INTERNATIONAL MONETARY FUND

Financial Sector Surveillance and the Mandate of the Fund

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Contents

Glossary

BCBS	Basel Committee on Banking Supervision
BIS	Bank of International Settlements
CCP	Central Counterparty
CPIS	Coordinated Portfolio Investment Survey
EWE	Early Warning Exercise
FSAP	Financial Sector Assessment Program
FSB	Financial Stability Board
FSF	Financial Stability Forum
FSSA	Financial System Stability Assessment
GFSR	Global Financial Stability Report
IADI	International Association of Deposit Insurers
IAIS	International Association of Insurance Supervisors
IFI	International Financial Institution
IIP	International Investment Position
IMFC	International Monetary and Financial Committee
IOSCO	International Organization of Securities Commissions
MOU	Memorandum of Understanding
LCFI	Large, Complex Financial Institution
MAP	Mutual Assessment Process
OTC	Over the Counter
REO	Regional Economic Outlook
ROSC	Report on Observance of Standards and Codes
SWF	Sovereign Wealth Fund
WEO	World Economic Outlook

Executive Summary

Financial sector issues and policies are central to the Fund's surveillance mission, as the recent crisis has amply demonstrated, and the institution has placed a high priority on enhancing the coverage and depth of analysis of financial sector issues in surveillance. Achieving this goal requires far-reaching operational and resource adjustments, which are already underway. However, these alone may not be enough. Changes in the Fund's mandate and modalities of surveillance may also be needed.

A key goal of these changes should be to strengthen multilateral surveillance. New analytical tools and effective forms of engagement at the global level are crucial for financial surveillance, given an increasingly interconnected and globalized international financial system. At the same time, financial surveillance at the country level should also be strengthened and become a central part of the Article IV consultation process.

A number of options are available to improve the assessment of risks related to the financial sector and improve the traction of financial sector surveillance, both at the global and the country level. They complement the options presented in the companion paper on the mandate and modalities of surveillance, forming a coherent set of ideas aimed at modernizing the Fund's mandate.

- Broadening the set of data available to the Fund for mapping and assessing risks associated with financial networks.
- Exploring new ways of engagement with LCFIs and systemic financial intermediaries at the strategic and policy level.
- Expanding the Fund's contribution to the development of international financial sector standards.
- Making the FSAP a mandatory part of surveillance, at least for systemically important countries.
- Defining an effective relationship between the Fund and the FSB.

Some of these options would require changes to the Fund's legal and operational framework. Their implementation would also pose major challenges to the institution, not least to the size and allocation of its resources. These issues will need to be tackled in the next stage of the debate on the mandate and modalities of Fund surveillance, as well as on the new medium-term budget framework.

This paper lays out various options for strengthening financial sector surveillance. A companion paper discusses broader operational and legal aspects of Fund surveillance.[1] These two papers, which build on the overview papers on the Fund's mandate and the legal framework discussed by the Board on February 22,[2] explore the challenges and gaps of the Fund's current mandate and modalities for surveillance and present options for reform without putting forward concrete proposals for Board decision at this stage.

I. Introduction: Financial Sector Surveillance Today

1. **Major efforts are under way to strengthen financial sector surveillance, given the central importance of financial sector issues for the Fund's mandate**. The 2007 Decision on Bilateral Surveillance stated that financial sector policies are a core focus of Fund surveillance and, in October 2008, the Board adopted a Statement of Surveillance Priorities for 2008–11 that gave prominence to financial sector issues.[3] Strengthening financial sector surveillance is a major undertaking for the institution, and requires major adjustments to its resources (including human resources), organization, and operations. Several initiatives have been implemented over the last few years in all these areas. These are summarized below (see also Box 1 of the companion paper) and documented in more detail in *Integrating Financial Sector Issues and FSAP Assessments into Surveillance—Progress Report* and *Financial Sector and Bilateral Surveillance—Toward Further Integration*.

