National Accounts (DNA). DNA staff are regularly consulted about their views on the accuracy and reliability of the PPI data used for deflation and on the level of detail provided.

0.3.3 Processes are in place to deal with quality considerations, including tradeoffs within quality, and to guide planning for existing and emerging needs

In addition to the internal SSB and PPI staff reviews, the Advisory Committee for Price Statistics provides input about user needs for the PPI. This committee consists of representatives from government ministries, labor organizations, trade associations, and academia. It meets annually to review the CPI and PPI program and discuss potential program changes. The Committee also provides input on user satisfaction with existing PPI data and user needs for additional data. This input is evaluated and considered for current and future TQM projects and program enhancements.

1. Integrity

1.1 Professionalism

1.1.1 Statistics are compiled on an impartial basis

The Statistics Act ensures the professional independence of SSB and provides it with the authority to determine the official statistics for the government. There is no evidence of other agencies placing undue pressure or interfering with SSB in its compilation and dissemination of official statistics. A code of professional conduct for staff exists, is known and practiced by the staff, available on the SSB internal website and in print (*Staff policies: Values, Aims and Principles*), and stressed by management. There is no evidence of political influence being placed on the SSB Director General. The SSB Directors General have traditionally served long and notable careers. The current Director General has been in SSB for over 34 years and has been in his current position for about 12 years.

The independent role of Statistics Norway is described in the SSB's publication *Strategy 2002* (page 8). Here it is explained that the Statistics Act underlines that SSB is an independent organization when it comes to the content of its statistics and analyses. It decides on an independent basis what the institution is to publish in official statistics, and when and how this will be done. SSB has set out a commitment to enhance the professionalism of its staff in this same publication (pages 39-41). Steps envisaged include adjusting tasks to develop staff, providing incentives for personal development, working out a human resources strategy, rotation of staff, and cooperation with universities.

PPI staff receive training in statistics and computer processing. Training is also available in team work and management. University training is also available for them. Substantial on-the-job training is provided, usually through the use of mentors. Staff are encouraged to do research and publish their findings, although currently this is a problem because staff have very little time for this activity. There is an agency review process for published research to ensure that it meets the high professional standards set by SSB.

The IMF's user survey that was conducted with this ROSC (Appendix III) and a Norwegian survey that rated national institutions indicate that SSB has a high reputation.

1.1.2 Choices of sources and statistical techniques are informed solely by statistical considerations

Decisions on data sources and statistical techniques are made by applying best practice and state-of-the-art methods. Agency-wide decisions on data collection methods are made on the basis of costs and productivity. In the PPI, the statistical methods selected are based on those suggested in the draft *PPI Manual* (available on the IMF website) and those recommended by Eurostat. Examples are the use of geometric means for estimating basic level indices, annually chaining the PPI, and the introduction of the Standard Classification of the Economic Activities of the European Communities (NACE) in the PPI. In addition, PPI staff have developed hedonic models for computers and washing machines to use in making quality adjustments when new models are introduced.

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

SSB is entitled to comment on erroneous interpretations and misuse of official statistics and has done so when serious infractions have occurred in other programs. There have been no such occurrences of serious misinterpretation of the PPI.

1.2 Transparency

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

The complete set of documents that articulate the manner in which SSB executes its statistical programs is available to the public on the SSB website. See the *Annual Report 2001*. Additional summary metadata about the SSB program can also be found on the IMF's Data Dissemination Bulletin Board (DSBB).

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

There is no access by government officials outside SSB to PPI statistics prior to release. The website release (see also 5.1.4) ensures a strict policy of non-differential treatment of PPI users; ministries and all other users are treated equally. This policy is described on the DSBB. For SSB, in general, it is noted in the *Annual Report 2001* (page 46). Within SSB the Director of the Department of Economic Statistics does not receive the PPI release until the afternoon prior to the release. The Director General receives the press release at 8:00 a.m. on the morning of release.

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

All SSB publications are identified as being produced by SSB including information on the SSB website. Publications prepared jointly with other agencies clearly identify SSB and the other agencies as joint producers. SSB also requests that users of its data identify SSB as the source when its statistics are reproduced.

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

In the PPI there is no policy of providing advance notice of major changes in methodology, source data, and statistical techniques. Several months advance notice was given in 2000 when geometric averaging, annual chaining, and the NACE classification were introduced in January 2001. An advance notice policy similar to that in the CPI should be considered—6-month notice for major revisions and changes and several weeks for minor revisions.

1.3 Ethical standards

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

The employment contract that is signed by all new staff of SSB, includes references to the general rules applying to all civil servants and to the obligation to obtain special permission to take any secondary job that may interfere with the "duty of loyalty." In addition, the

contract refers to a separate "declaration of secrecy" that must be signed at the same time. Within the past tow years, these documents were revised and all employees were given new contracts to sign. Employees are given the booklet *Staff policy in SSB: Values, Aims and Principles*, which is on the SSB internal website. In the PPI, managers periodically discuss this ethical code. It often is discussed when requests are received for unpublished or confidential data. The PPI staff remarked that they knew of the ethical code of SSB before their SSB employment because it was widely known in the universities.

2. Methodological Soundness

SSB made a major revision of the PPI in January 2001. A new classification system, SIC94 (a derivative of NACE rev. 1), was introduced to conform with European Union (EU) regulation 1165/98. In addition, a new headline index, the commodity price index for the industrial sectors (VPPI), was introduced. Both the VPPI and the old PPI use the same data sources for current estimates, the only difference being that the VPPI is subject to periodic revisions as new data sources become available and the PPI is not. Geometric averaging was introduced to calculate elementary index series, new source data for prices were used, and the weights were updated annually in January to estimate an annual chain index. The VPPI was recalculated back to 1995 using these new features. The old PPI series only includes these features beginning in January 2001.[7] This assessment covers the VPPI.

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 of the VPPI are in line with the specifications recommended in the *1995 European System of Accounts (ESA 95)* as amended by EU regulations on Short-Term Statistics. The main departures from the *ESA 95* are that ex-factory prices (factory gate prices) are collected. These will differ from basic prices by the amount of any per unit subsidy received by the establishment, which is not prevalent in Norway. Production of illegal goods is also excluded. These exceptions conform to the definitions in EU regulation 588/2001. Also in conformance with the same regulation, prices are recorded at the time of order rather than the time of shipment or delivery.

[7] The VPPI has a reference period of 2000=100 going back to January 1995. The PPI has a break in series. The old series on 1981=100 reference base ends in December 2000 and remains on the old ISIC rev. 3 classification. The revised PPI series begins in January 2001 on a reference period of 2000=100.

2.2 Scope

SSB compiles three indices using the same procedures and much of the same source data but with different coverage. The VPPI and PPI each measure the change in output prices for domestically produced goods in mining, manufacturing, and energy supply, including exported goods. Another output price index, the price index of first hand domestic sales (PIF), measures the change in output prices for the same sample of the domestic market used in the VPPI and PPP, but then includes a sample of imported goods. Historically, this index was the wholesale price index (WPI). The three indices are derived from much of the same source data for domestically produced and sold goods. The VPPI and PPI use a supplemental sample of exporters to derive index estimates while the PIF uses a supplemental sample of importers.

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

The VPPI conforms to the coverage in EU regulation 1165/98 . It includes all commodities produced by companies (including goods for export) within oil and gas extraction, mining, manufacturing, and energy supply, except for publishing, manufacture of weapons and ammunition, and building and repairs of ships and boats. The exclusion of ships and boats is significant to the economy of Norway. The VPPI also excludes own-account production of goods for own final consumption and capital formation, services, and the production of illegal goods. These exclusions are common for PPIs and are noted in the SSB metadata for the VPPI on the SSB website. Separate price indices are produced for construction activities and some business-related services.

2.3 Classification/sectorization

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

ESA 95 is used to classify institutional units and transactions. The classification of products by activity for national accounts (CPA-NA) is a national derivative of the Eurostat CPA classification of commodities to the 6-digit level. The Harmonized System (HS) is used to further refine the classification to the 8-digit level. The Norwegian industrial classification SIC94, derived from NACE rev. 1, is used for classification of all establishments in the business register. SSB also uses the end-use classification for Main Industrial Groupings required by EU regulation 586/2001.

2.4 Basis for recording

2.4.1 Market prices are used to value flows and stocks

The weights and prices are valued at market prices—ex factory prices excluding VAT, other taxes on products, and transport charges separately invoiced. For exports the prices are free on board (f.o.b.).

2.4.2 Recording is done on an accrual basis

Prices are recorded at the time of order as required by EU regulation 588/2001. Prices refer to the 15th of the reference month and are collected monthly. The collection forms also include detailed specifications of each transaction. This information is also reviewed and updated monthly by the respondent.

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

This is not applicable. No indices are produced that require net weights

3. Accuracy and Reliability

3.1 Source data

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

SSB has a comprehensive business register, which includes up-to-date industry codes for establishments and annual turnover data. The Division for External Trade also maintains a sampling frame for importers and exporters using data from custom forms reported to the Customs Administration. Both the Business Register and the exporter records serve as the sampling frame for selection of the outlet sample in the VPPI.

The weights for the VPPI are derived from the national accounts production account estimates, a survey of the List of Products of the European Community (PRODCOM), and the export of goods data from Customs records. The final annual production accounts for 1999 produced measures of total output at the 6-digit CPA-NA level for all the sectors in the VPPI. More current production account data for 2000 and 2001 are only available from the quarterly accounts at the 2-digit NACE level. SSB also conducts an annual PRODCOM survey of industrial commodities according to EU regulations. The PRODCOM survey, based on a sample of 2,250 establishments, provides production estimates on commodities using the NACE/CPA classification system down to the 8-digit level. The most recent PRODCOM estimates are for 2001. Export totals by 8-digit HS are available from the compilation of foreign trade statistics. To derive separate weights for domestic use and

exports, the export data for each HS 8-digit are subtracted from the total output estimates at the same level of detail.

To get the current year weights the PPI staff use the most recent year's quarterly national account totals, which include a projection for the fourth quarter. These estimates are distributed to the 6-digit CPA-NA level using fixed ratios from the latest annual production account estimates. Fixed ratios from the latest PRODCOM results are used to allocate the derived 6-digit weights to 8-digit CPA commodity level weights. These output weights are then mapped to the 8-digit HS and the weights of output for domestic use are derived by subtracting export totals.

The process just described is conducted annually to derive weights for the VPPI for the previous calendar year. Preliminary national accounts output estimates are used for the most recent weight update. Subsequently, more accurate estimates for each CPA-NA activity will be available when the final production account data are available and updated weights will be derived for previous years. At the time of the VPPI annual revision each January, these revised weights will also be introduced to compile prior years' estimates of VPPI indices. Thus, in any year the VPPI indices could be revised backwards for several years. When there is a major revision of the national accounts, the VPPI indices could be revised back the their start date of January 1995.

For the monthly price survey, SSB collects data from about 900 establishments covering over 4,000 products. The prices collected for each transaction are factory gate (basic) prices for domestic market goods and f.o.b. prices for exported goods. The product coverage represented by the price survey is over 80 percent of industrial commodity output.[8] The most important missing products are ships and boats. The coverage of industrial activities also exceeds 80 percent of value added, with building and repair of ships and boats the largest missing industry.

The initial sample of establishments in the price survey was selected using the probability proportionate to size (pps) technique. All establishments over 100 employees were selected with certainty and in four additional strata, the pps approach was applied. Establishments with fewer than 10 employees were excluded. Household unincorporated enterprises were also excluded. The sample of CPAs was selected judgmentally by PPI analysts as those representing significant commodities in the national accounts. Subsequently, if the establishment sample did not yield sufficient coverage of the selected CPAs, data from the PRODCOM survey was used to identify establishments to supplement the sample. In addition, there is ongoing supplementation of the sample to include more exporters. All establishments with 100 or more employees in the export sample frame are added to the

[8] Industrial output in this context represents oil and gas extraction, mining, manufacturing, and energy supply, which are the sectors usually in scope for the PPIs in most countries.

sample. Also, the PPI staff identify smaller establishments from the export frame that have production of HS commodities judged to be important.

SSB field operations staff send each new establishment a questionnaire with HS product descriptions and an instruction sheet on how to identify representative transactions and how to complete the form. Information on persons to contact is provided with their telephone numbers and email addresses. The prices reported are those as of the 15th of the month.

Each month establishments report approximately 6,000 price observations for the VPPI.

SSB occasionally conducts ad hoc surveys and investigations to supplement the VPPI information. In the past, special inquiries were conducted on personal computers and washing machines to collect information on model types, prices, and characteristics. These data were used to develop hedonic models for use in making quality adjustments to the prices of new models when they enter the sample. Also, when problems arose with collecting accurate energy prices, an investigation was undertaken to evaluate alternative data sources. This led to the use of prices from Nord Pool, a semi-public trade organization of energy producers.

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

The source data used for weights and prices meet the definition, scope, classification, valuation, and timing requirements of the VPPI. For a few commodities there are lags between prices at the time of order versus the time of shipment such as with some capital goods. This does not, however, have much effect on the weights, which are output shares derived from the national accounts data.

3.1.3 Source data are timely

Price survey questionnaires are sent to respondents on the 10th of the month to be returned on the 18th of the month. By the time VPPI estimates are compiled early in the following month, 97 percent of the sample has been reported and used. Some prices using export unit value data are lagged by one month. These include prices for fish, pulp, and scrap metal. The preliminary national accounts output estimates used for weights include estimates for the first three quarters of the year and a forecast for the fourth quarter to derive annual figures. Data on exports used for weights relate to the most recent calendar year and are available in mid January.

3.2 Statistical techniques

3.2.1 Data compilation employs sound statistical techniques

As noted above, output estimates are available from the national accounts at the 4-digit SIC94 level and at the CPA 6-digit commodity level. These are then further refined to

the HS 8-digit level. The methods used to derive the national account output estimates meet internationally accepted statistical techniques. (See the Detailed Assessment of National Accounts Statistics for the derivation of output estimates for the production account.)

A geometric mean formula is used to calculate the elementary indices. An unweighted geometric average of the current transaction prices reported for each 8-digit HS code is calculated. This is compared to the geometric average price for the same observations in December (base price) to estimate the elementary index. The 8-digit HS weights are used to calculate a weighted arithmetic index at the 6-digit CPA and higher levels (Laspeyres-type aggregations). These include 4, 3, 2 and 1-digit industrial/commodity indices as well as indices by end use (intermediate goods, capital goods, consumer durables, consumer nondurables, and energy). The VPPI indices are annual chained indices using fixed weights from the previous calendar year. The new weights are introduced in January, and the new December based index is linked to the old 2000=100 index.

Temporarily missing prices are imputed using the "donor" method. The short-term price change for another observation in the same HS strata is randomly chosen, as long as there are five or more observations. Otherwise, the sample of observations is expanded to the 6-digit CPA level or higher if there are insufficient observations. (Extreme price changes are excluded from the donor method.) For missing seasonal products' prices (specific VPPI products designated by SSB as seasonal such as fruits and vegetables), the imputed prices are the average of the observed prices during the in-season months. For example, if the in-season period is January through May, the average price for these five months is used during the remaining months that prices are missing. When an index cannot be calculated due to insufficient data, the short-term change from the next higher-level index is used. For observations that are permanently discontinued, respondents are requested to select replacement transactions for commodities of the same quality. If the replacement is dissimilar, the respondent is asked to provide detailed information about the differences. Such data are used to adjust prices for quality differences. For computers and washing machines, hedonic regression models are used to estimate the value of the quality differences. In January of each year, new products are added to the VPPI structure and old products dropped.

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

The coverage, definitions, classifications, and valuation of source data are consistent with the VPPI concepts and conform to EU standards. The VPPI covers about 31 percent of domestic market output and 68 percent of goods exported from Norway. The Gross Domestic Product (GDP) implicit deflator can be used to measure price developments for the entire economy. Within the industrial sector the PPI covers 83 percent of domestic market output and 97 percent of goods exported.

3.3 Assessment and validation of source data

3.3.1 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 planning

Because of the composite nature of the weight data, no sampling errors are available. Also no information on sampling errors of price changes is available for the price survey. These will be calculated as part of the new computer system. Standard deviations for the sample of prices are periodically calculated as a check on the homogeneity of the sample within strata. The non-response rate for the price survey, at 3 percent, is quite low. Substantial computerized editing procedures are in place to capture outliers and identify unusual price changes. Respondents usually provide comments on the VPPI questionnaire when unusual price changes occur. These are reviewed as part of the monthly editing process and follow-up with respondents or by other means is undertaken to verify such price changes. In general, source data are analyzed for consistency with VPPI concepts as the VPPI is revised each year.

3.4 Assessment and validation of intermediate data and statistical outputs

3.4.1 Main intermediate data are validated against other information where applicable

For analytical checking purposes, the VPPI data are regularly compared with similar component series from the CPI.

3.4.2 Statistical discrepancies in intermediate data are assessed and investigated

Part of the regular VPPI review process involves investigating large or unusual changes in aggregate indices. Reasons for the changes are documented based on analysis of component movements and use of secondary source data. For example, large movements in key components such as energy can be verified by analyzing the movements in petroleum and electricity prices. Often secondary information from trade associations can also provide explanatory information.

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

There are no inconsistencies in the overall VPPI for Norway. The index is calculated product by product to derive the total index in two ways. First, the products are aggregated by the CPA and SIC94 classification (6, 4, 3, 2, and 1-digit). Second, the VPPI is also aggregate by end-use categories (i.e., intermediate, consumer durable, consumer nondurable and capital goods). Each product is assigned to one of these groups and aggregated to the total using the same product weights as in the SIC94 aggregation.

3.5 Revision studies

3.5.1 Studies and analyses of revisions are carried out routinely and used to inform statistical processes

The VPPI weights are revised every year with data for January. As part of each revision, the PPI staff calculate the effects of the new weights on the published indices. When major changes in methodology occur as in 2001, detailed analysis of the effects of changes in classification, methodology, and weights are prepared. The analyses of revisions is used to guide future decisions on potential changes in methods and the VPPI structure.

4. Serviceability

4.1 Relevance

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

The Advisory Committee on Price Statistics meets annually to discuss program content and changes. This group provides input on user satisfaction with existing PPI data and user needs for additional data. SSB has not conducted a user survey for the PPI. The user survey conducted for this ROSC assessment found that generally users were satisfied with PPI timeliness, accuracy, coverage, and level of detail, although there were a few requests for additional detail. (See Appendix III.) In response to user requests, SSB added a calculator to the PPI web page to aid users in calculating percent changes over time periods they choose. Another area of interest is for additional data detail at the 3 and 4-digit level and more historical data. PPI staff are participants in Eurostat meetings and discussions related to the PPI regulations.

4.2 Timeliness and periodicity

4.2.1 Timeliness follows dissemination standards

The VPPI is published about the 10th of the month, which is better than SDDS requirements.

4.2.2 Periodicity follows dissemination standards

The VPPI is published monthly according to SDDS requirements.

4.3 Consistency

4.3.1 Statistics are consistent with the dataset

The all commodities VPPI by SIC94/CPA and the all sector VPPI by end use are the same.

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

As a result of linking the new VPPI time series to previous series, consistent time series are available back to January 1995. Methodological notes available on the SSB website explain the main breaks and discontinuities in the old PPI series. A Norway Official Statistics publication *Producer Price Index: 1997-2002* is in SSB review. It analyzes long-term price trends in the VPPI for major commodity groups. The PPI has a break between the old series (ending in December 2000 on a 1981=100 reference period) and the new series beginning in January 2001 with 2000=100. SSB should consider publishing a continuous time series for the old PPI by linking it to the new index with 2000=100. Alternatively, SSB should publish the linking factors between the old and new series so users could do the conversion.

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

The VPPI data are consistent with national account deflators for industrial goods and with the comparable components of the CPI.

4.4 Revision policy and practice

4.4.1 Revisions follow a regular, well-established, and transparent schedule

The VPPI weights are updated annually with the release of the January data. This was announced at the time of the 2001 revision, which introduced the new VPPI and appears in the metadata on the VPPI website ("About the Statistics" and "Revisions"). There is no publicized revision policy other than the statement in these documents that the VPPI is subject to revision at any time. SSB could have a more direct policy about revisions and publicize it more widely for users. (See indicator 4.4.2 below.) For example, revisions could be held and introduced each January. Also, a revision policy (such as that for the CPI) of announcing minor revisions several weeks in advance and announcing major revisions six months in advance should be considered.

4.4.2 Preliminary data are clearly identified

There is no notice in the VPPI release that data are subject to historical revision. The VPPI to date has only been revised as part of the annual weight update in January. SSB should consider adding a note on the first page of the VPPI press release stating that the data are subject to historical revision and state when this might occur (e.g., with the weight update

each January). SSB should consider limiting revisions to once a year at the time of the annual weight update.

4.4.3 Studies and analyses of revisions are made public

When major changes in methodology occurred in 2001, a detailed article to explain the changes was published in the SSB journal *Economic Survey*. The article discussed and analyzed the effects of introducing geometric averaging, the effects of using a chain index (annual updating) rather than a fixed base index, and the introduction of the new SIC94 structure for the index. Also, the indices were recalculated back to January 1995 using the new methods and structure. The results of the 2002 weight update were analyzed but not made available to users. Such analysis should be published for the benefit of users.

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 VPPI data on the SSB website have a clear presentation of analysis and data, which facilitates meaningful comparisons and analysis by users. The press release structure is clear and concise with an analysis of monthly developments, followed by comparisons with 12-month growth rates. Tables in the press release are clear showing two-month changes, monthly changes for the last two months, and 12-month changes. The historical time series and 12-month changes are presented for the total and domestic market aggregate indices, as well as 24 months of indices for major components. Data are available on the SSB website for the total VPPI (domestic and export market combined); the domestic market, separately; 2-digit level NACE rev.1; two 3-digit level indices; and indices for main end-use groupings.

5.1.2 Dissemination media and formats are adequate

The VPPI release is available at 10:00 a.m. on the 10th of the month. There are multiple means of getting the data series: the internet, fax, and hard copy publication. The primary dissemination media is the SSB website. Most users are aware of this electronic availability and take advantage of it. The *Weekly Bulletin* and *Monthly Bulletin of Statistics* are available for free on the internet and are no longer available in hard copy.

The SSB's quarterly general publications *Økonomiske Analyser* and *Economic Survey* include some broad PPI data and an occasional article that addresses PPI issues. Some summary annual data are also published in the *Statistical Yearbook* (Norwegian and English). These publications are produced on paper as well as being available on the SSB website.

Statistics Bank is a new facility on the SSB website that offers user-determined tabulations of data on various PPI time series via the internet. This facility is only available in Norwegian but will be available in English in 2003.

5.1.3 Statistics are released on a pre-announced schedule

It is widely known that the VPPI for the previous month is released about the 10th of each month. An Advance Release Calendar, which gives dates four months in advance, is posted on the SSB website and the DSBB.

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

The VPPI is released simultaneously to all users. No advance information is provided to any users.

5.1.5 Nonpublished (but nonconfidential) subaggregates are made available upon request

Additional nonpublished data are available on request from SSB. Their availability is not mentioned in the PPI release. SSB evaluates each request for unpublished PPI data based on the use of the data. Data for research purposes, which will not be published or released, are generally supplied. Other requests are evaluated on the basis of the need for the data, the use to which it is put, and the likelihood that the user will not release the data. There may be a processing fee charged for the requested data. This policy is stated to individuals making requests but is not widely publicized to PPI users.

