## Box 9. China: Subscribing to the SDDS

China's statistics have attracted unusual attention in recent years, particularly in the area of national accounts. Given China's status as the world's second largest economy, the controversy surrounding the quality of its statistics, particularly in regard to the actual size and rate of growth of the economy, is watched closely by academics, markets, and politicians the world over. The controversy is at its most heated in regard to quarterly real growth figures, where analysts often display a wide range of estimates at variance from the official preliminary figures.

Similarly, in line with the lower growth rates they estimate, some analysts believe China has overestimated the size of its economy. However, a recent study (Rosen and Bao, 2015) delved into the details of the Chinese statistical system, conducted robustness checks, and concluded that "China has made great progress in modernizing GDP statistics" and, if anything, the overall size of China's economy is underestimated. Indeed, they find that, if China were to switch from using the 1993 SNA to the 2008 version, its economic size could be as much as 13–16 percent larger—not a minor discrepancy for an economy of such global import.

The IMF has not stayed on the sidelines of these developments. Staff missions have discussed perceived data weaknesses with the authorities and included their assessment of the adequacy of the data in their reports. These assessments present a picture of slow but steady improvement over time. Whereas in the 1990s, staff raised major concerns across virtually all sectors of the economy, viz., ". . . deficiencies in China's economic statistics are seriously complicating economic policy making and hampering effective surveillance . . .,"[1] by 2005, staff was balancing the discussion of weaknesses with recognition of the efforts at improvement made by the authorities. From 2008 onwards, economic statistics were deemed to be broadly adequate for surveillance (a rating of B in the Statistical Issues Appendix), despite some shortcomings, particularly in the areas of national accounts and government finance.

Part of the perceived improvement can be attributed to the technical assistance provided by the IMF and other international organizations. Over the past 25 years, the Fund sent close to 160 technical assistance missions on statistics to China. These missions covered all sectors of the economy, with an initial emphasis on the balance of payments, monetary statistics, and the national accounts. Subsequently, fiscal and financial sector statistics acquired more prominence. As an important step, on September 30, 2015, China for the first time reported the currency composition of its international reserves (COFER) to the IMF on a partial basis, with plans to gradually move to full coverage within two to three years. The progress made in the statistical area enabled China to subscribe to the SDDS on October 7, 2015.

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[1] IMF (1996a).

information on methodologies and sources—monitorable proxies—to facilitate this assessment. These metadata are published in an IMF-supported bulletin board, the Dissemination Standards Bulletin Board (DSBB), "as provided to the IMF," leaving the responsibility for their accuracy and reliability with the subscribing country. This setup implies that a country may be in full observance of the standards, and reported as such in the DSBB, while at the same time providing faulty data—potentially in breach of its obligations under Article VIII, Section 5 (see Box 2 above). This could have clear repercussions for the credibility of the dissemination initiatives.
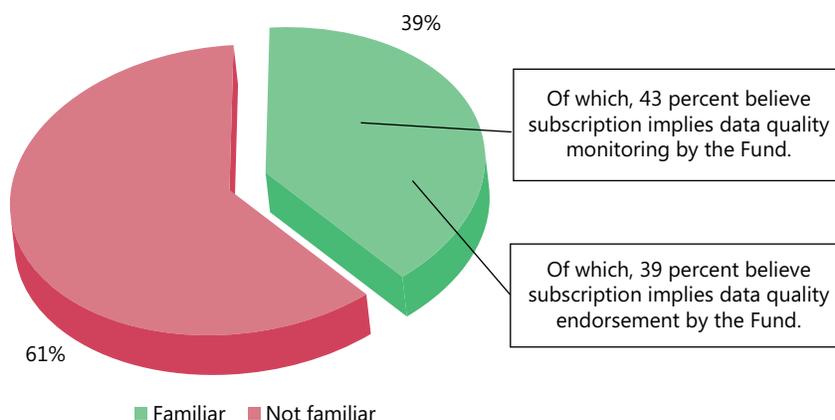
100. Data users' misperception regarding the endorsement of data quality by the Fund spreads to the dissemination initiatives. While the evaluation found a remarkable lack of familiarity with and use of the initiatives (Figure 12), more important was the finding that, among those who are familiar, a significant number believe that a country's participation in the GDDS or SDDS implies that the Fund is monitoring and/or endorsing the data quality.

