# The Financial Crisis and Information Gaps

**Report to the**
**G-20 Finance Ministers and Central Bank Governors**

**Prepared by the IMF Staff and the FSB Secretariat**
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## LIST OF ABBREVIATIONS AND ACRONYMS

| | |
|---|---|
| BCBS | Basel Committee on Banking Supervision |
| BIS | Bank for International Settlements |
| BOPCOM | IMF Committee on Balance of Payments Statistics |
| BSA | Balance Sheet Approach |
| *BPM6* | *Balance of Payments and International Investment Position Manual,* sixth edition |
| CDS | Credit Default Swaps |
| CGFS | Committee on the Global Financial System |
| CPIS | Coordinated Portfolio Investment Survey |
| DTCC | Depository Trust and Clearing Corporation |
| ECB | European Central Bank |
| ESF | European Securitization Forum |
| Eurostat | Statistical Office of the European Communities |
| FASB | Financial Accounting Standards Board |
| FSB | Financial Stability Board |
| FSF | Financial Stability Forum |
| FSI | Financial Soundness Indicators |
| FVCs | Financial Vehicle Corporations |
| G-20 | The Group of Twenty |
| G-22 | The Group of Twenty Two |
| GFS | Government Finance Statistics |
| IASB | International Accounting Standards Board |
| IAG | Interagency Group on Economic and Financial Statistics |
| IBS | International Banking Statistics |
| IIP | International Investment Position |
| ILO | International Labor Organization |
| IMF | International Monetary Fund |
| IMFC | International Monetary and Financial Committee |
| IOSCO | International Organization of Securities Commissions |
| ISWGNA | Inter-Secretariat Working Group on National Accounts |
| NBFIs | Nonbank Financial Institutions |
| OECD | Organisation for Economic Co-operation and Development |
| OFC | Offshore Financial Centers |
| OTC | Over-the-Counter |
| PGI | Principal Global Indicators |
| SDDS | Special Data Dissemination Standard |
| SIFMA | Securities Industry and Financial Markets Association |
| *SNA* | *System of National Accounts* |
| TFFS | Inter-Agency Task Force on Finance Statistics |
| UN | United Nations |
| UNECE | United Nations Economic Commission for Europe |
| ISWGNA | Inter-Secretariat Working Group on National Accounts |
| WGSD | Working Group on Securities Databases |

## EXECUTIVE SUMMARY


In April 2009, the Group of Twenty (G-20) Finance Ministers and Central Bank Governors Working Group on Reinforcing International Co-operation and Promoting Integrity in Financial Markets called on the International Monetary Fund (IMF) and the Financial Stability Board (FSB) to explore information gaps and provide appropriate proposals for strengthening data collection and report back to the Finance Ministers and Central Bank Governors. This call was endorsed by the IMF's International Monetary and Financial Committee (IMFC).

Data gaps are an inevitable consequence of the ongoing development of markets and institutions. As has been true of previous international financial crises, these gaps are highlighted when a lack of timely, accurate information hinders the ability of policy makers and market participants to develop effective responses. Indeed, the recent crisis has reaffirmed an old lesson—good data and good analysis are the lifeblood of effective surveillance and policy responses at both the national and international levels.

Following widespread consultation with official users of economic and financial data in G-20 countries and at other international institutions, particularly those responsible for financial stability analysis, a broad consensus has emerged over the information gaps that need to be filled. From this, the following key recommendations are made:

***Better capture the build-up of risk in the financial sector***

- Strengthen the international reporting of indicators of current financial health and soundness of financial institutions (so-called Financial Soundness Indicators), especially by expanding the number of reporting countries;
- Develop measures of aggregate leverage and maturity mismatches in the financial system; and
- Improve coverage of risk transfer instruments, including data on the credit default swap markets.

***Improve data on international financial network connections:***

- Enhance information on the financial linkages of systemically important global financial institutions; and
- Strengthen data gathering initiatives on cross-border banking flows, investment positions, and exposures, in particular, to identify activities of nonbank financial institutions.

***Monitor the vulnerability of domestic economies to shocks:***

- Strengthen the sectoral coverage of national balance sheet and flow of funds data;
- Promote timely and cross-country standardized and comparable government finance statistics; and
- Work to disseminate more comparable data on real estate prices.

***Communication of official statistics***

- There is also a need to improve the communication of official statistics, as in some instances users were not fully aware of the available data series to address critical policy issues.

The full list of recommendations is set out ahead.

Some of the identified gaps can be—and indeed are being—closed by strengthening existing initiatives. Others will entail new initiatives and additional data collection from the private sector. Implementation of some of the recommendations raises confidentiality issues that would need to be addressed. The legal framework for data collection might need to be strengthened in some countries.

Expanded data collection entails costs. Staffs of the FSB and the IMF will initiate consultations with relevant national and international bodies, and the private sector where appropriate, including on the costs of addressing the identified gaps, and propose to report back to the G-20 Finance Ministers and Central Bank Governors by June 2010 on the actions taken by that date together with a concrete plan and timetable for implementing each of the outstanding recommendations.

New institutional structures through which the program can be guided and carried out have been recently established by statisticians, financial stability experts, and regulators. These structures will play an important role in coordinating implementation, leveraging resources, and minimizing costs. A key lesson for the future is the importance of ensuring that statistical information collection remains adaptable in response to rapid changes in financial markets.

