

10. Strategic and Managerial Issues

Introduction

10.1 Because of the wide range of data sources that should be drawn on, compiling the full range of FSI data described in this *Guide* is a complex task. Moreover, for many countries such compilation is a new endeavor. In this context, Chapters 10 and 11 aim to help provide a road map for developing FSI data. This chapter covers the strategic and managerial issues that need addressing, while practical data compilation issues are addressed in the next chapter. For countries with an established system of compiling and disseminating FSI data, the need to draw on this chapter in particular may be limited.

Strategic Issues

10.2 Set out below are some of the strategic issues that should be addressed when considering the compilation of FSI data.

Which Agency or Agencies Should Be Responsible for Compiling and Disseminating FSI Data?

10.3 Given the range of data sources that potentially should be drawn on, it is most unlikely that all are available in one agency, and so the job of compiling FSI data will involve more than one agency. Nonetheless, because of the importance of this body of statistics in its own right, and to ensure that there are clear lines of responsibility and accountability, the *Guide* recommends that one agency should be given the primary responsibility for calculating and then disseminating FSIs—the lead agency.¹ The *Guide* does not suggest which agency should be responsible for calculating and disseminating FSIs. National authorities could assign responsibility through a sta-

¹This recommendation does not cover responsibility for the analysis and interpretation of FSI data, which is a separate matter.

tistical law or other statutory provision, interagency protocols, executive decrees, and so on.

Should a Specific Unit Be Responsible for FSI Data? In Which Department Should It Be Located?

10.4 Once a lead agency has been determined, an additional issue is whether there should be a unit in the lead agency that focuses specifically on the FSI data set, or whether an existing unit should add this task to its work.

10.5 The *Guide* sees benefit in establishing a separate unit because of

- The wide range of data that needs to be handled;
- The need to develop specialist FSI knowledge; and
- The possible pattern of workload peaks: if there is synchronization of peak workloads—the decisions relating to the timing of data release addressed below are relevant in this regard—it may not be possible to add FSI work to the workload of an existing unit.

10.6 If resource constraints dictate that FSI work is to be absorbed into the existing structure, the above points might be considered during the integration process.

10.7 If a decision is made to have a separate unit, in which department should it be located? Again, given the central role of deposit takers' data in the FSI data set, the location of related statistical work on deposit takers should be an important factor in any decision.

What Is the Appropriate Approach to Disseminating Data?

10.8 Decisions relating to the dissemination of data have important implications for a number of the compilation issues mentioned above, because publication deadlines help focus the work processes,

which in turn affect resource allocation decisions. An important decision with regard to dissemination concerns periodicity. Also significant are decisions on the range of data to be disseminated, the timeliness of release, and the format of release.

10.9 Owing to the nature of FSIs and their importance for decision making, countries might consider working toward disseminating at least a core FSI data set on a quarterly basis. Release of some key financial market data on a monthly basis could be considered. Chapter 12 discusses in more detail a framework for disseminating FSIs and the periodicity of release. As for the timeliness of release, given the range of data required to compile FSIs, an appropriate release date could be within one quarter after the reference date.

10.10 Regarding the format for the release of data, the *Guide* encourages dissemination on a single centralized website, allowing simultaneous release to all users, general accessibility of the data, and transparency.² Nonetheless, careful consideration should be given to the provision of additional information when FSI data are released, given the broad range of source data used in their construction and the complexity of the information they encapsulate. Text commentary on the main trends in the FSI data series could aid interpretation, and detailed metadata would support understanding of the data. Moreover, some countries produce regular publications that include articles and data on financial stability issues, and this can be useful in putting the disseminated FSIs in perspective or in providing extended discussions of relevant methodological issues. Regular statistical publications can also be vehicles for the dissemination of FSI data as well as complementary information.

10.11 General guidance on dissemination practices found in the IMF's Special Data Dissemination Standard (SDDS) and General Data Dissemination System (GDDS) include an emphasis on integrity and the need to avoid nonstatistical interference with the data.

²At the June 2003 meeting of the IMF Executive Board to discuss FSIs, as a medium-term objective most Directors supported consideration of the establishment of a Fund Internet gateway to provide a single entry point for accessing FSIs disseminated by IMF member countries.

What Source Data Are Available?