101. Data producers, especially in low-income and emerging market countries, expressed positive opinions regarding the impact of subscription on dissemination practices, data quality, and third parties' perception of national data (Figure 13). Their opinions were more mixed, however, regarding the effect of these initiatives on access to financial markets. Empirical analysis for this evaluation (De Resende and Loyola, 2016) could not find convincing evidence of the effects of the SDDS on subscribers' gross foreign direct investment inflows, exchange rate volatility, or sovereign borrowing costs, in contrast to the findings in some earlier work by IMF staff.

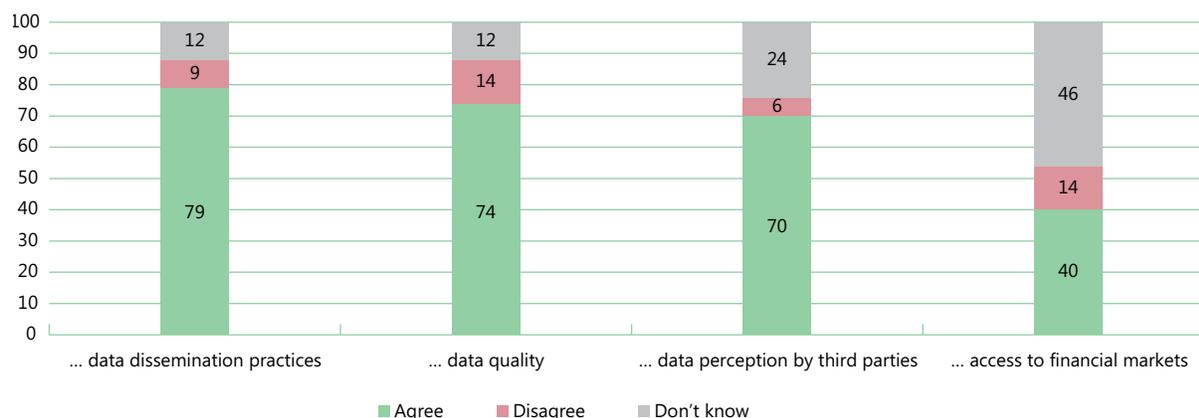### . . . and collaborates with international partners in statistics.

102. In addition to its work on standards and methodologies, the IMF has a long history of collaboration with other international organizations in the statistical realm, including on allocation of data responsibilities, sharing of data, reduction of overlapping data requests

**Figure 12. Familiarity with the GDDS and SDDS**
*(In percent)*



39%

Of which, 43 percent believe subscription implies data quality monitoring by the Fund.

Of which, 39 percent believe subscription implies data quality endorsement by the Fund.

61%

■ Familiar   ■ Not familiar

Source: IEO Survey of Data Users.

**Figure 13. Survey Results: "Subscription to the SDDS/GDDS improved my country's . . ."**
*(In percent)*



| | ... data dissemination practices | ... data quality | ... data perception by third parties | ... access to financial markets |
|---|---|---|---|---|
| Don't know | 12 | 12 | 24 | 46 |
| Disagree | 9 | 14 | 6 | 14 |
| Agree | 79 | 74 | 70 | 40 |

■ Agree   ■ Disagree   ■ Don't know

Source: IEO Survey of Country Authorities and Data Providers.

to countries, donor coordination to address data deficiencies at the country level, and achieving data consistency among the various organizations (IMF, 1995c). This collaboration took on renewed impetus from the increased attention to statistical issues brought by the global financial crisis, and led to the launching of the G20 Data Gaps Initiative in 2009. International partners of the IMF hold, almost unanimously, a high opinion of the IMF's collaboration. Recent examples of collaboration include:

• The Fund's joint work with the Financial Stability Board (FSB) on the Data Gaps Initiative (DGI).

While stakeholders view positively its potential contribution to crisis prevention, the ambitious goals and open-ended nature of the DGI are creating a growing sense of fatigue among participants, with the risk of a loss of momentum.