## List of Recommendations

| | Recommendation |
|---|---|
| **Recommendation** | |
| 1. | Staffs of FSB and the IMF report back to G20 Finance Ministers and Central Bank Governors by June 2010 on progress, with a concrete plan of action, including a timetable, to address each of the outstanding recommendations. Thereafter, staffs of FSB and IMF to provide updates on progress once a year. Financial stability experts, statisticians, and supervisors should work together to ensure that the program is successfully implemented. |
| **Monitoring Risk in the Financial Sector** | |
| 2. | The IMF to work on increasing the number of countries disseminating Financial Soundness Indicators (FSIs), including expanding country coverage to encompass all G-20 members, and on other improvements to the FSI website, including preferably quarterly reporting. FSI list to be reviewed. |
| 3. | In consultation with national authorities, and drawing on the *Financial Soundness Indicators Compilation Guide*, the IMF to investigate, develop, and encourage implementation of standard measures that can provide information on tail risks, concentrations, variations in distributions, and the volatility of indicators over time. |
| 4. | Further investigation of the measures of system-wide macroprudential risk to be undertaken by the international community. As a first step, the BIS and the IMF should complete their work on developing measures of aggregate leverage and maturity mismatches in the financial system, drawing on inputs from the Committee on the Global Financial System (CGFS) and the Basel Committee on Banking Supervision (BCBS). |
| 5. | The CGFS and the BIS to undertake further work in close cooperation with central banks and regulators on the coverage of statistics on the credit default swap markets for the purpose of improving understanding of risk transfers within this market. |
| 6. | Securities market regulators working through IOSCO to further investigate the disclosure requirements for complex structured products, including public disclosure requirements for financial reporting purposes, and make recommendations for additional improvements if necessary, taking account of work by supervisors and other relevant bodies. |
| 7. | Central banks and, where relevant, statistical offices, particularly those of the G-20 economies, to participate in the BIS data collection on securities and contribute to the further development of the BIS-ECB-IMF *Handbook on Securities Statistics* (*Handbook*). The Working Group on Securities Databases to develop and implement a communications strategy for the *Handbook*. |

| International Network Connections | |
|---|---|
| 8. | The FSB to investigate the possibility of improved collection and sharing of information on linkages between individual financial institutions, including through supervisory college arrangements and the information exchange being considered for crisis management planning. This work must take due account of the important confidentiality and legal issues that are raised, and existing information sharing arrangements among supervisors. |
| 9. | The FSB, in close consultation with the IMF, to convene relevant central banks, national supervisors, and other international financial institutions, to develop by end 2010 a common draft template for systemically important global financial institutions for the purpose of better understanding the exposures of these institutions to different financial sectors and national markets. This work should be undertaken in concert with related work on the systemic importance of financial institutions. Widespread consultation would be needed, and due account taken of confidentiality rules, before any reporting framework can be implemented. |
| 10. | All G-20 economies are encouraged to participate in the IMF's Coordinated Portfolio Investment Survey (CPIS) and in the BIS's International Banking Statistics (IBS). The IMF and the BIS are encouraged to continue their work to improve the coverage of significant financial centers in the CPIS and IBS, respectively. |
| 11. | The BIS and the CGFS to consider, amongst other improvements, the separate identification of nonbank financial institutions in the consolidated banking data, as well as information required to track funding patterns in the international financial system. The IMF, in consultation with the IMF's Committee on Balance of Payments Statistics, to strive to enhance the frequency and timeliness of the CPIS data, and consider other possible enhancements, such as the institutional sector of the foreign debtor. |
| 12. | The IMF to continue to work with countries to increase the number of International Investment Position (IIP) reporting countries, as well as the quarterly reporting of IIP data. The *Balance of Payments and International Investment Position Manual,* sixth edition (*BPM6*) enhancements to the IIP should be adopted by G-20 economies as soon as feasible. |
| 13. | The Interagency Group on Economic and Financial Statistics (IAG) to investigate the issue of monitoring and measuring cross-border, including foreign exchange derivative, exposures of nonfinancial, and financial, corporations with the intention of promoting reporting guidance and the dissemination of data. |
| 14. | The IAG, consulting with the FSB, to revisit the recommendation of the G-22 to examine the feasibility of developing a standardized template covering the international exposures of large nonbank financial institutions, drawing on the experience with the BIS's IBS data, other existing and prospective data sources, and consulting with relevant stakeholders. |

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| **Sectoral and Other Financial and Economic Datasets** | |
| 15. | The IAG, which includes all agencies represented in the Inter-Secretariat Working Group on National Accounts, to develop a strategy to promote the compilation and dissemination of the balance sheet approach (BSA), flow of funds, and sectoral data more generally, starting with the G-20 economies. Data on nonbank financial institutions should be a particular priority. The experience of the ECB and Eurostat within Europe and the OECD should be drawn upon. In the medium term, including more sectoral balance sheet data in the data categories of the Special Data Dissemination Standard could be considered. |
| 16. | As the recommended improvements to data sources and categories are implemented, statistical experts to seek to compile distributional information (such as ranges and quartile information) alongside aggregate figures, wherever this is relevant. The IAG is encouraged to promote production and dissemination of these data in a frequent and timely manner. The OECD is encouraged to continue in its efforts to link national accounts data with distributional information. |
| 17. | The IMF to promote timely and cross-country standardized and comparable government finance data based on the accepted international standard, the *Government Finance Statistics Manual 2001*. |
| 18. | The World Bank, in coordination with the IMF, and consulting with the Inter-Agency Task Force on Finance Statistics, to launch the public sector debt database in 2010. |
| 19. | The Inter-Secretariat Working Group on Price Statistics to complete the planned handbook on real estate price indices. The BIS and member central banks to investigate dissemination on the BIS website of publicly available data on real estate prices. The IAG to consider including real estate prices (residential and commercial) in the Principal Global Indicators (PGI) website. |
| **Communication of Official Statistics** | |
| 20. | The G-20 economies to support enhancement of the Principal Global Indicators website, and close the gaps in the availability of their national data. The IAG should consider making longer runs of historical data available. |

# THE FINANCIAL CRISIS AND INFORMATION GAPS

## I. INTRODUCTION

1. The experience of the financial crisis led to a call by the Group of Twenty (G-20) Finance Ministers and Central Bank Governors Working Group #2 (Reinforcing International Co-operation and Promoting Integrity in Financial Markets) for the IMF and the Financial Stability Forum (FSF), the predecessor of the FSB, "to explore gaps and provide appropriate proposals for strengthening data collection before the next meeting of the G-20 Finance Ministers and Central Bank Governors." This recommendation was endorsed by the IMF's IMFC at its Spring Meetings in April 2009.

