Data to the Rescue

Why improved statistical information will be key for prevention of future crises

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ACCURATE, complete, and timely data are critical to making good economic policy and financial decisions. Without strong data, policymakers cannot manage effectively and business leaders may be left in the dark, unable to spot emerging trends and danger signals.

Every crisis exposes weaknesses, and the current global financial crisis is no exception. The speed at which the crisis developed underlines the importance of indicators that could support early warning efforts and the analysis of cross-border financial linkages. While the analysis of the spread and transfer of risk has been hindered by the complexities created by new financial instruments, the crisis has also helped underscore the need to keep a better eye on the activities of special purpose entities and off-balance-sheet operations, often created specifically because they were "off the radar."

The crises of the mid- to late 1990s prompted major progress in data provision—essentially more and timelier data from emerging economies. In addition, data on foreign exchange reserves and external debt are much improved.

But as these gaps were being plugged, the financial landscape changed further. On the one hand, nonbank financial intermediation grew much faster than bank-based intermediation. At the same time, new instruments, including derivatives and securitized assets, saw explosive growth. The latest crisis has highlighted the lack of consistent data on who holds what, on the balance sheets of nonbanks, and on contingent risks and derivative positions. In addition, private entities in emerging markets have become more financially integrated in global markets, underlining the lack of balance sheet data for the private sector in emerging economies.

This article examines what has been achieved in recent years to strengthen the international collection and distribution of statistical information, and makes suggestions for what should be done to further improve international cooperation and plug gaps highlighted by the crisis.

Major strides

Major improvements in the harmonization and availability of economic and financial data have taken place over the past 10 to 15 years, along with the initiation of projects that support the analysis of the vulnerability of countries to shocks. Partly this has been in response to earlier crises, including the Mexican and Asian crises during the 1990s, when it was felt that slow and incomplete reporting of critical economic data had exacerbated problems. As a result, analysts and policymakers are now able to assess sovereign risk in emerging economies much better than in the 1990s.

Standards and dissemination of data. A big effort was made to set standards for governments to report economic data. The crisis in Mexico in the mid-1990s led to the establishment of two crucial standards—the Special Data Dissemination Standard (SDDS) and the General Data Dissemination System (GDDS). These initiatives provide comprehensive frameworks for the generation and dissemination of a core set of economic and financial data sets. The SDDS prescribes how IMF members that have, or that might seek, access to international capital markets should provide their economic and financial data to the public, while the GDDS suggests good practice for the production and dissemination of statistics.

Later, following the financial crisis in Asia, the SDDS was strengthened to include dissemination of reserves and foreign currency liquidity data, and new requirements were introduced for external debt and a country's international investment position. Consequently, the number of countries disseminating these data sets significantly increased, which improved cross-country comparability.

Among the IMF membership, the relevance and importance of these standards were soon recognized. Today about 85 percent of the IMF's 185 member countries participate in one or another of these standards.

Harmonization. In addition to this work on data dissemination initiatives, the statistical community has promoted the integration of macroeconomic databases. In 1993, concepts such as residence (that is, defining who is a resident), economic sectors, instruments, accrual accounting, and valuation methods were made consistent in the key statistical frameworks, such as the *System of National Accounts* (SNA) and *Balance of Payments Manual* (BPM). Related manuals for monetary and financial statistics and government finance have also been harmonized. This work has continued, and in 2008 the international statistical community

completed the updating of the SNA and BPM, undertaken to help keep economic statistics relevant in an increasingly globalized world.

Helping assess vulnerabilities

Much of the IMF's work on vulnerability has focused on the quality and transparency of data. Timely and detailed data on international reserves, external debt, and capital flows strengthen the ability to detect vulnerabilities, giving policymakers enough time to put remedial measures in place.

Key vulnerability indicators cover the government, financial, household, and corporate sectors. When economies are under stress, problems in one sector often spread to other sectors. For example, concerns about a country's fiscal deficit might lead to a run on the exchange rate or undermine confidence in banks holding government debt, thereby triggering a banking crisis.