5.2 Metadata accessibility

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

A variety of metadata exist that discuss the details of the VPPI including potential biases, response rates, and relationships to other data systems. These also include information on deviations from international standards. On the VPPI web page there is a link to "About the Statistics" where some information is provided on the scope, concepts, methods, and statistical techniques. In addition, the DSBB contains a four-page summary methodology. A benefit of dissemination on the SSB website and the DSBB is regular updating. More detailed information on methods and potential bias in the VPPI will be published in the Norway Official Statistics series volume *Producer Price Index: 1997-2002* early in 2003. Several reports on specific VPPI issues appear in the SSB publications (e.g., the Notater series and Discussion Papers.).

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

SSB publishes documentation on various levels of detail according to users' needs as indicated above. A comprehensive methodology is not yet published but should be available next year in Norwegian on the SSB website and in hard copy. Less elaborate descriptions are provided in Norwegian and English on the SSB website. In addition, SSB staff are available to answer queries from users by telephone or e-mail, as stated on the SSB website.

5.3 Assistance to users

5.3.1 Contact person for each subject field is publicized

The VPPI press release lists contact persons, including telephone numbers, fax numbers, and email addresses to which users can direct their queries and requests. Also, a short brochure, *Presenting the PPI in Brief* is available for users

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

The SSB website indexes the current and previous issues of the monthly PPI releases and related tabulations of longer time series.

There is a catalogue of publications, *Publikasjonsoversikt 2001*, available on the SSB website and in hard copy. However, it does not list web-only publications, such as the monthly PPI release.

The SSB website includes information on publication prices and the charging policy for the supply of nonpublished data.

Table 7. Norway—Data Quality Assessment Framework: Summary of Results for Producer Price Statistics
(Compiling Agency: Statistics Norway)

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. Pre-requisites of quality						
0.1 Legal and institutional environment		X				
0.2 Resources			X			Additional staff resources are required for analysis and research function.
0.3 Quality Awareness		X				
1. Integrity						
1.1 Professionalism		X				
1.2 Transparency		X				
1.3 Ethical standards		X				
2. Methodological soundness						
2.1 Concepts and definitions		X				
2.2 Scope		X				
2.3 Classification/Sectorization		X				
2.4 Basis for recording		X				
3. Accuracy and reliability						
3.1 Source data		X				
3.2 Statistical techniques		X				
3.3 Assessment and validation of source data		X				
3.4 Assessment and validation of intermediate data and statistical outputs		X				
3.5 Revision studies		X				
4. Serviceability						
4.1 Relevance		X				
4.2 Timeliness and periodicity		X				
4.3 Consistency		X				
4.4 Revision policy and practice			X			Revision policy is unclear and is not stated in release. Revision analysis is not made public for all revisions.
5. Accessibility						
5.1 Data accessibility		X				
5.2 Metadata accessibility		X				
5.3 Assistance to users		X				

IV. GOVERNMENT FINANCE STATISTICS

0. Prerequisites of quality

0.1 Legal and institutional environment

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

Statistics Norway (SSB) is responsible for government finance statistics (GFS), and does that in cooperation with other agencies that supply data.[9] SSB's compilation and dissemination of statistical data in Norway is governed by the terms and conditions of the Statistics Act of 16 June 1989, No. 54. The Act stipulates in Section 3-1 that Statistics Norway is the central body for the production and dissemination of official statistics and it bears the main responsibility for ensuring that the objective of the Act—to promote the efficient production of appropriate statistics—is fulfilled. The Act stipulates in Section 4-1 that Statistics Norway is a professionally autonomous institution. It is placed administratively under the Ministry of Finance (MOF) and its general work program and budget are decided by the Parliament. Information about the Statistics Act is published in the SSB booklet, *The Statistics Act of 16 June 1989, No. 54* in Norwegian and English. The booklet also contains information on regulations concerning the implementation of the Act.

SSB produces and disseminates government finance statistics (GFS) as part of the official statistics of Norway and as a service to the public, but the Statistics Act makes no explicit mention of government finance, or for that matter, any other specific type of statistics.

SSB collects, processes, and disseminates on annual basis a comprehensive and integrated dataset on revenue, expenditure, and financial assets and liabilities of general government and its subsectors. It also collects and disseminates quarterly data on revenue and expenditure of budgetary central government. On a monthly basis, it publishes information on some principal revenue items of budgetary central government as well as a detailed information on tax distribution between the government subsectors.

SSB is part of the European Statistical System and produces and disseminates a significant share of its data according to the legal requirements mandated within this system. (See 0.1.1. of the Detailed Assessment of National Accounts Statistics.) Under Section 3-1 of the Statistics Act, SSB bears the main responsibility for international statistical cooperation. SSB collects information from the MOF on budgetary central government (as well as the National Insurance Scheme), and local governments (435 local authorities, 400 inter-municipal and municipal entities with separate accounts and 18 county municipalities). In addition, it compiles data from the extrabudgetary units (mainly net-budgeting units) in the

[9] The Ministry of Finance cooperates with SSB in the compilation and dissemination of government debt data.

central government accounts (such as 48 hospitals,[10] the universities, and polytechnics) and it compiles data from around 430 parishes.

The MOF compiles and publishes quarterly and annual data on the budgetary central government debt. It does that in collaboration with SSB, which is the agency responsible for the SDDS data category. The compilation and publication of the data are governed by the terms and conditions of Norwegian Constitution and the Accounting Rules (Bevilgningsreglimentet, Nov. 19. 1959 (with later changes), and Økonomireglement for Staten: Funkjonelle krav til økonomiforvaltningen i staten, 1996 (Revised partly 2001)). It also publishes in an annex in the annual National Budget *(St.meld.nr.1)* data on general, central, and local government operations. This presentation, which is consistent with national accounts definitions, is produced in cooperation with SSB and includes some accrual figures on revenues. In addition to that, the MOF publishes annual cash data on budgetary central government operations in the National Budget.

Quarterly data on the budgetary central government operations are compiled and processed by the MOF and published by SSB. No monthly data on budgetary central government operations are compiled or published, except some data on principal tax revenue items. In the year 2003, the plan is to have monthly data on budgetary central government operations available, and even detailed figures on transactions in financial assets and liabilities.

0.1.2 Data sharing and coordination among data producing agencies are adequate

According to the Statistics Act, Section 1-2, SSB has the right to decide which statistics are considered official. This right also concerns statistics produced by other Norwegian government agencies.

SSB and the MOF have established a number of specific arrangements for the exchange of data. The MOF (Central Account Division) compiles data on budgetary central government operations. These data are used in the compilation of the data on the general government sector in SSB's national accounts. SSB collects the other needed information directly from other government entities.

Section 3-3 of the Statistics Act authorizes SSB to coordinate statistical activities. In practice, the delineation of responsibilities is not based on legislation or regulations, but rather, the efficient and cooperative attitudes of the agencies involved, which have resulted in an effective relationship. Data are transferred between the agencies in agreed formats.
The use of GFS in fiscal policy formulation and monitoring is a special reason for the close liaison between SSB and the MOF. SSB supplies the MOF with national accounts data including GFS. The MOF, in cooperation with the Research Division in SSB, uses a macro-economic model for forecasting.

[10] Hospitals are legal units.

SSB and the local governments have established a number of special arrangements for the exchange of data. Part of that is the so-called KOSTRA-project (see further 4.1.1), which is a electronic system used by these government units to collect and disseminate GFS on local governments.

SSB has prepared, and maintains, a complete list of public units that comprise the different subsectors of general government. This list is routinely provided to other concerned institutions for use in classifying their data consistently with the national accounts definition of general government.

Many official inter-institutional working groups have been established between SSB and the MOF, and between SSB and concerned local government agencies (for example, the Ministry of Local Government and Regional Development (MLGRD) and "Det Tekniske Beregningsutvalg"), which meet periodically on issues of mutual interest, including on GFS. These groups maintain a close liaison between the GFS compilers and users of the statistics. The GFS staff in SSB also participate regularly in meetings, at the Statistical Office of the European Communities (Eurostat) and the Organisation for Economic Co-operation and Development (OECD), on e.g., short-term GFS data, financial accounts, and tax revenues.

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

Confidentiality of individual responses is not generally an issue. However, SSB treats its collection and processing of government statistics in the same manner as other source data. The Statistics Act (Sections 2-4 and 2-6) provides further protection of confidentiality of information.

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

According to the Statistics Act (Chapter 2 and related regulations), all government agencies, bodies, and administrative offices are required and obliged to supply to SSB any data and information that is requested of them for surveys that are part of the official statistics. In addition, SSB encourages responses by means of telephone calls, and via focus groups between SSB and the MOF and between SSB and the MLGRD. Data on local governments are reported within a reasonable time frame.

For the MOF, a similar legal mandate ensures the reporting of the cash data collected on the activities of budgetary units. The Norwegian Constitution requires that the budgetary central government agencies deliver government finance data seven times a year (for every quarter and for four month periods), and within two weeks from the reference period[11].

[11] As noted before no monthly data is produced on budgetary central government operations.

0.2 Resources

0.2.1 Staff, financial, and computing resources are commensurate with statistical programs

In SSB, five to six employees compile, on a full-time basis, the macroeconomic statistics in the government finance area. The recent decision to move activities of the central and local governments to extra-budgetary units[12] has put a strain on the existing staff, because SSB is responsible for collecting accounting data from these units. The new EU reporting requirements and the requirements that follow the implementation of the IMF's *Government Finance Statistics Manual (GFSM 2001)* will further increase this strain. Despite the need for extra human resources, the Division for Public Finance and Credit Market Statistics (DPCS) in SSB has not been able to expand more than by 0.5-1 person each year.

SSB also has three employees working directly on the collection, compilation and dissemination of data on local government accounts. An additional two employees mainly take care of the coordination in the KOSTRA-project.[13]

In SSB, most training in the government finance statistics occurs on the job. Special in-house courses are regularly used to update the staff's computer system knowledge and software skills. Courses are also held on accounting issues and on national accounts, both internally and externally. Some staff have attended accounting courses at university level, and their salaries have been paid by SSB. External training in the MOF on the Norwegian tax system is also used. Recently, workshops on concepts and methods in the field of public sector have started. Some staff have attended the IMF's courses on GFS.

Usually it is not difficult for SSB to recruit new staff, but retaining skilled staff can be difficult. In some periods the turnover had been high, such as in 2000 and 2001. The DPCS is very vulnerable to impact of staff turnover, since all knowledge of GFS compilation and analysis procedures is highly concentrated in one senior person. In November 2002, five of the six employees in the DPCS have between six to 30 months working experience in the unit.

A modern computer system exists to collect and process data, maintain databases, receive source data automatically, and disseminate compiled statistics. The system stores bridge and derivation tables that define the links between accounting and budgeting source data and the

[12] Examples are: all hospitals, from January 1, 2001, and all universities, polytechnics, and colleges from 2000, 2001 and 2002, respectively.

[13] The KOSTRA-project is an electronic system that collects data from the local government units. It was created in cooperation among SSB, the MLGRD, and the local governments. The KOSTRA-project is not only designed for collecting and disseminating fiscal data on local governments, it also provides information from local governments and their service sectors needed by the Cabinet and the different ministries for control, for instance, regarding the health care service, local employment, population.

GFS. These are stored in a form that facilitates accessing and updating. However, the format of the budgetary accounts changes somewhat every year, due to policy decisions, which requires an update of the derivation tables each year.

The recent decision by the MOF to provide SSB with monthly source data on revenue, expenditure, and financing data on the budgetary central government with 3-4 weeks from the end of the reference month, starting in 2003, might mean that additional staff resources will be required in the MOF.

0.2.2 Measures to ensure efficient use of resources are implemented

The management of SSB promotes a mission and direction for efficient use of resources that are shared with staff and described in the SSB's publication *Strategy 2002*.

The use of resources in SSB is carefully followed through planning and recording of man-hours in the various product areas and activities, among them the macro-economic statistics of government finances. The distribution of man-hours in SSB's various operations is presented in its *Annual Report*.

SSB is constantly searching for ways to improve the efficient use of resources, and sets priorities among its tasks to ensure the most efficient use of the resources.

0.3 Quality awareness

0.3.1 Processes are in place to focus on quality

Quality work in SSB has been conducted in recent years within the framework of "systematic quality work", inspired by the principles of Total Quality Management and similar work in other national statistical institutions such as Statistics Sweden. No separate quality report is published but the quality dimensions and their fulfillment are discussed in the *Annual Report* and in *Strategy 2002*, and for individual statistics, several of the quality criteria are documented in "About the Statistics" on the SSB website. Furthermore, SSB is actively working on exchanging experiences, methods, and technology with other statistical institutions, and participates in Eurostat's task force on quality indicators.

The systematic work started in 2001 and encompasses all activities and all employees in SSB. Commitment from all levels of management is seen as a precondition for success. To ensure this, several seminars and training schemes for managers have been carried out. All directors, heads of divisions, and office heads (about 50) have been given two days of training. During 2001, SSB has trained 18 so-called quality pilots who participate in improvement projects as facilitators to ensure that quality principles are followed. Another 20 quality pilots are being trained in 2002. Systematic quality thinking has been incorporated in other training schemes in SSB. Each year, numerous quality improvement projects take place throughout SSB.

0.3.2 Processes are in place to monitor the quality of the collection, processing, and dissemination of statistics

Processes are in place to monitor adequately the quality of compiled and disseminated GFS. For example, checks of coverage, classification, missing or erroneous recordings, their internal consistency and the consistency between data coming from alternative or linked data sources (SSB, the MOF, local governments, Norges Bank, and others). Involvement of inter-agency working groups plays also an important role toward this end. When monitoring and planning, improvements to statistical quality, international statistical, and accounting standards are taken into account.

Fiscal data are compiled and audited against published accounting standards. The budgetary central government accounts for each year are submitted to the Parliament by the MOF in April following the accounting year and are audited by the Office of the Auditor General.

Some systematic arrangements are in place to obtain feedback from users of GFS, particularly institutional users (see 0.1.2 in this section).

0.3.3 Processes are in place to deal with quality considerations, including tradeoffs within quality, and to guide planning for existing and emerging needs

Trade-offs among quality considerations (such as accuracy and timeliness) is recognized by SSB in the area of GFS. This trade-off has been explicitly recognized in the context of general government statistics produced in the context of the national accounts, and in the context of local government data reported to the MOF on quarterly basis. SSB selects carefully its working priorities.

Quality is taken into account in statistical planning, and mechanisms, such as internal and external focus groups, are in place to address new and emerging data requirements, particularly for data requests from other government ministries and from international organizations (like Eurostat). New data requirements are frequently added to the work program, which creates some tensions in the balance between detail on the one hand and the accuracy on the other hand. In guiding SSB planning for existing and emerging needs, permanent contacts with main users or institutional bodies are in place.

1. Integrity

1.1 Professionalism

1.1.1 Statistics are compiled on an impartial basis

The Statistics Act ensures the professional independence of SSB and provides it with the authority to determine the official statistics for the government. There is no evidence of other agencies placing undue pressure or interfering with SSB in its compilation and dissemination of official statistics. A code of professional conduct for staff exists, is known and practiced

by the staff, publicly available on the SSB website (*Staff Policies: Values, Aims and Principles*), and stressed by management. There is no evidence of political influence being placed on the SSB Director General. The current Director General has been in SSB for about 34 years and has been in his current position of about 12 years.

The independent role of SSB is described in the SSB's *Strategy 2002* (page 8). Here it is explained that the Statistics Act underlines that SSB is an independent organization when it comes to the content of its statistics and analyses. It decides on an independent basis what the institution is to publish in official statistics, and when and how this will be done. SSB has set out a commitment to enhance the professionalism of its staff in this same publication (pages 39-41). Steps envisaged include adjusting tasks to develop staff, providing incentives for personal development, working out a human resources strategy, rotation of staff, and cooperation with universities.

Professionalism is evidenced by recruitment procedures and a selection process that evaluates exclusively the merit and the potential of candidates and current employees. Staff at various levels participate in international organizations' committees in order to maintain close and frequent contacts with representatives from other countries (ca. 300 visits a year). Staff are engaged in the working groups on national bodies engaging in economic research and analysis. Staff receive training in statistics, computer processing, team work, and management. Substantial on-the-job training is provided. SSB undertakes comprehensive research activities. Staff are encouraged to do research and publish their findings. There is an agency review process for published research to ensure that it meets the high professional standards set by SSB.

The IMF's user survey that was conducted with this ROSC (Appendix III) and a Norwegian survey that rated various national institutions indicate that SSB has a high reputation.

1.1.2 Choices of sources and statistical techniques are informed solely by statistical considerations

The Statistics Act gives SSB independence through its Board and Director General to choose sources and methods, which are made as part of agency-wide decisions taking into account costs and resources. In GFS, the existing sources and statistical techniques are consistent with those used in many other countries; as well, the proposed changes to the data collection system are also being implemented in several other European countries. There is an internal panel in SSB to approve new statistical collections. SSB publishes substantial information on its statistical techniques on its website.

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

SSB is entitled to comment on erroneous interpretations and misuse of official statistics, but it is seldom necessary. The GFS compilers provide expert advice on technical aspects of the

statistics, and also provide explanatory material to aid the interpretation of the statistics, particularly in statistical publications.

1.2 Transparency

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

The complete set of documents that articulate the terms and conditions under which SSB executes the statistical program is available to the public on the SSB website (see the *Annual Report 2001*). Similarly for the MOF, the Norwegian Constitution and Accounting Rules (e.g., Bevilningsreglementet, Nov. 19, 1959 (with later changes) and Økonomireglement for Staten: Funksjonelle Krav til Økonomiforvaltningen i Staten) govern the terms and conditions under which it operates. The terms and conditions of the SSB program are summarized on the IMF's Dissemination Standards Bulletin Board (DSBB).

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

SSB provides the annual data on general government to the senior advisers in the MOF approximately one week prior to its public dissemination. These data are a major input into the Revised National Budget and may be used in macro-economic models to determine/evaluate the impact of the fiscal policy. This internal government access to the statistics prior to their release is described on the DSBB. Similarly, SSB and the MOF share working materials with each other, but these data are not shared with policy level staff. On the budgetary central government debt data compiled and published by the MOF in collaboration with SSB, there is no internal government access to the data before their release to the public.

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

All SSB publications are identified as being produced by SSB including information on the SSB website. Publications prepared jointly with other agencies clearly identify SSB and the other agencies as joint producers. SSB also requests users of its data to identify SSB as the source when its statistics are reproduced.

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

Major changes in methodology are announced to the public in advance. For example, the more limited GFS revision on the period 1990-2001 was announced four months in advance. The latest revision on the new Classification of the Functions of Government (COFOG) was announced four months in advance. Minor changes are explained simultaneously with the dissemination of the data.

Changes that cause a break in the time series are clearly identified, and the users are given guidance on the significance the changes.

1.3 Ethical standards

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

Staff of both SSB and the MOF are bound by the rules applying to all public service staff. In addition, the specific legislation or rules related to these agencies include provisions concerning the behavior of staff that are reflected in their oaths of office. All new staff in SSB sign an employment contract that specifies a code of ethical conduct. Within the past two years, these were revised and all employees were given new contracts to sign. Employees are given the booklet *Staff Policies: Values, Aims and Principles*, which is on the SSB internal website. For the MOF, rules are stipulated, for example in *Lov om statens tjenestemenn m.m.*, February 18, 1918 (with later changes, as June 10, 1977, July 3, 1992, and February 4, 2000).

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 overall structure of the Norwegian government finance statistics in terms of concepts and definitions largely follows international standards and guidelines. SSB compiles the annual general government, central government, and local government statistics in the context of the national accounts based on the *1993 System of National Accounts (1993 SNA)* and the *European System of Accounts (1995 ESA)*. The classification of taxes is mainly based on the classification employed in *Revenue Statistics*, published by OECD, but adapted to the *1993 SNA/1995 ESA* classification system used in the Norwegian national accounts. The analytical frameworks recommended in the international standards for government finance statistics, the IMF's *A Manual on Government Finance Statistics, 1986 (GFSM 1986)* and the *Government Finance Statistics Manual, 2001 (GFSM 2001),* are not used. However, the revenue and expenditure data by economic type and by function can be broadly related to these international standards. The same applies to the financial balance sheets figures classified by financial instrument and debtor/creditor.

SSB also compiles and disseminates quarterly data on the budgetary central government accounts (including the National Insurance Scheme), although these data are not presented according to international standards. On a monthly basis, only some principal revenue items for budgetary central government are collected and disseminated. The revenue items can be related to international revenue concepts.

For the National Budget, the MOF presents for the previous years, along with its budgetary figures, the main aggregates for revenue, expenditure, and net lending/borrowing for the general government sectors. This presentation is produced in cooperation with SSB and includes some accrual figures on revenue. The presentation is broadly in line with the internationally accepted standards.

SSB also collects and publishes the municipal and county municipal accounts annually (as part of the KOSTRA-project—see 4.1.1). The local government units report their accounts according to The Local Government Act and Regulations for municipal and county municipal budgets and accounts. The accounts are divided into operational, capital, and balance sheet accounts. Expenditure and revenue are classified by type and by function, and the balance sheet by financial instruments and debtor/creditor. The statutory annual accounts provide much of the information required for the national accounts and the financial sector balance sheets.

Plans to follow the analytical framework of *GFSM 2001* have not yet been developed. Such a framework would provide additional analytical tools and details to support fiscal analysis. SSB is considering the compilation of integrated nonfinancial and financial statistics for government, as an extension of its current responsibility for compiling the general government sector of the national accounts. Similarly, it would be an large step, as mentioned in 2.4.2, if the official expert group, which has been considering accrual accounting for the budgetary central government accounts, would propose the implementation of accrual accounting.

2.2 Scope

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

Annual general government statistics, covering budgetary and extrabudgetary central government, social security funds, and local governments (municipal and county municipal administrative bodies, municipal enterprises, and joint parish councils), are compiled and published by SSB in the context of the national accounts. Public corporations and quasi-corporations (financial or non-financial) are excluded.

All material general government activities are included in the general government statistics. No quasi-fiscal activities are carried out by public corporations and by Norges Bank The basic sources of GFS are the central government fiscal accounts, the individual accounts for municipalities and county municipalities, and accounts for other central, municipal and county municipal units that are considered a part of general government.

Quarterly data compiled and published by SSB on central government exclude extrabudgetary central government (non-budget central government agencies). Monthly data on budgetary central government operations are not produced. In accordance with pending

EU regulations, however, quarterly national accounts based statistics for the general government sector are being developed.

Adequate annual information on the flows of financial assets and liabilities are not available. However, stock data for general government's financial assets and liabilities, based on the international guidelines for financial accounts *(1993 SNA/1995 ESA)*, are published annually, and the data are available in comparable time series over a long period of time. At the moment, there are no corresponding quarterly or monthly data for general government's financial assets and liabilities (although this will be a European Union—EU—requirement from 2005).

The Norwegian GFS covers a statement of government operations, but the data do not include sources and uses on a cash basis. A statement of other economic flows is derived, but does not follow the *GFSM 1986* or *GFSM 2001* recommendations. Information on the balance sheet and its detailed components are available, but information on transactions in financial assets and liabilities, classified by financial instrument and by institutional sectors of the counterparts, are difficult to compile with available information and only limited data are actually compiled. Financial balance sheets are not consolidated.

2.3 Classification/sectorization

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

SSB compiles the general government statistics in the context of national accounts *(1993 SNA and 1995 ESA)*. Consequently, the institutional sector of the general government is fully consistent with the *SNA*. The GFS statistics are provided separately for the consolidated general government and the central and local governments.

Revenue and expenditure, and stocks (both financial and non-financial) and flows are classified in accordance with the national accounts. A notable part of the 2002 Data Revision was the introduction of the 1999 Classification of Functions of Government (COFOG).

Data are disseminated for revenue and expenditure by type, with interest payments separately identified, outlays by function, and the net lending/borrowing. Only aggregated data on financial transactions are disseminated. For instance, it is not possible to distinguish between domestic and foreign financing, or between type of instruments. But detailed data on the general government balance sheets by financial instrument and debtor/creditor are disseminated.