2. The report identifies the main financial and economic information gaps and presents recommendations for closing them. In preparing the draft report, the staffs of the FSB and the IMF have consulted widely, including by organizing a users' conference in July 2009. The papers and presentations, and the summary of key points made at this conference, are available at www.imf.org/external/np/seminars/eng/2009/usersconf/index.htm. While there are differences in emphasis, there has been a broad consensus over where the gaps lie. The report translates the broad consensus into recommendations for improvements. Turning the recommendations into a concrete action plan is the next step that needs to be taken.

## II. CONTEXT

3. *The integration of economies and markets, as evidenced by the financial crisis spreading worldwide, highlights the critical importance of relevant statistics that are timely and internally consistent as well as comparable across countries.* The international community has made a great deal of progress in recent years in developing a methodologically consistent economic and financial statistics system covering traditional datasets, and in developing and implementing data transparency initiatives. Within macroeconomic (real sector, external sector, monetary and financial, and government finance) statistics, the *System of National Accounts (SNA)* is the central organizing framework. For macro-prudential statistics, an analogous framework is not yet in place, but there is on-going progress in developing a consensus among data users on key concepts and indicators, including in relation to the *SNA*.

4. *While the financial crisis was not the result of a lack of proper economic and financial statistics, it exposed a significant lack of information as well as data gaps on key financial sector vulnerabilities relevant for financial stability analysis.* Some of these gaps affected the dynamics of the crisis, as markets and policy makers were caught unprepared by events in areas poorly covered by existing information sources, such as those arising from exposures taken through complex instruments and off-balance sheet entities, and from the cross-border linkages of financial institutions. Broadly, there is a need to address information gaps in three main areas that are inter-related.

- *The build-up of risk in the financial sector:* The crisis demonstrated both the difficulty of capturing, and the importance of, sound indicators of the degree and location of leverage or excessive risk-taking within the system, particularly as regards unregulated or lightly regulated institutions and instruments (the “shadow banking system”) but also liquidity, credit and tail risks within the regulated sector. Related is the issue of a better understanding of where risks actually lie across institutions and markets given the growth of risk transfer instruments. Improved data are needed to construct many of these indicators and to make sure they are sufficiently timely and consistent. Information on “soft signals,” such as on lending standards, was also lacking in some instances. In addition to the need to improve the compilation and dissemination of aggregate statistics or averages, the crisis has demonstrated that attention has to be paid to ranges and distributions within the aggregates.

- *Cross-border financial linkages:* There are important international financial network connections that have developed and are not captured by available information. For instance, the continued rapid growth of large financial institutions with a global reach has increased the importance of cross-border network links in national financial stability analysis, but information on these networks is lacking. Related is a lack of information on “crowded trades” whereby large financial institutions—banks and nonbanks—invested in the same asset class and/or funded themselves in markets where the supply of funding was subject to common directional risks.

- *Vulnerability of domestic economies to shocks:* Data availability to monitor the behavior and exposures of economic agents within the domestic economy needs strengthening. Such data are relevant to ascertaining (1) the vulnerabilities embedded in the balance sheet positions of financial institutions, governments, nonfinancial corporates, and the households sectors; (2) conditions in markets to which several of these sectors are exposed, such as the real estate markets; and, (3) the financial and real sector linkages within an economy.

5. *Indeed, the crisis also exposed fundamental weaknesses in the ability to integrate financial sector linkages into the macro-economic models that have guided policymaking for decades.* High quality analysis is needed to understand financial crises. Indeed, the crisis has reaffirmed an old lesson—good data and good analyses are the lifeblood of effective surveillance and policy responses both at national and international levels. Further work on enhancing data for financial stability will contribute to developing a more robust macro-prudential policy and conceptual framework.

6. *Moreover, the crisis has demonstrated a need to improve the communication of official statistics and advance the interaction among the academic, policy and statistical communities. The need for timely data compilations and releases is another important lesson of the crisis* with some data that could have been useful in monitoring events during the crisis having only been available with a lengthy time lag. Examples include data on cross-border banking exposures and balance-sheet disclosures by large financial institutions.

7. *Further, for efforts to improve data coverage and address gaps to be effective and efficient, the work needs to be coordinated and existing resources leveraged to the maximum extent possible.* This requires action and cooperation from individual institutions, supervisors, industry groups, central banks, statistical agencies, and international institutions. Existing reporting frameworks should be used where possible. The legal framework for data collection might need to be strengthened in some countries. Also, there is a need to continue to use relevant data available in the private sector.

8. *There are potential resource implications arising from the work program, and it is recognized that addressing data gaps might be costly.* However, data gaps are an inevitable consequence of the ongoing development of markets and institutions. These gaps are highlighted, and significant costs incurred, when a lack of timely, accurate information hinders the ability of policy makers and market participants to develop effective policy responses.

## III. A Proposed Action Plan

9. *Experience demonstrates that closing information gaps typically involves a multi-year program, combined with a strong institutional framework to take the program forward, and sustained policy support.*

10. *The list of recommendations for such a work program is set out after the Executive Summary, above.* Staffs of the FSB and IMF will provide regular updates on progress in addressing these gaps, initially by June 2010. The first report will report on concrete plans of action and timetables for addressing the recommendations. The report will follow further consultations with relevant national and international bodies, and the private sector where appropriate, and take into account the potential costs of implementation. The text indicates those recommendations that build on existing initiatives and those that are new.

11. *The list of recommendations ahead represents a challenging program to implement.* Those recommendations that strengthen existing initiatives can continue to move forward, albeit with a new sense of urgency, but for those that are new initiatives, a sense of relative priority is needed. Among the new initiatives the following appear to merit the highest priority based on the discussions held:

- Developing measures of aggregate leverage and maturity mismatches in the financial system;

- Enhancing information on the financial linkages of systemically important global financial institutions; and

- Identifying cross-border activities of nonbank financial institutions.