10.12 One of the first tasks in developing systems for compiling FSIs is the identification of available source data. When compared with the information needed to compile FSIs, this inventory of available information will inform decisions on (1) resource needs, (2) the allocation of work across agencies, and (3) the development of work programs. Producing a comprehensive list of existing data will entail close coordination among potential compiling agencies. More generally, it is essential that sources and methods be well documented for use when problems arise, for ensuring continuity of process when there is staff turnover or absence, and to support the development of metadata.

10.13 A related issue is the extent of coverage of entities that fall within the definition of the sector (or subsector). In many instances, a sample of the entities in the sector is surveyed, and the reported data are "grossed up" to estimate data for the entire sector. The coverage of the survey tends to be more comprehensive for the largest entities in the sector. However, especially in the case of the deposit-taking sector, while detection of vulnerabilities in large institutions is important, experience has shown that weaknesses in smaller institutions can also have a disproportionate impact on the health and soundness of the financial system. Clearly, the broader the coverage of institutions, the more resource intensive the work.

Are There Adequate Resources to Compile the Necessary Data?

10.14 National authorities are responsible for the allocation of resources for the compilation of FSIs. They are encouraged to provide at least adequate resources to perform the key tasks for the compilation of the core set of FSIs. These include the identification and assessment of source data and the compilation of the core FSIs. Moreover, authorities should strive to develop and retain over time a core contingent of qualified staff that is knowledgeable in statistical and financial soundness concepts and compilation methods. The allocation of resources among agencies may need to be reconsidered, depending on the function of the lead agency with regard to gathering and calculating FSIs and related data. There may also be costs associated with computer hardware and software that will need to be considered.

10.15 In determining resource allocation, account should be taken of any needed improvements in data. Decisions may need to be made on whether to adapt existing report forms and questionnaires and/or develop new surveys. In setting priorities for improvements, the costs and benefits of existing or new data sources should be considered. As noted in the managerial section ahead, after the initial development work is completed and data are being disseminated, a more detailed development work program can be produced in consultation with other agencies involved in the work.

How Should Agencies Coordinate?

10.16 Regardless of how the statistics are to be collected and compiled, the process will be resource intensive, especially in the initial phase of establishing sources and methods for building an FSI database, and cooperation and coordination among agencies will be essential. Ensuring good cooperation among agencies is likely to form a significant element of the managerial function on a continuing basis—in compiling FSI data, this might often involve cooperation between supervisors and economic statisticians. It is therefore important that the “ground rules” for cooperation among agencies be established at the senior management level. Good practice suggests that, at the outset, written terms and conditions under which agencies are to cooperate should be agreed, and procedures for ongoing cooperation should be established. The type of issues to be covered in a written agreement could be similar to those set out under “Coordination Among Agencies” in the next section, “Managerial Issues.” However, at a minimum, such an agreement should cover when and how data are to be supplied, as well as the policies for revising data. In addition, because of the interrelationship between FSIs and other data sets, procedures should be established to ensure that the development of FSI data is consistent with priorities for the development of related statistics.

10.17 Given the increasing presence of foreign controlled deposit takers in emerging markets and the need to report information to their home and host country authorities, cross-border cooperation among compilers might help reduce the cost to these deposit takers of compiling the required data while also supporting the exchange of knowledge and skills between compilers across borders.

What Quality Control Steps Can Be Taken?

10.18 Statistical quality is a multidimensional concept that encompasses the collection, processing, and dissemination of statistical information rather than simply the accuracy of the numbers. At the strategic level, it is important that

- *The principle of objectivity in the collection, processing, and dissemination of statistics be firmly adhered to.* Statistics should be collected and compiled on an impartial basis, with choices of sources and statistical techniques (for example, among surveys and between surveys and administrative records) based solely on statistical considerations. The choice of methodologies should be justified, and information about the choices made should be readily available.
- *A data revisions policy should be set that follows a regular, well-established, and transparent schedule.* Revisions should be analyzed by the compiling agency to allow assessment of the reliability of the preliminary data. Consistency checks within the data set and with other major data sets should be regularly undertaken by the compiling agency.

10.19 The IMF’s Data Quality Assessment Framework (DQAF) provides a comprehensive but flexible framework for assessing data quality.³ Rooted in the United Nations’ *Fundamental Principles of Official Statistics*,⁴ it is the product of an intensive consultation with national and international statistical authorities and data users inside and outside the IMF. The DQAF covers all aspects of the statistical environment or infrastructure in which data are collected, processed, and disseminated. Some key aspects of the DQAF are reflected in this chapter.⁵

Is There Adequate Legal Backing for the Collection of Data?