SSB also compiles accounting data on public financial institutions (for instance, pension funds) and on all public nonfinancial corporations (both incorporated or unincorporated). However, neither a consolidated non-financial public sector, nor an overall public sector (including the central bank) is published by SSB. Data on some subsectors of the public sector are published, as part of the monetary and financial statistics, on a regular basis, but

statistics on the public nonfinancial corporations are not disseminated on a regular basis, except in the national accounts and the financial sector balance sheet.

2.4 Basis for recording

2.4.1 Market prices are used to value flows and stocks

Generally, flows comprise only cash transactions and as a result are valued at market prices. The financial assets and liabilities of the budgetary accounts and social security are valued at market prices at acquisition and disposal, but they are not revalued regularly, except for the revaluations associated with foreign currency (see below). The financial assets of the National Petroleum Fund are recorded on market prices and revalued regularly. SSB collects data on face/nominal values for securities, and in the financial sector balance sheet they are regularly revalued to market value based on information from the Stock Exchange (similar securities). Both market and nominal figures for securities are published by SSB.

Regarding foreign currency liabilities/assets of the central and local governments, the actual or mid-point exchange rates in the market, at the end of each period, are used to convert transactions to local currency.

The accounting records of the local governments for the financial assets and liabilities are valued by using a mixture of nominal and face values and historical costs. These figures are disseminated in that way by SSB. In addition, SSB estimates and publishes the market value of their financial assets and liabilities, based on Stock Exchange information on similar securities. Nominal values are used for loans and deposits with banks and for other financial assets and liabilities, which are not traded.

In the national accounts, the perpetual inventory method is used to estimate the written-down replacement costs of fixed assets, including infrastructure assets. The value of the stocks is based on acquisitions and disposals that have been accumulated and revalued over a very long period of time. The value of the assets is the original acquisition value adjusted by an allowance for price changes (assumptions are made regarding the remaining service live of each asset) and written down (by geometric depreciation profiles) for the accumulated consumption of fixed capital.

2.4.2 Recording is done on an accrual basis

Statistics on the general government sector, published by SSB, in principle adopt an accrual basis for the time of recording and, in practice, are on an adjusted accrual basis.

General government tax revenue data are reported on an adjusted accrual basis, but tax revenues for central and local governments are reported on a cash basis. In other words, the general government statistics on tax revenue are compiled both on a cash and adjusted accrual basis. The difference between tax revenue in the general government sector and its subsectors is shown in a so-called “Sector for tax collection” in SSB's tables. The general

government's expenditures are, in contrast, mainly reported on a cash basis, like most of the central and local governments' operations (with the exception of the municipalities). But some accrual adjustments are made (see below).

As said, the central government accounting systems in Norway are predominantly cash based. The budgetary accounts and most of the extrabudgetary units are recorded in cash, while the hospitals accounts are recorded on an accrual basis (from January 1, 2002). A management accrual accounting system is run parallel with cash accounting system in many of the central government agencies, but only cash flow data are collected by the MOF.

The local government accounts have adopted some features of modified accrual basis to their expenditure side, due to a revision in Local Government Act, 2001. They have also introduced depreciation, but their tax revenues are still recorded on a cash basis, as said.

For the national accounts requirements, SSB has made some accrual adjustments to the general government's account (the consolidated central and local government's accounts), especially where such adjustments make a significant difference. These adjustments are based on different sources, with different accounting basis, and are mainly done for following categories: (1) taxes on products (VAT, etc.) and production, (2) taxes on income and wealth, (3) social security contributions, (4) consumption of fixed capital, and (5) advance payments for large military equipment.[14]

As mentioned in 2.4.1, the perpetual inventory method is used in governments accounts (national accounts) to estimate the written-down replacement costs of fixed assets, including infrastructure assets. The calculation of consumption of fixed capital (depreciation) is also based on this method.

In SSB, an accrual adjustment is also made for advance payments for purchases of military equipment, but has not yet been expanded to central government employees' unfunded pensions schemes and to interest payments and receipts. Plans to do that in the future are

[14] Here are some examples of how SSB deals with accrual adjustments. First, taxes on income and wealth, the social security contributions, the petroleum revenue tax and corporation taxes are adjusted to accruals basis. The sources used are tax declarations and tax assessments (data received from the tax authorities). Since information from these sources are only available with a long delay, it is necessary to use projections of tax accruals, which are estimated in a model by the Research Department of SSB (Microsimulation model LOTTE). Second, taxes on production, and especially the Value Added Taxes (VAT), are a very important component in the Norwegian tax system. VAT accruals are calculated in the national accounts supply and use tables, which measures the final and intermediate expenditures. To those tables, the effective VAT rate is applied. The accrual adjustment is the difference between this calculation in the supply and use tables (often referred to as the theoretical VAT) and the cash receipts recorded by the budgetary accounts (or by the tax and customs authorities). Third, some of the accrual numbers for tax revenues are approached by the time-adjustment (one or more months) method. Customs duties are an example. For other taxes on production, book values from the government accounts are used.

under consideration. The Norwegian Government is considering the implementation of an accrual accounting to its budgetary accounts. A State Budget Committee, with 8 experts, has been appointed to propose reforms to the government fiscal accounting. Their proposal will be published at the end of January 2003.

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* and the *1995 ESA*. All transactions are shown on a gross basis by SSB, except they include revaluation items such as holding gains/losses. The same gross basis applies to the financial assets and liabilities. Acquisitions and disposal of non-financial assets are also presented gross in GFS, but in most cases presented net in the national accounts.

3. Accuracy and Reliability

3.1 Source data

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

SSB collects data covering central and local governments mainly from administrative records. From these records, SSB collects data on both revenue and expenditure flows and stocks of financial assets and liabilities, and consolidates the data for the general government in the context of the national accounts. Financial balance sheets are not consolidated, but could easily be consolidated through the debtor/creditor classification. Data covering the transactions on financial assets and liabilities are provided from the administrative system, but not in a format SSB can use (they are not presented in a standardized format, so they can only be classified into a debtor/creditor classification).

For the budgetary central government, the sources are the administrative records in the MOF. The same administrative records also cover social security accounts (i.e., the National Insurance Scheme). Data for extra-budgetary units, including the hospitals, are not covered by administrative records, but SSB has the authority to collect accounting data with sufficient quality and details. Questionnaires are sent to the extrabudgetary units on an annual basis and for some units quarterly. In addition to that their annual financial reports are collected. Non-response is rare, but if smaller agencies fail to report, the last year's data will be used as an estimate.

SSB collects accounting data from local authorities, county councils, non-market units, and joint parish councils (the KOSTRA-project—see 4.1.1). Local government units submit their accounts mainly through administrative records, and from these records SSB collects data on both flows and stocks. Most reporting is automated. As regarding the central government level, SSB telephones those units that fail to report. Non-response is a minor problem. If smaller local government units fail to report, the previous year's data will be used as an

estimate. Data covering the transactions on financial assets and liabilities are provided from the local government, but not in a format SSB can use.

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

The chart of accounts used by the MOF for covering the budgetary central government is sufficiently detailed for government statistical purposes (in a national accounts context). It has a structure that facilitates mapping from the accounting codes (chapters, posts, sub-posts) to government statistics codes. SSB converts a very detailed electronic version of the budgetary central government to the Norwegian GFS categories. Neither the *GFSM 1986* nor the *GFSM 2001* codes are incorporated in the chart of accounts. This electronic program for conversion of the data (very detailed derivation tables) is updated regularly to take care of changes in the budgetary central government, which are frequently adapted to policy needs. SSB encounters some difficulties regarding the coding of financial transactions, since they are not sufficiently detailed in the budgetary accounts. The source data are based on cash reporting, and need to be adjusted to an accrual basis by SSB. The same applies to the valuation of the data.

The COFOG classification is based on the chapters in the account system, e.g. one chapter for a single ministry, one chapter for one of its agency. When defining programs and projects, the needs of the COFOG classification are not taken into account. The 1999 COFOG classification has recently been implemented by SSB for both central and local governments (see 2.3.1).

The different charts of accounts and accounting systems for extrabudgetary units in central government are sufficiently detailed for GFS purposes. The new accounting system for the hospitals (from January 1, 2002) implies that new annual derivation tables need to be established by SSB. The quarterly data, which are less detailed, have already been converted for use in the quarterly national accounts.

Compilation of macro-economic statistics for the local governments, from their accounting reports, is done as a secondary exercise by SSB. A very detailed accounting system, showing the types of expenditures and revenues and the classification of administrative and functional expenditures, is converted to GFS, mainly in the same way as for the budgetary central government. With the new chart of accounts, as a part of the KOSTRA-project,[15] much more detailed data have become available. The overall local government reporting has become much better coordinated, with the help of KOSTRA-system. The development has been from many sector systems towards a more comprehensive and consistent statistical system. A fair amount of double reporting has been eliminated. A comprehensive new publishing system

[15] Introduced on a full scale from the accounting year 2001.

has been developed for the local government statistics, and these are now released far earlier than before.[16]

The programs that are used to derive GFS data explain the differences between source data and the macro-economic statistics for central and local governments.

3.1.3 Source data are timely

Data for budgetary central government operations (including the National Insurance Scheme) are available seven times a year, for every quarter and for every four months. The source data are submitted by about 400 agencies to the MOF's Central Accounting Unit within two weeks from the end of the reference period. At the moment, no monthly data on budgetary central government operations are available for internal use by the MOF (see 4.2.2).

Data for extrabudgetary central government operations, which are not covered by administrative records, are provided through quarterly surveys and an annual census. Recently, in conformance with a new EU regulation, which obliges Norway to report data with considerably shorter time lag, quarterly data on the largest extrabudgetary units are provided within three months from end of the reference period (e.g., for the hospitals and the universities). Preliminary annual data for extrabudgetary central government units are provided three months after the end of the reference year, and are based on a sample that covers 90 percent of the total expenditure of this subsector. Final annual data for extrabudgetary central government units are provided 10 months after the end of the reference year.

Data for local government operations are obtained through quarterly surveys and an annual census. The first preliminary data, based on the census, will be available at the end of April, i.e., four months after the end of reference year. But based on the quarterly survey, the first annual estimates are published at the beginning of February, i.e., five-six weeks after the end of accounting year. Final data for the local governments are provided 10 months after the end of the reference year.

The source data for financing and debt data are available three to ten months after the reference period, depending on the government sector to which they refer and the type of assets and liabilities.

[16] The first figures from SSB are published on the website one month after the deadline for reporting (March 15). The intention is that figures illuminating the local government service production would be published early enough for use in annual reports, budgeting and planning by the local authorities and by the MLGRD. The statistics produced by the KOSTRA-system will become official Norwegian statistics on local government finances and services, and will consequently replace other statistics in this area.

3.2 Statistical techniques

3.2.1 Data compilation employs sound statistical techniques

Data for budgetary central government (including the National Insurance Scheme) are collected from the MOF administrative records and do not require estimation. Data for extrabudgetary central government are provided through an annual census. If large extrabudgetary units fail to report within requested time, they are reminded. Only in case of the smaller units, are the last year's report be used as an approximation in the preliminary data. For quarterly compilation, a sample survey is used for extrabudgetary central government. Only data from the most significant units are collected each quarter. Other information is based on previous fiscal year's estimates.

Data for local governments are provided through an annual census and quarterly, voluntary, sample surveys. In the process providing the annual census, there are procedures in place to allow estimation of missing data, and the procedures are based on accepted statistical processes. At the moment SSB uses quarterly, voluntary sample surveys to obtain quarterly data for the local government. The quarterly surveys do not apply accepted scientific surveying techniques. For instance, no stratified sampling techniques are used and the largest city (Oslo) has not yet been able to deliver data. But SSB is in the middle of a dialogue with the MLGRD and others, which will introduce a compulsory reporting of quarterly accounts from the local government units.

3.2.2 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, for the general government, SSB has to adjust taxes to record them on an accrual basis (see section 2.4). Non-response for annual data is rare, but if smaller local government units fail to report, their previous year data may be used combined with growth rates estimates from reporting units. Quarterly local government accounts are so far converted and prepared at a less detailed level for use in the quarterly national accounts.

3.3 Assessment and validation of source data

3.3.1 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 planning

There are no material gaps in the coverage of the general government units. But, as noted in 3.1.1, some material gaps appear in the completeness of the data coverage of the financial account. The trade-off between timeliness and accuracy is well recognized and balanced. The most accurate government data are based on audited data, but the reporting cannot be delayed until audited data have become available. The strategy adopted is to compile and publish

preliminary data as soon as reasonably complete and accurate data become available, and replace the preliminary data by final data after audited accounts have been produced. If complete data are not available (as for the fourth quarter of the year for the central government) SSB estimates total revenue and expenditure, and net lending/borrowing, based on the data from budgetary central government, or from the data for the third quarter of the year. The status of the data for each period, and any major quality reservations that compilers have about the data, are identified when the data are published or disseminated.

For the local governments, the preliminary data are based on several sample surveys estimates and later replaced by full coverage and final data. A statement on the sample survey data is published, to notify the users of the quality status of the data.

3.4 Assessment and validation of intermediate data and statistical outputs

3.4.1 Main intermediate data are validated against other information where applicable

Prior to GFS publications or reports certain quality controls are made. The MOF surplus/deficit before financial transactions is compared with corresponding balance made by SSB. Significant discrepancies may indicate errors in the compilation process, unless they are well accounted for. The consistency of the GFS data to the national accounts aggregates is also checked, for example the government consumption and net acquisition of fixed assets (even though they are compiled from the same data sources).

Comparisons are made as well between net lending/borrowing (derived from the non-financial accounts) and change in net financial assets (derived from the financial accounts). In case of major deviations, an attempt is made to explain the differences (see 3.4.3).

The consistency with other related data sources is checked. For instance, with the banking statistics, balance of payments statistics, an annual census of foreign assets and liabilities, and the administrative register of securities, etc.

The main checking of GFS accounts regards the balancing items (to check if they are internally consistent). But controls are also made regarding reported data on transfers between general government sectors. Some problems related to the coverage of data in the central government sector have been encountered by SSB, particularly in the extra-budgetary sector which has expanded largely in the recent years. This has required that the source data have to be analyzed and accurate data used for GFS (to ensure accurate and consistent time series).

3.4.2 Statistical discrepancies in intermediate data are assessed and investigated

In compilation of data on the general government financial account, the following identity applies: Net lending/borrowing = change in net financial assets + reconciliation items +

statistical difference. When the statistical difference is significant, further investigations of the reconciliation items are done to bring the statistical difference to an acceptable level.

Furthermore, investigations are carried out to detect statistical differences in transfers between government sectors (e.g., when transfers from the central government to the local governments, according to one of the sources, are not supported by counterpart information).

At all levels of government, any unexpected values are investigated.

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

Monetary accounts data provide the counterpart of GFS domestic bank financing, and are used to check corresponding GFS balance sheet data. The same applies to external debt, where the data are checked against an annual census of foreign assets and liabilities.

Balancing items such as reconciliation/revaluation and net lending/borrowing are investigated when values are not within expected ranges. Examples are significant discrepancies between the change in net lending (from the financial account) and net lending/borrowing (from the revenue and expenditure accounts). This calls for a thorough investigation of the instruments in the financial account with respect to both revaluations (e.g., changes in the value of stocks) and changes in volume (e.g., write-offs).

3.5 Revision studies

3.5.1 Studies and analyses of revisions are carried out routinely and used to inform statistical processes

Revisions mainly result from the routine replacement of preliminary data by final audited data. SSB does not carry out revision studies on routine basis, but if large discrepancies or gaps in the GFS data are identified, a special study is undertaken. Such a study has been made in the context of a major revision of the national accounts. SSB published the results of the 2002 Data Revision in which it incorporated new information about trends and development for the second half of the 1990. The Data Revision for general government mainly involved changes in central and local government expenditure by function. The revised figures also entailed an upward adjustment in general government consumption, caused by new estimates for consumption of fixed capital.

4. Serviceability

4.1 Relevance

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

SSB has a continuous dialogue with the main users, in particular the MOF, the Ministry of Local Government and Regional Development (MLGRD), Norges Bank, and the Division for National Accounts within SSB.

During the preparation of the data on budgetary central government, the MOF and SSB work closely together. The budget proposals are converted by SSB to GFS formats[17] and then used by the MOF in macro-economic models to determine/evaluate the impact of fiscal policy. This enables the government to monitor fiscal policy within a sufficient timeframe. This work, done by SSB on behalf of the MOF, has a methodological basis and classification structure that is suitable for analytical needs in the macro-economic model MODAG.

The annual general government statistics compiled for the national accounts (on revenue, expenditure, and net lending/borrowing) are released in time for the Revised National Budget in May, but not in time to fulfill the requirements of Eurostat (three months after the end of reporting period). Complete general government data (in the context of national accounts) are only available annually, and have to be expanded to a quarterly basis due to regulations in the EU.[18]

Eurostat is an increasingly important user of the Norwegian GFS. Although Norway is not a member of the EU, it is obliged to adopt the statistical regulations through the European Economic Agreement (EEA). Regulations concerning the statistical area are as a result of the EEA legally binding by law. Therefore, the European statistical collaboration is of significant impact.

SSB publishes the first preliminary figures for local government, based on a sample survey, four–five weeks after the end of the year. However, the accuracy and reliability of these data have not been sufficient the last years, due to the KOSTRA-project, which among other

[17] Consistent with the *1993 SNA* and *1995 ESA*. SSB's highest priority for GFS is to compile the statistics in accordance with the these standards.

[18] The authorities are currently working to develop quarterly data for general government in the context of quarterly national accounts.

things, gradually introduced a new accounting norm in the municipalities and county municipalities accounts (see 3.2.1).[19]

Another important role of the local government statistics is in the consultations between the Norwegian Association of Local and Regional Authorities and MLGRD. The local government statistics are important terms in these dialogues concerning the economic development and future of the local government sector. Two and a half months after the end of the reference year, the MLGRD (from the accounting year 2001 onward) has access to accounting data (and huge amounts of non-accounting data) from most of the municipalities.

Cumulative year-to-date monthly budgetary central government data, which can be used for tracking the execution of the budget and monitoring fiscal policy, are not produced. But cumulative quarterly budgetary central government data in the national format emphasize the government's net lending/borrowing. Annual central government data published by SSB on its website and by the MOF for the National Budget have a slightly different format, and show different surplus/deficit figures, with inadequate explanation.

Feedback of other than institutional users on relevance of existing statistics is not sought on a regular basis (see 0.1.2). Responses to the user survey conducted with this ROSC rated GFS relatively high on all measures, with the highest scores on methodology, accuracy and lack of bias, and frequency, with the least satisfaction for coverage and accessibility. (For further information, see Appendix III.)

4.2 Timeliness and periodicity

4.2.1 Timeliness follows dissemination standards

Monthly central government operations data are not published at all, except some principal tax revenue items, which are published 6 weeks after the reference month.[20] This means that neither the timeliness nor the periodicity requirements of the SDDS for monthly central government operations data are met. Quarterly central government debt data are published within one quarter as required by the SDDS. Annual general government operations data (revenue, expenditure and surplus/deficit) are published within four months of the end of the year, but the general government data on domestic and foreign financial assets and liabilities

[19] The KOSTRA-project will, however, in the longer run have a positive impact on the local government statistics, including the accounting statistics of municipalities and county municipalities. One key ambition in this project has been to develop a uniform report for the Norwegian municipalities, to enable computations of key indicators for, e.g., cost-productivity and efficiency in producing services.

[20] Monthly accounting statistics on direct taxes are published for general government sector within 19 days after the end of the reference month.

are disseminated only within 10 months, which is not within the timeliness of two quarters as the SDDS requires.[21]

4.2.2 Periodicity follows dissemination standards

With the exception of data on monthly central government operations, the data meet the periodicity standard of the SDDS, as follows:

- Central government operations data are only published annually, and budgetary central operations data quarterly (with the exception of some principal tax revenue items, which are published monthly). Monthly data on central government operations, which are required by the SDDS, are not produced.[22]

- Central government debt data are published quarterly, and therefore meet the SDDS requirement.

- General government operations data are published annually, and therefore meet the SDDS requirement.

SSB is hopeful that in a few years time Norway will meet all the timeliness and periodicity requirements for all three SDDS categories for the fiscal sector. This will come as a result of the ongoing project to meet the EU council regulations on short term public finance- and non-finance statistics.

4.3 Consistency

4.3.1 Statistics are consistent with the dataset

As stated above, the Norwegian GFS stock and flow data follow the standards of the *1993 SNA and 1995 ESA* and are internally consistent for most of the accounts. On the revenue and expenditure side, the aggregates are consistent with their components, and balances are

[21] Due to requirements in a recently adopted EU council regulation, Norway has to improve its system in treatment of central and local government financing operations. This regulation demands quarterly data for financial transactions and financial balance sheets containing information about financial instruments and counterparts. This EU project has to be carried out before the summer of 2005.

[22] The MOF is, at the moment, only able to release the data on central government operations seven times a year, for every quarter and for every four month period. Due to the short term public statistics regulations in the EU, SSB will have to improve the timeliness for the annual data (and the 4th quarter) to maximum three months after the end of the reference period. The MOF has recently decided to provide SSB with monthly revenue, expenditure, and financing data on the budgetary central government within three–four weeks from the end of the reference month, starting in 2003.

consistent with these aggregates. The sum of the transaction data for subsectors, after appropriate consolidation, is consistent with data on the consolidated general government.[23] Weaknesses appear on the financial side, where the reconciliation between stocks and flows is not properly made.

For the government financial accounts, the difference between the opening and closing balance sheet for each assets and liability category, and the net transactions and net other economic flows (divided into net holding gains and losses and other changes in volume of assets) are not fully reconciled.

The net lending/borrowing[24] (from the revenue-expenditure side) is used as an estimate for the net financial transactions, since satisfactory information is not available on the financial transactions.[25]

Transfers received do not always equal transfers paid between central and local governments. SSB observes and closely monitor differences in these transactions. The main reason for this inconsistency lies in differences in the basis of recording. The budgetary central government accounts record transfers on cash basis, but the local government accounts record transfers on accrual basis. Since SSB cannot interfere with the surplus/deficit measures of the central and local governments the correction is done through the "Sector for tax collection" (see 2.4.2).[26]

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[23] In the SSB dataset, the GFS data on general government are partially presented on accrual basis, but on central government mostly on cash basis (see 2.4.2). The consolidated general government comprises all required institutional units of the *1993 SNA*, including the National Insurance Scheme, all other social security accounts, and all extrabudgetary account for both central and local governments.

[24] Net lending/borrowing derived from revenue minus total expenditure equals transactions in financial assets and liabilities (financing). The financing cannot be broken down by domestic (with a bank/nonbank breakdown) and foreign financing. At the moment, it is not possible to present the financing by type of instrument.

[25] A part of the other economic flows is calculated as a residual (statistical discrepancy), but its size is minimized by a search for information in the annual reports issued by central and local governments. In some years there have been unresolved discrepancies, which are larger than acceptable, for instance in the central government in 1998-2000 (3.5, 5.1 and 4.6 billion kroner respectively). After the modernisation of the annual financial reports of the fiscal accounts it has become more difficult to identify the revaluation items.

[26] The larger item is used in producing the general government data. If there are large discrepancies for one year, outside the normal amounts, an exercise is undertaken to reduce the size. Large transfers to/from central government and local governments are checked, i.e., 60-posts in the Budgetary accounts against ca. 300-400 posts in local governments. Usually, the necessary information is extracted from the annual budget documents for the different ministries. The MOF is also following this discrepancy closely and provides information.