12. *The institutional structures through which the program can be guided and carried out have been recently established, not least to help meet the needs of coordination, leverage resources, and minimize costs.* Some of the key structures are:

- *The staffs of the FSB and IMF have worked together to produce this report and can continue to work together on monitoring progress in the work program.*

- *The Interagency Group on Economic and Financial Statistics (IAG) was established at end-2008 to coordinate work on the improvement of economic and financial statistics (methodologies and data collection) among international agencies. Members of the IAG are the Bank for International Settlements (BIS), the European Central Bank (ECB), Eurostat, the IMF (chair), the OECD, the UN, and the World Bank.*

- *In June 2009, the FSB established the Standing Committee on Assessment of Vulnerabilities, to assess and monitor vulnerabilities in the global financial system, and the Standing Committee for Supervisory and Regulatory Cooperation to address coordination issues that arise among supervisors and regulators.*

- *The IMF, in cooperation with the FSB, in January 2009, established a Roundtable Forum for enhancing collaboration on Financial Stability Analysis (Roundtable Forum).*

13. A number of other long-standing institutional arrangements can also be used to carry out the work program, such as, but not limited to, the IMF Committee on Balance of Payments Statistics (BOPCOM), the Committee on the Global Financial System (CGFS), the Inter-Secretariat Working Group on National Accounts (ISWGNA), the Inter-Agency Task Force on Finance Statistics (TFFS), and the Working Group on Securities Databases (WGSD).

14. These institutional structures should be utilized to ensure that national agencies involved in collecting and using data participate in implementing the key recommendations set out ahead.

**Recommendation # 1:**

**Staffs of FSB and IMF to report back to G20 Finance Ministers and Central Bank Governors by June 2010 on progress, with a concrete plan of action, including a timetable, to address each of the outstanding recommendations. Thereafter, staffs of FSB and IMF to provide updates on progress once a year. Financial stability experts, statisticians, and supervisors should work together to ensure that the program is successfully implemented.**

## IV. Key Recommendations

15. The recommendations proposed below are clustered under four headings: monitoring risk in the financial sector, international network connections; sectoral and other financial and economic datasets; and communication of official statistics.

### Monitoring Risk in the Financial Sector

16. The crisis has revealed many gaps in data needed to monitor risk in the financial system. For example, there is an identified need to better identify, measure, and monitor, on an ongoing basis, the distribution of the risk embedded in structured credit products and credit risk transfer instruments. Some recommendations for measuring these positions are set out in this section. The related issue of "crowded trades" is covered in the next section.

17. In some instances, a consensus has yet to emerge on the specific data needs to monitor risk in the financial sector, and keeping up with financial innovations remains an important challenge. For instance, how to utilize financial and other asset price information in financial stability analysis and policymaking is still a subject of some debate. The Roundtable Forum intends to exchange information on how to identify vulnerabilities, including through "soft indicators" like lending standards and credit restrictions. In short, there is a need for continuing dialogue between the various international policy and analytical groups that are to monitor such developments, the relevant international statistical fora, national financial authorities and statistical agencies, and the various regulatory and industry groups that also publish information.

#### *Financial Soundness Indicators (FSIs)*

18. The IMF began work on FSIs following the experience of the financial crises of the 1990s. The intention was to provide indicators of the current financial health and soundness of financial institutions in a country, and of their corporate and household counterparts. FSIs are compiled more on a consolidated group approach than are the residence-based data of macro-economic datasets. Cross-country comparability of data is affected by differences in accounting standards, and so detailed metadata (information about data) are provided. Also, for a number of years, the OECD has been collecting and disseminating data on banks' profit statements and balance sheets in the OECD's annual *Bank Profitability Statistics*.

19. The regular dissemination of FSIs by the IMF started in July 2009 with 45 economies, of which 14 are members of the G-20. The IMF intends to broaden the FSI database focusing on increasing the number of reporters and the frequency of reporting. Quarterly frequency, in line with other major datasets, is preferred but practice varies; expanded country coverage is the highest priority. With the IMF Executive Board in December 2008 endorsing the proposal that financial indicators be included as encouraged categories in the Special Data Dissemination Standard (SDDS), work is in train on identifying an appropriate list of FSIs for inclusion in the SDDS.

20. Analysis has shown that some FSIs performed well at foreshadowing the present crisis, while others performed less well.[1] However, not all FSIs are necessarily intended to be leading indicators of a crisis, as some, for example, indicate potential ability to withstand a crisis, or actual resilience during a crisis, and so could be considered concurrent rather than leading indicators. Against this background, the IMF is to look at refinements to the categorization of FSIs between core and encouraged indicators, as well as additions of new FSIs to the current list, drawing from the lessons of the current financial crisis. FSIs for nonbank financial institutions (NBFIs),[2] covering various aspects of risks, are being considered.

**Recommendation # 2:**

**The IMF to work on increasing the number of countries disseminating FSIs, including expanding country coverage to encompass all G-20 members, and on other improvements to the FSI website, including preferably quarterly reporting. FSI list to be reviewed.**

21. While producing and disseminating aggregate data are a good first step to assessing financial soundness, it is recognized that tail risks, variations in the distributions within aggregates, and the volatility of indicators over time may contain important signs of emerging vulnerabilities. Indeed, as explained in the *Financial Soundness Indicators Guide*, stress-testing exercises involving tail risk scenarios can strengthen the analysis of FSIs.

**Recommendation # 3:**

**In consultation with national authorities, and drawing on the *Financial Soundness Indicators Compilation Guide*, the IMF to investigate, develop, and encourage implementation of standard measures that can provide information on tail risks, concentrations, variations in distributions, and the volatility of indicators over time.**

***Funding and Liquidity Risk***

22. Developing measures of funding and liquidity risk linked to maturity transformation was recommended by the *Report of the FSF on Addressing Procyclicality in the Financial System* in April 2009. That report proposed that the BIS and the IMF make available to authorities information on leverage and on maturity mismatches on a system-wide level, drawing on research by the Basel Committee on Banking Supervision (BCBS) and the

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[1] For instance, the Staff Position Note No. 2009/06, *Addressing Information Gaps* (Johnston, R. B., Effie Psalida, Phil De Imus, Jeanne Gobat, Mangal Goswami, Christian B. Mulder, Francisco F Vázquez.) provides an initial analysis of the usefulness of individual FSIs against the backdrop of the financial crisis.