• The Inter-Agency Group on Economic and Financial Statistics (IAG), chaired by IMF staff, was created in 2008 to address the growing need for coordination on statistical matters, including to help limit duplication of efforts at the international level. According to interviewees, the IAG has made limited progress to date in reducing countries' data

reporting burden arising from duplicative data requests from various international organizations.[93] This slow progress is, in part, due to technical challenges with the Statistical Data and Metadata Exchange (SDMX) platform (see below), but also, to a lesser degree, "protecting one's turf" among institutions.

- The Statistical Data and Metadata Exchange (SDMX)—a joint initiative by the BIS, ECB, Eurostat, IMF, OECD, World Bank, and UN—aims to foster the efficient exchange of data and metadata by adopting common standards and guidelines, together with information technology systems that would facilitate a move from the current "push" system for data reporting (i.e., countries must send their data to each institution) to a "pull" system

(i.e., countries upload their data to a single web-based repository, and institutions draw on the data as needed). When fully implemented, this could greatly reduce the data reporting burden for member countries and facilitate a much more timely provision of data to analysts.[94]

- The IMF Statistical Forum—created in 2013 and hosted by STA—is intended to become a space where data users, data providers, and policymakers come together to discuss cutting-edge statistical issues. However, so far, these events have been almost exclusively the domain of data providers.[95]

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[93]The survey (and interviews) of data providers indicated that 65 percent (and almost three-quarters among advanced economies) still experienced duplication in the data requests from IAG members.

[94]The Open Data Platform for Africa, developed by the IMF in partnership with the African Development Bank is SDMX-based. During interviews, African authorities assessed very positively the impact of this initiative on the standardization and streamlining of data submissions, reducing the reporting burden.

[95]For example, although all Fund staff have been invited to attend, non-STA Fund economists largely have ignored these forums, illustrating their indifference towards statistical issues.

# Main Findings and Analysis

*Data problems are well known . . .*

103. In general, the Fund has been able to rely on a large amount of data of sufficiently acceptable quality. Nonetheless, this evaluation finds—as have other reports in the past—that data deficiencies still affect the Fund's strategic operations (Figure 14). In particular, inadequate data and data practices have implied that the Fund has been, at times, not fully equipped to play its critical role of helping to secure global macro-financial stability.[96]

104. These data deficiencies stem from diverse factors. Some have their origin at the very source of the data: member countries. Many of them lack the necessary

technical capacity or resources to produce the timely, good quality data essential for economic analysis; others are reluctant to share certain data with the Fund; and all prefer to use the methodology that best suits their own domestic situation, posing difficulties for data comparability. In addition, there will always be data gaps. At times, the data are not produced—by countries or markets—and, in some other instances, the necessary conceptual framework for the "required" data is not even developed. That said, the amount and quality of data available to the Fund have markedly improved over time, in part due to the Fund's own capacity-building activities.

105. Within the Fund, effective flows of data have been hampered by internal institutional constraints. In general terms, data management in the Fund has lacked coordination and relied on weak structures, resulting in a proliferation of databases and making data sharing cumbersome. Moreover, incentives for staff to pay due attention to data are largely absent. At the same

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[96]Securing global macro-financial stability essentially entails two major roles—crisis prevention and crisis response and management (i.e., akin to fire prevention and fire-fighting). This evaluation's evidence suggests that data issues are more likely to hamper the former than the latter role.