There is no statement on the sources and uses of cash for the general government, and therefore no possibility to show consistency between the cash balance and the general government statistics on "policy balance" (net lending/borrowing less acquisition of financial assets for policy purposes). Only loan transactions carried out for fixed investments in unincorporated public corporations are treated for public policy purposes in the Norwegian fiscal budget/accounts.

Procedures to benchmark quarterly data to annual data are conducted in the context of the national accounts. The updated data are provided to the users, and the details on the benchmarking exercise may be presented by the Research Department of SSB.

The consolidation procedure follows the *1993 SNA/1995 ESA* across the subsectors of central and local governments, and the "Sector for Tax Collection etc" (see 2.4.2).

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

For general government statistics in the context of national accounts, changes arising due to major methodological improvements or changes in the statistical system, concepts, etc. are explained and the time-series are revised, such as for instance when carrying out main revisions. Time-series for the general, central and local government were revised for several years, back to 1990 in the last main revision—and back to 1978 in the main revision that ended in 1996.

Breaks in series due to methodological changes or changes to the statistical system are clearly identified and explained in the publications. Breaks in series in historical tables, will also be clearly identified for instance by symbols in the tables, or in the text (see *Historical Statistics 1994*).

Some brief explanations are provided on the website or in paper publications to explain, for instance, most significant increases in gross fixed capital formation, changes in tax revenue, transfers, etc. Such information will usually be drawn from budget documents in the MOF and MLGRD.

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

Most of the data included in SSB's estimates of the general government sector of the national accounts are consistent or reconcilable with the equivalent data sources elsewhere. The GFS data on the general government sector compiled by SSB are consistent with the national accounts aggregates, as GFS is the source used for the national accounts. That ensures consistency with related national accounts aggregates such as saving, net lending/borrowing, government consumption, gross fixed capital formation and consumption of fixed capital.

The GFS financial balance sheets/financing data and government financial assets and liabilities held by other sectors are broadly consistent with annual monetary and banking statistics, the annual census on foreign assets and liabilities, insurance statistics, etc. This is ensured by the system of financial sector balance sheets.

Grants and other transactions are consistent with balance of payments data, because the same source data are used and these data are an integrated part of the national accounts.

4.4 Revision policy and practice

4.4.1 Revisions follow a regular, well-established, and transparent schedule

The publication of general government data follows a regular and well understood pattern whereby initial data are preliminary and are subsequently replaced by final data. The revisions policy is stated in the "About the Statistics" section of the GFS pages of the SSB website, although not in a very transparent way. The ordinary revision schedule is predetermined and reasonably stable from year to year.

4.4.2 Preliminary data are clearly identified

Preliminary data are clearly identified with symbols in the SSB´s publications, where the symbol of preliminary data is marked with an asterisk. Explanation of the different symbols used in the publications is also available on the SSB's website www.ssb.no/english/symbols.html. Preliminary data published in the National Budget are, on the other hand, not clearly identified. Revised data are disseminated with the same level of detail as preliminary data. The coherence between preliminary and final data are sufficient to allow the preliminary data to be used with confidence for policy determination and analysis.

4.4.3 Studies and analyses of revisions are made public

No specific studies or analyses of routine revisions are made public, but if major revisions are undertaken, their results (analyses and descriptions) are made public. Examples of these are the 1995 Main Revision of the national accounts and GFS and the 2002 Data Revision. The results of the revisions and results for the same period compiled before the revision are easily comparable and usually published in same format, but there is no specific analysis of the revision to allow assessment of the reliability of the preliminary data.

5. Accessibility

5.1 Data accessibility

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

The government finance statistics are presented in a way which broadly allows major aggregates/balancing items to be identified and related to detailed underlying data. However, the relationship between the different tables on the central government sector disseminated by SSB on its website and by the MOF for the National Budget is not fully identified. In cases where an inconsistency occurs between major GFS aggregates, an effort has not been made to explain it. The fact that figures published are compiled in accordance with *1993 SNA/1995 ESA* standards, makes the annual data on the general government sector suitable for use in the budget development and monitoring process (see 4.1.1).

The annual publication provides equivalent coverage and details to that set out in the *GFSM 2001* tables with a few exceptions. For example the source data do not allow compilers to derive financial transactions by financial instrument, and a statement of sources and uses of cash is not compiled. However, SSB has requested an improvement of the MOF source data of the financial data (see 4.2.2).

For the annual figures, a large number of GFS time series are available from 1978. By special request, SSB will provide data from 1978. And also back to 1970 for government consumption and other national aggregates.

5.1.2 Dissemination media and formats are adequate

SSB publishes GFS on its website and in the printed version called *The Norwegian Official Statistics*. An annual summary of GFS data is also presented in *The Statistical Yearbook of Norway*. A publication *The Public Sector Finances* is devoted to general government finances, and is issued at intervals of several years. The latest version was issued in 1997, and covered 1988-1995. In addition to the annual figures compiled in accordance with *1993 SNA/1995 ESA*, SSB publishes on the its website quarterly data on the budgetary central government by type and program categories, and presents the data according to the classification used by the MOF.

The MOF publishes quarterly and annual data on the budgetary central government debt on its website. It also publishes annual data on general government operations and its subsectors (in cooperation with SSB) in the National Budget (*St.meld.nr.1*). There are also an annual publications on the National Insurance Scheme, the Government Petroleum Fund and on the local governments. SSB publishes annual data on local governments on its website. Data on local governments, compiled and processed by SSB, are also published in the MLGRD's publication *Kommunal- og Regionaldepartment: St.prp.nr.82* and "Det Teknisk

Beregningsutvalg" publication on local governments. Norges Bank produces financial transaction data, based on stock data compiled by SSB, as disseminated on its website.

5.1.3 Statistics are released on a pre-announced schedule

SSB releases statistics according to an advance release calendar that covers the next four months and is updated routinely,[27] and on the DSBB. In the calendar, the coming statistics are listed by date or by subject. A principal release policy is to keep the actual date of publications in accordance with the pre-announced date. It is claimed to be very important that the release of the statistics is neither before nor later the pre-announced date.

The MOF releases on its website an advance release calendar that gives the precise release dates for the coming year regarding its publication of central government debt figures.[28]

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

SSB's statistical publications are available to users simultaneously on a pre-announced date and time, subject to the pre-release policy described in 1.1.2. The internet is the main channel for its dissemination of statistics, and the statistics are released at 10:00 a.m.

Central government quarterly debt figures are released simultaneously to all interested parties by posting on the MOF's website on the day of release.

5.1.5 Nonpublished (but nonconfidential) subaggregates are made available upon request

Non-published but non-confidential data are made available on request. If the request is for a few simple data, the data are made available free, but if the request is more complicated and time-consuming, the data are made available for a fee. SSB emphases to give both a prompt and knowledgeable service and support to every kind of users. On request, SSB also makes special compilations.

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

SSB has a summary description of concepts, sources, and methods relatively complete on its website, under "About the Statistics." When revisions of concepts, sources, and methods are made, the descriptions are updated. However, the relation between the published tables and

[27] This calendar is available on www.ssb.no/english/subjects/calendar/ (there is a link to the calendar from the SSB's main page)

[28] The press release is titled *Statens gjeld and garantiansvar ved utgangen av kvartal 20*.

the standards upon which they are based are only briefly described, and some concepts and methods are not explained, e.g., the cash and accrual concepts that are used. Bridge tables between source data and GFS are available on request.

Very limited documentation on concepts, sources and methods is provided with tables published by the MOF in cooperation with SSB in the National Budget, although extensive commentary on developments is included. Users may have difficulties in linking these tables on central government finances with similar tables published by SSB on its website.

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

The descriptions, given under "About the Statistics" on the SSB website, are intended to be thorough enough to provide adequate information for experts to assess strengths and weaknesses of the government finance statistics. This site is also intended to provide a transparent and understandable information about the statistics.

5.3 Assistance to users

5.3.1 Contact person for each subject field is publicized

Contact persons are always indicated with the statistics published by SSB. Besides names, email addresses and phone numbers are given.

Contact persons for central government debt are not published by the MOF.

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

SSB website indexes the current and previous issues of the quarterly and annual releases of national accounts, including general government accounts, and related tabulations of longer time series.

A catalogue of SSB publications is produced annually and lists paper publications, including those that deal with GFS.

The website includes information on publication prices and charging policy for supply of nonpublished data.

Table 8. Norway—Data Quality Assessment Framework: Summary of Results for Government Finance Statistics

(Compiling Agency:)

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. Pre-requisites of quality						
0.1 Legal and institutional environment		X				
0.2 Resources			X			Insufficient staff resources are available to meet the present and future GFS tasks and assignments.
0.3 Quality Awareness		X				
1. Integrity						
1.1 Professionalism		X				
1.2 Transparency		X				
1.3 Ethical standards		X				
2. Methodological soundness						
2.1 Concepts and definitions			X			Statistics are not presented in a fully integrated fiscal analytical framework. Plans to follow the analytical framework of *GFSM 2001* have not been developed.
2.2 Scope				X		Coverage of transactions for financing is incomplete. For sub-annual data, the central government is only partially covered (extrabudgetary funds are excluded).
2.3 Classification/Sectorization		X				
2.4 Basis for recording		X				
3. Accuracy and reliability						
3.1 Source data			X			Detailed information on financial transactions is not provided from the administrative system. Financial balance sheets are not consolidated.
3.2 Statistical techniques		X				
3.3 Assessment and validation of source data		X				
3.4 Assessment and validation of intermediate data and statistical outputs		X				
3.5 Revision studies			X			Revisions studies are undertaken for major revisions but not on a routine basis.

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Element	NA	Assessment				Comments
		O	LO	LNO	NO	
4. Serviceability						
4.1 Relevance			X			The links between the different presentations of central government statistics are not fully identified. Feedback of other than government users is not sought on a regular basis.
4.2 Timeliness and periodicity				X		Monthly aggregate data on GFS are not produced. Financial data on the general government sector are disseminated 10 months after the end of the reference period.
4.3 Consistency			X			There is inadequate reconciliation of data on (1) net/lending borrowing and financing and (2) stocks and flows.
4.4 Revision policy and practice		X				
5. Accessibility						
5.1 Data accessibility		X				
5.2 Metadata accessibility			X			The relationship between published tables and the standards is only briefly described. Some concepts and methods, e.g., cash and accrual concepts, are not explained.
5.3 Assistance to users		X				

V. MONETARY STATISTICS

0. Prerequisites of Quality

0.1 Legal and institutional environment

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

The responsibilities for compiling and disseminating monetary statistics reside mainly with Norges Bank. The Bank's role is not clearly specified by a single law or provision but instead by a combination of Norwegian laws and formal and informal provisions. Norges Bank's general responsibilities are defined by the *Act of May 24, 1985, on Norges Bank and the Monetary System*, also known as the Norges Bank Act. The Act establishes Norges Bank as a separate legal entity owned by the state that may "implement any measures customarily or ordinarily taken by a central bank." It is "the executive and advisory body for monetary, credit and foreign exchange policy." While its dissemination functions are broadly covered in chapter 1, *General Provisions,* in which Norges Bank is authorized to inform the public about Norway's monetary, credit and foreign exchange situation, the 1985 *Act* does not provide Norges Bank a specific statutory basis for data or information collection. Instead, the monetary and financial data collection is primarily authorized by the *Act on the Supervision of Credit Institutions, Insurance Companies and Securities Trading no. 1 of December 7, 1956,* also known as the Financial Supervision Act; this Act is the legal basis for the Banking, Insurance and Securities Commission of Norway (BISC).

Against this broad financial statutory background, Norges Bank's responsibilities in the area of monetary statistics are further defined by other, statistical legislation and by formal and informal cooperation agreements among national statistical and financial agencies; these agreements give modern structure to the longstanding cooperation between the three current agencies, the BISC, Norges Bank, and Statistics Norway (SSB). In particular, formal agreements have been made among them concerning the division of responsibilities and costs of production of financial statistics. The most recent of these agreements took the form of an action plan developed by senior staff and contained in the joint *Report* of 1994. The *Report*, unanimously endorsed by the heads of the BISC, Norges Bank, and SSB, included the following recommendations:

> "...transferring of financial statistics activity from SSB to Norges Bank with respect to the collection, control, processing and monthly [dissemination of] statistics for private banks, finance companies, mortgage companies, state lending institutions and mutual funds.....also transferring of the BISC's activities on data control for statistical purposes. Norges Bank should also be responsible for establishing the joint data base and for data processing and services for the [three agencies]."

The Statistics Department of Norges Bank has followed through on all of the *Report's* recommendations pertaining to its activities.

Another feature of the organization of Norway's monetary and financial statistics is SSB's over-arching coordination of official statistics, including the monetary statistics pertaining to the depository corporations that are collected, compiled, and disseminated by Norges Bank.[29] The *Statistics Act of 16 June, 1989, No. 54*[30] states that SSB should be notified and be permitted to give suggestions about issues of methodology prior to the dissemination of new statistical indicators, sectoral balance sheets, or surveys. In addition, SSB is responsible for collection and compilation of some financial statistics, including significant components of the financial corporations sector. (See *2.2.1* for the subsectoral division of responsibilities between Norges Bank and SSB.) Norges Bank's close cooperation with SSB contributes to an institutional environment that is supportive of statistics.

Norway is a part of the European Statistical System and produces and disseminates data consistent with the legal requirements of the system. (See 0.1.1 of the Detailed Assessment of National Accounts Statistics.)

0.1.2 Data sharing and coordination between data producing agencies are adequate

The centralization that has been mandated by law has brought about, perhaps by necessity, a remarkably close-knit relationship between the compilers of monetary and financial statistics in the three institutions. Norway's monetary statistics are based on a joint database maintained by Norges Bank for use in statistics production, analysis, and supervision. However, there are some limitations in the exchange of data; for example, the BISC has access to data for institutions subject to supervision but not to data for state lending institutions and Norges Bank.

The joint database for monetary statistics consists of individual data for the other depository corporations and other financial corporations. All three agencies have merged their data requirements into a common data matrix covering data on balance sheets, profit and loss accounts, and data pertaining to the capital adequacy directive and some special reports on maturity and on off-balance sheet activity. The merging of data requirements and the changing of data specifications due to new international and national standards was further advanced by the Act on Reporting Obligations for Enterprises of June 6, 1997. The Act requires that government bodies coordinate their reporting requirements in order to reduce the reporting burden for the respondents. The joint data set also is regularly reviewed and adjusted to take into account developments in reporting standards of international

[29] Oien, Arne, "The Organization, Jurisdiction and Responsibilities of Official Statistical Services," [the Norwegian] *Journal of the Royal Statistical Society, Series A (Statistics in Society),* Volume 154, Issue 1(1991), page 18. See also *The* Statistics Act*, Act No. 54 of June 16, 1989.* The latter is the legal basis for SSB's activities and, more generally, the official statistics production in Norway.

[30] The current legislation continues the theme of a centralized statistical system that was established under the previous statistical acts of 1876 and 1907.

organizations such as the Bank of International Settlements (BIS), the Organisation for Economic Co-operation and Development (OECD), IMF, and the Statistical Office of the European Commission (Eurostat). The Statistics Department monitors, through its informal contacts, the developments in statistical practices of the European Central Bank (ECB) although it is currently excluded from working group meetings, owing to its non-member status.

The mission views the relatively complex statutory and other arrangements as giving only the superficial appearance of a lack of clear autonomy. In fact, the arrangement does not give rise to inappropriate influence or interference in the production, compilation or dissemination of statistics. More importantly, the web of statutory and other arrangements contributes to a highly effective coordination of national statistics.

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

Confidentiality is strictly practiced and considered an important aspect of the statistical work in Norges Bank. Generally, the Bank's employees are subject to duty of confidentiality as stated in the Norges Bank Act. Supplementary formulations on duty of confidentiality are found in Norges Bank's staff regulations and its internal handbook *Ethical Rules of Norges Bank*. Staff are reminded by management of the policy through the medium of the Bank's Intranet site and through occasional references to the issue of confidentiality in the staff newsletter *Orientering*. The rules apply to whatever the staff member learns about the business affairs of the Bank, or other parties, or anyone's personal affairs. Procedures are in place to prevent disclosure of individual data. Norges Bank's staff regulations clearly state that contraventions on the confidentiality duty may cause penalties against staff, with reference to the *Penal Code (Straffeloven).*

All reporting units are assured that data are treated confidentially. The Financial Supervision Act and associated legislation include regulations on confidentiality on individual data. As for the statistical work in Norges Bank, the formal provisions on treatment of individual responses and information are the internal regulations mentioned above.

Norges Bank's policy is to disseminate and publicly explain major revisions and events in statistics, as well as events affecting statistics, to the extent that they are not confidential. In January 2002, the central government took over the hospitals from the counties (local government). In connection with this takeover, the counties were granted 17.8 billion kroner earmarked for debt payments. These transfers had great impact on the growth rates of the credit indicators and the monetary aggregates. Once Norges Bank had ascertained that the new sectorization did not raise issues of respondent confidentiality, Norges Bank informed users of these data of the impact on the financial aggregates of this change not only through its monthly press release but also in its "headline" web-based statistical presentation.

Respondents are fully aware that data are being used both for supervisory and statistical purposes. All reporting units are informed of their rights and obligations in *the Introduction to Regulations on Reporting,* as well as through current information exchange.

Special aggregation rules have been developed to ensure that residual disclosure does not occur when aggregates of confidential data are disseminated. In the event of special cases, e.g., queries on groups of units, a case-to-case judgment is undertaken.

Access to individual data—and the database generally—are restricted to staff who require the information in the performance of their duties. Steps are taken to secure the premises of the Statistics Department and its computer systems to prevent unauthorized access to individual data. Confidentiality of data is appropriately guarded during storage and during the process of record destruction.

Norges Bank has comprehensive internal procedures for data safety. Training programs for the employees are occasionally undertaken (e.g., the data security program 'For your eyes only' in 2001). Establishing and maintaining access restrictions to the various data systems in the bank is an important measure. Access and privileges are given to users on a "need to know" basis. Moreover, access is graduated (access to reading data, to changing data, etc.) and time-limited. As for the transmission of data from the reporting units, data are submitted either online or by email, with no encryption. However, a new reporting system is under preparation, in which data will be encrypted.

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

The legal basis for the reporting from the commercial and savings banks, as well as from mortgage and finance companies, is the Financial Supervision Act, which, among other provisions, mandates reporting of information. Generally, formal agreements between the BISC, Norges Bank, and SSB assure that the data requirements of all parties are met. The current staff responsible for monetary statistics at Norges Bank are not aware of conflicts or potential conflicts between the legal authority to produce monetary statistics and other laws or provisions.

Provisions for noncompliance contained in the Financial Supervision Act may be used to fine nonreporters in the relevant sub-sectors. However, in practice, Statistics Department staff makes use of a combination of moral suasion and pro-active measures to ensure adequate reporting of data for compiling the monetary statistics. For example, Norges Bank attempts to minimize respondent burden within the framework of the Register of Reporting Obligations of Enterprises in the Brønnøysund Register Centre, an administrative data register. The Statistics Department encourages the staff serving as contact persons to seek out their correspondents and to provide assistance, as needed, in completing and submitting forms. Because of the effectiveness of the above-mentioned measures, the Bank is only rarely obliged to use the threat of fines and other penalties to address poor reporting behavior. This coordination is followed up by meetings of working groups with

representatives from the reporting units and their associations with a view to further streamlining of reporting and to advancing the discussion of major changes prior to their implementation.

0.2 Resources

0.2.1 Staff, financial, and computing resources are commensurate with statistical programs

Within the Statistics Department there are 22 persons involved in monetary statistics.[31] This is commensurate with respect to the Bank's monetary and financial statistical programs. (More details on the overall staffing of the department are given below.) The qualifications of the core staff who will continue for the near future in their assignments in monetary statistics tasks are sufficient. Staff are provided with formal (using internal and/or outside experts) and on-the-job training and seminars in the monetary statistics methodology and compilation methods, including international statistical guidelines and procedures to compile data. External training is provided through training seminars in the EU (the Training Program for European Statisticians) and at the IMF (Courses in Monetary and Financial Statistics) and through visits to other central banks and regional and international financial institutions.

Generally, Norges Bank's competitive salary conditions and other benefits secure stability of trained staff. In addition to the above-described training specific to monetary and financial statistics, the Bank also offers the staff other opportunities to pursue further formal education and informal training, some of which may be supported with scholarship resources. Partly owing to these factors, the Statistics Department has a low turnover.

Overall, the computing resources for compiling the monetary statistics are adequate to perform required tasks. However, the earlier stages of the compilation process are performed on a mainframe system, with relatively high costs. Steps are being taken to move from the mainframe platform to a local server in 2003. Most of the other tasks are performed using current computer technology, mainly PC workstations. Workstations are renewed approximately every three years and there are well-functioning local networks.

Various types of software, each with its own set of advantages and disadvantages, are used currently. The software used in the earlier stages of the compilation process (Natural Adabas) dates from the 1980s; it is "proprietary" and has some inflexible characteristics, but it has evolved into a "mature" application for Norges Bank users and performs most tasks

[31] In conjunction with Norges Bank's planned exchange by 2005 of certain compilation and dissemination tasks with SSB (see *0.1* and *0.2* of the Detailed Assessment of Balance of Payments Statistics), Norges Bank plans to streamline both the work program and staffing of the Statistics Department. Under this strategy, not all of the present staff of 22 will necessarily remain and the Statistics Department will be reorganized.

satisfactorily. Steps are being taken in order to introduce more modern and commonly used software.

By contrast, workstation applications are the "latest" versions of Microsoft products. And more modern computer software (FAME and Excel) is used in the later stages of the compilation and dissemination process. The FAME system was recently moved from a server to a PC platform.

Norges Bank offers data reporters various up-to-date reporting methods and users good downloading facilities on the web (spreadsheet and PDF files). Hardware installation is distributed adequately to ensure efficient processing of data and management of the databases.

0.2.2 Measures to ensure efficient use of resources are implemented

The *Action Plan* is an internal planning tool and document employed by Norges Bank. In the particular *Action Plan* for the Statistics Department, managers are encouraged to promote their vision "to use effective production processes" and to share this with their staffs. Among other approaches, efficiencies are sought by requiring the use of the same concepts and methodology across the Department. In addition, various data procedures are employed to minimize processing errors. Code controls, logical control and analytical controls are performed. These statistics contribute to intra- and inter-sectoral consistency checks.

The principal internal process used by the Statistics Department to measure the resources used for compilation of the monetary statistics is the frequent analysis of the Department's "product line." In addition, the Statistics Department has an ongoing focus on the working processes. Evaluations of the production process of the monetary statistics (in the Statistical Methods Section and with the Statistics Director) are performed every quarter.

Periodic reviews of the use of resources in person-years are undertaken, most recently in 2001. The Statistics Department prioritizes within its staffing budget so that human resources are best employed in addressing major data problems or meeting new data needs. One example is the agreement of Norges Bank to make larger payments to the Registry of Securities in exchange for broader collection and reporting of information by the Registry relating to bonds and certificates data that are used in the compilation of the *"kredittindikatorene"* or credit indicators.

The Statistics Department works with other Bank departments to make the optimal use of both new and existing technologies. The Bank's internal FAME group is instrumental in promoting new applications of FAME software for compilation and analysis of financial sector data. At the same time, the Statistics Department's own FAME users have contributed to the FAME-based work of other Norges Bank departments. The group has also promoted the introduction of new programs and software. Representatives of the Statistics Department

and other Bank departments attend international meetings about new technology and applications. All staff is offered updating software courses (mostly MS products). Beginning in 2001, all Norges Bank publications have been Internet-based, taking advantage of web publication capabilities and thereby reducing, and in the case of some publications, eliminating, some conventional publication expenses.