10.20 For most FSI-related data series, legal backing for data collection might already be in place. But if new data are required, a first step should be to assess the existing legal support for their collection. Adequate legal backing provides the statistical

³See Carson (2001) and IMF (2003c).

⁴Available on the Internet at <http://unstats.un.org/unsd/methods/statorg/FP-English.htm>.

⁵The DQAF developed for assessing the quality of monetary and financial statistics is available at http://dsbb.imf.org/vgn/images/pdfs/dqrs_MonetaryAcc.pdf (IMF, 2003a) and is relevant for promoting FSI data quality.

agency with the necessary support to encourage the private sector to report the data required, but obtaining such backing for statistical collections could be a complicated and lengthy process that is likely to be undertaken infrequently. This issue should be considered as part of a wider effort to obtain legal support for data collection.

10.21 The terms of legal backing for the collection of statistics vary from country to country, depending on the institutional arrangements and the historical development of the gathering of statistics.⁶ There may be a choice between legislation (by parliament) and the issue of other legal acts (by the central bank or the government).

10.22 Some typical dimensions of legal backing for statistical collections are

- **Scope.** The type of entities the compiling agency can approach for data should be clearly specified (for example, entities in the private business sector), and the rationale for targeting these entities should be explained (for example, to monitor economic activity and financial transactions).
- **Flexibility.** The legal authority should be clear as to the boundaries of the responsibilities of the compiling agencies, without being so restrictive that the agency lacks the freedom to adapt as new developments emerge.
- **Compliance.** The compiling agency should have the power to impose penalties on entities that fail to report.
- **Confidentiality.** The use of information from individual entities for other than statistical compilation purposes should be prohibited,⁷ thus establishing independence of the statistical compilation function from other government activity (for example, taxation).
- **Integrity.** Other government agencies should be prohibited from unduly influencing the content of statistical releases.
- **Confidence.** Appropriate penalties should be imposed on the compiling agency and (in particular) individual employees who do not respect the confidentiality of data, in accordance with the law.

⁶See also Khawaja and Morrison (2002).

⁷It is recognized that the release of information on individual entities in aggregated form might not always solve the problem of confidentiality if one or two large entities dominate the sector.

10.23 Other important elements of statistical legislation pertain to the release of information on individual entities in aggregated form only and the establishment of an oversight committee of independent experts to ensure the professionalism and objectivity of the compiling agencies.

Managerial Issues

10.24 Having decided on the strategic direction of the work, a number of managerial issues arise concerning the implementation of work on FSIs. Most important are the coordination with other agencies, development of a work schedule, and consultation with both data suppliers and users.

Coordination Among Agencies

10.25 Because data for compiling FSIs are likely to be supplied by different agencies, a number of management challenges arise. First, procedures are needed to ensure that the concepts used and data compiled by the different agencies are consistent, or at least reconcilable. To this end, the lead agency should develop expertise in international practices and benchmarks for the compilation of FSIs and, in a sense, act as their guardian within the country.

10.26 Second, the lead agency should establish key commonalities and differences in the source data and should be aware of any inconsistencies with the core concepts outlined in the *Guide*. The definitions of sectors and instruments should be assessed, as should the accounting and valuation rules. The coverage of the reporting population should be compared for data drawn from different sources and used to calculate FSIs for the same sector. Revision policies for source data should also be established and monitored. In particular, revisions in regulatory data are sometimes restricted by legal mandate, whereas data collected for monetary and national accounts statistics are often revised on an ongoing basis. Such differences in revision policy can affect the comparability of source data.

10.27 Third, the lead agency should be in close contact with the data-supplying agencies so that both sides understand the other's needs and problems. The timing, content, and formats of the data provided by the agencies should be established. Any changes in coverage, definition, or classification should be iden-

tified in advance of the provision of data so that there are no surprises during the data compilation process. Breaks in data series should be clearly identified. Data-supplying/producing agencies should also supply information on the shortcomings of the data.

10.28 Most data are collected from individual institutions on a strictly confidential basis and, in accordance with the usual restriction that individual entity data cannot be disseminated, are published on an aggregated basis. These confidentiality considerations could restrict the access of the lead agency to the individual entity data, leaving it to rely on aggregate data to calculate FSIs. In such circumstances, and given the role of the lead agency in ensuring the accuracy and reliability of the published FSIs, the lead agency should work closely and cooperatively with the data-supplying agency to ensure that aggregated data are constructed in accordance with the agreed principles. The lead agency should closely monitor the data supplied and should have the right to require that the data suppliers provide explanations regarding the data. Preferably, the procedures to be followed will be covered in the written terms and conditions under which agencies cooperate.