Surveillance instruments and practices

- Financial sector issues have become more central to Article IV consultations, in part reflecting the recent focus on the global financial crisis. Updated guidance was provided to staff in April 2009 to support work in this area.
- At the Board review in September 2009,[4] the Financial Sector Assessment Program (FSAP) was reshaped to become more flexible and better integrated with the Article IV process. Key reforms included a clearer delineation of responsibilities between the Fund and the Bank, with the Fund taking the lead in financial stability issues; the option to conduct FSAPs through focused stability or development modules; and the introduction of the standardized Risk Assessment Matrix as a tool to make stability assessments more candid and transparent. Standards assessments will also be made more flexible once risk-focused ROSCs are deployed later this year.

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[1] *Modernizing the Surveillance Mandate and Modalities*.

[2] *The Fund's Mandate: An Overview* and *The Fund's Mandate: The Legal Framework*.

[3] The Statement listed four operational priorities for Fund surveillance: (i) risk assessments; (ii) financial sector surveillance and real-financial linkages; (iii) analysis of exchange rate and external stability risks; and (iv) multilateral perspective. Three of these relate directly to financial sector surveillance.

[4] *Financial Sector Assessment Program After Ten Years—Experience and Reforms for the Next Decade*.

- Recent issues of the flagship Global Financial Stability Report (GFSR) have deepened the analysis of macro-financial linkages, cross-border channels, and financial networks. The analysis and policy messages in the GFSR have also been more closely integrated with those in the World Economic Outlook (WEO).
- The Early Warning Exercise (EWE), conducted jointly with the Financial Stability Board (FSB), aims to identify systemic tail risks and scenarios that could seriously undermine the global economic and financial outlook, and policy options to prevent them. As such, it complements the GFSR's and WEO's assessments that focus on baseline scenarios and the higher probability risks that surround them.
- The coverage of financial sector issues in Regional Economic Outlooks (REOs) has been broadened, and new, flexible forms of regional engagement (seminars, ad hoc meetings) have been deployed to supplement and enrich bilateral surveillance.
- The Fund's engagement with multilateral groups (G-20, FSB) and standard-setters has been expanded.

Analytical toolkit and development of financial sector expertise

- MCM and RES are developing new tools and methodologies to analyze macro-financial linkages and improve the quantitative assessment of financial vulnerabilities and stress tests used in FSAPs and other country work. Efforts are also underway to disseminate these tools more widely to staff through training. FAD has also developed analytical tools and indicators of macro-financial vulnerabilities associated with large increases in public financing needs, which could have destabilizing effects.
- Several initiatives are under way to improve financial sector data. STA is expanding the collection of balance sheet data through Standardized Report Forms and Financial Soundness Indicators, and has developed, jointly with SPR, a cross-border data template drawing on the BIS's international banking statistics, STA's Coordinated Portfolio Investment Survey (CPIS), and International Investment Position (IIP) data. STA has initiated a Coordinated Direct Investment Survey, while SPR together with the World Bank has spearheaded the work on a financial data platform for low-income countries.
- Personnel policies (recruiting, staff mobility, and external training) have been adjusted to support the development, dissemination, and retention of financial sector expertise at the Fund.

2. **At the same time, these efforts have highlighted the limitations that the Fund's current mandate and modalities for surveillance impose on financial sector work**. To be sure, adjustments in the Fund's operations, organization, and resource management will continue, based on the guidance the Board has provided. But while necessary, these adjustments alone may not be sufficient to deliver the improvements in financial sector surveillance that are required for the Fund to be able to promote global stability effectively in today's world. For this, more far-reaching changes in the modalities for surveillance may be

needed. For example:

- The global financial crisis has underscored the need for greater focus on risks resulting from global financial interconnections and cross-country spillovers and a better understanding of the role of LCFIs in this context. However, this entails access to information that the Fund is not currently allowed to require its members to report under Article VIII, Section 5 of the Fund's Articles.

- The crisis has also highlighted the need for better assessment and monitoring of system-wide risks in an increasingly interconnected global financial system. However, the bulk of the Fund's surveillance output is still bilateral. And while the GFSR, WEO, REOs and, more recently, the EWE have enhanced the quality of financial sector analysis at the regional and global level, they do not involve a detailed dialogue with policy makers: a gap thus remains between bilateral and multilateral surveillance. Although not a form of surveillance in itself, the G-20 Mutual Assessment Process (MAP) is an attempt to fill this gap, but presents challenges, as well as opportunities, for the Fund.