0.3 Quality awareness

0.3.1 Processes are in place to focus on quality

Norges Bank's governing bodies, management, and senior staff members acknowledge that quality of the Bank's policies, procedures and products builds public trust. Management and senior staff of the Statistics Department have recently received external guidance on one internationally known approach to quality (Total Quality Management) and management is considering whether and how this or other approaches could be combined with existing ones. For example, the management of the Monetary Policy Wing fully supports the above-mentioned *Action Plan* of the Statistics Department for 2002 that includes the following dimensions:

"…The Statistics Department will ensure the best possible trade-off between quality, timeliness, scope and use of resources…that deadlines in the production and publication of planned statistics are met…and that statistics of necessary quality are produced. The Department will work in accordance with international recommendations/norms [and best measures of central tendency and dispersion, such as] size of unexplained deviation etc...Procedures and routines for quality assurance in the work process are followed…In 2002 the Statistics Department will focus on: tending to our respondents and quality assurance, through treatment of small vs. large orders of magnitude of data, with respect to a balanced and efficient use of resources…improving the automated and analytical controls done on the micro data in the primary financial statistics database…and improving our routines for dissemination of statistics."

The sensitivity of managers to all dimensions of data quality is highlighted in working papers of the Statistics Department.[32] In addition, the Monetary Policy Wing initiated an internal training program called the "school of bureaucrats." Through structured seminars, this program provides guidance and coaching to new staff on standards and codes in a broad range of topics including central bank law, statistics, and econometrics. These efforts also contribute to a culture of shared perceptions of quality.

[32] *Statistics Paper No. 7, 2001, Quality Work in the Statistics Department.*

0.3.2 Processes are in place to monitor the quality of the collection, processing, and dissemination of statistics

Reviews are undertaken to identify problems at the various stages of collecting, processing, and disseminating of data. The Statistics Department is now engaged in redesigning the methods for delivering data to the common database. The project is aimed at putting new technology to use, with a view to reducing the burden on respondents by encouraging "getting it right the first time." The Department aims at achieving this partly by placing more automated controls in the systems of the reporters.

Norges Bank does not benefit from external guidance on the quality of monetary statistics. However, there are three internal sources (the Financial Stability Wing, the Economic Department, and the Research Department) that provide constructive feedback.

0.3.3 Processes are in place to deal with quality considerations, including tradeoffs within quality, and to guide planning for existing and emerging needs

The significance of trade-offs, particularly as between timeliness and the need for revisions, are communicated by the Statistics Department to users and their views are taken into consideration. For example, the Department has accelerated its dissemination of the credit and monetary aggregates, and, as appropriate, interest rate data, to be available to the Board and the market at the time that the Board is considering changes to interest rates.

The Department improves the quality of its statistics by the careful implementation of planned projects. For example, the new system for reporting data to the Department (Inndata-project), the reengineering of the revision- and computing-system for the quarterly financial accounts (Findatr 2003) or the investigation into possible new and better sources (Findatr 2003 and the securities statistics project) have each led directly or indirectly to more generalized improvements in the statistics. The Department holds regular meetings with SSB in which new requirements are included in the agenda. In some cases SSB is invited to participate in Bank projects (Findatr 2003); in some projects, SSB employees actually work in-house at Norges Bank for a period.

Users' feedback on monetary statistics is encouraged through the provision of a contact person, e-mail and phone number in all web-based and other publications. All inquiries and questions are answered. For example, a user complaint that the concept "publikum" (nonfinancial corporations, households and local governments) often was misunderstood by the media. This led to a change in the pertinent descriptor and the change was highlighted in the next regular monthly press release on statistics.

1. Integrity

1.1 Professionalism

1.1.1 Statistics are compiled on an impartial basis

An internal rule gives the Statistics Department independence from intervention or influence by the rest of the Bank regarding the compilation and dissemination of statistical information. The rules are formalized in a letter from the Monetary Policy Wing addressed to the Governor dated November 28, 2001. The Governor has approved those rules. (See also *1.2.2.*)

Professional competency plays a key role in current recruitment policy and recent changes in the appraisal, salary, and promotion system will enhance future competency. The streamlining and reduction in the staff of the Statistics Department planned for 2005 will further contribute to this objective.

Professionalism is also promoted by the publication by the Statistics Department's staff of methodological papers and by organizing lectures, conferences, and meetings with other professional groups, etc. The Statistics Department participates in the meetings of the following international organizations:

- Eurostat's Committee on Monetary, Financial and Balance of Payments Statistics (CMFB) and Financial Accounts Working Party (FAWP);
- OECD;
- BIS; and
- Nordic meetings (including meetings with other central banks).

in meetings of the following Norwegian organizations:

- frequent trilateral meetings between the BISC, Norges Bank and SSB;
- regular meetings with the Norwegian Central Securities Depository;
- quarterly meetings with representatives of depository corporations, other reporting units and banking associations and similar organizations; and
- occasional meetings in which the representatives of the trilateral group meet jointly with some of the representatives from the above-mentioned reporting units and their associations.

and in other contacts with other professional users, such as visiting representatives of other central banks and international organisations.

The Statistics Department undertakes research on methods and analysis in the form of internal working papers and lectures and seminars. These are subject to internal review. Eight times per year, the Department joins others in providing the Governor a "*Faktapresentasjon"* (a briefing on recent economic developments). In turn, the Governor

provides some feedback at the time of these briefings and other feedback at the time of the Governor's periodic evaluations of the work of each Department. From time to time the Bank also undertakes systemic reviews of the statistical framework; a recent example was its study of the revision of the monetary statistics based on the *MFSM*. This study led to the adoption of the new framework in 2000.

The Governor has endeavored to bring the message to the public that Norges Bank, through its statistical work, particularly in the areas of underpinning and monitoring the government's policy of inflation targetting, is accountable to the general public. The homepage of the Bank's website includes a shortcut to recent speeches and press releases by the Governor and Deputy Governor. A link to publications of Norges Bank provides a complete listing of speeches, press releases, and articles by them and other Norges Bank staff. A pop-up calendar highlights current and upcoming appearances by the Governor and Deputy Governor. These appearances are also cited in the Norwegian daily newspapers and on television and radio.

The Governor has emphasized that the increased transparency and accountability of the central bank's statistics under the regime of inflation targetting has helped to promote central bank independence. Among other things, the Governor has noted that statistical benchmarks have focused public debate on appropriate long-run issues of monetary and price stability and economic growth. This stress on transparency and frequent communication with the public has enhanced significantly the public's understanding of the statistics included in regular inflation reports, the goals and limitations of monetary policy, and the statistical reasons for deviations, if any, from policy.

1.1.2 Choices of sources and statistical techniques are informed solely by statistical considerations

The choices of data sources and statistical techniques reflect a combination of two main statistical considerations. First, Norges Bank staff members in the Statistics Department pursue sources and techniques that will assure that monetary statistics are consistent with national accounts statistics. Second, staff members seek to provide a set of financial stability indicators that provide to both monetary policymakers and the BISC's supervisory and regulatory staff an informed view of the strengths and weaknesses of Norway's depository corporations. These considerations have led the Statistics Department to maintain and sometimes disseminate more than one set of statistics or indicators based on the same source data. For example, the treatment of loans on the asset side of the other depository corporations' balance sheet (see *2.4.1*) represents an effort by the Statistics Department to maintain two presentations (loans including and excluding expected loan loss provisions) to meet the needs of banking supervision and the need to provide statistics that are consistent with *SNA 93*. It should be noted that the latter are also available to SSB in the joint database, but are not disseminated widely by Norges Bank. Important changes in methods are mentioned in the Bank's web-based publications and/or in the metadata.

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

The Statistics Department monitors more or less systematically the use and interpretations of the statistics in the press/media/internet, particularly in the immediate period following dissemination of new data. In the event of misinterpretation of statistics by the media or others, the Department comments and, if appropriate, issues a notice with its interpretation of the statistics.

1.2 Transparency

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

Information on dissemination of terms and conditions under which official statistics are produced are available on the Norges Bank website, and the key features of these are reproduced on the IMF's Dissemination Standards Bulletin Board (DSBB). The DSBB base page links users to the respective summary methodologies and to the Norges Bank website. All first-time publications are on the Norges Bank website. Most pages on this site contain references to, or synopses of, more information about Norges Bank and its statistical products.

Norges Bank also makes public the pertinent parts of regulations on reporting (*Introduction to Regulations on Reporting by Banks, Mortgage Companies and Finance Companies etc.*). This introduction contains information about the legal basis of the reporting. Norges Bank follows the principles of the Statistics Act regarding confidentiality of individual responses and other key features. Norges Bank also reproduces or gives links to the Statistics Act, guidance to reporters, lists of codes and forms under which the statistics are compiled, and an advance release calendar for the coming three months.

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

There is no access by government officials to monetary statistics before public release. Except for a limited number of people in the Statistics Department of Norges Bank, pre-access to pertinent monetary and credit aggregates is given half an hour before release, for information only, to the following: the Central Bank Governor and Deputy Governor and the heads of the Monetary Policy Wing, the Financial Stability Wing and the Information Department. The government and the public are informed about the above-mentioned pre-release on the DSBB.

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

As first-time dissemination of Norges Bank data is only by Internet, the producing agency is clearly identified. Norges Bank also makes public a disclaimer: Norges Bank is liable neither

for the use of its data on the Internet, nor for the direct or indirect loss or damage as a result of incorrect, incomplete, or misleading data.

SSB gives reference to Norges Bank when publishing data produced by Norges Bank and vice versa. Typically, Norges Bank re-releases SSB data in the context of some of its tables contained in the Appendix of the quarterly *Economic Bulletin.*

It is not a standard requirement that reproducers provide attribution of the statistics compiled and disseminated by Norges Bank. The Statistics Department maintains a list of those statistics requiring attribution.

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

Norges Bank's most recent two examples of its advance notice of changes concern the monetary aggregates. The major change planned for the monetary statistics in October 2001 was announced in May 2001. The change in the calculation of growth rates that took place in the September 2002 release was announced in connection with the release of August 2002 data.

1.3 Ethical standards

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

Ethical guidelines are included in the internal handbook of *Ethical Rules of Norges Bank §§8 and 9.* Articles 8 and 9 state that employees of Norges Bank must perform their functions with strict impartiality. Employees may not engage in financial activities or accept remuneration outside the Bank without the advance knowledge of the heads of the respective Departments. This is particularly emphasized with respect to guarding against misuse and misrepresentation of statistics (see also 0.1.3 and *Ethical Rules of Norges Bank §10).* Article 10 states that all employees are subject to the duty of confidentiality throughout their employment and its continuation in force after employees leave their positions. In addition to the above-mentioned signing of the duty of confidentiality, new staff signs an initial agreement that says in part, "the *Ethical Rules* apply to you as a new employee and form a part of your employment agreement."

The reputation of the current Governor and management of Norges Bank is widespread in Norway, partly owing to the Governor's willingness to speak to media and the public on a frequent and regular basis. His role model and his public messages reinforce his reputation and that of Norges Bank for high ethical standards and autonomy from political interference.

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 by Norges Bank to compile monetary statistics conform, with some exceptions, to the guidelines outlined in the IMF's *Monetary and Financial Statistics Manual* (*MFSM*). Norges Bank was among the first central banks to shift its compilation and dissemination to the framework outlined therein. In November 2000, Norway's monetary statistics began to be compiled and disseminated on this new basis, as reflected in web-based and hard-copy publications for that month, including new indicators and consolidated balance sheet presentations, as described further below.

The principal analytic framework used by Norges Bank is that of the survey of monetary stock data called *"Motposter til Pengemengden,"* literally the counterparts of broad money.[33] This depository corporations' survey is the consolidated balance sheet of Norges Bank and the commercial and savings banks. Intra-sector financial claims and liabilities are eliminated therein. The monetary concepts are obtained by adding up the relevant liabilities of the money issuing sector vis-à-vis the money holding sector. Norges Bank compiles and disseminates this survey.[34]

Key aggregates identified in the depository corporations survey data include the following counterpart items to the broad monetary concept (M2): (i) net foreign assets; (ii) net claims on the government sector; (iii) gross claims on the money holding sector; and (iv) other items (net).

Norway's monetary aggregates include three principal concepts. First, the monetary base (M0) includes banks' and the money holding sector's notes and coin and deposits with Norges Bank; banks' deposits with Norges Bank comprise current account (sight) deposits and fixed-rate (time) deposits (F-deposits). Second, the narrow monetary concept (M1) comprises the money holding sector's notes and coin (in Norwegian kroner) and transaction deposit accounts with Norges Bank and banks (in Norwegian kroner and foreign currency). Third, the broad monetary concept (M2) represents M1 plus the money holding sector's other bank deposits in Norwegian kroner and foreign currency except restricted deposits (bank saving with tax credit etc.) including certificates of deposit.

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[33] The functional equivalent of "counterparts of broad money in stock terms" is the title used in a number of European and other languages to describe, perhaps with greater functional precision than is done in the original English version of the *MFSM,* the depository corporation's survey.

[34] The Bank also disseminates a range of indicators of monetary and financial activity.

The money holding sector (for M1 and M2) consists of local government (counties and municipalities), nonfinancial corporations, households and other financial corporations (i.e., excluding banks and state lending institutions). The money-issuing sector (for M1 and M2) includes banks (Norges Bank and commercial banks and savings banks). The money-neutral sector includes the same sub-sectors in M0, M1 and M2, and comprises the central government sector, state lending institutions and the non-resident sector.

The depository corporations survey presents the central bank's and the depository corporations sector's claims on the money holding sector. However, this credit concept is regarded by Norges Bank as too narrow for the purpose of monitoring monetary policy, particularly insofar as it does not make full use of the data disaggregations provided by the comprehensive application of the residency criterion; in order to have a more comprehensive set of credit concepts, Norges Bank supplements this survey information by compiling and disseminating three credit indicators: *"Innenlandsk kreditt i norske kroner (K1)"* is the "indicator of credit from domestic sources in NOK (C1)"; Sources included in indicator C1 are loans in NOK to the general public[35] by banks, state lending institutions, finance companies, life and non-life insurance companies, mortgage companies, private and municipal pension funds, the Norwegian Public Service Pension Fund and Norges Bank.

C1 also includes bond and certificate debt issued by the general public in the domestic market and owned by Norwegian residents Debt in the form of domestic inter-company loans with and without guarantee was included up to end-December 1999; thereafter it has been excluded. Loans from the Norwegian Public Service Pension Fund are placed in the category, "Other Sources."

"Kredittindikatoren K2," the credit indicator C2 ("credit from domestic sources in NOK and foreign currency") comprises "C1" plus lending to the general public in foreign currency by Norwegian financial corporations. *"Kredittindikatoren K3,"* is the credit indicator C3 ("credit from both domestic and foreign sources in NOK and foreign currency") and it comprises "C2" plus credit from foreign sources, obtained from the balance of payments and SSB's compilation of "foreign assets and liabilities."

2.2 Scope

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

The Norges Bank compiles and disseminates the following aggregated sectoral balance sheets for monetary statistics:

(i) Norges Bank, including the Government Petroleum Fund, which is managed by the Norges Bank;

[35] Including local government, non-financial corporations, and households.

(ii) commercial and savings banks;
(iii) state lending institutions;
(iv) mortgage companies;
(v) finance companies; and
(vi) mutual funds.

Norges Bank compiles monthly data for subsectors (i)-(iv), quarterly data for (v) and annual data for (vi).

SSB disseminates all of the above data on a quarterly basis, except (vi), which is annually, generally in more aggregated format. In addition, it compiles and disseminates the following sectoral balance sheets:

(vii) life insurance companies;
(viii) non-life insurance companies;
(ix) pension funds;
(x) financial holding companies; and
(xi) securities broking enterprises.

SSB disseminates quarterly data covering subsectors (vii) and (viii) and annual data for subsectors (ix)-(xi).

The central bank sector comprises Norges Bank excluding the Government Petroleum Fund, which is classified as part of the government sector. The "Other depository corporations sector" is made up of the commercial and savings banks.[36] The Other financial corporations sector comprises subsectors (iii)-(xi).[37]

2.3 Classification/sectorization

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

Both Norges Bank and SSB employ the residency criterion to distinguish between domestic and external accounts for the compilations of monetary statistics. The above-described classification of institutional units within the financial corporations sector is consistent with both the *1993 System of National Accounts* (*1993 SNA*) and the *MFSM*. The other economic sectors identified in the monetary statistics are the following: (i) the public sector, of which

[36] Of which are 22 commercial banks (of which eight are Norwegian branches of foreign banks) and 129 savings banks.

[37] At the end of 2001, there were 11 mortgage companies, 56 finance companies, 3 state lending institutions, 272 insurance companies and pension funds, and 399 mutual funds.

central government, counties and municipalities; (ii) the nonfinancial corporations, of which public nonfinancial and private nonfinancial; (iii) the households; and (vii) non-residents.

The classification of most financial instruments used for monetary statistics by Norges Bank is in line with *MFSM*. Some instruments' classification, such as repurchase agreements (repos), reflects a combination of international standards and principles of accounting applied to Norwegian corporations (financial and nonfinancial). The latter are described in greater detail below. Norges Bank disseminates monthly both the Accounting Department's end-month balance sheet and the Statistics Department's statistical compilation of the same balance sheet. The latter reorganizes the accounting data into more commonly used statistical aggregates. These balance sheets display the depository corporations' holdings of assets and relevant instrument categories required for the compilation of monetary aggregates (see also *2.1.1*).

Deviations from *MFSM* include the treatment of some components of international reserves including repurchase agreements (repos) in Norges Bank's balance sheet, and gold and gold loans.[38] Generally, Norges Bank's foreign assets (including the Government Petroleum Fund) reflect non-statistical guidelines established to guide the investment of Norway's substantial foreign assets, particularly those generated by the Government Petroleum Fund. Against this background, international reserves include substantial amounts of bonds subject to repurchase agreements. The Accounting Department currently follows the regulations issued in July 1993 by the BISC regarding accounting standards for banks on repurchase agreements for bonds. These regulations require that underlying bonds remain within bond holdings. The increase in foreign deposits is to be counterbalanced by a foreign liability (the collateralized loan).

The Statistics Department expressed the specific concern that this treatment overstates international reserve assets by counting both the funds received and the securities repoed. In response to this concern, the Accounting Department addressed this and other issues in the presentation of gross international reserves on the asset side of the balance sheet as follows:

- Repos are recorded as an increase in foreign deposits (within international reserves), counterbalanced by a foreign liability;

[38] The coverage of Norway's international reserves excludes the Government Petroleum Fund. However, the expertise gained by Norges Bank in foreign asset management is reflected in the management and composition of its international reserves, and, in particular the choice of instruments such as repos. The distribution of Norges Bank's foreign assets, other than the Government Petroleum Fund, is regulated by the Resolution of July 19, 2000 of the Norges Bank Executive Board. The distribution of Government Petroleum Fund assets is regulated by the Ministry of Finance through "Regulation on the Management of the Government Petroleum Fund" issued on October 3, 1997, last amended September 28, 2001. The regulations are presented on the Norges Bank website under Petroleum Fund, Guidelines.

- Bonds repoed remain within bond holdings (within international reserves);
- The market value of bonds repoed is presented in the footnote no. 6 of the final year-end balance sheet that is included in Norges Bank's *Annual Report 2001.*
- The value of the repurchase agreements (transfer amount) is presented in footnote no. 2 of the *Annual Report 2001.*
- Footnote no. 6 also provides a short methodological note on the pertinent repurchase agreements.

The above presentation follows the *MFSM,* except that the *Manual* calls for the deduction of bonds repoed from international reserves and recorded elsewhere in the balance sheet. However, the mission finds the Norwegian practice consistent with a practice accepted for the *International Reserves and Foreign Currency Liquidity: Guide to a Data Template.*

Several instrument valuation and recording issues, outlined in *2.4* below, also have implications for classification and sectorization of financial instruments.

Other special phenomena affecting the sectorization of statistics are documented in the form of disseminated commentary by Norges Bank if the nature of the phenomena is not confidential. (See *0.1.3* for the example of the re-sectorization of the hospitals sub-sector.)

2.4 Basis for recording

2.4.1 Market prices are used to value flows and stocks

Norges Bank does not follow uniformly the *MFSM* recommendation that the valuation of financial assets and liabilities should be done on the basis of market prices or market-price equivalents. Instead, Norway's monetary statistics are based on a combination of Norwegian accounting laws and practices and international standards. In short, their basis for recording a number of stocks and flows involves the use of a dual valuation system of market pricing for tradable instruments and non-market prices for nontradables. In some cases, such as the repos included in international reserves, when the non-market price information is presented for statistical purposes, the market prices are presented in the form of footnotes to the balance sheets, for example in the *Annual Report* of Norges Bank.

Norges Bank's balance sheet includes monetary gold and gold loans that are valued using a "unit price" that is the current world market price less 20 percent, a practice that is inconsistent with international best practices.[39]

Loans by Norges Bank to the financial sector and its other assets and liabilities are valued at nominal values, according to international guidelines. Securities that are part of Norges

[39] This method reflects the ECB's guidelines of the late 1990's; these were subsequently revised to market prices.

Bank's trading portfolio are valued at market prices, also in accordance with international guidelines. A small amount of securities and long-term investments are recorded at nominal value. (See also *2.3.1*.)

The other depository corporations follow Norwegian corporate accounting standards that provide for dual valuation; thus, the reporting units in practice report their trading portfolio at market prices (in accordance with international norms) while reporting their longer-term and/or less liquid financial assets (bonds and shares) at book values[40] (not in accordance with international norms). On the liability side of the reporting units' balance sheets the securities and shares are valued at nominal prices, inconsistent with international statistical standards. [41]

For the compilation of the "Kredittindikatorene" (credit indicators), the Statistics Department uses nominal values on bonds and certificates, as the staff believe that this is consistent with their focus on transactions; thus the nominal values are the amount which a debtor actually has to pay back at the end of the maturity term. (International standard practice calls for the market prices for bonds whilst the nominal values for the certificates are acceptable.)

Deposits and capital on the balance sheets of the depository corporations are valued at nominal value and accrued interest is included in the balance sheets. However, a part of accrued interest is not connected to each of the separate instruments in the balance sheets, but registered as a sum of accrued interest of groups of instruments. This accrued interest is included respectively in other assets and liabilities. (The *MFSM* calls for their inclusion with the instruments; However, *1993 SNA* standards (*11.101* and *13.81)*) permit accrued interest to be recorded either separately from, or together with loans and deposits.

Loans on the asset side of the balance sheets of the other depository corporations are reported twice, both adjusted and unadjusted for expected loan loss provisions. Contrary to international standards, Norges Bank disseminates only the other depository corporations data adjusted for expected loan loss provisions, which is also the definition of loans used in the "Kredittindikator." On the liability side, other depository corporations report their loans at nominal values, consistent with the *MFSM.*

[40] Book value is the acquisition cost less revaluations, depreciation, and write-offs.

[41] In the quarterly financial accounts the securities and shares that are collected and compiled in the depository corporations are revalued using actual data from the VPS, the Norwegian Central Securities Depository.

Financial derivatives are reported by the other depository corporations as part of their balance sheets data and derivatives that are part of the trading portfolio are valued at market or fair values, consistent with the *MFSM.* However, some financial derivatives are not reported separately. Thus, Norges Bank statisticians believe that it is likely that financial derivatives based on securities are reported with the underlying instruments and amounts reported as derivatives in the report forms are related to other derivatives. The latter amounts are disseminated together with other assets and other liabilities.

Related to the recording of value and volume changes, Norges Bank has adopted the *MFSM* methodology to compile both stock and flow data, and have developed recording procedures for transactions, revaluations, and other changes in the volume of assets (OCVA). The exclusion of loan losses from OCVA in the credit indicators is an exception.

2.4.2 Recording is done on an accrual basis

In its own balance sheet, Norges Bank uses transaction dates (trade dates) in determining outstanding foreign currency resources and flows. Unsettled buys and sales of foreign securities are counterbalanced by net claims presented under foreign deposits (also when net claims/liabilities are negative).