[2] Known as “other financial corporations” in the international statistical manuals.

CGFS. Work in this area is of interest both to supervisors and to those involved more broadly in financial stability policy.

**Recommendation # 4:**

**Further investigation of the measures of system-wide macroprudential risk to be undertaken by the international community. As a first step, the BIS and the IMF should complete their work on developing measures of aggregate leverage and maturity mismatches in the financial system, drawing on inputs from the CGFS and the BCBS.**

***Credit Transfer Instruments***

23. One clear lacuna in the crisis was the lack of information on credit transfer activity, namely with regard to useful, timely information about where the risks lay and their scale.

*Credit Risk Transfer Instruments*

24. The lack of transparency and limited coverage of statistical information regarding over-the-counter (OTC) derivatives markets, particularly credit default swaps (CDS), disguised key elements of an important risk transfer channel within the financial system. A Working Group of the CGFS has looked at ways to enhance the existing collection of OTC credit default swap data through the BIS.

25. Also, the BIS, in close cooperation with central banks, is undertaking further work looking both at the information from Depository Trust and Clearing Corporation (DTCC)'s trade warehouse to see if more could be gleaned about the microstructure of the market for credit default swaps and at data from the BIS consolidated international banking statistics (IBS) on an "ultimate risk"[3] basis to see how to reconcile banks' cross-border exposures related to CDS and the CDS statistics. The newly formed "OTC Derivatives Regulators Forum"[4] is also looking at CDS transparency.

**Recommendation # 5:**

**The CGFS and the BIS to undertake further work in close cooperation with central banks and regulators on the coverage of statistics on the credit default swap markets for the purpose of improving understanding of risk transfers within this market.**

*Structured Products*

26. The crisis demonstrated that not enough was known about the risk exposures of key institutions to the instruments and asset classes at the core of the crisis.

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[3] The criterion for claims on an ultimate risk basis is the residency of the ultimate obligor or guarantor.

[4] This international forum of regulators of OTC derivatives markets was established in September 2009.

27. Many of the recommendations in the FSF's April 2008 *Report on Enhancing Market and Institutional Resilience* for improved disclosure of exposures to complex assets and instruments found their way into published financial statements. The International Accounting Standards Board (IASB) and the US Financial Accounting Standards Board (FASB) have set forth enhancements to required risk disclosures for financial activities, including for complex financial instruments. Also, through Pillar 3 of the Basel II capital framework, the BCBS has set forth improvements to banks' disclosures of their risk profiles, particularly in relation to complex capital market and securitization activities. While these disclosure enhancements are welcome it is important for risk disclosures to continue to be sufficiently informative and relevant to investors and market participants as to the overall exposures of these institutions to troubled asset classes based on the market conditions at the time of the disclosure.[5]

28. Also, the BCBS and the European Commission are establishing a set of clear and detailed standards in terms of what analysis a bank must conduct prior to investing in a securitization exposure, and the appropriate level of monitoring it would have to undertake for its securitization positions. These standards will be complemented by corresponding disclosure requirements for originating banks (and/or rating agencies) in order to facilitate investing banks' analysis.

29. The International Organization of Securities Commissions (IOSCO) Task Force on Unregulated Markets and Products has recently set forth recommendations for better informing and protecting investors by requiring greater disclosure by issuers, including initial and ongoing information about underlying asset pool performance.

**Recommendation # 6:**

**Securities market regulators working through IOSCO to further investigate the disclosure requirements for complex structured products, including public disclosure requirements for financial reporting purposes, and make recommendations for additional improvements if necessary, taking account of work by supervisors and other relevant bodies.**

*Securities and Securitization*

30. A number of initiatives are underway to improve aggregate information availability on securities markets and on securitization.

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[5] In this respect, the FSF recommended in 2008 that investors, industry representatives and auditors should develop principles that should form the basis for useful risk disclosures. Also, the FSF recommended that investors, industry representatives and auditors should meet together, on a semi-annual basis, to discuss the key risks faced by the financial sector and to identify the types of risk disclosures that would be most relevant and useful to investors at that time.

- Work on monitoring securitization is being undertaken by statisticians, principally within the Working Group on Securities Databases (WGSD), chaired by the IMF.

- The *Handbook on Securities Statistics* (*Handbook*), jointly published by the BIS, the ECB and the IMF in May 2009, initially focused on statistics for debt securities issuance, with securitization receiving special attention. The second phase of the work focuses on debt security holding statistics. There is a need for the WGSD to communicate the requirements and data format as specified in the recently released first part of the *Handbook.*

- The BIS, supported by the CGFS and the ECB, has a project to improve its published domestic and international securities statistics for major national economies, including the G-20 economies, on the basis of the conceptual framework set out in the *Handbook*.

- The OECD's Working Party on Financial Statistics is also working on securitization, in particular on so-called off-balance sheet securitization.

- The ECB published at end-January 2009 a new ECB Regulation concerning assets and liabilities of Financial Vehicle Corporations (FVCs) engaged in securitization transactions and will publish related statistics from end-2010 onwards.

- The European Securitization Forum[6] has also recently announced the publication of a new and much expanded Securitization Data Report that consolidates relevant aggregated European and US data for the securitization markets.

31. Coordination among international agencies is needed to avoid duplication of work for national agencies. Further, there may be a need to consider reporting of qualitative aspects of securitized transactions, for example by monitoring in a systemic manner the structure of the complex transactions in a standardized format.