- The FSAP—the premier instrument for assessing financial sector stability at the country level and a key input into the Article IV process—has limitations as a surveillance tool. As recognized at the recent Board review, the voluntary nature of the FSAP and its status as a joint program with the World Bank constrain the scope for prioritization, blunt the focus of assessments, prevent the Fund from allocating scarce resources where they are most needed, and result in long product cycles. The reforms introduced at the Board review—notably the option of Fund-led stability modules—were designed to mitigate some of these shortcomings. But while these reforms are stretching the current design of the FSAP (which has remained essentially unchanged since 1999) to its limits, they may not go far enough.

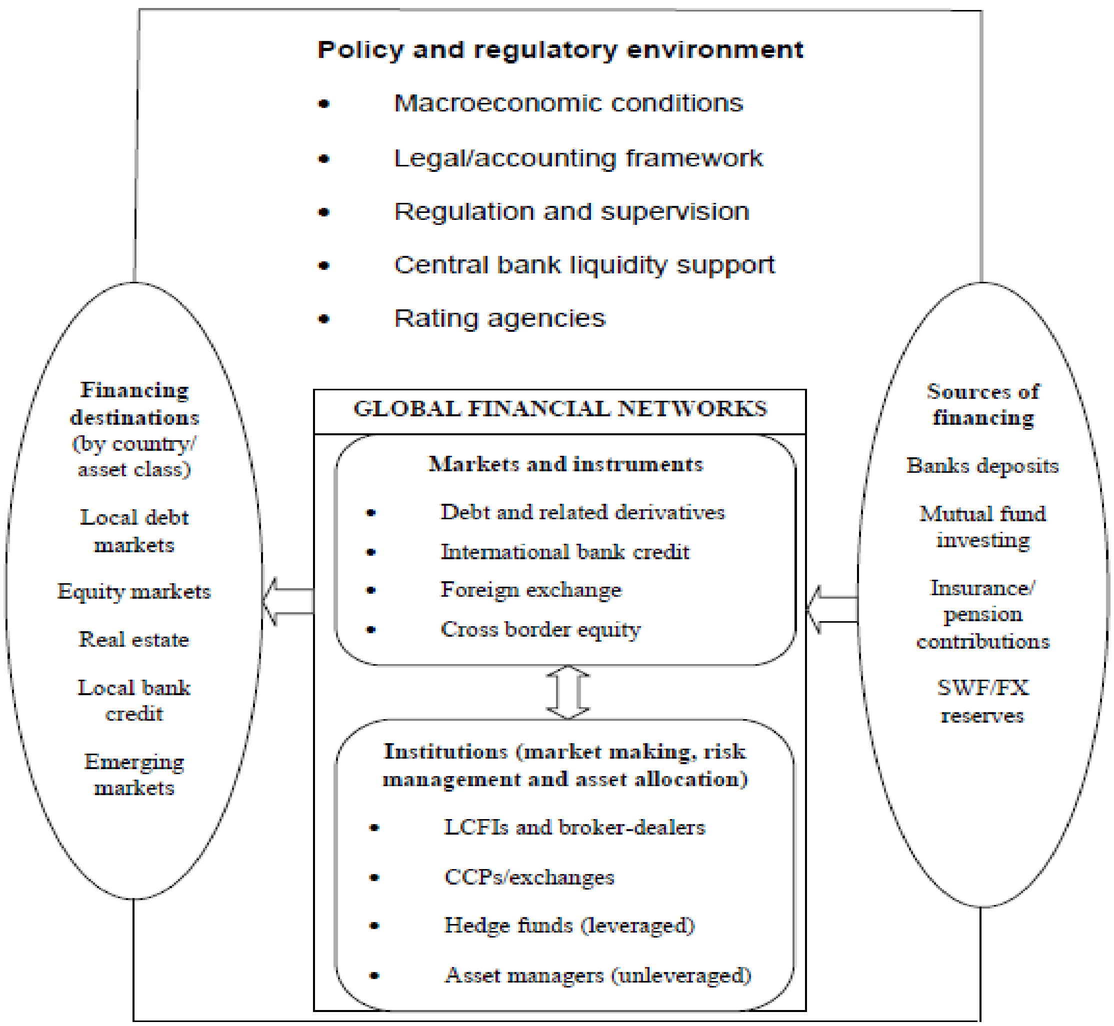
3. **The rest of this paper explores the changes that may be required in the Fund's mandate in order to remove these obstacles and enhance the quality and traction of financial sector surveillance**. The companion paper complements this discussion with a broader overview of options to modernize the Fund's overall mandate and modalities for surveillance.