With respect to other depository corporations, interest payable and interest receivable are recorded on the balance sheet as interest accrues. Holding gains and losses arising from changes in market values of financial assets and outstanding liabilities are recorded separately in revaluation accounts. (See also footnote 14.)

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

In line with the general principles of the *MFSM*, assets and liabilities of Norges Bank and all other depository corporations are collected and subsequently compiled on a gross basis. Claims on particular transactors are not netted against liabilities to those transactors.

In the compilation of the sectoral balance sheets of Norges Bank and other depository corporations, the data on financial assets and liabilities are aggregated into major categories (e.g., claims classified by debtors and deposits classified by creditors.) While compiled and generally available on a gross basis, many categories of monetary data are presented on a net basis in surveys and other presentations of data because of the analytical usefulness of the data in this form, for example, net credit to government.

3. Accuracy and Reliability

3.1 Source data

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

Both the monetary and financial statistics databases are comprehensive and robust. The databases have evolved significantly during the period since 1986 when most reporting was automated; in the process, the institutions responsible for the statistics have increasingly focused on the accuracy and reliability of the composition of the main, tripartite, data base. This base is built around the idea that all reported data shall be controlled thoroughly by the reporter as much as possible. Also the production of economic indicators includes a number of automated routines in which crosschecks are carried out.

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

While issues concerning classification and valuation of certain central bank and other depository corporations can be elaborated, the source data pertaining to these instruments are readily available.

3.1.3 Source data are timely

All source data are timely; including Norges Bank's balance sheet. See *4.2.1* for an explanation of why there is a restriction on the timeliness of the December and January data. The source data from the other depository corporations are uniformly timely.

3.2 Statistical techniques

3.2.1 Data compilation employs sound statistical techniques

Data compilation is based on detailed supervisory and statistical report forms that make up part of the unified reporting system. The report forms are straightforward, facilitating completion for the respondents. The forms minimize duplication of reporting for statistical, prudential and other purposes; formula-based vertical checks are included in the tables.

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

Norges Bank employs a combination of practices that allow for well-informed data adjustments and statistical analysis at all levels of compilation and dissemination. An example of the use of sound statistical techniques is the recent adjustment in the way growth rates in the monetary aggregates are handled. Beginning with the dissemination of the data for September 2002, growth rates have been adjusted not only for revaluations but also for

breaks in the series. [42] This change was announced more than one month prior to the release of the September monetary data.

3.3 Assessment and validation of source data

3.3.1 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 planning

The source data are comprehensive; there is no particular response problem.

3.4 Assessment and validation of intermediate data and statistical outputs

3.4.1 Main intermediate data are validated against other information where applicable

A verification process is conducted against the annual official accounting reports of reporting institutions with the aim of crosschecking the reported source data. In addition, monetary statistics are also validated against data from balance of payments statistics and statistics on payments systems.

3.4.2 Statistical discrepancies in intermediate data are assessed and investigated

The Financial Statistics section of the Statistics Department works with the Statistical Methods section and with the BISC and SSB in the event of discrepancies. The section follows up on errors in reporting by depository corporations.

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

Should they occur, errors in statistical outputs are investigated. Some of the main fluctuations that have occurred recently are related to significant changes in statistical methodology. SSB, in preparing to re-disseminate data compiled by the Statistics Department, regularly reviews

[42] Prior to September 2002 the monetary statistics presented three growth concepts for M2: (i) one-month growth calculated as annualized growth in seasonally adjusted stocks; (ii) three-month growth as growth in the three-month moving average, defined as the annualized growth in seasonally adjusted stocks over the last three months compared with the earlier months. (The calculation is cantered on the month in the middle of the last three-month period); and (iii) twelve-month growth from change in stocks (actual data). Twelve-month growth rates are also made for M1 and for M2 for the subsectors of the money holding sector. The seasonal adjustments of the monetary aggregates are performed using the X12-ARIMA (version 0.2.7) program. Seasonal components are calculated for one year ahead, when publishing data for January. These growth rates were calculated from stocks and were not adjusted for revaluations of the holdings of foreign currency.

the source data and compilation. In the event of problems, the two agencies coordinate their investigation.

3.5 Revision studies

3.5.1 Studies and analyses of revisions are carried out routinely and used to inform statistical processes

Studies and analyses are conducted regularly and are disseminated on the Bank's website. The focus of such notes is a comparison of growth rates of major aggregates as between first (estimated or preliminary) data and final data. Generally revisions in M2 and C2 are small, but revisions in C3 are larger, reflecting the large order of magnitude of revisions of external sector data.

4. Serviceability

4.1 Relevance

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

Users' forums are held to obtain feedback from users on data quality issues; the most recent was held in 2000. The user survey conducted for this ROSC assessment confirmed that users generally considered that monetary statistics met their needs for relevance and timeliness. (See Appendix III).

4.2 Timeliness and periodicity

4.2.1 Timeliness follows dissemination standards

Norges Bank disseminates its balance sheet, the analytical accounts of the central bank, two weeks after the end of the reference month which accords with the SDDS requirement, for all months except for December and January. The December balance sheet of Norges Bank cannot be disseminated within the SDDS two-week time frame, owing to the fact that these data must be approved by Norges Bank's Supervisory Council. The Bank releases the December data around mid-February. January data are released one week later. With respect to the analytical accounts of the banking sector, they are disseminated monthly within one month after the end of the reference period, meeting fully SDDS requirements.

4.2.2 Periodicity follows dissemination standards

The analytical accounts of both Norges Bank and the banking sector have monthly periodicity and thus meet SDDS requirements fully.

4.3 Consistency

4.3.1 Statistics are consistent with the dataset

Norges Bank's and the other depository corporations' records for claims on, and liabilities to, are consistent between each other. Additional internal consistency checks, including reconciliation of stock and flow data are maintained by the Statistics Department.

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

Except for breaks in time series that are explained by changes in the coverage of the data, owing mainly to shifts in the overall monetary statistics framework, data are fully consistent over time. It should be noted that the growth rates are adjusted to take into account breaks in the series.

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

With respect to intrasectoral consistency, the Norges Bank statistics and those for Norway's other depository corporations are not always fully reconcilable with those obtained by SSB in its national income compilations. The monetary statistics are broadly consistent with the government finance statistics and the balance of payments statistics.

4.4 Revision policy and practice

4.4.1 Revisions follow a regular, well-established, and transparent schedule

The Statistics Department's revision policy is to disseminate revisions of the previous month's data together with the current month's data. This practice used to be noted in hard-copy publications, and are currently disseminated on the Norges Bank's website. Also, revised data are now shown with a blue color in the published statistics tables.

4.4.2 Preliminary data are clearly identified

Some of the reported data may contain preliminary data that are subsequently revised. These tend to be small in magnitude.

4.4.3 Studies and analyses of revisions are made public

Revision studies have been undertaken periodically (see *3.5.1),* and major studies have recently been made public on Norges Bank's web-site.

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 Norges Bank website is particularly attractive and user-friendly. Although there are no "comment boxes," for users, the ready availability of the contact person's email address and hyperlink is the equivalent. It is very straightforward to "drill down" through the site's various headings to the particular statistics and tabular and chart presentations. The descriptors of the tables and the underlying Excel spreadsheets, are understandable and consistent with international norms. Summary metadata accompany the most frequently used statistics.

5.1.2 Dissemination media and formats are adequate

Norges Bank recently shifted to a website-only dissemination practice. Monetary and credit aggregates and many other frequently used series are available on the website back to 1960. Users are satisfied with this media and are willing to forego the hard-copy publications.[43]

5.1.3 Statistics are released on a pre-announced schedule

The Statistics Department maintains on its website an advance release calendar and attempts to adhere closely to the dates and times specified therein.

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

Users receive the monetary statistics simultaneously.

5.1.5 Nonpublished (but nonconfidential) subaggregates are made available upon request

The Statistics Department cooperates with virtually all individuals and institutions that request data on Norway's monetary and financial system. All members of the public are entitled to request information, data, and "tailor-made" compilations of monetary and financial statistics, subject to a well-defined pricing policy for relatively large requests. Smaller requests are met without charge, but are subject to informal guidelines, which place reasonable limits on staff time and computing resources. Even within these limits, members of the staff of the Statistics Department make every effort to accommodate requests for data in the interest of promoting understanding of Norway's monetary and financial system.

[43] The last dissemination of the hard-copy monthly monetary statistics publications related to the data for October 2000. Prior to this date, Norges Bank disseminated both web-based and hard-copy statistics for several years.

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

Norges Bank provides hard-copy and Internet documentation of the methods and techniques employed in compiling monetary statistics. Most of this information is presented in dual-language format, Norwegian and English. Summary methodology pages for the analytic accounts of Norges Bank and the analytic accounts of the banking sector are available on the Norges Bank website and can be accessed from the DSBB.

Major events affecting classification and sectorization have been made public, once it is ascertained that such information can be disseminated without violating the rule of confidentiality. As mentioned in *0.1.3*, Norges Bank published the effect on monetary aggregates and indicators such as growth rates of the takeover by central government of units previously in local government (hospitals).

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

Norges Bank's provides summary methodology statements in its web-based tables and on the DSBB. Users may "drill down" to the aggregated balance sheet data; however, detailed statements of sources and methods are not always available on the website or elsewhere to assist users of these data. The Bank tries to respond to the needs of its users by providing metadata descriptions upon request. Also detailed descriptions of recent revisions of data and changes in methods have recently been made available on the web-pages of the Bank .

5.3 Assistance to users

5.3.1 Contact person for each subject field is publicized

A prominent feature of Norges Bank's website is the identification of a contact person for the monetary and financial statistics. This person also shares a data "mailbox" with other statisticians, thus permitting more generalized contact by users and reporters. These venues provide ample opportunity for users to request assistance.

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

The homepage of the Norges Bank website affords considerable information on its own web-based and hard-copy publications, documents and dissemination services. Owing to the new web-based dissemination policy, the issue of charges, or user fees, would arise only in the event of a special, time-consuming request. The website has been carefully designed to link users to a number of useful, related domestic and international websites, hardcopy

publications and points of contact. Requests for special compilations of monetary statistics are generally met by the contact persons; see also *5.1.5*

Table 9. Norway—Data Quality Assessment Framework: Summary of Results for Monetary Statistics
(Compiling Agency: Norges Bank)

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. Pre-requisites of quality						
0.1 Legal and institutional environment		X				
0.2 Resources		X				
0.3 Quality Awareness		X				
1. Integrity						
1.1 Professionalism		X				
1.2 Transparency		X				
1.3 Ethical standards		X				
2. Methodological soundness						
2.1 Concepts and definitions		X				
2.2 Scope		X				
2.3 Classification/Sectorization		X				
2.4 Basis for recording			X			Gold valued at a fixed discount from market prices. Loans valued and recorded less the expected loan losses. Some financial instruments are not recorded at market value. Some financial derivatives are not separately identifed. Accrued interest reported separate from instruments.
3. Accuracy and reliability						
3.1 Source data		X				
3.2 Statistical techniques		X				
3.3 Assessment and validation of source data		X				
3.4 Assessment and validation of intermediate data and statistical outputs		X				
3.5 Revision studies		X				
4. Serviceability						
4.1 Relevance		X				
4.2 Timeliness and periodicity		X				
4.3 Consistency		X				
4.4 Revision policy and practice		X				
5. Accessibility						
5.1 Data accessibility		X				
5.2 Metadata accessibility		X				
5.3 Assistance to users		X				

VI. BALANCE OF PAYMENTS STATISTICS

0. Prerequisites of quality

0.1 Legal and institutional environment

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

Monthly balance of payments data are processed and disseminated by the Division for National Accounts (DNA) in the Department of Economic Statistics of SSB. However, the collection of data for the balance of payments is undertaken by others, particularly Norges Bank and other parts of SSB, described in more detail below. In addition to the monthly balance of payments release produced by SSB, related data on direct investment and foreign exchange reserves are published by Norges Bank. As well, annual international investment position data are compiled by the Division for Public and Credit Market Statistics (DPCS) of SSB.

The compilation and dissemination of statistical data in Norway is governed by the terms and conditions of the Statistics Act of 16 June 1989, No. 54. The Act stipulates in Section 3-1 that Statistics Norway (SSB) is the central body for the production and dissemination of official statistics and it bears the main responsibility for ensuring that the objective of the Act—to promote the efficient production of appropriate statistics—is fulfilled. The Act stipulates in Section 4-1 that Statistics Norway is a professionally autonomous institution. It is placed administratively under the Ministry of Finance (MOF) and its general work program and budget are decided by the Parliament. Information about the Statistics Act is published in the SSB booklet, The *Statistics Act of 16 June 1989, No. 54* in Norwegian and English. The booklet also contains information on regulations concerning the implementation of the Act.

SSB produces and disseminates balance of payments statistics as part of the official statistics of Norway and as a service to the public, but the Statistics Act makes no explicit mention of the balance of payments, or for that matter, any other specific type of statistics.

SSB is part of the European Statistical System and produces and disseminates a significant share of its data according to the legal requirements mandated within this system. (See 0.1.1 of the Detailed Assessment of National Accounts Statistics.) Under Section 3-1 of the Statistics Act, SSB bears the main responsibility for international statistical cooperation.

The Balance of Payments Statistics Section of the Statistics Department of Norges Bank is responsible for collecting and processing data from the international transactions reporting system (ITRS) which is one of the main data sources for the balance of payments. The authority of Norges Bank over international transactions is established by *Act No. 10 of 14 July 1950 Relating to Currency Control* and the *Foreign Exchange Regulations*, copies of which are available to the public via the Norges Bank website or on request. The legislation

and regulations (retained for contingency purposes) give full powers of control of the supply of information, although they do not specifically refer to balance of payments statistics as an objective. The Norges Bank Balance of Payments Statistics Section is also responsible for publishing detailed data on direct investment (both flows and stocks), and on international reserves and foreign currency liquidity according to the IMF's data template.

Additional source data that are used in the balance of payments are collected by SSB's Division for External Trade, Energy, and Industrial Production and SSB's Department of Industry Statistics.

0.1.2 Data sharing and coordination among data producing agencies are adequate

According to the Statistics Act, Section 1-2, SSB has the right to decide which statistics are considered official. This right also concerns statistics that are produced by other Norwegian agencies.

Data sharing between SSB and Norges Bank and between the DNA and data-supplying divisions of SSB works very effectively. In the case of Norges Bank and DNA, there are formal meetings at the middle management level every three months, as well as informal contact at all levels on a continuous basis. The Norwegian balance of payments system is somewhat unusual in that data are collected in separate divisions in SSB or in Norges Bank, while DNA acts solely to assemble and disseminate data. This separation of collection and compilation means that coordination and cooperation are particularly important.

Section 3-3 of the Statistics Act authorizes SSB to coordinate statistical activities. In practice, the delineation of responsibilities is not based on legislation or regulations, but rather, the cooperative attitudes of the agencies involved. The relationship works very effectively. Data are transferred between the agencies in agreed formats and there is close cooperation between the organizations in matters such as conceptual issues and monitoring of the data.

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

The Statistics Act (Sections 2-4 and 2-6) specifies that SSB is prohibited to publish or disclose data from which information about individual persons or firms can be derived. Researchers may be given access to such information under strict rules and conditions. Guidelines provided by the Norwegian Data Inspectorate form the framework for internal and management data security. SSB strictly enforces confidentiality restrictions. Individuals are subject to disciplinary action such as dismissal and fines for violation of confidentiality restrictions. There have not been any violations of confidentiality for balance of payments data. Respondents may waive their right to confidentiality, as has happened for some macroeconomically significant actions by oil companies.

Norges Bank's employees are subject to the duty of confidentiality as stated in the Norges Bank Act of 24 May 1985. Supplementary formulations on duty of confidentiality can be found in Norges Bank's staff regulations and ethical rules. While information on individual

persons and firms cannot be publicly released, under the regulations, Norges Bank may make data available to the police, tax, and customs authorities in accord with the provisions of the legislation. The legislation also allows individual information to be provided to SSB for statistical purposes. Access to individual data and databases containing individual data is restricted to staff who need the information in their duties. Steps are taken to secure the premises of the data producing agency and its computer systems to prevent unauthorized access to individual data. Confidentiality of data is appropriately guarded during storage and during the process of record destruction.

Norges Bank has comprehensive internal procedures for data safety, and training programs for the employees are occasionally undertaken (e.g., the data security program "For Your Eyes Only" in 2001). Establishing and maintaining access restrictions to the various data systems in Norges Bank is an important measure. Access and privileges are given only to users with the specific need in their duty. Moreover, access is graduated (access to reading data, to changing data, etc.) and time-limited. Data transmitted from the reporting units are submitted either online or by e-mail, with no encryption. However, a new reporting system is under preparation, utilizing the Internet as a reporting medium, where all data will be encrypted.

Since SSB may not pass individual data that it has collected to Norges Bank, investigations to reconcile alternative data sources can only be undertaken within SSB.

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

Sections 2-2 and 2-3 of the Statistics Act provide for mandatory reporting and penalties for non-compliance. Altogether across SSB, there are about 7,000 cases annually in which respondents are fined for non-compliance. Reporting for the balance of payments surveys is mandatory under the Act, although some other surveys are voluntary.

Act No. 10 of 14 July 1950 Relating to Currency Control (Section 10) and the *Foreign Exchange Regulations* (Sections 18-3 and 18-4) provide for fines and/or imprisonment for up to two years for failure to comply with directives under the Act. Directives may include the supply of information (Section 7) and Norges Bank may also search premises and seize documents if there is a failure to submit information (Section 7a). In general, banks, which are the suppliers of most of the data, produce the reports required. While some nonbank nonrespondents who do not provide data are fined, Norges Bank takes a helpful attitude toward assisting reporters who have had difficulty in supplying the required data from their accounting systems.

In addition to legal sanctions, Norges Bank and SSB encourage cooperation from respondents by visits to major enterprises, phone contact, well-written instructions, and offering electronic reporting options.

0.2 Resources

0.2.1 Staff, financial, and computing resources are commensurate with statistical programs

There are 30 staff involved in ITRS data collection in Norges Bank. The management level staff have professional qualifications, while most of the data collection staff are high school graduates, and many have long experience. There are training sessions for staff on statistical principles and the use of the results. Staffing levels are considered to be adequate.

There are three staff of the DNA who work on balance of payments, of whom two are university graduates in economics. All of these staff also work on other tasks on national accounts. The involvement of staff in several tasks helps SSB to deal with high rates of staff turnover. Altogether, there is approximately two full-time staff equivalents devoted to balance of payments compilation. As all the data collection and much of the quality control is undertaken elsewhere, this staffing is considered adequate to run the present balance of payments compilation system on a continuing basis, but does not allow sufficient resources for the development of new methods or research.

The balance of payments compilation system used by SSB is the same as used for national accounts compilation and is designed for taking inputs of data from different sources, doing calculations, storing data in an Oracle database, and making tabulations with FAME.

With the need to develop a new data collection system to replace the ITRS, a multi-division project team has been established by SSB. This team has been allocated about 15 full-time staff equivalents in the 2003 budget and is headed by a division head-level member of SSB's staff and consist of a series of working groups. Norges Bank is represented both in the project team and in several working groups. The number of staff is considered to be adequate, although there is little margin for delay as the issues are wide-ranging and there is a need to start pilot testing and then implementing new data collection arrangements well before the ITRS ceases at the end of 2004, in order to have a functioning new system by the time the old system is discontinued.

0.2.2 Measures to ensure efficient use of resources are implemented

The management of SSB promotes a mission and direction for efficient use of resources that are shared with staff and described in SSB's publication *Strategy 2002*.

Process measurement and monitors of resource usage are in place and used in the balance of payments program. Production schedules based on announced release dates are put in place in advance and adhered to on a monthly basis. Review meetings of all staff are held to discuss the process and any problems that may have arisen. The use of resources is monitored in SSB and Norges Bank through their budget processes. The efficiency is also subject to ongoing review, as illustrated by the decision to drop the ITRS, which is currently the main data source for balance of payments, and replace it with a new data collection system.

0.3 Quality awareness

0.3.1 Processes are in place to focus on quality

Quality work in SSB has been conducted in recent years within the framework of "systematic quality work," inspired by the principles of Total Quality Management and similar work in other national statistical institutions such as Statistics Sweden. No separate quality report is published but the quality dimensions and their fulfillment are discussed in the *Annual Report* and in *Strategy 2002*. For individual statistics, several of the quality criteria are documented in "About the Statistics" on the SSB website. Furthermore, SSB is actively working on exchanging experiences, methods, and technology with other statistical institutions, and participates in Eurostat's task force on quality indicators.

The systematic work started in 2001 and encompasses all activities and all employees in SSB. Commitment from all levels of management is seen as a precondition for success. To ensure this, several seminars and training schemes for managers have been carried out. All directors, heads of divisions, and office heads (about 50) have been given two days of training. During 2001, SSB has trained 18 so-called quality pilots who participate in improvement projects as facilitators to ensure that quality principles are followed. Another 20 quality pilots are being trained in 2002. Systematic quality thinking has been incorporated in other training schemes in SSB. The quarterly national accounts and hence, by the integrated data systems, exports and imports of goods and services in the balance of payments, are the subject of a quality pilot project.

Each year numerous quality improvement projects are undertaken throughout SSB. The balance of payments was included in the project to improve services data in the national accounts. In the balance of payments work plan, the project to develop a new data collection system will be organized in a quality framework by involvement of all relevant departments, an internal and external steering group with high officials of both SSB and Norges Bank as members, separate planning meetings with the Director General, and separate financing from the MOF.

0.3.2 Processes are in place to monitor the quality of the collection, processing, and dissemination of statistics

Quality is monitored throughout the balance of payments compilation process, including monitoring coding errors, consistency checks, timeliness, the size and trends in net errors and omissions, and consistency with other statistics.

0.3.3 Processes are in place to deal with quality considerations, including tradeoffs within quality, and to guide planning for existing and emerging needs

Tradeoffs are discussed in the budget process, consultation with users, the consultation with the Data Inspectorate, and involvement in international fora including Eurostat and the Committee for Monetary, Financial, and Balance of Payments Statistics. Consultation with

internal (national accounts, research) and external users indicate that the current timeliness, detail, and accuracy of the balance of payments is considered to be generally appropriate. An example of consideration of quality tradeoffs is the introduction of relatively high reporting and simplification thresholds in the ITRS, which was designed to cut reporting burden and processing work, with only a limited loss of coverage. The costs and benefits were measured and carefully assessed before the change was introduced.

1. Integrity

1.1 Professionalism

1.1.1 Statistics are compiled on an impartial basis

The Statistics Act ensures the professional independence of SSB and provides it with the authority to determine the official statistics for the government. There is no evidence other agencies placing undue pressure or interfering with SSB in its compilation and dissemination of official statistics. While SSB receives a substantial proportion of its revenue for work done on a contractual basis, the same principles of impartiality are applied to this work, so the funding agency is not able to influence outcomes and the results are publicly available. As well, the preface of publications publicly identifies when work has been done on a contract basis.

Codes of professional conduct for staff exist for both SSB and Norges Bank. The codes are known and practiced by the staff, publicly available on SSB and Norges Bank websites (*Staff Policies: Values, Aims and Principles* and *Ethical Rules of Norges Bank*, respectively), and are stressed by management.

There is no evidence of political influence being placed on SSB or on Norges Bank Statistics Department. SSB Directors General have traditionally served long and notable careers. The current Director General has been in SSB for over 34 years and has been in his current position for about 12 years.

