XI Revision Policy and the Compilation and Release Schedule

A. Introduction

11.1. Revisions are an essential part of good quarterly national accounts (QNA) compilation practice because they provide users with data that are as timely and accurate as possible. Resource constraints, in combination with user needs, cause tension between the timeliness of published data on the one hand and reliability, accuracy, and comprehensiveness on the other hand. To reduce this tension, typically, preliminary data are compiled that later are revised when more and better source data become available. Good management of the process of revisions requires the existence of a well-established and transparent revision policy.

11.2. It is important to emphasize that revisions are conducted for the benefit of users, namely, to provide users with data that are as timely and accurate as possible. Revisions provide the possibility to incorporate new and more accurate information, and thus to improve the accuracy of the estimates, without introducing breaks in the time series. Although repeated revisions may be perceived as reflecting negatively on the trustworthiness of official statistics, delaying the incorporation of new data in the published estimates may increase the magnitude of later revisions (in particular, if these go in the same direction). Furthermore, not passing on known revisions reduces the actual trustworthiness of data even more because the data do not reflect the best available information, and the public may know this or find this out (for instance, the public may wonder why a revision in the monthly production index is not reflected in the QNA). Moreover, series that are revised frequently are not necessarily less accurate, even initially, than those subject to little or no revision. The absence of revisions may indicate that no better information became available to improve poor first estimates. Finally, attempting to avoid revisions by producing accurate but very untimely, and thus less useful, data may result in not making the best use of the information available. If the official QNA compilers fail to serve users' needs, other organizations may compile their own estimates, resulting in confusion from conflicting estimates to the point that many users may consider the official data irrelevant. Obviously, that will result in reduced prestige and respect for the official QNA compilers.

11.3. Revisions to past data are not without potential problems and may draw criticism if not properly handled. Revisions to past data are inconvenient to users because they entail revisions to their databases and applications. More important, frequent revisions—particularly to data for the most recent periods–may cause users to feel uncertain about the current economic situation and thus uncertain about what policy actions should be taken. Some of this uncertainty may be unavoidable and merely reveal the fact that the information base for the estimates for the most recent periods is limited and thus that the data should be used with care. Some of the uncertainty, however, may be caused unnecessarily by the way the revisions are carried out or presented. On the other hand, the temptation to suppress needed revisions may lead to deserved criticism from users and severely reduce the usefulness and trustworthiness of the data. Unjustified differences between national accounts estimates and their source data may cause users to doubt the competence of the national accounts compilers with serious—and justified—criticism of the national accounts data as a result.

11.4. To deal with the issues surrounding revisions and to avoid unnecessary criticism, a well-designed and carefully managed revision policy is needed. Essential features of a well-designed revision policy are predictability and openness, advance notice of causes and effects, and explanation, as well as easy access to sufficiently long time series of revised data. This chapter elaborates on the elements that make for a well-established revision policy.

B. User Requirements and Resource Constraints

11.5. The trade-off between timeliness on the one hand and accuracy and reliability on the other is caused by a conflict between different user requirements in combination with limitations in statistical resources. National accounts data are used for multiple purposes that have partly conflicting requirements. To allow corrective policy actions to be taken in time, policymakers and other users need a coherent, comprehensive, and reasonably accurate picture of the current economic situation that is as up-to-date as possible. For other purposes, such as time series and structural analysis of past events, users require long time series of very detailed annual, or quarterly, national accounts data. Finally, users are interested in both the period-to-period rates of change in the series and their levels. The resources available for statistical purposes, however, are limited. Collection of sufficiently accurate and detailed source statistics is time-consuming and expensive both for the statistical office and for the respondents, and compilation of comprehensive, accurate, and detailed national accounts is in itself time-consuming and expensive. Also, frequent collection of comprehensive and detailed data may impose an unwarranted burden on respondents, who themselves may not even have such data on a timely and short-term basis.

11.6. As a result, only a limited set of monthly or quarterly source data typically is available on a very timely basis. More detailed and more comprehensive monthly or quarterly source statistics typically become available on a less timely basis, while the most detailed, comprehensive, and reliable source data may be annual or less frequent data that become available with varying delays long after the reference year. And to provide sufficiently reliable benchmark data, many countries conduct periodic "benchmark censuses," collecting very detailed and reliable annual data every 5 or 10 years. These are often linked to periodic compilation of supply and use tables. The monthly and quarterly data commonly are based on smaller samples and less complete sample frames than the corresponding annual data. Finally, the annual data may be based on audited business accounts through comprehensive questionnaires that facilitate a thorough checking and editing of the reported data, while the quarterly data may be collected using simpler questionnaires that allow less extensive checking and editing.