### Figure 14. Data Issues and the IMF's Mandate
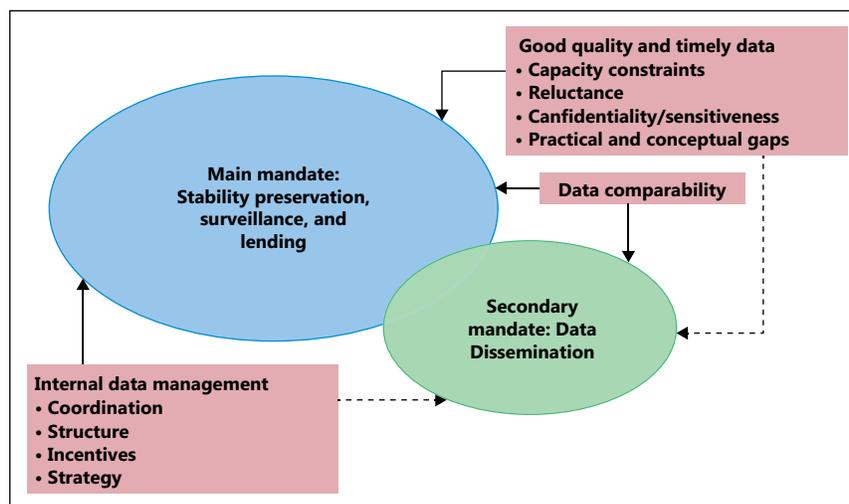


Source: IEO.

time, STA is disconnected from the rest of the Fund and focused largely on external activities. Finally, the systems in place to identify and address faulty or inadequate data do not work properly.

106. In its role as data disseminator, STA adds only marginal value by re-disseminating "official" data that are, for the most part, already in the public domain and easily available given technological advances. Besides, the Fund risks its credibility and reputation due to comparability and consistency issues in the data it disseminates. Relatedly, an open data policy has become best practice in academia and comparable institutions, while the Fund has lagged significantly behind.

### . . . but a number of closely interrelated factors have prevented the success of past initiatives.

107. The problems with data in the IMF have long been recognized, and solutions to address them have accordingly been set in motion. Though some noteworthy progress has been made, many of the obstacles to reform have yet to be tackled, owing to a long history of a piecemeal approach to addressing data issues, compounded by institutional inertia, lack of incentives, organizational rigidities, and long-standing work practices.

108. First and foremost, there is *no corporate strategy for economic data* in the Fund. Departments, and sometimes even divisions and country teams, have developed their data practices to suit their own needs, largely in isolation from the rest of the institution. Data are still largely viewed as a consumption good ("owned" by the economists that use the data), rather than as a strategic capital asset for the Fund as a whole. For a knowledge-based institution such as the IMF, this is a critical distinction. The lack of a centralized vision has led to duplication of both data and data systems, driving up costs and contributing to reputational risk.

109. An effective data strategy would, as a starting point, need clear and sustained commitment from Management in implementing a vision of how information can strengthen the Fund's ability to effectively fulfill its ever more challenging mandate. This would be much more than a process-oriented approach focused on data management.

110. A data strategy would thus entail a much broader array of issues, such as (among others): (i) a clear definition (and prioritization) of the scope of the data the IMF needs; (ii) more regular reviews of the minimum set of data required for surveillance; (iii) a discussion of the IMF's stance vis-à-vis member countries' statistical systems (e.g., should it press for strengthening national statistics offices? should it play a stronger watchdog role on provision and quality issues? should data quality shortfalls be flagged more forcefully in Fund documents?); and (iv) an institutional view of how the IMF can stay at the forefront of statistical developments (e.g., the future use of big data;[97] nowcasting to detect macroeconomic turning points, the growth of unstructured datasets, new technological innovations for delivering data from external sources).

111. Thus, a data strategy would be much more than a data management strategy and the associated information technology and budget issues, although these constitute important components. The data management structure recently put in place has spurred important progress, improving the accessibility and sharing of data. However, these are not ends in themselves; they are merely a means to create operational value. Moreover, these efforts to strengthen data management are still of a fragmented, short-term nature, with major changes being put in place before seeing how they fit into a long-term strategy. This progress faces the risk of not being sustained (as with the many previous attempts listed in Annex 7), if a Fund-wide change does not take place (Box 10).

112. The *long-entrenched divisions between STA and other departments* constitute another fundamental problem. STA has become largely isolated from other departments and its outputs detached from the Fund's main operations. This has deprived the Fund of a true service-providing department of statistics such as those that peer international organizations enjoy, and this despite the clear appetite within the staff for this kind of centralized service.[98]

113. *Lack of staff incentives and accountability* constitutes another obstacle for good data management. Fund economists want ever more data to do their analyses, yet data management is seen as a low-visibility task without reward. Much of the work has therefore been devolved to research assistants, who typically are on short-term contracts with little opportunity to go on missions to countries. Yet data literacy hinges crucially on both experience and the ability to engage in discussions with country authorities on data issues.