The independent role of Statistics Norway is described in SSB's *Strategy 2002* (page 8). Here it is explained that the Statistics Act underlines that SSB is an independent organization when it comes to the content of its statistics and analyses. It decides on an independent basis what the institution is to publish in official statistics, and when and how this will be done. SSB has set out a commitment to enhance the professionalism of its staff in this same publication (pages 39-41). Steps envisaged include adjusting tasks to develop staff, providing incentives for personal development, working out a human resources strategy, rotation of staff, and cooperation with universities.

Staff receive training in statistics, computer processing, team work, and management. Substantial on-the-job training is provided, usually through the use of mentors. Staff are

encouraged to do research and publish their findings.[44] There is an agency review process for published research to ensure that it meets the high professional standards set by SSB.

The IMF's user survey that was conducted with this ROSC (Appendix III) and a Norwegian survey that rated various national institutions indicate that SSB has a high reputation.

1.1.2 Choices of sources and statistical techniques are informed solely by statistical considerations

The Statistics Act gives SSB independence through its Board and Director General to choose sources and methods, which are made as part of agency-wide decisions taking into account costs and resources.

In the balance of payments, the existing sources and statistical techniques are consistent with those used in many other countries. Furthermore, the proposed changes to the data collection system are also being implemented in several other European countries. There is an internal panel in SSB to approve new statistical collections. SSB publishes substantial information on its statistical techniques on its website.

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

SSB monitors press coverage on a daily basis and is entitled to comment on erroneous interpretations and misuse of official statistics. It does so when serious issues have arisen, for example in response to comments that the net negative income position in the balance of payments seemed incompatible with the net positive international investment position. (See 1.1.1 for a reference to the article published on this topic.)

1.2 Transparency

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

The complete set of documents that articulate the terms and conditions under which SSB executes the statistical program is available to the public on the SSB website. The terms and conditions are summarized on the Dissemination Standards Bulletin Board (DSBB).

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

There is no access by government officials outside SSB to balance of payments statistics prior to public release. The website release (see also 5.1.4) ensures a strict policy of non-

[44] See Tore Halvorsen and Elisabeth Nørgaard, "Avkastning på investeringer i utlandet (Return on foreign investments)" *Økonomiske Analyser* (*Economic Survey*), 3/98, SSB.

differential treatment of balance of payments data users; ministries and all other users are treated equally. This policy is described on the DSBB. For SSB, in general, it is noted on the *Annual Report 2001* (page 46). Within SSB, the Director of the Department of Economic Statistics does not receive the monthly balance of payments release until the afternoon prior to the release. The Director General receives the press release only 30 minutes ahead of the 10:00 a.m. release time.

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

All SSB publications are identified as being produced by SSB including information on the SSB website. SSB also requests that users of its data identify SSB as the source when its statistics are reproduced. In other statistical fields, publications prepared jointly with other agencies clearly identify SSB and the other agencies as joint producers, but no joint publications involving balance of payments have been produced to date.

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

SSB provides articles on major changes in methods, usually in *Økonomiske Analyser* and *Economic Survey*. An example of a major revision was the conversion to the *1993 System of National Accounts* (*1993 SNA)* and the fifth edition of the IMF's *Balance of Payments Manual* (*BPM5)*, when several definitions were changed and new concepts introduced. The revision was announced in general terms in *Økonomiske Analyser* and *Economic Survey* five months in advance, and a more detailed article on the effects was published simultaneously with the revised figures. The 2002 revisions of data were announced in advance in more general terms, with a more detailed article published shortly after the release of new data. Distribution of information about methodological changes could be enhanced by adding a cross-reference in the balance of payments release.

1.3 Ethical standards

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

The employment contract that is signed by all new staff of SSB includes references to the general rules applying to all civil servants and to the obligation to obtain special permission to take any secondary job that may interfere with the "duty of loyalty." In addition, the contract refers to a separate "declaration of secrecy" that must be signed at the same time. Within the past two years, these documents were revised and all employees were given new contracts to sign. Employees are given the booklet *Staff Policies: Values, Aims and Principles*, which is on the SSB internal website. Similar rules apply for Norges Bank staff, such as those appearing in the *Ethical Rules of Norges Bank*, which are also well communicated to staff through the employment contract, training sessions, and the Bank's internal website.

2. Methodological Soundness

2.1 Concepts and definitions

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

The balance of payments closely follow *BPM5*. Norway implemented the new international standards for balance of payments in 1995, one of the earliest countries to do so. In accordance with its membership of the European Economic Area and agreements with Eurostat, Norway also implements the more specific requirements of European statistical standards.

While SSB adopts international standards for balance of payments statistics in principle, there are some minor cases where data sources do not allow *BPM5* to be fully followed. In addition, when oil is piped from the Norwegian continental shelf to the United Kingdom and is then returned to Norway without a change in ownership, it is reported in both exports and imports. This treatment is adopted in order to be consistent with merchandise trade statistics, but it is inconsistent with the change in ownership principle used in *BPM5*. However, while this produces an upward bias to both exports and imports, the overestimation is quite small (less than 0.5 percent).

2.2 Scope

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

In principle, Norway's balance of payments statistics cover all transactions between residents and nonresidents. Resident economic units are defined in broad conformity with *BPM5*'s concepts of economic territory and center of economic interest.

The data cover the whole economic territory of Norway. The Norwegian parts of the continental shelf, where substantial oil and gas extraction operations are undertaken, are included in the balance of payments. Exports include an adjustment for the U.K. parts of petroleum fields that overlap the border between Norway and the U.K. When developed by a Norwegian operator, the capital expenditures for the field are refunded by the U.K. owner according to its share. In the national accounts these payments are recorded as sale of fixed capital equipment to abroad, and are therefore included in the balance of payments as exports. Similarly, the U.K. owner pays a share of operating costs to the Norwegian operator, which is recorded as Norwegian exports. A corresponding treatment is adopted for Norwegian-owned parts of petroleum fields stretching across the border between Norway and U.K. that are operated by U.K. enterprises. The U.K. has the same treatment. Although this unusual case is not dealt with in international manuals, it is arguably compatible with *BPM5* general principles.

In accordance with *BPM5*, shipping operated by Norwegian companies is included, regardless of the flag of the ship, while non-Norwegian crew are treated as residents of their home territories. In accordance with *BPM5*, a special treatment is adopted for SAS Scandinavian Airlines, which is run as a single entity resident in Sweden, Denmark, and Norway. Two-sevenths of its operations are regarded as resident in Norway and the rest as nonresident, and the other countries adopt consistent treatments.

Security repurchase agreements (repos) are suitably treated as collateralized loans.

The residence of individuals is determined by inclusion in the register of Norwegian residents, which uses a six-month residence test, differing slightly from the one-year guideline of *BPM5*.

The items covered in SSB's monthly balance of payments release include the broad items of the current, capital, and financial accounts. Because of the lack of a quarterly or annual publication, additional details are not available from SSB publications. However, additional detail is provided in reporting to international organizations and on request to individual users.

2.3 Classification/sectorization

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

In Norwegian balance of payments publications, there are some presentational differences from *BPM5*. These deviations include all repairs being classified as services and the inclusion of financial derivatives with direct and portfolio investment rather than as a separate category. As well, as an adaptation to Norwegian circumstances, additional items within trade in goods and services for the oil and shipping industries are shown to take account of the importance of these industries and the interests of data users.

Compared to the standard presentation adopted in *BPM5*, there is less detail in SSB's balance of payments release, for example, there is no functional split for income or the short-term/long-term and the sectoral split published for the financial account is limited to banks and other sectors.

Despite these differences from international standards in national publications, data are reported to international agencies in accordance with international practices in all these cases.

2.4 Basis for recording

2.4.1 Market prices are used to value flows and stocks

In general, Norway's balance of payments are valued at market prices.

In national publications, imports of goods are valued on a cost, insurance, and freight (c.i.f.) basis. However, data are reported to international agencies in accordance with balance of payments standards on a free on board (f.o.b.) basis. Domestically supplied maritime transport on imports of goods is reported in the annual shipping survey and is treated as an export in national publications. Insurance is estimated as 0.6 percent of total imports of goods.

ITRS data are reported in the original currency and converted to Norwegian kroner by Norges Bank at the exchange rate prevailing on the day or in the month of the transaction. For merchandise trade statistics, values in foreign currencies are converted using the exchange rate on the transaction date or the shortest period applicable. Other balance of payments data sources come from surveys where data are reported in Norwegian kroner.

Since prices of oil shipments are not always determined at the time of leaving the country, provisional calculations are based on the volume of oil and current market prices per barrel, and then adjusted when final prices are established.

Banks' financial transactions are derived from changes in stocks; incomplete information on revaluation implies that the derived transactions may include the effect of some revaluations.

2.4.2 Recording is done on an accrual basis

In principle, Norwegian balance of payments data adopt an accrual basis for the time of recording.

As with other countries, the accrual basis is only approximately achieved in some of the sources used in balance of payments data. In the case of merchandise trade statistics, the data are recorded according to the time of clearance by customs, which may not be the same time that the goods change ownership. In the case of the ITRS, transactions are recorded at the time that payment is made. Interest is one instance where the timing of the cash flow may vary considerably from an accrual basis, but no adjustments can be made due to the lack of information. SSB staff consider that deep-discount bonds are not common in Norway, so that the omission of the discounted amount from interest may not be significant. Because of the large values of oil rigs and ships, they are identified separately in compilation and shown at the time of entry to Norway, although an accrual basis might point to recognition as progress payments were made.

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

Grossing and netting procedures are consistent with *BPM5*.

Current and capital account transactions are recorded on a gross basis. Financial account transactions are recorded on a net basis, separately for the individual asset and liability components.

Consistent with *BPM5*, goods for processing are recorded on a gross basis and goods for repairs are recorded on a net basis.

3. Accuracy and Reliability

3.1 Source data

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

The core of the data collection system for Norwegian balance of payments statistics is a settlements-based ITRS. Data from external trade, banking, and government statistical systems are also used for the relevant components of the balance of payments. Surveys on direct investment, oil activities, and shipping operations are also undertaken for balance of payments.

The Balance of Payments Statistics Section of the Statistics Section of Norges Bank is responsible for running the ITRS and aggregating the data in a form suitable for SSB. The ITRS consists of a closed settlement system comprising indirect reporting of settlements through Norwegian banks, and direct reporting from businesses that have significant settlements accounts with foreign banks or with other nonresidents (e.g. inter-company accounts).

The bank reporting system is based on information from all Norwegian banks on their own and their customers' transactions. The data are supplied electronically to Norges Bank on a daily basis. The banks identify the residence of the payer and payee through their permanent address or other relevant information and report the country of residence according to the International Organization for Standardization (ISO) country code. For resident parties, the banks also report their business identification numbers, which are linked to the sector classification of SSB. The type of transaction is classified by the banks according to around 30 major categories (two-digit payment codes), which are further broken down by Norges Bank staff to three-digit codes based on the description of the transaction supplied by reporters.

Direct reporting is undertaken as a data source from units undertaking international transactions through their own accounts with nonresident banks, or with other nonresidents, on a large scale outside the Norwegian banking system. The data that are required are similar to those of the bank reporting system, but on a less frequent basis. In addition, monthly reports are required from businesses that render or receive large loans to/from nonresidents. These reports are used to control and supplement the loan transactions reported in the general settlements reports.

To reduce collection burden, there are reporting and simplification thresholds. Reporting thresholds are used for the direct reports and allow small operations (accounts) to be omitted, while simplification thresholds are used in the banks' reports and allow the value of the

transaction to be recorded without coding or description. The introduction of a reporting threshold for direct reporters improved timeliness and response quality of the results with limited loss of data. Transactions below the simplification threshold are allocated to codes based on proportions from previous studies of such transactions; these proportions are called "distribution keys."

External trade statistics produced by SSB from customs records are used to derive estimates of exports and imports of goods. Similarly, banking and government data are used for estimates of the international transactions by these sectors. As a result, the balance of payments achieve consistency with these other datasets. At present, Government Petroleum Fund transactions are obtained from the ITRS. (While a part of general government, the Government Petroleum Fund is managed by, and has its accounts kept by, Norges Bank, so it is planned to use estimates from banking statistics starting in 2003, thus ensuring consistency between the relevant balance of payments components and other published data.)

Retained earnings are calculated by Norges Bank from surveys of direct investment stocks and settled dividends reported to the ITRS.

SSB runs quarterly and annual surveys of the operations of oil companies. It runs annual surveys of shipping operations. These surveys are also used to fill gaps in ITRS data, as some of their transactions are not covered in the banking system. The ITRS data are used to derive estimates for the most recent periods for these companies.

Information from tax registers is used to estimate compensation of employees credits and debits. Because of incomplete information on the registers, the reported values are likely to be understated, but are still considered to be minor. In addition, the annual shipping survey gives data on compensation of employees paid to non-Norwegian residents employed on Norwegian vessels.

All the data systems used to compile Norway's balance of payments statistics are designed to be comprehensive, so any gaps in coverage are unintended. Examples that SSB and Norges Bank have identified of how gaps or double counting may occur are (1) misclassification of items by banks, (2) netting of transactions by enterprises that have transactions in both directions (e.g., travel agents, brokers, telecommunications) or that deduct withholding tax (so that only the payment net of withholding tax is reported), and (3) problems in the borderline between direct reporting and the ITRS. The ITRS seeks to collect gross transactions in inter-company accounts and other cases where international netting occurs. While the ITRS instructions to reporters point out the correct treatments, there is a risk of misreporting in complex situations (e.g., when the netting system includes transactions between two or more residents and between two or more nonresidents in addition to transactions between residents and nonresidents, where the clearing unit that runs the netting system has insufficient information on the nature of transaction, as this information is known only by the operating units).

The ITRS was designed to suit Norway's circumstances when it was established. In particular, the settlement data system had a strong basis, because the information was collected in order to administer exchange controls. However, its suitability has been undermined by subsequent structural changes in the economy. In particular, the liberalization of international transactions by Norwegians, the increasing internationalization of financial markets, and the consequent growth in transactions have made the ITRS less accurate as a data source for balance of payments statistics.

One indicator of the impact of these changes is the level of net errors and omissions, which shows the internal discrepancy in the balance of payments between the current account and the capital and financial account. The value indicates a range of uncertainty about the true values of other international flows shown in the balance of payments data, each of which could be affected by the misreporting that is shown by net errors and omissions. Although the ITRS is closed in concept, internal discrepancies can arise from misclassification of entries by reporters (e.g., from misclassifying an international flow as balance of payments neutral). In addition, the internal discrepancies can arise from the replacement of ITRS data by alternative sources for merchandise trade and for the government and banking sectors. While the use of such alternative sources improves the data and helps achieve consistency with other datasets, it is at the potential cost of increases in internal discrepancies in the balance of payments data. The value of net errors and omissions is an incomplete measure of data problems, as some errors have opposite signs and consequently cancel each other out.

The values of net errors and omissions have been high in Norway in recent years, both in relation to other components of the balance of payments and in comparison with other countries.[45] Furthermore, the net errors and omissions item has shown a consistent pattern of being negative. Fluctuations point to timing differences, while persistent negative values show a net undercoverage of debit entries and/or overstatement of credit entries. Based on

[45] There are a number of ways of measuring the relative significance of net errors and omissions. One possible method is as a percentage of GDP, which shows their size relative to the total economy. Over the period 1992-2001, the value of net errors and omissions for Norway was an annual average of minus 2.7 percent of GDP, with the average absolute value also 2.7 percent. Compared with 17 other advanced countries (Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Japan, the Netherlands, New Zealand, Sweden, Switzerland, the United Kingdom, and the United States), the average value of 2.7 percent was, by far, the highest, and the average absolute value of 2.7 percent was matched only by Ireland and New Zealand, two other small, open economies. As that observation suggests, Norway's measures of net errors and omissions relative to international flows would produce a relatively better ranking, since Norway has a high ratio of international flows to GDP.

The values for 2000 and so far in 2002 have been particularly high. However, the data for 2000 and subsequent periods are still subject to revision.

Source of comparative data: IMF, *Balance of Payments Statistics Yearbook*.

SSB and Norges Bank's assessments of the causes of reporting problems, it is considered likely that the errors relate largely to financial account items.

As well as the concerns about the accuracy of the ITRS data, the increasing volume of international transactions mean that the ITRS has become more expensive for banks, large companies, and Norges Bank to implement. The expense of the ITRS is caused by the need for transactions to be reported and classified individually. The objective of their customers' transactions is not always well-known to the bank, so it is burdensome for them to obtain that information in order to classify the transaction correctly. As a result, the coding of transactions by banks may be less than ideal.

Norges Bank and SSB are well aware of these problems. Consequently, they have decided to discontinue the ITRS at the end of 2004. It will be replaced with direct reporting and/or surveys to be undertaken by Norges Bank (for banks and other credit institutions) and SSB (for other sectors). The details of the new system are still being considered by an SSB project team that involves data-collecting and compiling divisions of SSB as well as Norges Bank.[46]

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

The source data used for the Norwegian balance of payments generally use definitions, scope, classifications, valuation, and time of recording that are acceptably close to *BPM5* requirements.

The source data for Norway's balance of payments differ from *BPM5* timing in ways that also occur in other countries. The timing of goods is according to customs clearance, which is only an approximation for the time of change of ownership. Interest data are shown on the basis of cash payments, plus an adjustment for zero-coupon bonds, so they are not measured on accrual basis. Other transactions measured through the ITRS are based on the time of payment, which is generally considered to be an acceptable approximation to an accrual basis.

[46] Some features that would be desirable to include in the process of the development of a new data collection system could include:

- Conducting a survey of user needs;
- Seeking integration of collection of balance of payments and international investment position data;
- Consideration of the staffing implications of the greater coordination and quality control associated with the new system;
- Seeking to have new surveys beginning in 2004, to allow time to overcome teething problems, and have some overlap with the existing data to assess the effect of the new system on the results;
- Undertaking subsequent revisions studies (initially, to show the effect of new methods, later for routine revisions to look for signs of bias or high uncertainty); and
- Revision of the publication of sources and methods.

The classification of transactions in the ITRS does not meet the needs of the balance of payments for detailed splits in some areas. In addition, while all transactions are reported, some smaller transactions are not required to be classified. As a result, some totals need to be split by supplementary data ("distribution keys") that are obtained from data reported in previous periods and special studies.

3.1.3 Source data are timely

External trade statistics are available about 10 working days and the ITRS data about 32 working days after the end of the reference period. It is seldom that these sources cause delays in the balance of payments production.

Because of the integration of the balance of payments and quarterly national accounts compilation systems, estimates of exports and imports of goods and services may be adjusted in the quarterly national accounts balancing process every third month. As a result, balance of payments data are sourced via the national accounts processing and are available about a week later in that month than in the other two months of the quarterly cycle.

Some of the surveys of oil and shipping are carried out on a quarterly or annual basis. The survey data are incorporated into the historic series when the results become available, while the ITRS is used to estimate the data for the most recent periods. In these cases, the ITRS data are adjusted to be consistent with levels shown in the surveys.

3.2 Statistical techniques

3.2.1 Data compilation employs sound statistical techniques

Data compilation for the ITRS and other datasets is highly automated at all stages, from reporting, to processing in Norges Bank and SSB. Some surveys also use electronic reporting.

There are several checkpoints in the ITRS and surveys for identifying errors. For example, follow-up of enterprises classified as service producers in the SSB industrial classification was undertaken if they had reported exports of goods in the ITRS, and it was found that there had been misclassification of services as goods in the ITRS. Queries are resolved with the companies concerned. Large and new types of transactions are flagged for followup and checking.

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

The c.i.f./f.o.b. adjustment for imports is based on ratios derived from a mixture of annual information from the shipping survey and information dating back more than 20 years. The calculation is made at an aggregated level. It also takes into account the domestically-supplied maritime freight component.

Insurance services are derived from insurance premiums by an annually-updated ratio derived from the domestic insurance industry.

Trade credits are derived as the differences between the external trade data and the corresponding ITRS data on payments for exports and imports but is limited to ships, oil rigs, airplanes and export of crude oil and natural gas. While these differences may also be affected by other valuation, timing, and other measurement inconsistencies, trade credits are likely to be a major factor and the method is consistent with that used in other countries that use an ITRS. (Trade credits could also be a factor for other types of goods.)

Estimates of exports and imports of goods and services are available in volume terms on a quarterly basis, using suitable methods of deflation and annual chaining. These components are also seasonally adjusted using X-12–ARIMA.

Because of the integration with national accounts, the supply of exports and demand for imports are balanced with other supply and uses, respectively, at the product level (80 products quarterly, 1200 products annually) in accord with national accounting best practice. (Interestingly, however, the revised national accounts methods for estimation of production of services have led to results closer to the adjusted ITRS results for services than the previous balance of payments estimates.)

3.3 Assessment and validation of source data

3.3.1 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 planning

There are automated validity checks and identification of unusual transactions at several stages in the ITRS. The ITRS collects opening and closing balances on accounts, which allows a consistency check to be made for reported transactions as both balances and transactions are reported in the original currency. Further, the transactions are split between balance of payments relevant transactions and "neutral" transactions, so that the net of the latter should equal zero, in principle. Large and unusual transactions are checked with the respondent.

For the direct reporting companies, their transactions with Norwegian banks are checked with the indirect information in the bank reporting system.

3.4 Assessment and validation of intermediate data and statistical outputs

3.4.1 Main intermediate data are validated against other information where applicable

Annual survey and other data for shipping, oil, post, and telecommunications are also routinely checked for consistency with balance of payments estimates derived from the ITRS.

In the cases of trade in goods, bank and government transactions, where sources other than the ITRS are used in the balance of payments, the estimates are compared with the ITRS equivalents. These checks have highlighted the differences in timing between the sources.

The financial press is monitored for news of direct investment proposals, so it can be confirmed that they have been correctly recorded by the ITRS and it can be seen if there is a need for collecting additional information.

3.4.2 Statistical discrepancies in intermediate data are assessed and investigated

Both Norges Bank and SSB monitor the net errors and omissions from within the ITRS and the discrepancies between the government, banking, and trade data that replace some ITRS values. The data are tabulated on a monthly basis and investigations are carried out as to the causes. Their monitoring of internal discrepancies has made them well aware of the contribution of the ITRS to the large values of net errors and omissions that were noted in 3.1.1 above. While both Norges Bank and SSB have carried out investigations into these discrepancies and have identified some issues that were able to be resolved, a persistent level of inconsistency has not been explained.

ITRS data for travel have been checked against tourism statistics. The ITRS estimates were shown to be very close to alternative estimates derived from types and numbers of tourists and average expenditure. This is a very good result, which suggests that the banks, credit card operators, and travel agents have generally followed the reporting instructions for the ITRS designed to avoid understatement due to the netting of inward and outward transactions.

The integration of balance of payments and national accounts compilation in Norway means that exports and imports of goods and services are reconciled with other data on the supply and use of goods and services every quarter at a detailed product level.

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

Merchandise trade data are checked against partner data on a regular basis. One partner country is chosen for investigation each year. Discrepancies have been minor or able to be explained (e.g., the different treatments of transit of oil through North Sea pipelines were identified as a major cause of differences between the United Kingdom and Norwegian data).

In response to the concerns that the income credits appeared low in relation to income debits, given Norway's strong net positive international investment position, SSB undertook a review of rates of return on inward and outward investment. The differences in rates of return were explained and the results published in an article in *Økonomiske Analyser* (see reference under 1.1.1.).

3.5 Revision studies

3.5.1 Studies and analyses of revisions are carried out routinely and used to inform statistical processes

There have been some studies of revisions, but they have not been done on a comprehensive basis. The situation varies for three different aspects of revision studies, viz., the causes of individual one-off revisions, the effect of introduction of major revisions to sources and methods, and the patterns of small-scale, routine revisions.

Large individual revisions in source data are carefully monitored as they occur. If a systemic problem is identified as causing the revision, the issue is dealt with (e.g., by contact with the reporter who has omitted a major item, to advise on avoiding the problem in future).