C. Waves of Source Data and Related Revision Cycles

11.7. As explained above, national accountants may experience three "waves" of statistical source data that become available. Each of these waves may lead to revisions of earlier estimates and the incorporation of more details in the published accounts. In accordance, three revision cycles may be distinguished. A quarterly revision cycle is determined by the evolution of the short-term statistics as used in the QNA, and an annual revision cycle is caused by incorporation of annual source data or annual national accounts (ANA) estimates based on a separate ANA compilation system into the QNA through benchmarking. Finally, a periodic major revision cycle originates from incorporating data from periodic benchmark censuses, revised international guidelines, and other changes that cannot be incorporated on a continuous basis because of resource constraints. Revisions may, of course, also be caused by compilation errors, which need to be corrected when found.

11.8. The evolution of short-term statistics used in the QNA may cause revisions for two reasons: (a) corrections or changes in specific short-term source data and (b) incorporation of additional, somewhat less timely, short-term data. Changes in short-term source data can be caused by late responses received after initial publication of source statistics and by the use of prepublished data that are still open to change. To increase the timeliness of the QNA, the first estimates may have to be based on an incomplete set of short-term source data. Monthly and quarterly source data commonly become available with varying delays. Thus, when preparing the first estimates, only data for two months of the last quarter may be available for some series, while data may be missing altogether for other series. To fill these source data gaps, provisional estimates must be made based on simple trend extrapolation or on alternative indicators that are more timely but less reliable. During the course of the current year, these provisional estimates must be revised to incorporate more and better data as the less timely short-term source statistics become available.

11.9. Incorporation of more reliable annual data into the quarterly estimates implies several revisions to the QNA estimates over time for two reasons. First, the annual data themselves may be revised. Second, for technical reasons, the benchmarking procedure will result in revisions to quarterly data for earlier years in addition to the year(s) with new annual data.

As explained in Chapter VI, these additional revisions to past estimates are needed to avoid introducing breaks (the "step problem") in the QNA time series between successive pairs of years. Benchmarking of QNA on more reliable annual data has the advantage of conveying the accuracy and reliability of the annual data to the QNA and allows for a degree of comprehensiveness that the short-term source data by themselves do not admit. Annual source data may become available throughout the year or clustered around a few times of the year. The annual data can either be incorporated into the QNA estimates series by series—when the new annual source data for a series become available—or simultaneously for all series, depending among other things on the design of the ANA and QNA compilation systems (see also paragraph 11.19 below as well as Chapter II, paragraphs 2.5 and 2.6).

11.10. Periodic major revisions may be needed to the complete quarterly and annual time series or to a large part of the time series. Over time, periodic benchmark censuses may be conducted, new types of annual source data may become available, and improved compilation methods may be developed, all indicating a need for level adjustments. In addition, international guidelines are periodically revised. To introduce these improvements without creating breaks in the quarterly and annual time series, the complete time series—or a large part of the time series—must be revised at the same time. Ideally, this should be done on a continuous basis, series by series; however, resource constraints often do not permit such a frequent backcasting approach. Simplified ratio-based backcasting techniques may help in dealing with this problem.

D. The Compilation and Release Schedule

11.11. A crucial part of a well-established and transparent revision policy is devising an appropriate compilation and release schedule. When establishing a compilation and release schedule, it is important to decide (a) how timely the initial quarterly estimates should be; (b) how frequent new quarterly source data should be incorporated; (3) how early and how frequent annual source data should be incorporated; and (4) how frequent regular major revisions should be conducted.

11.12. Major elements in determining the compilation and release schedule are (a) timing of arrival of major data sources, and the source data revision policy; (b) timing of preparation of important economic political documents; (c) attitudes toward the trade-off between timeliness and accuracy, as well as toward size and frequency of revisions; (d) dissemination modes; and, finally, (e) workloads and the design of the national accounts compilation system.

11.13. To minimize the number of revisions needed without suppressing information, it is advisable to coordinate statistical activities. The revision schedule is, or should be, largely driven by the arrival of source data, and coordinating their arrival would substantially help reduce the number of revisions needed. Tying introduction of new concepts and methods, or new international guidelines such as the *1993 SNA*, to the time of other planned revisions would also help reduce the number of revisions. Although the timing of censuses and new surveys may not be at the discretion of national accountants, they may have a strong say in this, and they are well advised to use their influence to achieve maximum consistency with their revision policy.

11.14. Account needs to be taken of the coordination of QNA with related economic policy documents, such as the general government budget and other important documents related to the parliament's or legislature's budget discussions. To provide timely inputs to the preparation of these documents, the release of the estimates may have to be brought forward or, if this is deemed impossible, delayed. Release of new estimates shortly after the government budget has been presented or in the midst of a budget debate may cause problems (although this should not change the release schedule once it has been fixed).

