

... but an IMF-supported program can also help improve data quality and availability.

43. Often the existence of a program can have a reciprocal effect on the quality, timeliness, and availability of data. The due diligence that staff is required to do before including data in a performance criterion can result in the correction of data that are found wanting or in efforts to develop and provide the data needed. Such positive effects, plus the intersectoral consistency checks provided by the financial programming framework, have been felt more by developing and emerging economies than advanced economies,⁴² as the former have been more frequent users of Fund resources.

B. Addressing Information Gaps

The IMF's efforts to address data gaps have resulted in a significant expansion in data ...

44. By and large, the collaborative arrangements in place for data provision have served the Fund well, with most member countries providing data that far exceed those required under Article VIII. Even more so, since the global crisis, there has been a notable rise in the amount and breadth of data (much of which is in the financial realm) that member countries provide to the Fund. For example, 138 economies currently report monetary and financial statistics according to the IMF's standardized report form (SRF),⁴³ up from 83 as of end-2007.⁴⁴

45. Much of this strengthening of data provision is due to concerted efforts—on the part of the IMF (especially STA), other members of the IAG, and member countries—to address data gaps identified by the global crisis.⁴⁵ In particular, significant progress has been made in implementing the recommendations of the G20 Data Gaps Initiative (DGI); all G20 members and many

⁴²In fact, until the global economic and financial crisis with its origin in advanced countries, many desks on such countries did not use the financial programming or other macroeconomic framework to check for intersectoral data consistency. This became particularly evident when some member countries of the European Union (EU) came to the Fund for financial programs in the aftermath of the crisis.

⁴³Among STA's many databases, the SRF data are the most used by area department staff.

⁴⁴Notwithstanding this impressive progress, several G20 countries and other economies with systemically important financial centers still do not report with the SRF.

⁴⁵The Managing Director's Global Policy Agenda (IMF, 2015d) noted that closing data gaps should be a key area targeted by the Fund's capacity development activities.

non-G20 economies have enhanced their data provision to the IMF (IMF, 2014e), and efforts to collect a broader array of financial data (including FSIs) are also proceeding apace. Most of the associated conceptual work for the DGI has been completed, and more generally, the number and types of data-based analytical tools have expanded significantly.

... but do the benefits outweigh the costs?

46. After a crisis, data suddenly become a forethought, rather than an afterthought. This raises the question: were data gaps a core reason or a scapegoat for missing the recent global economic and financial crisis? The answer to this question is an important one, as it can help determine the direction for future surveillance. In fact, the failure to foresee the impending crisis cannot be attributed to lack of data (Box 5). With hindsight, it became clear that a substantial amount of existing data had pointed to growing vulnerabilities in several key areas.⁴⁶ Failure to foresee the crisis stemmed more from ignoring or misinterpreting these warning signals than from the absence of signals, a view shared by many of this evaluation's interviewees.

47. Nevertheless, filling in key data gaps could substantially strengthen surveillance. But this also comes with costs, particularly for those responsible for collecting or providing the new data. Almost three-quarters of the respondents to our survey of data providers believe that the benefits of the Fund's new data initiatives outweigh their costs, yet 40 percent felt the IMF was asking for too many data and almost half said the initiatives would pose a very heavy burden on reporters. This was particularly the case with the respondents from advanced countries, who are most affected by the new demands under the DGI. Among the respondents from low-income countries, only one in five indicated concern in this regard.

48. The proliferation of data and analytical tools also risks the possibility of the Fund failing to strike the right balance between collecting information and being able to process it efficiently and analyze the results. Indeed, while two-thirds of staff respondents to the survey indicated that the additional data from the new

⁴⁶IEO (2011a) notes, for example, that had the IMF conducted the Vulnerability Exercise for Advanced Countries prior to the crisis, using data that were available in 2006 would have pointed to the United States, United Kingdom, and Iceland as being at high risk of financial crisis.