Revision studies on the effect of major changes in methodology are also undertaken, with two recent cases being the introduction of the new international standards in 1995 and the introduction of new data for services in 2002. The studies identified the effects on levels and growth rates for different periods.

However, there has been no recent study of the aggregate effect of small-scale, routine revisions. Such a study would help to identify any systematic bias and the range of uncertainty in preliminary data. A study was conducted for the national accounts in 1990 (published in *Økonomiske Analyser*, 7/1990), which included the quarterly estimates of exports and imports of goods and services. However, the income and financial accounts were not covered, nor were the balance items. As well, since the balance of payments data are monthly, monthly aspects of revisions to these series were not identified. The 1990 study found a small upward bias (+0.4 percent on average for 1972-1987) in the revisions from first estimates to final estimates for annual volume growth rates for exports of goods and services, and an insignificant downward bias (-0.1 percent) in the revision of imports of goods and services.

4. Serviceability

4.1 Relevance

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

SSB organizes a committee of users of national accounts and balance of payments statistics. The committee includes representatives of various government ministries, Norges Bank, universities, and the private sector. It provides input to SSB about users' needs. It meets approximately once a year, most recently in October 2002. At that meeting, the committee members discussed possible new balance of payments data collection arrangements.

While SSB has not conducted a formal survey of balance of payments data users, there is a high level of contact with users on a less structured basis in the form of telephone calls and e-mail. Within SSB, compilers of the rest of the world account of the national accounts are also the balance of payments compilers. Although having a large in-house research department is unusual among statistical agencies, SSB considers that it provides a particularly strong link between the compilers and data users. The Norges Bank Statistics Department uses balance of payments data for quarterly financial accounts and for the monthly credit indicators. The Norges Bank Research Department also has close contact with the balance of payments compilers. Responses to the user survey conducted with this ROSC rated balance of payments statistics highly on all measures, with the highest scores on methodology, lack of bias, accuracy, frequency, and coverage, with the lowest sources on metadata access. Overall, balance of payments tied for the highest ranking among the six categories, and were regarded as good or better than (for a few users), as other countries in the region. (For further information, see Appendix III.)

SSB and Norges Bank balance of payments staff participate in meetings and contribute papers at the Eurostat Balance of Payments Working Group, annual Nordic balance of payments meetings with other central banks, the OECD ad hoc annual group on trade in services, the Eurostat Task Force on Current Account, the OECD Working Party on Financial Statistics, the Voorburg Group on Services, and the World Trade Organization Committee on Special Commitments. Visits to and from other compiling and international agencies are organized. External training is received through seminars and exchanges, e.g., in the European Union Training Program for European Statisticians, the IMF Course on Balance of Payments Statistics, and a staff member being posted to Eurostat.

In response to the particular needs of analysts of the Norwegian economy, the presentation in the monthly balance of payments release separately shows the exports and imports of goods and services associated with the oil and shipping industries, the major exporting industries.

Due to its large oil industry, Norway enjoys very large current account surpluses. Variations in surpluses due to oil price fluctuations lead to changes in additions to the Government Petroleum Fund. As a result, a large proportion of balance of payments variability appears to be absorbed by the Government Petroleum Fund, thus muffling the impact on the rest of the economy. Consequently, balance of payments statistics may have a lower priority for economic policy makers than is usual in other countries.

4.2 Timeliness and periodicity

4.2.1 Timeliness follows dissemination standards

Timeliness of the monthly balance of payments release is eight or nine weeks after the reference month, which is well within the SDDS requirement of one quarter. Every third month, when compilation of the monthly balance of payments coincides with the quarterly national accounts, the balance of payments are released a week later than the other months, i.e., nine weeks after the end of the reference month.

4.2.2 Periodicity follows dissemination standards

The Norwegian balance of payments data are published monthly. There are no separate quarterly or annual balance of payments tabulations. The monthly frequency satisfies, and is better than, the SDDS requirement of quarterly data. It is being considered that the new data collection system may produce only quarterly balance of payments data, possibly with some limited monthly indicators.

4.3 Consistency

4.3.1 Statistics are consistent with the dataset

Concepts, definitions, and classifications are applied consistently, so that the inconsistencies highlighted by the high values of net errors and omissions are caused entirely by problems in data sources.

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

Consistent annual time series for the major balance of payments aggregates are available from 1970 onwards, while consistent monthly data are available from 1994 onwards. Quarterly data are available on request back to 1981. When there are revisions in concepts (such as for the introduction of *BPM5*) or sources (such as for new estimates of services introduced in 2002), back-year data are revised so as to produce a consistent time series.

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

Data are fully consistent with the national accounts, government finance, and banking data. The external trade data are basically the same, though may differ to the extent that balancing of supply and use data for the national accounts results in adjustments to exports and imports of goods. Consistency with these other datasets has been achieved even when it increases net errors and omissions.

Balance of payments sources and valuation concepts are separate from the annual international investment position data. The introduction of a new data collection system for balance of payments has the potential to allow an integrated system with international investment position data in the future.

4.4 Revision policy and practice

4.4.1 Revisions follow a regular, well-established, and transparent schedule

The revisions policy is stated in the "About the Statistics" section of the SSB website and the DSBB. Under this policy, data for all months of the current year are subject to revision. In subsequent years, the data are only revised once a year to coincide with changes introduced

in the annual national accounts. The revisions policy is designed to take into account the flow of new data. Methodological changes are only implemented once a year.

Changes in concepts and methods are announced in *Økonomiske Analyser* in advance and in the "About the Statistics" section of the balance of payments pages of the SSB website. Articles have been published to explain major revisions, such the 2002 revision of services data and the 1995 implementation of *BPM5*.

4.4.2 Preliminary data are clearly identified

It is possible to identify which data are subject to revision and when by referring to the revision policy stated on the SSB website and the DSBB. However, each data item is not separately labeled as preliminary, as all the data in the monthly release are preliminary. (It is stated incorrectly on the DSBB that preliminary data are identified in the release.)

4.4.3 Studies and analyses of revisions are made public

Significant revisions due to changes in methodology or revisions in the source data are noted in the commentary of the monthly balance of payments release. For example, the notes to the September 2002 release explain that a revision for an earlier month was caused by the identification of the import of an oil platform that had previously been omitted.

SSB's *Økonomiske Analyser* and *Economic Survey* published revisions studies on the major methodological changes due to the implementation of *BPM5* and the *1993 SNA*, as well as on the 2002 revisions of services data. While all the available revision studies are published, as noted under 3.5.1, studies of the effect of routine revisions are limited and outdated.

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 monthly balance of payments release has clear tables, as well as charts and descriptive paragraphs of highlights. There are four different tables, two each for the current (and capital) and financial accounts. One set of tables show the three most recent months and the year-to-date, together with the equivalent periods in the previous year. The other set has the most recent twelve months. Except for some items that appear in the quarterly national accounts, balance of payments data are not seasonally adjusted. The release is available in both English and Norwegian. Complete time series for balance of payments items are available free of charge on the website in sdv format, which is suitable for reading into spreadsheets or databases.

5.1.2 Dissemination media and formats are adequate

The primary dissemination media is the SSB website (see 5.1.1 above). The monthly release and associated fixed format time series data on the SSB website provide the main aggregates in a convenient form.

The SSB's quarterly general publications *Økonomiske Analyser* and *Economic Survey* include some broad balance of payments aggregates and the articles address balance of payments issues. Some summary annual data are also published in the *Statistical Yearbook* (Norwegian and English). These publications are produced on paper as well as being available on the SSB website.

Paper publications are not produced for the balance of payments, after surveys of users indicated that there was no longer a user requirement for this format. (The dissemination formats page on the DSBB does not yet reflect this change.)
Statistics Bank is a new facility on the SSB website that offers user-determined tabulations of data on various time series via the internet. It will be extended to balance of payments series in 2003.

5.1.3 Statistics are released on a pre-announced schedule

SSB releases balance of payments statistics according to the advance release calendar shown on the SSB website and the DSBB. Both advance release calendars show releases for the next four months and is updated on a regular basis. SSB has fully adhered to this schedule in the case of balance of payments.

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

Balance of payments data are released only on the SSB website, which ensures simultaneous access to all users at 10:00 a.m. on the release date.

5.1.5 Nonpublished (but nonconfidential) subaggregates are made available upon request

Additional nonpublished data are available on request from SSB. The availability is not mentioned in the monthly balance of payments release. The availability and charging policy are announced on the SSB website. For example, partner data and more detailed product breakdowns are requested by the Foreign Ministry. The IMF's *International Financial Statistics* and *Balance of Payments Yearbook* also include details not published by SSB.

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 110-page *The Norwegian Balance of Payments: Sources and Methods*, is available as paper publications in each of Norwegian and English. The availability is noted on the SSB website and on the DSBB. However, the IMF user survey suggested that some of the users were unsatisfied with the availability of metadata, so it would be desirable to include the publication on the SSB website in the future, to make the information more accessible. The publication was released in 1998, so it does not cover some minor changes in methods since then. A benefit of dissemination on the website is that updates can be made more frequently at less cost.

A five-page summary methodology is also available on the DSBB.

Both statements of methods note cases of deviations from international standards.

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

The 110- and 5-page versions of the metadata mentioned in 5.2.1 allow users to obtain information at two different levels of detail. In addition, SSB staff are available to answer queries from users by telephone or e-mail, as is stated on the SSB website.

5.3 Assistance to users

5.3.1 Contact person for each subject field is publicized

Several contact persons are listed on the balance of payments page of the SSB website and in the monthly release, together with their phone numbers and e-mail addresses.

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

The SSB website indexes the current and previous issues of the monthly balance of payments release and related tabulations of longer time series.

A catalogue of SSB publications is produced annually and which lists paper publications, including those that deal with balance of payments. However, it does not list web-only publications, such as the monthly balance of payments release.

The SSB website includes information on publication prices and the charging policy for the supply of nonpublished data.

Table 10. Norway—Data Quality Assessment Framework: Summary of Results for Balance of Payments
(Compiling Agency: Statistics Norway)

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. Pre-requisites of quality						
0.1 Legal and institutional environment		X				
0.2 Resources		X				
0.3 Quality Awareness		X				
1. Integrity						
1.1 Professionalism		X				
1.2 Transparency		X				
1.3 Ethical standards		X				
2. Methodological soundness						
2.1 Concepts and definitions		X				
2.2 Scope		X				
2.3 Classification/Sectorization		X				
2.4 Basis for recording		X				
3. Accuracy and reliability						
3.1 Source data			X			Large and volatile net errors and omissions point to serious coverage and classification problems in source data.
3.2 Statistical techniques		X				
3.3 Assessment and validation of source data		X				
3.4 Assessment and validation of intermediate data and statistical outputs		X				
3.5 Revision studies			X			Revision studies are undertaken for major revisions but not on a routine basis.
4. Serviceability						
4.1 Relevance		X				
4.2 Timeliness and periodicity		X				
4.3 Consistency		X				
4.4 Revision policy and practice		X				
5. Accessibility						
5.1 Data accessibility		X				
5.2 Metadata accessibility		X				
5.3 Assistance to users		X				

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 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.

- 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.

At the March 29, 2000 meeting of the IMF's Executive Board, Directors approved the incorporation of a new SDDS data category on external debt. The transition period for implementing this data category expires in March 2003.

As a result of the IMF Executive Board's Third Review of the SDDS in March 2000, the IMF staff began monitoring observance of the Standard through NSDPs maintained on the Internet. Monitoring commenced at the beginning of July 2000, and is limited to the coverage, periodicity, and timeliness of the data and to the dissemination of advance release calendars.

Source: Guide to the SDDS, February 2002: http://dsbb.imf.org

Data Quality Assessment Framework—Generic Framework
(July 2001 Vintage)

Quality Dimensions	Elements	Indicators
Prerequisites of quality[1]	**0.1 Legal and institutional environment—**The *environment is supportive of statistics.*	0.1.1 The responsibility for collecting, processing, and disseminating statistics is clearly specified. 0.1.2 Data sharing and coordination among data producing agencies are adequate. 0.1.3 Respondents' 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—Reso*urces are commensurate with needs of statistical programs.*	0.2.1 Staff, financial, and computing resources are commensurate with statistical programs. 0.2.2 Measures to ensure efficient use of resources are implemented.
	0.3 Quality awareness—*Quality is a cornerstone of statistical work.*	0.3.1 Processes are in place to focus on quality. 0.3.2 Processes are in place to monitor the quality of the collection, processing, and dissemination of statistics. 0.3.3 Processes are in place to deal with quality considerations, including tradeoffs within quality, and to guide planning for existing and emerging needs.
1. 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 compiled on an impartial basis. 1.1.2 Choices of sources and statistical techniques 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.

Data Quality Assessment Framework—Generic Framework
(July 2001 Vintage)

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: see dataset-specific framework
	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: see dataset-specific framework.
	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: see dataset-specific framework.
	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.

Data Quality Assessment Framework—Generic Framework
(July 2001 Vintage)

Quality Dimensions	Elements	Indicators
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 collected from comprehensive data collection programs that take into account country-specific conditions. 3.1.2 Source data reasonably approximate the definitions, scope, classifications, valuation, and time of recording required. 3.1.3 Source data are timely.
	3.2 Statistical techniques—S*tatistical techniques employed conform to sound statistical procedures.*	3.2.1 Data compilation employs sound statistical techniques. 3.2.2 Other statistical procedures (e.g., data adjustments and transformations, and statistical analysis) employ sound statistical techniques.
	3.3 Assessment and validation of source data—*Source data are regularly assessed and validated.*	3.3.1 Source data—including censuses, sample surveys and administrative records—are routinely assessed, e.g., for coverage, sample error, response error, and non-sampling error; the results of the assessments are monitored and made available to guide planning.
	3.4 Assessment and validation of intermediate data and statistical outputs—*Intermediate results and statistical outputs are regularly assessed and validated.*	3.4.1 Main intermediate data are validated against other information where applicable. 3.4.2 Statistical discrepancies in intermediate data are assessed and investigated. 3.4.3 Statistical discrepancies and other potential indicators of problems in statistical outputs are investigated.
	3.5 Revision studies—*Revisions, as a gauge of reliability, are tracked and mined for the information they may provide*.	3. 5.1 Studies and analyses of revisions are carried out routinely and used to inform statistical processes.

Data Quality Assessment Framework—Generic Framework
(July 2001 Vintage)

Quality Dimensions	Elements	Indicators
4. Serviceability *Statistics are relevant, timely, consistent, and follow a predictable revisions policy.*	**4.1 Relevance—***Statistics cover relevant information on the subject field*.	4.1.1 The relevance and practical utility of existing statistics in meeting users' needs are monitored.
	4.2 Timeliness and periodicity – *Timeliness and periodicity follow internationally accepted dissemination standards.*	4.2.1 Timeliness follows dissemination standards. 4.2.2 Periodicity follows dissemination standards.
	4.3 Consistency—*Statistics are consistent within the dataset, over time, and with major datasets.*	4.3.1 Statistics are consistent within the dataset (e.g., accounting identities observed). 4.3.2 Statistics are consistent or reconcilable over a reasonable period of time. 4.3.3 Statistics are consistent or reconcilable with those obtained through other data sources and/or statistical frameworks.
	4.4 Revision policy and practice—*Data revisions follow a regular and publicized procedure.*	4.4.1 Revisions follow a regular, well-established and transparent schedule. 4.4.2 Preliminary data are clearly identified. 4.4.3 Studies and analyses of revisions are made public.

Data Quality Assessment Framework—Generic Framework
(July 2001 Vintage)

Quality Dimensions	Elements	Indicators
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 formats are adequate. 5.1.3 Statistics are released on the pre-announced schedule. 5.1.4 Statistics are made available to all users at the same time. 5.1.5 Non-published (non-confidential) subaggregates 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 person for each subject field is publicized. 5.3.2 Catalogues of publications, documents, and other services, including information on any charges, are widely available.

[1]The elements and indicators included here bring together the "pointers to quality" that are applicable across the five identified dimensions of data quality.

Users' Survey

With the assistance of the Norges Bank, a questionnaire was sent to 71 users among the academic and research community, banks and businesses, government agencies, media, foreign embassies, and trade unions and other associations. Thirty five responses were received. (Table 11). Major and informed users were well represented among the respondents. Follow up discussions were held with a selection of users.

Table 11. Norway: Questionnaire Results Analyzed by Type of User
(October 2002)

Type of Respondent	Total Sent	Total Received	In % Received
Government	11	5	45
Banks (and finance)	12	6	50
Other enterprises (and industry organizations)	2	2	100
Embassies	6	4	67
Universities (and government funded research institutions)	21	7	33
Media	7	1	14
Supervisory, regulatory institutions (inc. Norges Bank)	6	5	83
Trade union organization	2	1	50
Other	4	3	75
Unidentified response		1	
Total	**71**	**35**	**49**

While the respondents views varied, on the whole they rated the official statistics as being of good quality. On a scale of 1 to 5, with 5 being "excellent" and 1 being "poor", average ratings for the five categories of statistics (with the highest and lowest individual ratings in parenthesis) were: national accounts statistics: 3.8 (5,2); producer price index: 3.8 (5,3); consumer price index: 4.1 (5,3); government finance statistics: 3.8 (5,2); monetary statistics: 4.2 (5,3); and balance of payments statistics: 4.2 (5,3). (Section 9.4 in Table 12). Most respondents considered that the underlying methodologies of these five categories were sound, and that these statistics were unbiased and accurate and comparable in quality with those of other countries in the region. (Sections 9.1 to 9.3 in Table 12). Of the respondents who had an opinion on the matter, about one quarter regarded the national accounts statistics to be of better quality than these of other countries in the region.

In general, the respondents were satisfied the coverage and detail of the official statistics, although a few users disagreed. (Sections 5.1 and 5.2 in Table 12). Requests were made for more commodity details in the consumer price index, further breakdowns by industrial sectors and for services in the national accounts and producer price index, better coverage of sub-annual government finance statistics, better information on real estate investment and prices, and up-to-date and comprehensive information on wage costs. Several users said that, in the light of recent significant revisions, more resources should be devoted to enhancing the reliability of the quarterly national accounts. Respondents were almost universally satisfied

with the frequency of compilation of the data, and while a clear majority was satisfied with the timeliness of the data, a significant minority called for improvements in the timeliness of the national accounts. (Sections 6.1 and 6.2 in Table 12). Many users appreciated the availability of advance release calendars and thought that, in general, data releases met the projected dates. (Sections 7.1 and 7.2 in Table 12). Although most respondents considered that enough information was published about revisions, a significant minority disagreed with regard to national accounts statistics. (Section 7.3 in Table 12). While most respondents said that they could readily gain access to the official statistics and to information pertaining to the statistics (explanatory notes, methodological descriptions, etc), a considerable minority said that they could not readily access the metadata. Most felt that the available metadata were sufficiently clear and at an adequate level of detail. (Sections 8.1 to 8.3 in Table 12).

Table 12. Results of Norway's User Survey
(October 2002)

General Information about Uses of Official Macroeconomic Statistics of Norway	
	Total
1. Which official statistics do you use regularly?	
a. National accounts (NA)	32
b. Producer prices (PPI)	19
c. Consumer prices (CPI)	29
d. Government finance statistics (GFS)	16
e. Monetary and financial statistics (Monetary)	25
f. Balance of payments (BOP)	17
g. Other:	
• Production indices	20
• Labor market	29
• Merchandise trade	18
• International reserves and foreign currency liquidity	8
• External debt	7
• International investment position	9
• Other	5
2. From which institutions do you obtain the official statistics?	
a. Statistics Norway	35
b. Norges Bank	31
c. Other official Norwegian agencies	16
d. International or regional organizations	20
e. News media	9
f. Private sector agencies	12
g. Other sources	4
3. Do you refer to official descriptions of the sources and methods that were used to compile the official statistics?	
• Yes	24
• No	9
4. For what purposes do you use the official statistics?	
a. Analysis of current developments for short-term decision making	21
b. Analysis of trends for longer-term policy formulation?	25
c. Econometric model building and forecasting	14
d. Economic research	16
e. Comparison with economic developments in other countries	25
f. General economic background	25
g. Other	8

General Information about Uses of Official Macroeconomic Statistics of Norway Totals							
	NA	PPI	CPI	GFS	Mone-tary	BOP	Other
5. Coverage and detail							
5.1 In general, are you satisfied with the coverage of official statistics?							
• Yes	25	18	27	14	23	17	3
• No	4	2	2	5	2	1	7
5.2 In general, are you satisfied with the official statistics in terms of their level of detail?							
• Yes	26	16	25	17	22	18	3
• No	3	2	2	2	1	2	4
6. Periodicity and timeliness							
6.1 Are you satisfied with the frequency of compilation of the official statistics (e.g., weekly, monthly, quarterly, annual)?							
• Yes	29	19	29	15	22	18	5
• No	0	1	1	1	0	1	0
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	17	17	25	13	21	13	3
• No	10	2	3	3	1	4	5
7. 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	18	15	23	12	20	14	4
• No	6	2	3	6	3	3	2
7.2 If there is a calendar of release dates, in your experience, are the official statistics released on the dates announced?							
• Yes	22	17	26	12	23	15	3
• No	0	0	1	0	1	0	0
7.3 Is there enough information about revisions to official statistics to satisfy your needs?							
• Yes	18	13	22	12	19	13	2
• No	10	2	3	1	2	1	3
8. Accessibility							
8.1 Can you easily access the official statistics?							
• Yes	28	21	28	20	25	20	5
• No	1	2	2	3	1	2	1

General Information about Uses of Official Macroeconomic Statistics of Norway Totals							
	NA	PPI	CPI	GFS	Mone-tary	BOP	Other
8.2 Can you easily access information pertaining to official statistics you use (explanatory notes, methodological descriptions, references concerning concepts, classification, statistical practice)?							
• Yes	19	15	23	12	20	14	3
• No	8	4	4	6	3	5	0
						Yes	No
8.3 Is the above information on methodology sufficiently clear and at an adequate level of detail to be useful to you?						21	4
8.4 In what format do you get access to official statistics?							
Hard copy							
• Official releases							22
• Statistical publications							26
• Data specifically requested							16
• Official policy papers							18
• Private sector summaries and analyses							8
• Newspapers							7
Electronic form:							
• Official websites							34
• Private sector websites							6
• E-mail requests							16
• CD-Rom or similar							7
	NA	PPI	CPI	GFS	Mone-tary	BOP	Other
9. Overall assessment							
9.1 In your opinion, is the underlying methodology of official statistics sound and appropriate?							
• Yes	25	18	25	18	23	18	4
• No	2	0	3	1	1	0	1
9.2 In general, do you consider the official statistics to be unbiased and accurate?							
• Yes	27	22	29	20	25	21	3
• No	2	1	1	1	1	1	1
9.3 How would you compare the quality of official statistics of the country with those of other countries in the region?							
• Better	5	0	1	0	1	2	3
• Same	15	14	20	11	16	14	1
• Worse	2	0	0	1	0	0	3
• No opinion	6	7	5	7	6	4	7

General Information about Uses of Official Macroeconomic Statistics of Norway Totals							
	NA	PPI	CPI	GFS	Mone-tary	BOP	Other
9.4 How do you assess the overall quality of the official statistics? (1 rated as poor and 5 as excellent)							
1	0	0	0	0	0	0	0
2	2	0	0	2	0	0	0
3	5	6	5	3	2	3	3
4	16	9	15	9	15	10	3
5	4	3	9	3	6	6	1
Average	3.8	3.8	4.1	3.8	4.2	4.2	3.7

NA = National accounts; CPI refers to Consumer price index and PPI to Producer price index;
GFS = Government finance statistics; Monetary = Monetary and financial statistics; and BOP = Balance of payments statistics