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[97]See, for example, the Billion Prices Project @ MIT (http://bpp. mit.edu/) and Shapiro and Varian (1999). The IMF also held a conference on Big Data Analytics in November 2015, with the Managing Director issuing a challenge to staff "to step out of your comfort zone and propose bold new ideas" on how to leverage big data to better support the Fund's work on surveillance and crisis prevention.

[98]Of course, a centralized provision of data services would not preclude staff from obtaining data from alternative sources, as needed.

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**Box 10. Pitfalls in Building a Data Governance Framework**

Statistical Analysis System Institute, a leader in data analytics and management, notes a few of the reasons why data governance fails (see below, where the italicized parenthetical additions translate these into IMF specifics):

- The culture doesn't support centralized decision-making (*data-related decision making in the Fund is—sharp contrast with the general culture of the organization—extremely decentralized; for example, the oversight of data management and STA falls under different Deputy Managing Directors*).

- Organization structures are fragmented, with numerous coordination points needed (*each IMF department manages its own data*).

- Business executives (*economists*) and managers consider data to be an "IT issue" (*many of the past IMF papers on data management were from a largely IT perspective*).

- Data governance is viewed as an academic exercise.

- Business units (*area and functional departments*) and "technical units" (*STA and TGS*)[1] do not work together.

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[1] In November 2015, TGS split into two departments, with one of the two—Information Technology Department (ITD)—taking over TGS' responsibility for IT management.

Source: Statistical Analysis System Institute website on data governance.

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114. Inadequate incentives have also led to *lack of candor in assessments of data adequacy* for surveillance. This lack of candor stems from several factors, including insufficient attention to data quality, concerns about undermining the relationship with authorities (including fear of "speaking truth to power," particularly for advanced or systemically important countries),[99] and concerns as to whether surveillance even makes sense if data are termed "inadequate." Yet candid assessments could induce country authorities to undertake the effort to strengthen the quality and availability of data.

115. In seeming contrast to economists' apparent lack of interest in data work, the institution as such may be placing *too much emphasis on data alone* as the solution to understanding economic and financial developments. Thus, more data are always seen as better. This considers only one side of the equation—the demand side—while ignoring the supply side and the costs imposed on staff and on data providers in member countries. Data gaps will unavoidably always exist, not least because of the rapidly evolving global economic landscape. Their existence (and the recognition that statistics, by their very nature, are always retrospective and often produced with considerable delay) underscores the dangers of overreliance on either data (or the associated analytical tools) and the importance of

judgment and experience in detecting emerging risks. As John Tukey, a renowned statistician, perceptively noted, an approximate answer to the right question can be more powerful than an exact answer to the wrong question (Tukey, 1962).

116. The improvement of both the quality and comparability of data ultimately depends on *the capacity and willingness of member countries*, as the Fund has neither the capacity to systematically monitor data quality nor the leverage to push more forcefully for the adoption of statistical standards. Thus, the resulting discrepancies among the Fund's different outputs may be unavoidable at present but they highlight the importance for the Fund—especially given the heightened relative weight of multilateral surveillance today—to help and encourage countries to strengthen their statistical apparatus and adopt international standards for all the data they report (not just for data reported to STA). Within the limited role of the Fund in this area, in the short term, the gaps in metadata—clearly explaining the sources and attributes of the different datasets—need to be filled, while, with a long-term perspective, the Fund's capacity-building activities (which are highly appreciated) should continue to contribute to strengthening countries' statistical systems.

117. Finally, *an environment of fiscal austerity*, in both the Fund and member countries, has put any focus on data activities on the back burner—in direct contrast to the fact that an increasingly complex, interlinked global economy should place a premium on data issues.

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[99] Indeed, some systemically important countries admitted that they do not fully follow international statistical standards and have no plans to align their methodologies.