The data dissemination initiatives, combined with the emergence of a consistent economic statistics system, have supported the development of relevant statistics that are timely and comparable both within and across countries. The IMF's Statistics Department provides comprehensive economic and financial data through its monthly *International Financial Statistics* and other publications. Indeed, these data sets provided partial warnings before the current crisis started unfolding; for instance, in the surge in the ratio of gross cross-border assets and liabilities to GDP for industrial countries, as well as more broadly in global cross-border imbalances.

Progress in data provision since the mid-1990s has allowed for substantial improvements in the analysis of vulnerabilities of emerging economies. Emerging markets, which often rely heavily on external borrowing and other capital inflows for their economic growth, are especially vulnerable to reversals in investor sentiment. The IMF has therefore paid special attention to this group of countries in its vulnerability assessment work.

But as the recent financial turmoil underscores, crises can manifest themselves in countries at various stages of development. Work is under way to strengthen the framework for the analysis of financial vulnerabilities in advanced economies.

Keeping tabs on cross-border linkages

The speed at which the current crisis spread across countries has highlighted the interdependence of the global economy. To support analysis of such global links, the IMF analyzes debt vulnerabilities through a balance sheet approach (see box). It also keeps track of a variety of other asset and liability positions between countries, so-called from-whom-to-whom databases, on a bilateral partner country basis.

• *Trade.* For trade-in-goods statistics, the IMF has long published the *Direction of Trade Statistics* on a quarterly and annual basis.

• *Financial account.* On the financial account, since the 1960s, the Bank for International Settlements (BIS) has been collecting international banking statistics with bilateral partner country information, first on a locational (residence) basis and then also on a consolidated group basis, for banks in major banking centers.

• *Investment.* The IMF has published data on bilateral partner country portfolio investment positions on an annual basis since 2001, through the Coordinated Portfolio Investment Survey (CPIS). A Coordinated Direct Investment Survey (CDIS), with bilateral position data, is scheduled to be conducted with a reference measurement date of end-2009.

With the implementation of the CDIS, a framework is in place to construct a from-whom-to-whom database for most components of a country's international investment position (IIP). Through the Joint External Debt Hub, the BIS, the Organization for Economic Cooperation and Development, the IMF, and the World Bank are promoting the from-whom-to-whom data sets and increasing the availability of external debt data.

Monitoring shocks

Combined with the balance sheet approach, the from-whom-to-whom data sets are a potentially powerful tool to study the transmission of shocks across countries. This was highlighted in a recent paper by Pedro Rodriguez (2008) that illustrates the contrasting pattern between current account developments and exposures to U.S. financial assets, using IIP and CPIS data.

The challenge for both the balance sheet approach and from-whom-to-whom projects is increasing the coverage, frequency, and/or timeliness of the relevant data sets. In addition, the IMF has developed indicators to measure the soundness of banks and the development of securities markets.

Bank soundness. Having developed the methodology and undertaken a pilot collection earlier in the decade, the Statistics Department of the IMF is initiating regular collection and dissemination of data on indicators of the current financial health and soundness of financial institutions and,

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The balance sheet approach

The balance sheet approach (BSA) focuses on shocks to stocks of assets and liabilities that can trigger large adjustments in capital flows. Such an approach can therefore be a useful complement to traditional flow analysis. The IMF developed the BSA for analyzing debt vulnerabilities. For each sector, the BSA provides a look at currency and maturity mismatches, in both financial assets and liabilities, in a cross-sectoral balance sheet matrix that shows the counterparty sector on which the sector has a claim or to which the sector has a liability.

In essence, the BSA disaggregates the financial balance sheet in a country's national accounts and is the stock counterpart to flow-of-funds-transactions data. Notwithstanding data limitations, this analysis of cross-sectoral linkages can provide useful insights as a diagnostic tool for detecting potential vulnerabilities. The BSA matrices are populated primarily by monetary data reported through the IMF's Standardized Report Forms (SRFs), introduced in 2004. To date, more than 100 countries have adopted the SRFs, and the data reported are published in the *Monetary and Financial Statistics Supplement* of the IMF's monthly *International Financial Statistics*.

to a lesser extent, their client sectors. These are known as financial soundness indicators (FSIs). FSIs capture the global activities of banking groups located in an economy and are compiled closely following supervisory and international accounting standards. Measures of liquidity and real estate indicators are also included. About 50 IMF member countries are expected to start reporting in the second quarter of 2009.