**Recommendation # 7:**

**Central banks and, where relevant, statistical offices, particularly those of the G-20 economies, to participate in the BIS data collection on securities and contribute to the further development of the BIS-ECB-IMF *Handbook*. The WGSD to develop and implement a communications strategy for the *Handbook*.**

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[6] The European Securitization Forum (ESF) is an affiliate of the Securities Industry and Financial Markets Association (SIFMA) and is a forum for the European securitization industry.

## International Network Connections

32. The need to improve understanding of international financial network connections was a very clear message from the consultations made for the preparation of this report, including the users' conference organized by the FSB and the IMF in July 2009. Addressing this issue requires coordination at the international level, drawing on the work of central banks, national statistical institutes, and supervisory authorities.

### *Systemically Important Global Financial Institutions*

33. A key lesson of this crisis has been that the interconnectedness of systemically important financial institutions has significant implications for global and domestic financial stability. More needs to be done to monitor these interconnections and to assess their implications in order to improve the understanding, and enable a closer monitoring, of the allocation of risks internationally. This has two aspects.

34. First, losses experienced by a relatively small number of institutions, together with their cross-border linkages within and across national markets, were important factors in the persistence and the rapid spillover of the crisis. For those analyzing global stability, an understanding of the global network linkages and risk exposures is essential for an assessment of emerging vulnerabilities. For those responsible for financial stability at the national (or regional e.g., European Union) level, it is essential to know how their respective domestically headquartered financial institutions, and markets, are linked both domestically and to these important global institutions.

35. Second, despite improvements in home-host arrangements, serious questions have been raised by financial stability experts about the adequacy of information sharing on financial institutions that have local offices but are headquartered abroad. These questions can sometimes be addressed at a regional level within established frameworks, such as the specific provisions in the European Union's Capital Requirement Directive. Further, the supervisory colleges established for a number of large global financial institutions under the auspices of the FSB and others offer a channel for information sharing among supervisors. However, there is a need to consider further ways to achieve adequate exchange of information with host supervisors that are not members of the colleges without imposing unnecessary burdens on the college process. Another area to be explored is improved information sharing with non-supervisory central banks.

36. Measures to identify the network exposures among systemically important global financial institutions, and with respect to national markets, through a framework of consistent reporting, would address both of these considerations. The development of common reporting templates for use across countries (and regions) would permit aggregation at the national level and cross-institutional and country comparison. If sufficiently granular, it would facilitate measurement of concentration, (including "crowded trades") and

identification of network links. In such work, it would be important to recognize the complex structure of these institutions, and take account of evolving supervisory reporting needs.[7] Ideally, the information should cover the exposures represented by their trading book, their loan book, and their funding risks, both on- and off- balance sheets. Putting in place such a framework would need to address confidentiality issues and legal restrictions on the sharing of information faced by some national supervisors. Implementing such a framework would require establishing criteria for the identification of institutions that are particularly important for systemic stability, which is the subject of ongoing work arising from another request of the G-20.[8]

37. An international body could be best suited to compile and aggregate the national data at the global level. The availability of frequent and timely aggregate data on the cross-border activities of systemically important financial institutions would support the monitoring of global financial stability, given for example, the lags in availability of the comprehensive BIS IBS.

38. In making this proposal, it is recognized that there is a need to liaise and consult with the appropriate national (and regional) agencies. Success in this area requires high-level support—in particular in the countries and regions that are homes to the majority of the systemically important global financial institutions—as well as the necessary resources and ongoing cooperation. To complement this work public disclosure could be strengthened, accompanied by strengthening consistency in financial accounting standards and moves toward more standardized reporting among G-20 countries.

**Recommendation # 8:**

**The FSB to investigate the possibility of improved collection and sharing of information on linkages between individual financial institutions, including through supervisory college arrangements and the information exchange being considered for crisis management planning. This work must take due account of the important confidentiality and legal issues that are raised, and existing information sharing arrangements among supervisors.**

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[7] The development of the template would require expertise from supervisory as well as statistical experts. The latter will have to address the methodology to be used for consolidation, as in the case of the IMF FSI, and the BIS consolidated IBS.

[8] See "Guidance to Assess the Systemic Importance of Financial Institutions, Markets and Instruments: Initial Considerations" IMF/BIS/FSB, forthcoming. The paper emphasizes that the assessment methods should involve a high degree of judgment and that the guidelines should be sufficiently flexible to apply to a broad range of countries and circumstances.

**Recommendation # 9:**

**The FSB, in close consultation with the IMF, to convene relevant central banks, national supervisors, and other international financial institutions to develop by end-2010 a common draft template for systemically important global financial institutions for the purpose of better understanding the exposures of these institutions to different financial sectors and national markets. This work should be undertaken in concert with related work on the systemic importance of financial institutions. Widespread consultation would be needed, and due account taken of confidentiality rules, before any reporting framework can be implemented.**

*International Banking Statistics (IBS) and the Coordinated Portfolio Investment Survey (CPIS)*

39. The long-established BIS's IBS provide from-whom-to-whom data on international banking flows on an aggregated basis on a quarterly frequency, while the IMF's CPIS provide similar information for portfolio investment (debt and equity) positions on an annual frequency. These surveys provide a wealth of information on cross-country financial linkages, and include many important financial centers. However, there are significant reporting lags. These surveys could be strengthened both in terms of country coverage, the data series they cover, and, for the CPIS data, frequency and timeliness. The growing importance of nonbank financial institutions also suggests the need for their separate sectoral identification in the BIS's IBS data, while information on funding patterns in the international financial system would support "crowded trade" analysis. Consultations on enhancements should take place in the CGFS and the BOPCOM.

40. In developing a new template for systemically important global financial institutions, account should be taken of the series covered and accounting rules in the IBS and the CPIS to avoid duplication of effort.

