

## **PART III**

### **Compilation of Financial Soundness Indicators**

## Chapter Ten

### Strategic and Managerial Issues

#### Introduction

10.1. Because of the wide range of data sources that need to be drawn upon, compiling the full range of FSI data described in this *Guide* is a complex task. Also, for many countries such compilation is a new endeavor. Given this, this and the next chapter are intended to help provide a “road-map” for those 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 ahead are some of the strategic issues that need to be addressed when considering the compilation of FSI data.

#### *In which agency or agencies is the work on compiling FSI data to be located?*

10.3. Given the range of data sources that potentially need to be drawn upon, 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 financial soundness indicators the lead agency.

10.4. The *Guide* does not suggest which agency should be responsible for compiling FSIs. This is dependent on the institutional arrangements within the economy. However, given the central importance of deposit-takers’ data to the dataset and to avoid duplication of effort and the need to develop staff expertise in the field of deposit-takers’ data, the *Guide* considers it most appropriate if the chosen lead agency is one that has

responsibility for handling deposit-takers' data. Given this, it is likely that the compiling agency will be the central bank, financial supervisory agency (if separate from the central bank), or national statistical office. Responsibility could be assigned through a statistical law or other statutory provision, inter-agency protocols, executive decrees etc.

***Should a specific unit be responsible for FSI data? In which department should it be located?***

10.5. Once a lead agency has been determined, an additional strategic question arises as to 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 workload.

10.6. 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;
- The possible pattern of workload peaks: if there is a correspondence 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.

10.7. However, if resource constraints dictate that FSI work is to be absorbed into the existing structure, the above points should be considered during the integration process.

10.8. Further, 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?***

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

processes, which in turn affects resource allocation decisions. The most important strategic decision on dissemination concerns the periodicity. Also significant are decisions on the range of data to be disseminated, the timeliness of release, and the format of release.

10.10. Owing to the nature of FSIs and their importance for decision-making, the *Guide* encourages the dissemination of FSI data on a quarterly periodicity. Release of some key data on a monthly periodicity could be considered. A framework for disseminating FSIs is provided and the periodicity of release are discussed in more detail in Chapter 12. As for timeliness of release, given the range of data required to calculate and compile the necessary data, an appropriate release date could be within one quarter after the reference date.

10.11. As for the format of release, the *Guide* encourages dissemination on a single centralized website, allowing simultaneous release to all users, general accessibility of the data, and transparency. 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 technical notes would support understanding of the data. Further, some countries produce regular publications that include articles and data on financial stability issues. Regular statistical publications can also be vehicles for the dissemination of FSI data.

10.12. General guidance on dissemination practices found in the IMF's SDDS and GDDS can also be considered appropriate for FSI data. These standards include an emphasize on integrity and the need to avoid non-statistical interference with the data.

### ***What source data are available?***

10.13. One of the first tasks in developing systems for compiling FSIs is the identification of available source data; that is, to take stock of what is available. When compared with the information needed to compile FSIs, this inventory of available information will inform decisions on (1) resources, (2) the allocation of work across agencies, and (3) 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 are 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.

10.14. A related issue is the extent of coverage of entities that fall within the definition of the sector (or subsector). In many instances for economic data, a sample of the entities in the sector are surveyed, and the reported data “grossed-up” to estimate data for the whole sector. Invariably, the survey coverage tends to be more comprehensive for the largest entities in the sector. However, for the deposit-takers subset of FSI data, while detection of vulnerabilities in systemically 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. The *Guide* encourages comprehensive coverage of institutions on a frequent basis, with coverage of the entire population undertaken on at least an annual basis. Clearly the broader the coverage of institutions, the more resource intensive the work.

***Are there adequate resources to compile the necessary data?***

10.15. While resource allocation decisions are the province of the authorities in each economy, and should be periodically reviewed, economies 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. Also, authorities should strive to develop and retain over time a core contingent of qualified staff that is knowledgeable, and well versed, in the statistical and financial soundness concepts and compilation methods. The allocation of resources between agencies may also need to be considered, depending on the function of the lead agency with regard to gathering and calculating FSIs and related data.

10.16. In determining resource allocation, account will need to be taken of any need for improvements in data sources. Even though compilers may initially rely on existing sources of information, and use the *Guide* as a benchmark for future development work, even

in the short-term decisions may need to be taken 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?***

10.17.           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 between agencies is likely to form a significant element of the managerial function on a continuing basis. Because of this, it is important that the “ground rules” for cooperation between 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 that could be covered in a written agreement are those such as set out under “coordination among agencies” in the next section on managerial issues but, at a minimum, should cover when and how data is to be supplied and the policies for revising data. In addition, because of the interrelationship between FSI and other data sets, procedures need to be established to ensure that the development of FSI data are consistent with statistical priorities for related data.

***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<sup>189</sup> rather than simply the accuracy of the numbers. At the strategic level, it is important that:

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<sup>189</sup> See Carson (2001), “Toward a Framework for Assessing Data Quality,” IMF Working Paper (WP/01/25).

- *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 (e.g. among surveys and between surveys and administrative records) based solely on statistical considerations. The choice of methodologies should be justified, and information about the choice 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 dataset and with other major datasets should be regularly undertaken by the compiling agency.

***Is there adequate legal backing for the collection of data?***

10.19. For most FSI related 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 its collection. Adequate legal backing provides the statistical 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.

10.20. The terms of legal backing for the collection of statistics varies from country to country, depending on the institutional arrangements and the historical development of statistical gathering.<sup>190</sup> Nonetheless, some typical dimensions are:

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<sup>190</sup> See also *Statistical Legislation: Toward a More General Framework* (2002), Sarmad Khawaja, and Thomas K. Morrison.