10.29 Beyond the “official” procedures, it is important that arrangements be put in place to facilitate formal and informal contacts among the staffs of the different agencies to deal with any problems expeditiously and to avoid duplication of data coverage in the different institutions. One approach for encouraging cooperation, developing contacts, and resolving problems is to establish a regular working-level meeting among staffs of the various agencies. The *Guide* recommends this approach. These meetings could facilitate the resolution of problems and provide opportunities to discuss upcoming developments and possible future enhancements or changes to collection systems. Such meetings could also facilitate the assessment of the impact of changes in economic circumstances on the range of data compiled and disseminated. Such cooperation helps ideas to spread, fosters improvements, allows institutions to understand each other’s positions, and helps build important personal contacts.

Planning Workloads

10.30 After the release schedule for FSI data is agreed, a compilation work schedule should be estab-

lished (Box 10.1).⁸ The schedule should specify the sequence of tasks including

- The delineation of responsibilities for each task;
- The data inputs and scheduling of the delivery of data, with the supplying agencies’ agreement on the scheduling, where appropriate;
- The time frame for compilation and verification;
- The schedule for the flow of data from one production stage to the next; and
- The agreed release schedule.

10.31 The establishment of the compilation work schedule should be a process that occurs over some period of time. If the initial schedule turns out to be too tight, some delay in the release date for data might be necessary. When compilers first start to compile FSIs, much potential for unforeseen problems exists. Therefore, countries might initially provide a longer period before the release of data, with a greater margin for delay, and gradually improve the timeliness as they gain experience. Indeed, a trial period for testing the compilation of FSIs is advisable before deciding to disseminate data to the public in accordance with a prearranged timetable. At a minimum, it is recommended that the compilation procedures be tested for two periods to identify and resolve any compilation problems that might arise. Such an approach would also allow the authorities to gain greater understanding of the nature of these data before providing them to the public.

Consultation with Data Reporters

10.32 Even though legal backing will support compilers’ efforts to obtain the necessary information from the primary reporters of data (such as the individual deposit takers), it is essential that a “culture of reporting” be developed. This is not easily or quickly achieved but should be considered as an ongoing aspect of the work. Steps to encourage a culture of reporting include convening meetings with potential respondents and addressing their concerns, developing report forms that fit easily into existing management reporting systems and are not overly complex, and disseminating and promoting the FSIs in a trans-

⁸Moreover, a decision should be made regarding the way data should be stored and managed so that they are best available for various uses. Box 10.1 provides some ideas.

Box 10.1. Managing Data Compilation Systems¹

The choice of computer system is important for the compilation of FSIs. While it is recognized that data-processing systems are developed to meet the circumstances in each country, this box provides a brief overview of some of the considerations to take into account and outlines a few good practices.

The most straightforward choice of computer system for FSI-based data work is the computer system already standard in the agency. This approach has a number of advantages: staff is already trained on the system, the capabilities are known, and computer support is presumably available if technical difficulties arise. In addition, only limited time and effort need be spent on choosing the appropriate software package. Such an approach should also facilitate the running of the system by compilers, rather than by computer specialists without statistical expertise.

Important considerations in establishing the compilation system are determining how the work on FSI-based data fits into the other tasks of the agency and how existing compilation and information technology systems are to be utilized. For instance, a well-specified naming structure for the data series is essential for the compilation system. If such a structure already exists, a decision might be made to extend the existing structure to accommodate additional FSI data series rather than create a new structure. The naming structure determines organization of the data and the navigation of the database. In principle, any structure should be easy to understand, and the type of data (frequency, value, name) and other attributes should be well documented.

Some countries base their data compilation systems on spreadsheets such as Lotus or Excel. Spreadsheets are useful for small-scale tasks, such as development work. However, as the system moves from the developmental to the operational stage, it is desirable to shift to a compilation system that is built on database software and to use it for the large tasks of data storage and computation. Experience shows that, when dealing with large quantities of numbers, transferring data between spreadsheets can easily result in errors that are difficult to trace. In addition, it can be difficult to keep records of different versions of data.