**Recommendation # 10:**

**All G-20 economies are encouraged to participate in the IMF's CPIS and in the BIS's IBS. The IMF and the BIS are encouraged to continue their work to improve the coverage of significant financial centers in the CPIS and IBS, respectively.**

**Recommendation # 11:**

**The BIS and the CGFS to consider, amongst other improvements, the separate identification of nonbank financial institutions in the consolidated banking data, as well as information required to track funding patterns in the international financial system. The IMF, in consultation with the BOPCOM, to strive to enhance the frequency and timeliness of the CPIS data, and consider other possible enhancements, such as the institutional sector of the foreign debtor.**

***International Investment Position (IIP) data***

41. The IIP is an important data source for understanding the linkages between the domestic economy and the rest of the world. The number of countries reporting this dataset to the IMF has increased sharply over the past decade, but with just over 100 reporting countries coverage is still incomplete. Frequency and timeliness of reporting lags that of the transactions data in the balance of payments.

42. The crisis has increased attention on important vulnerabilities on both sides of the external position. For a number of economies, international assets turned out to be a source of weaknesses, such as arising from the quality of assets held. Further work on compiling data on countries' gross external assets would be a major step forward, following the increased focus on liabilities over the past decade. This work can be linked to that of improving from-whom-to-whom exposures. External debt remained a source of vulnerability, particularly in terms of liquidity risk.

43. The recently internationally agreed *Balance of Payments and International Investment Position Manual,* sixth edition (*BPM6*), will help address some of the data deficiencies regarding the IIP. *BPM6* provides a more detailed sectoral breakdown, including identification of the non-bank financial institutions; standardized reporting for the currency composition of international assets and liabilities; information on the impairment of cross-border loans; and supplementary (voluntary) detail on the remaining maturity of international assets and debt liabilities, so supporting liquidity analysis.

**Recommendation # 12:**

**The IMF to continue to work with countries to increase the number of IIP reporting countries, as well as the quarterly reporting of IIP data. The *BPM6* enhancements to the IIP should be adopted by G-20 economies as soon as feasible.**

44. The crisis has highlighted the lack of data on cross-border exposures of nonfinancial corporates. "Onshore" corporates, both financial and nonfinancial, used offshore entities to raise finance and provide implicit guarantees, and this was unknown to policy makers. In some emerging markets, authorities were unaware of significant corporate exposure to exchange rate derivative products because these were booked outside of their jurisdictions. For instance, small and medium firms that were highly concentrated in exporting businesses in some instances acquired foreign exchange exposures through derivatives contracts booked on foreign markets. Data deficiencies were mostly in relation to cross-border transactions.

45. While some guidance exists to identify such cross-border exposures—such as the "ultimate risk" measures of the BIS's consolidated IBS data and as set out in the TFFS's *Guide on External Debt Statistics,* and Table 6.4 in the *Financial Soundness Indicators Guide* to identify derivative exposures—a more comprehensive approach is needed. Work in this area will need to address the methodological and practical issues of handling the concept of consolidation and the definition of corporate groups. This is a new initiative.

**Recommendation # 13:**

**The IAG to investigate the issue of monitoring and measuring cross-border, including foreign exchange derivative, exposures of nonfinancial, and financial, corporations with the intention of promoting reporting guidance and the dissemination of data.**

***Cross-border Activities of Nonbank Financial Institutions (NBFIs)***

46. In October 1998, the G-22 report on transparency and accountability recommended that "a working party comprising private sector representatives, international groups, and national authorities be formed as soon as possible to examine the modalities of compiling and publishing data on the international exposures of investment banks, hedge funds, and other institutional investors." This recommendation reflected the growing significance of such investors in international markets. The intention was to model this collection on the BIS's IBS, but it was not taken forward.

47. The importance of monitoring the activities (stocks and flows) of NBFIs has again arisen in the ongoing crisis. Indeed, the scope of these institutions has widened in the context of the so-called "shadow banking system." This concept is broadly defined as financial intermediation by institutions, markets, and products outside of the banking sector and traditional securities markets: nonbank financial institutions (including off-balance sheet vehicles), financial products, such as asset backed securities, and markets, such as repo markets.

48. There are various data sources on nonbank financial institutions, including the OECD's data on institutional investors (life and non-life insurance companies, pension funds and investment funds), and the ECB's enhanced data collection on investment funds, including hedge funds. Also, there are a number of recommendations in this report that would strengthen coverage of NBFIs within existing initiatives. Further, there are other key stakeholders, such as, but not limited to, the International Association of Insurance Supervisors, and commercial data suppliers.

49. Current work to expand the regulatory perimeter will result in reporting requirements on unregulated financial entities. This should eventually provide a basis for improved data on NBFIs.

**Recommendation # 14:**

**The IAG, consulting with the FSB, to revisit the recommendation of the G-22 to examine the feasibility of developing a standardized template covering the international exposures of large NBFIs, drawing on the experience with the BIS's IBS data, other existing and prospective data sources, and consulting with relevant stakeholders.**

## Sectoral and Other Financial and Economic Datasets

50. The crisis has revealed weaknesses in the availability of some sectoral and other financial and economic datasets. Many of the actions that need to be taken to improve data availability lie at the national level. However, the international agencies can do more to promote and advise on the relevance of these datasets, and seek synergies with national statistical offices and central banks in closing the data gaps.

### *Sectoral Data*

51. The importance of sectoral data, including from-whom-to-whom information, has been highlighted by the crisis. Indeed, the ongoing crisis provides the context for new thinking about how to measure vulnerabilities in the nonfinancial sectors that might feed back onto the financial system, and vice versa. Empirical analysis is crucial to addressing how household and nonfinancial firms' financial positions affect borrower delinquencies and defaults and thereby, ultimately, the balance sheet position of financial institutions. In this regard, improved data on disposable income and savings, and indebtedness of the household sector are also needed.

52. The increased availability of sectoral financial accounts and balance sheets would advance the analysis of the systemic risks and vulnerabilities, and the interrelationship between the real sector accounts and the financial accounts. The Balance Sheet Approach (BSA) provides additional focus on vulnerabilities arising from the maturity (liquidity), currency (domestic/foreign), and capital (leverage) structure of key financial sectors.