- **Scope:** The type of entities the compiling agency can approach for data should be clearly specified e.g., entities in the private business sector, and the rationale for targeting these entities should be explained e.g., to monitor economic activity and financial transactions.
- **Flexibility:** The legal authority should be clear as to the boundaries of the compiling agencies' responsibilities, 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:** A prohibition on the use of information from individual entities for other than statistical compilation purposes, so establishing independence of the statistical compilation function from other government activity e.g. taxation authorities.
- **Integrity:** A prohibition on other government agencies from unduly influencing the content of statistical releases.
- **Confidence:** Appropriate penalties for the compiling agency and, in particular, individual employees, who do not observe the data confidentiality in accordance with the law.

10.21. 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**

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



### ***Coordination among agencies***

10.23. 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 the international guidance for the compilation of FSIs and, in a sense, act as their guardian within the economy.

10.24. 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.

10.25. Third, the lead agency needs to 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 need to be established. Any changes in coverage, definitions, or classifications need to be identified in advance of the provision of data so that there are no surprises during the data compilation process. Breaks in series should be clearly identified. Data suppliers should also supply information on the shortcomings of the data.

10.26. Further, 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 FSI data, the lead agency should work closely and cooperatively with the 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 supplied. Preferably, the procedures to be followed should be covered in the written terms and conditions under which agencies cooperate.

10.27. Beyond the “official” procedures, it is important that arrangements are put in place to facilitate formal and informal contacts between the staffs of the different agencies so that any problems can be dealt with in an expeditious manner 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 between 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***

10.28. After the release schedule for FSI data is agreed, a compilation work schedule needs to be established.<sup>191</sup> The schedule should specify the sequence of tasks including:

- the delineation of responsibilities for each task;
- the data inputs and when they are expected to arrive, with supplying agencies’ agreement on the scheduling where appropriate;

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<sup>191</sup> Also, a decision needs to be made regarding how data are to be stored and managed. Box 10.1 provides some ideas.

- timeframe for compilation and verification tasks;
- schedule for the flow of data from one production stage to the next; and
- the agreed release schedule.

10.29. To some extent this should be an iterative process in that, if the initial schedule appears too tight, some delay in the release date for data might need to be considered. 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 Suppliers***

10.30. Even though legal backing will support compilers' efforts to obtain the necessary information from data suppliers, it is essential that a "culture of reporting" be developed. This is not easily achieved in a short time period but should be considered as an on-going 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 as easily as possible fit in with management reporting systems and are not overly complex; and disseminating and promoting the FSIs in a transparent manner. If data are collected and compiled in an efficient manner and the FSIs are viewed as important, experience suggests that respondents are more likely to report.

10.31. So, for instance, when new data are to be collected, the compiler is advised to undertake report form testing—that is, obtaining feedback from a sample of potential respondents on whether the instructions are clear and workable before they become

operational. Also, seminars and workshops explaining the reporting requirements for respondents are of value to both respondents and the compiling agency, and are encouraged in the *Guide*. The on-going maintenance of an electronic register of contacts at the respondent institutions, including telephone numbers etc., and when they, or others, have contacted the agency, is information that helps ensure a well run statistical operation. Through such a register, corporate memory at the statistical agency can be developed.

### ***Consultation with Users***

10.32. There should be mechanisms to ensure that the FSIs continue to meet the needs of policy makers 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.

10.33. Meetings with policy makers and other data users should be periodically convened to review the comprehensiveness of the financial soundness indicators and to identify emerging data requirements. New initiatives could be discussed with policy departments and statistical advisory group(s); 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 understanding of the data, as well as for identifying data quality issues and other user concerns.

### ***Improving source data***

10.34. 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 needs to be developed, maintained, and continually reviewed. This list and timetable should be informed by consultation with both users and other compiling agencies, so that the lead agency obtains support for the process. In some instances, it might be possible to absorb FSI development work into existing projects to save resources.

*Quality control*

10.35. As noted above, data quality is a multi-dimensional 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 tradeoffs.

## **Compilation of FSI Data: Strategic and Managerial Issues**

### **Box 10.1**

#### **Managing Data Compilation Systems<sup>1</sup>**

The choice of computer system is important for the compilation of FSIs and needs to be carefully considered. While it is recognized that data processing systems are developed to meet the situations of each country, this box provides a brief overview of some 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.

Equally important in establishing the compilation system is determining how the work on FSI-based data is to fit into the other tasks of the agency and how existing 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 structures to accommodate additional FSI data series rather than create a new structure. The naming structure determines organization of the data and the navigation of 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

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<sup>1</sup> This section draws on the *Quarterly National Accounts Manual: Concepts, Data Sources, and Compilation*, IMF, 2001.

system moves from developmental to operational stage, it is desirable to shift to a compilation system that is built on database software and use it for large tasks of data storage and computation. Experience shows that, when dealing with large amounts of numbers, transferring data between spreadsheets can easily result in errors, that are difficult to trace. Also, 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*, *Oracle*, *Sysbase*, and *dBase*. 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 databases packages include *Fame*, *Dbank*, and *Aremos*. None of the database packages currently available is optimal for both types of operations. Given the nature of the FSI dataset, 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 suppliers and users.

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

- 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, because generating peer group data, perhaps on an ad-hoc basis, could well be an essential element of the on-going work. Thus, it is important that the system be flexible enough to accommodate such requests. A prerequisite is 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 (e.g., basic sheets for input, checking, aggregation; time series as either rows or columns, not both; several years of data should be visible on the screen; choose millions or billions, not both). The formats should be designed for compatibility with input formats required by 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 can be used to separate inputs, outputs, and edit checks.
- Spreadsheets received should be dated (e.g. printed copies can dated by using the Excel function “=today()”). Backups of previous versions should be stored.
- Any spreadsheet files and worksheets should have meaningful names.