There are different types of databases. Relational database packages store data in a set of linked two-dimensional tables that facilitate cross-sectional analysis. Common relational database packages include Access, dBASE, Oracle, and Sysbase. Time-series

databases treat all objects (data arrays or vectors) as time series and are particularly suitable when the time dimension is a prominent feature of the data. Common time-series database packages include Aremos, Dbank, and Fame. None of the database packages currently available is optimal for both types of operations. Given the nature of the FSI data set, a combination of databases—a time-series database for the storage and computation of FSIs, and a relational database for the calculation of the underlying data series—might be used in producing FSIs. The database system should allow for receiving and downloading data in spreadsheet format to assist in data exchange with data reporters and users.

Some good practices in data handling during the compilation process are the following:

- Each figure should be entered only once and subsequently referenced by links so that all consequential changes are made in the event of revisions. This is particularly important for FSI work, so that the system is flexible enough to accommodate requests, such as for ad hoc peer group data. Prerequisites are that the source data are readily available and there are not duplicate versions that could result in errors.
- Documentation of sources, processes, assumptions, and adjustments to assist later compilers should be included in text or notes. Data should have headings that describe the series and its units.
- Standardized formats should be used for all parts of the system (for example, basic sheets for input, checking, and aggregation; either rows or columns for time series, not both; screens that display several years of data; expressions in millions or billions, not both). The formats should be designed for compatibility with input formats required by the central compiling agency.
- Multiple layers of pages should be used to show stages of compilation separately while allowing links to related stages.
- Formulas should be double checked to see that they do what was intended and have not been unintentionally affected by other changes.
- Color and font options should be used to separate inputs, outputs, and edit checks.
- Spreadsheets received should be dated (for example, printed copies can be dated by using the Excel function “=today()”). Backups of previous versions should be stored.
- Any spreadsheet files and worksheets should have meaningful names.
- Backups of data and relevant software should be maintained in separate, but easy to access, facilities.

¹This section draws on Bloem, Dippelsman, and Mæhle (2001).

parent manner. Indeed, data reporters should see some benefit arising from the provision of data, such as obtaining information on financial sector conditions relevant for their own analysis. If data are collected and compiled in an efficient manner and the

FSIs are viewed as important, experience suggests that data reporters are more likely to respond.

10.33 Thus, for example, when new data are to be collected, the compiler is advised to undertake report

form testing—that is, obtain feedback from a sample of potential reporters on whether the instructions are clear and workable before they become operational. Moreover, seminars and workshops explaining the reporting requirements are valuable to both reporters and the compiling agency, and are encouraged. The ongoing maintenance of an electronic register of contacts at the data reporting institutions (including the telephone numbers of those who have contacted the agency) provides information that can help ensure a well-run statistical operation. Through such a register, institutional memory at the statistical agency can be developed and maintained.

Consultation with Users

10.34 There should be mechanisms to ensure that the FSIs continue to meet the needs of policymakers and other users. For instance, experience has shown that corporate and household debt tends to increase following financial liberalization, perhaps warranting expansion of the FSIs to these sectors, if data are not already available.

10.35 Meetings with policymakers and other data users should be periodically convened to review the comprehensiveness of the FSIs and to identify emerging data requirements. New initiatives could be discussed with policy departments and statistical advisory groups; such discussions would provide justification for seeking additional resources. As with any new body of statistics, programs that reach out to users can be useful for promoting awareness and under-

standing of the data, as well as for identifying data quality issues and other user concerns.

Improving Source Data

10.36 While in the short term compilers may rely on existing data sources to compile FSIs, over time plans for improving or developing additional data series for FSIs may well need to be formulated. After the regular dissemination of FSI data is established, if not before, a priority list of improvements and a medium-term timetable for actions should be developed, maintained, and regularly reviewed. This list and timetable should be informed by consultation with both data users and other compiling agencies, so that the lead agency obtains support for the data compilation process. In some instances, it might be possible to absorb FSI development work into existing projects to save resources.

Quality Control

10.37 As noted above, data quality is a multidimensional concept, and many of the steps for ensuring good quality data are inherent in the discussions above. Nonetheless, it is important to recognize that the reliability of FSI data will be enhanced if the managers responsible for the collection and compilation of source data have strategies and procedures in place for monitoring and improving the quality of the collection and compilation of statistics, and for dealing with timeliness/quality trade-offs.