11.15. The initial estimates for a quarter could be prepared and released too early. Improved timeliness could require use of a higher proportion of incomplete source data, resulting in unacceptable reduction in the accuracy of the estimates and larger revisions. The information content of estimates based on very incomplete source data may be limited and, in some cases, more misleading than informative. In those cases, the users would be better served by less timely initial estimates for a quarter.

11.16. Finally, the design of the national accounts compilation system has important implications for how frequently it is possible and appropriate to incorporate new source data. Large and complicated compilation systems with detailed and extensive

balancing and reconciliation procedures (e.g., based on quarterly or annual compilation of integrated supply and use tables and a complete set of integrated sectoral accounts) make it costly to incorporate new source data very frequently.

11.17. Timeliness of release of the initial estimates for a quarter varies greatly from country to country, mainly reflecting different perspectives on the timeliness-accuracy-revision trade-off. The earliest releases of QNA data in some countries come within the first month after the reference quarter. A more common release time for the initial estimates among statistically advanced countries is around two to three months after the end of the quarter.[1,2] To provide very early annual estimates, some countries release their initial estimates earlier after the end of the fourth quarter than for other quarters. Correspondingly, there is typically a shift of focus in the presentation from the estimates of the quarters to the estimates for the full year. While the main focus may be on the estimates for the full year, the fourth-quarter data need to be published in their own right because failing to do so will cause users who need integrated annual and quarterly data to wrongly derive the fourth quarter as the difference between the annual total and the sum of the three previously published quarters. If the initial estimates for the fourth quarter are released earlier than for other quarters, it is preferable to highlight the lower quality of the fourth-quarter estimate, for example, by noting its revisions in previous years and the specific shortcomings in the data used.

11.18. How frequently new quarterly source data are incorporated varies. Countries that release their initial estimates within the first month of the reference quarter typically release revised and more detailed estimates shortly thereafter. These early estimates are often revised once or twice in the first quarter after the reference quarter. The estimates may be open to quarterly revisions thereafter. A more common practice, followed by countries that are less timely in releasing their initial estimates, is to revise the estimates quarterly linked to the preparation and release of the initial estimates for the following quarters. To reduce the number of revisions, it may be tempting to allow the estimates to be revised only once during the ongoing year. However, temporarily suppressing information may result in larger revisions later. Suppression of information may also sometimes be technically difficult to implement and thus may result in compilation errors. The common practice is to let all estimates be open to revision during the ongoing year.

11.19. Annual source data can be incorporated into the QNA estimates either series by series, when the new annual source data for a series become available, or simultaneously for all series. The first approach has the advantage of allowing new annual information to be incorporated in as timely a manner as possible. Some countries compile their quarterly and annual estimates using basically the same time-series-oriented compilation system—typically without detailed and extensive balancing and reconciliation procedures—making this approach the natural choice. Most countries use a separate system for compiling their annual estimates, however, which makes it natural to filter the annual source data through the annual accounting system before incorporating the information into the QNA estimates. In those circumstances, to avoid inconsistencies between quarterly and annual accounts, the second approach may be the natural choice. Some countries use a combination of the two approaches.

11.20. Countries with an independent ANA compilation process typically revise their annual estimates from two to four times before the books are closed until a major revision is undertaken. These regular revisions to the annual estimates are normally undertaken once a year, although a few countries conduct them more frequently. The timing within the year of these annual revisions varies widely. The emphasis is typically on providing accurate and detailed data for structural analysis, with less emphasis on timeliness. They are nearly always more detailed than the QNA and may encompass a more complete set of the integrated economic accounts, including supply and use tables. All these features make backcasting a demanding task and thus restrict the frequency with which level adjustment originating from new data sources and new methods can be incorporated.

11.21. Box 11.1 gives an illustration of a possible compilation and release schedule followed by countries with independent ANA compilation systems. In this example, the annual accounts are revised only once, but in many countries the annual accounts are revised several times before they are declared final. These subsequent revisions of the ANA should also

[1]These issues are dealt with and international practices are compared in Smith, Philip, (1993).

[2]The Special Data Dissemination Standard (SDDS) specifies timeliness for the initial QNA estimates at three months after the end of the quarter.

be put through in the QNA so that the number of revisions of QNA eventually depends on the number of revisions of the ANA. If a major overhaul of the ANA system is performed later, it should also be put through in the QNA time series. It should be noted that in the benchmarking procedures recommended in this manual, revisions of past years will also necessitate revisions in the quarters of later years, including the quarters of the current year. Revisions to the quarters of the current year (in Box 11.1, data for q1 through q3 of year y+1) would not be necessary if the annual data for the past years were incorporated before release of the initial estimates for the first quarter of the current year (in Box 11.1, 5 to 6 months instead of 10 to 12 months after the end of year *y*).