Box 5. You Don't See What You're Not Looking For

The global economic and financial crisis generated a surge in the demand for new and better data. Yet were lack of data or inadequate data key factors behind the Fund's and others' failure to foresee the crisis? The answer would seem to be "no," based on the following:

- The Fund largely ignored some core data in the key financial centers that could have helped to signal a forthcoming crisis, including such traditional mainstays as broad measures of credit growth, leverage (household, government, corporate), and the growth of high-risk financial instruments.¹
- Despite lack of data supporting such a view, the Fund was overly enthusiastic about the soundness of U.S./U.K. financial systems and the risk-dispersing properties of financial innovation (including "exotic" mortgage products).
- The Fund believed it was sufficiently well-equipped with data to highlight the risks and vulnerabilities in emerging markets and developing countries, but did not use similar data trends to see similar risks in advanced countries.

¹In the U.S. staff reports, the standard table on "Indicators of External and Financial Vulnerability" did not include market-sensitive and publicly available data such as an ABX index, a composite index of CDS spreads for key financial institutions, the TED spread, leverage ratios of the largest commercial and investment banks, aggregate and sectoral credit expansion, debt trends across major sectors (government, corporate, household), and pertinent information (as available) of shadow banking assets as a share of total assets, the maturity structure of shadow banking liabilities, and financial institution exposure to credit derivatives.

- The very nature of financial innovation is to stay ahead of the regulators and hence their data collection efforts as well. For this reason, the Fund would always be "behind the curve" if the Fund could only see the risks when the data are finally available.
- "You don't see what you're not looking for." Neither the U.S. nor the U.K. authorities, despite presumably having much greater access to data, saw the crisis coming. Indeed, the Fund's views on financial sector soundness were very much in line with those of country authorities. Furthermore, once the crisis was evident, the Spring 2008 *Global Financial Stability Report* was able to provide a remarkable estimate of expected financial sector losses, without any additional access to data. But now they knew what to look for!
- To quote from the *Economist* (January 15, 2010), "In the run-up to the crisis, policymakers and supervisors, like most other people, managed to rationalize bad things that were plain for all to see, such as inflated house prices and some banks' rock-bottom capital levels." As Claudio Borio of the Bank for International Settlements put it, "The main reason why crises occur is not lack of statistics but the failure to interpret them correctly and to take remedial action" (Borio, 2012).

In sum, gathering more and more data is not a substitute for the effective use of available data or for willingness to challenge mainstream thinking.

Source: This box is based on the findings in IEO (2011a).

initiatives would help their work at the Fund, half of the respondents believed that the Fund currently lacks the capacity to effectively use all the data that ideally would be gathered under these initiatives. Prioritization is thus key to ensure that the Fund has the data needed to strengthen its surveillance of an increasingly complex global economy, yet avoids placing an excessive burden on member countries and on its own ability to absorb the information.

A growing body of work helps to point the way forward.

49. Some of the recent literature has been critical of focusing primarily on ever more financial and/or

market data to sound early warning of crises.⁴⁷ Several authors argue that some macroeconomic indicators are better at crisis prediction than are financial sector and market indicators, concluding that using available data in a different way may be at least as fruitful than the never-ending quest for more data (Borio and Drehmann, 2009; Eichner, Kohn, and Palumbo, 2010; Borio,

⁴⁷For example, a number of FSIs often continue to suggest soundness even as conditions are deteriorating. Even more timely data may perform poorly as early warning indicators. For example, market indicators might fail to indicate problems on the horizon—risk and volatility indicators were at historic lows just prior to the recent global crisis. This does not imply that collecting these data serves little purpose. Some of these data may not serve well as early warning indicators, but could prove extremely useful in responding to crises.

2012; Drehmann and Juselius, 2013; and Alessi and Detken, 2014). Indeed, Haldane (2012), in a speech at the 2012 Jackson Hole conference, stressed that the more complex the system, the greater the need to keep it simple, echoing findings of the BIS, U.S. Federal Reserve, and others that sometimes “less is more.”

50. On the Fund’s part, some recent work on balance sheet analysis (BSA) provides a good example of how collaboration between Fund statisticians and economists can shed light on the way forward for more effectively identifying and using data to support the Fund’s strategic work (IMF, 2015b). Both the global financial and euro crises might have been better foreseen through rigorously applying BSA.⁴⁸ A full set of balance sheet matrices is also a primary starting point for understanding macrofinancial linkages, and complemented with a global flow of funds,⁴⁹ forms the basis for the analysis of interconnectedness and spillovers. The use of BSA to strengthen surveillance was a running theme throughout the 2014 TSR and IEO (2011a).