The lack of regular and uniform reporting of FSIs for the banking sector has been a clear lacuna, along with incomplete information on other financial institutions.

Securities markets. Finally, the importance of identifying the size and key segments of securities markets, particularly in emerging market countries, was identified in 2007 by the Group of Eight finance ministers and has led to the preparation of a *Handbook on Securities Statistics*—a major initiative of the Working Group on Securities Databases, chaired by the IMF (and involving the BIS, the European Central Bank, and the World Bank). The handbook will initially focus on statistics for debt securities issuance and is expected to be completed in the first half of 2009.

Crisis creates new challenges

So what are the new areas that need attention? While the current global economic crisis points to the need to reinforce the ongoing initiatives, recent events also further challenge economic statisticians to come up with fresh data initiatives, particularly in four key areas.

Sectoral balance sheet data. The availability of data on the assets and liabilities of nonbank financial institutions, nonfinancial corporations, and the household sectors needs to be improved. The crisis highlighted the need to capture activity in segments of the financial sector where the reporting of data is not well established and in which sizable risks may have developed. Nonfinancial firms have had unexpected vulnerabilities arising from, for example, derivative and foreign currency exposures. Housing assets on household balance sheets and the impact of house prices on household net worth have been highly relevant to the current crisis despite progress in some countries.

In the public sector (including central banks), the costs resulting from intervention in response to the crisis need to be appropriately and transparently recorded, and reported in both gross and net terms. A solid accounting framework (along the lines of the public sector accounting principles, which are compatible with the IMF's *Government Finance Statistics Manual, GFSM 2001*) is a core building block. The IMF is monitoring the scale of announced interventions by country and recommends wider use of the GFSM framework.

Ultimate risk/credit risk transfer framework. The crisis has highlighted the complexities in analyzing the spread and transfer of risk and in finding out how much debt is out there. The issues include capturing the activity of special purpose entities and off-balance-sheet operations and assessing the transfer of risk through instruments such as credit default swaps and derivatives. In addition, structured products such as collateralized debt obligations and asset-backed securities mask where the risks in the system lie.

Work is under way in the Statistics Department on capturing off-balance-sheet items for financial corporations, but there is a need to build on existing experience to develop a meaningful framework in which to undertake such work.

Data to monitor developments in housing markets. The changes in housing prices and markets and their impact on the economic behavior of households and financial institutions were central to recent economic developments in many countries. Although for some countries there is plentiful information, this is not universal, despite the increasing importance of this market in many countries.

Leverage and liquidity. The high levels of leverage (assets to capital) that built up in the economic system and the delinking of financial cross-border from real activity for industrial countries (Lane and Milesi-Ferretti, 2006) are another feature of the recent crisis.

Liquidity risk has also been highlighted by the crisis. Within economic statistics, original maturity has always been favored as the measure of maturity, but with the problems faced by many institutions when the flow of capital suddenly dried up, greater attention needs to be given to remaining maturity measures, more clearly identifying rollover risk.

Filling the gaps

Without adequate data policymakers are bound to fly blind. But to plug the gaps requires long-term commitment and international cooperation.

The ongoing crisis underlines the importance of going beyond traditional statistical production approaches to obtain in more innovative ways a set of timely and higher-frequency real and financial indicators, particularly to support early warning efforts and to reinforce a number of international initiatives designed to strengthen statistical databases and fill data gaps.

The IMF is working on this in two ways. Within the institution, it is developing through its Data Link Project a set of timely and higher-frequency indicators for, at least initially, systemically important countries. Internationally, the IMF is chairing an interagency group on economic and financial statistics involving other multilateral organizations. The group intends to create a global website of economic and financial indicators—initially for a number of systemically important countries—and address certain data gaps and weaknesses in a coordinated manner. ■

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References:

Lane, Philip, and Gian Maria Milesi-Ferretti, 2006, "The External Wealth of Nations Mark II: Revised and Extended Estimates of Foreign Assets and Liabilities, 1970–2004," IMF Working Paper 06/69 (Washington: International Monetary Fund).

Rodriguez, Pedro, 2008, Data Provision to the IMF for Surveillance Purposes (Washington: International Monetary Fund).