E. Other Aspects of Revision Policy

11.22. In addition to developing a compilation and release schedule, the following are other important elements of a well-established revision policy:

- A balance between timeliness and accuracy of the initial estimates.
- Well known release dates published through an advance release calendar, as prescribed by the IMF's Special Data Dissemination Standard (SDDS) and General Data Dissemination System (GDDS).
- Candid and easily available documentation of sources and methods showing the main flows of source data leading to revisions.
- Provision of Available information on the accuracy of the estimates and the degree of potential future revisions (e.g., through records of past revisions).
- Provision of sufficiently long, consistent time series.
- Provision of detailed data in an easily accessible format (e.g., electronic).
- Published tables showing the revisions to the data with accompanying text explaining their causes.
- Advance notice to users of the national accounts data.

11.23. To inform users and avoid unmerited criticism, a well-established revision policy requires

Box 11.1. Compilation and Revision Schedule, An Illustration

Current Estimates for a Year y

- Initial estimate: 2 to 3 months after the end of the quarter
- Revised estimate: 5 to 6 months after the end of the quarter
- All estimates may be open to revisions during the current year

First Annual Round of Revisions:

		Annual Data for:	Quarterly Accounts
10–12 months after the end of year *y*	year *y*	Preliminary annual estimates based on a separate annual accounting system	Revised estimates for q1 – q3 of year *y* + 1 + Revised quarterly estimates for year *y*, and *y* – 1 + Slightly revised quarterly pattern through year *y* – 2 to *y* – 4 to avoid steps between year *y* – 1 and *y* – 2
	year *y* – 1	"Final" annual estimates based on a separate annual accounting system	

Subsequent Annual Rounds of Revisions:

22–24 months after the end of year *y*	Incorporation of "final" annual estimates for year *y* and preliminary estimates for year *y* + 1 based on a separate annual accounting system
32–36 months after the end	Incorporation of "final" annual estimates for year *y* + 1, of year *y* and preliminary annual estimates for year *y* + 2
46–48 months after the end	Incorporation of "final" annual estimates for year *y* + 2, of year *y* and preliminary annual estimates for year *y* + 3

The last two rounds of revisions are caused by technical properties of the recommended benchmarking methods (more rounds with minor revisions may in some cases be needed).

The "final" annual estimates may be revised later as needed, if new data become available or improved methods are developed.

Box 11.2. Presentation of Revisions, An Illustration[1]

Changes in This Issue

Data for the mining and manufacturing industries have been revised as a result of the incorporation of new annual census results for the previous year. As a result, value added for most industries has been revised upward in the previous and current years.

Retail output and household consumption have been revised for the most recent two quarters following the processing of late questionnaires. The most recent quarter has been revised down slightly as a result.

Changes in the Next Issue

Release date: xxxxx.

The methodology for estimating financial services will be revised in line with new international standards. The conceptual issues and quantitative effects are discussed in a research paper available on request.

Summary Tables of Revisions

Table 1: Revisions to Domestic Production Account in Currency Units: Eight Most Recent Quarters

Table 2: Revisions to Percentage Changes in Domestic Production Account: Eight Most Recent Quarters

[1]Based on actual country practices.

candid communication with users and easy access to the revised time series on a sufficiently detailed level.

11.24. Users should be properly informed of the quality of the estimates and the degree of revisions to expect on predetermined dates in the future. Properly informing users of the quality of the estimates involves giving them candid and easily available documentation of sources and methods for the different versions of the quarterly estimates, clearly showing the main flows of source data leading to revisions. When releasing revised estimates, best practice is to simultaneously publish articles summarizing the main revisions and their causes since the previous release. (See Box 11.2 for an illustration.) Best practice also involves periodically conducting and publishing studies of long-term trends in the revision patterns. Summaries of these studies may accompany the regular quarterly release of data to remind users that data are subject to revisions.

11.25. It is particularly important to inform users properly of the quality of the estimates when releasing QNA estimates for the first time. For a good indication of the degree of future revisions of the main aggregates to expect, the complete compilation process should be simulated based on historic data before releasing the new estimates. That is, the proposed QNA compilation system should be used to produce QNA estimates for the past years as if one were back in time and were producing the initial preliminary estimates for those years (see the discussion of the "tracking exercise" in Chapter II).

11.26. Finally, providing easy access to the revised time series on a sufficiently detailed level should substantially ease the inconvenience for users of frequent revisions. This involves electronic release of the complete, detailed time series, not only the aggregated data for the most recent periods, which will make it easier for users to keep track of the revisions and update their databases. It should be emphasized that release of complete time series for all revised periods is needed because users often use QNA data in a time-series format and need to be alerted to any changes in data for past periods. Not providing them with revised historic data will create breaks in the time series they use, which will seriously hamper the serviceability of the data.