51. But the recent global crisis was not the first to shed light on the usefulness of this approach.⁵⁰ The Asian crisis was the catalyst for work on the BSA at the IMF (Allen and others, 2002), and the 2004 “Review of Data Provision for Fund Surveillance Purposes” (IMF, 2004a) was already pushing for its use in Article IV consultation staff reports. Yet BSA was used only sporadically pre-crisis and typically for emerging markets. It was rarely employed for low-income countries (largely due to lack of data) or for advanced economies (where at least partial, and in some cases, like the United States, fairly complete data were available).

52. Why was BSA used so sparingly pre-crisis? Lack of analytical tools (and staff training on those available) hindered its use in bilateral surveillance. But the primary reason was that very few countries, even today, provide the full set of sectoral balance sheets. The IMF, particularly in the context of the DGI, has become more

proactive in encouraging the compilation of balance sheet data by its member countries, and now there is reason to expect that data availability will not be as significant a hindrance as it had been in the past (Box 6).

53. Much more remains to be done, however, especially on data for the corporate, household, and shadow banking sectors.^{51,52} Against a background of fiscal austerity in many countries, the demand for more complete balance sheet data might run up against other, perhaps more urgent, needs. Nevertheless, a compelling case could now clearly be made that the benefits, not only to the IMF but to the member countries themselves, outweigh the costs.

C. Data Quality

The Fund is not just a passive recipient of data; it runs some validation checks and promotes data quality.

54. The Fund has a number of mechanisms to obtain some assurances about the quality of the data it uses. With STA playing the pivotal role, it has developed methodologies for the proper compilation of economic and financial statistics, and works to support high-quality data through capacity-building—technical assistance and training. The Fund also performs some validation checks in the course of its operational work and prior to dissemination, with these checks varying by department and purpose of the data.

55. STA relies mostly on official data reported directly by countries. It checks these data for their compliance with established formats, examines them for outliers, and performs some routine consistency checks to capture large discrepancies across data sets. STA

⁴⁸A study on the United States using balance sheet analysis concluded: “Detailed analysis of aggregate sectoral balance sheets could have been helpful in identifying pressure points for the U.S. economy pre-crisis . . . Balance sheet data for [households] and [other financial centers] were indicating a build-up of vulnerabilities, while standard vulnerability (financial soundness) indicators for the U.S. were not recording ‘red flags’ pre-crisis.” (IMF, 2015c).

⁴⁹In addition to its work on balance sheets, STA is also pushing forward with cutting edge work on a framework for the global flow of funds.

⁵⁰A key difficulty is that statistics are often produced with considerable delay. Ideally, forward-looking indicators would be the preferred means of detecting emerging risks, but these are difficult to come by. In their absence, macroeconomic stocks data (e.g., balance sheet data) could better indicate a buildup of pressures due to their “sticky” nature (the slow rate of change of stocks).

⁵¹In many countries, the shadow banking sector is the fastest growing segment of the financial sector, and in some cases, is larger than the banking sector.

⁵²Latin American Shadow Financial Regulatory Committee (2015) and Reinhart (2015) raise concerns, in the context of the expansion of shadow banking, about data on the extent of leverage in emerging markets and whether international reserve positions may overstate available resources. For example, reserve availability may be overstated when (i) central banks intervene by issuing dollar-linked debt, (ii) third parties (e.g., sovereign wealth funds, special status banks, state-owned enterprises) intervene in forex markets on behalf of the central bank, (iii) swap arrangements are not adequately captured in reserves data, and (iv) lines of credit extended by Chinese development banks to emerging markets are not included in external debt data. In general, recent Article IV reports for the affected emerging market economies have not covered these potential data shortcomings or have done so very tangentially. On occasion, issues such as the treatment of certain types of interventions have been raised, but have not been viewed as key areas for concern.