53. Linking data on financial flows within the economy—as is contained in countries' flow of funds accounts—with data on expenditures on goods and services and factors of production—as is contained in the national accounts—is important for studying financial and real sector linkages. Being able to link expenditure and production categories in the national accounts with financial flows in the flow of funds accounts would facilitate understanding of whether and how expenditure and production decisions are restrained by disruptions in credit markets. However, due to the complexities of the statistical work, it is not an exercise that appears to have been widely performed.

54. An additional data challenge is presented by entities that fall outside the regulatory perimeter, and that may not disclose information on their exposures and operations in a sufficiently granular manner to allow assessments of their systemic relevance. An expansion and refinement in flow of funds data to cover financial entities that fall outside the regulatory perimeter, and in the "shadow banking system," could help track the relevance of such entities in the overall flows of funds in the economy, and hence to alert authorities to situations where more intensive monitoring may be required. The OECD's work on developing data sources on institutional investors, referred to above, is important in this regard.

55. These initiatives tie in with the ongoing work on the *SNA* implementation programs, which are coordinated through the Inter-Secretariat Working Group on National Accounts (ISWGNA), and the work of the IMF to promote Standardized Report Forms for monetary and financial statistics, and include improving timeliness, frequency, and country coverage.

**Recommendation # 15:**

**The IAG, which includes all agencies represented in the ISWGNA, to develop a strategy to promote the compilation and dissemination of the BSA, flow of funds, and sectoral data more generally, starting with the G-20 economies. Data on NBFIs should be a particular priority. The experience of the ECB and Eurostat within Europe[9] and the OECD should be drawn upon. In the medium term, including more sectoral balance sheet data in the data categories of the Special Data Dissemination Standard could be considered.**

56. As suggested above, in analyzing sectoral data to assess risks, aggregate ratios can be misleading because they do not capture developments in the tails of distributions. Averages need to be complemented by distributional information. This requires linking national accounts concepts with micro-economic concepts of income and wealth and merging macro- and micro-datasets. This is also a central conclusion of the report by the Commission for the Measurement of Economic Performance and Social Progress ('Stiglitz-Sen Commission') put in place by the President of France. The OECD has committed to initiate work to follow up on several recommendations emerging from the Commission's report.

**Recommendation # 16:**

**As the recommended improvements to data sources and categories are implemented, statistical experts to seek to compile distributional information (such as ranges and quartile information) alongside aggregate figures, wherever this is relevant. The IAG is encouraged to promote production and dissemination of these data in a frequent and timely manner. The OECD is encouraged to continue its efforts to link national accounts data with distributional information.**

***Government Finance Statistics (GFS)***

57. The fiscal stimulus and financial system support measures introduced by many national authorities in the recent crisis have led to substantial increases in fiscal deficits and government debt, which in some cases are hard to measure. Over time macroeconomic policy will be greatly complicated if there is not full understanding of the size of a country's fiscal position. GFS will therefore likely be of a higher profile than for many years past. Work has

[9] The ECB and Eurostat have developed integrated financial and nonfinancial accounts for all institutional sectors of the Euro area in line with international standards. These data are published quarterly.

been underway in the IMF to promote the reporting of general government data on a standardized basis using the methodology of the *Government Finance Statistics Manual 2001*.[10] The crisis has further highlighted data gaps and problems in the comparability of government finance data, with wide differences in coverage and definitions in national fiscal data, particularly for balance sheet items. Further, the frequency and timeliness of harmonized fiscal data are insufficient to monitor trends in many cases.

58. The World Bank, in cooperation with the TFFS, is creating an internet-based database on general government and public sector debt statistics ("public sector debt database") to promote the availability of such data and to enhance international comparability. Better data on the maturity profile and classification (such as currency and holder) is needed. The IMF, in cooperation with the TFFS, is preparing a guide to the compilation and use of public sector debt statistics to support work by countries to improve the availability of data.

**Recommendation # 17:**

**The IMF to promote timely and cross-country standardized and comparable government finance data based on the accepted international standard, the *Government Finance Statistics Manual 2001*.**

**Recommendation # 18:**

**The World Bank, in coordination with the IMF, and consulting with the TFFS, to launch the public sector debt database in 2010.**

***Property Markets***

59. Data on the stock of dwellings, the associated price levels and their changes over time are critical ingredients for understanding household wealth, its evolution over time, and for the vulnerability of households' financial position. Similar information on commercial property is relevant not just for monitoring the wealth of the corporate sector, but also for financial stability more generally, given that commercial property accounts for a significant share of collateralized lending for many banks. Where data exist, their international comparability is limited.

60. Work is underway to produce a handbook on real estate price indices, led by Eurostat under the auspices of the Inter-Secretariat Working Group on Price Statistics (UNECE, ILO, IMF, OECD, World Bank, and Eurostat) that over time could help improve cross-country comparability. Further, the BIS and its member central banks have collected a large number of real estate price indicators from various countries around the world.

[10] The *GFSM 2001* is subject to revision in accordance with 2008 *SNA*.

**Recommendation # 19:**

**The Inter-Secretariat Working Group on Price Statistics to complete the planned handbook on real estate price indices. The BIS and member central banks to investigate dissemination on the BIS website of publicly available data on real estate prices. The IAG to consider including real estate prices (residential and commercial) in the Principal Global Indicators (PGI) website.**

**Communication of Official Statistics**

61. To improve the communication of official statistics and timeliness of data, the IAG launched the Principal Global Indictors (PGI) website, in April 2009. The website includes economic and financial data for G-20 economies and has been receiving a healthy number of "hits" per day. There are plans to develop world and regional totals for a key set of indicators.

62. In enhancing the website, the IAG should consider making available longer runs of historical data, as well as more detailed information about conditions in the banking system, and the risks distributed within nonfinancial sectors' balance sheets.

**Recommendation # 20:**

**The G-20 economies to support enhancement of the PGI website, and close the gaps in the availability of their national data. The IAG should consider making longer runs of historical data available.**