II. Improving the Assessment of Risks Related to the Financial Sector

4. **The crisis revealed critical gaps in the surveillance of the cross-border transmission of shocks through global financial networks and the systemic institutions that comprise them**. Financial networks encompass a complex web of institutions, markets, and countries (Figure 1). The key institutions in these networks include not only global banks but also a range on nonbank financial intermediaries, including asset managers and central counterparties (CCPs). In the run up to the crisis, financial networks were instrumental in allocating capital across asset classes and in accumulating and distributing risk; and after the

onset of the crisis, they played a key role in propagating its impact across borders and markets.[5] Monitoring and understanding global financial networks and systemic institutions is now seen as crucial for assessing risks related to the financial sector. The Fund, among others, is devoting considerable effort and resources in this area. But these efforts are running up against the limitations of the current, bilateral-focused surveillance mandate and modalities.

Figure 1. Global Financial Networks: A Conceptual Framework



[5] The crisis was triggered by concerns about losses on subprime mortgage securities held by United States' financial institutions but quickly spread to Europe, as markets realized that European banks also had substantial holdings of these securities. It intensified through liquidity pressures in the international interbank and cross-currency swap markets used by banks to fund such holdings of dollar securities. Similarly, the dynamics that followed the Lehman Brothers' default illustrate the potential for knock-on effects and negative externalities spread through financial networks.

A. Top-Down Analysis of Global Financial Networks

5. **Financial sector surveillance needs to be able to "map" global financial networks**. This involves assessing connections within the network, their concentration among a core set of systemically important intermediaries, and the size and underlying leverage of exposures. It is also necessary to understand clearly how the functioning of these networks depends on the condition and behavior of these intermediaries, and the impact of changes in the policies, regulations, and infrastructures that affect the financial sector. The latter, in particular, may help detect risks from activities that have moved outside the regulatory perimeter and may not be easily captured by existing data—such as the expansion of the "shadow" banking system in the run up to the crisis.

6. **A growing body of work on financial network analysis is developing, including contributions from central banks, academia, and the Fund**.[6] Appendix I provides an overview of the basic approach, including its application in the April 2009 GFSR. But network analysis can also be used at the single country level, in the context of bilateral surveillance. The major building blocks of this analysis are:

- **The key markets and instruments that are at the center of global financing and risk transfer channels.** Broadly defined, these include debt and derivatives instruments, including those traded primarily in over-the-counter (OTC) markets; international bank credit markets (including interbank markets that channel financing to banks); foreign exchange cash and derivatives markets; and international equity markets.

- **The core global institutions that intermediate financing and risk transfer through the networks**. These include a limited number of LCFIs, major broker/dealers that play a key role in both on-exchange and OTC markets, and CCPs. Unleveraged and leveraged institutions should be distinguished, given how the buildup of leverage can contribute to network vulnerabilities.

- **The key influences on the functioning of global networks**. These encompass macroeconomic and financial conditions and policies, financial regulation, and infrastructure. They include, for example, the monetary policy stance; accounting rules (e.g., the recognition of mark-to-market losses in the crisis); the role of credit rating agencies; and the ability of central banks to meet liquidity needs in crisis situations. These factors not only shape the aggregate behavior of financial institutions but can also introduce new sources of vulnerability.

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[6] Research on global financial network analysis is at an early stage but is expanding rapidly. Useful overviews are provided in *Rethinking the Financial Network*, A. Haldane, Bank of England, May 5 2009, and in *Recent advances in modeling systemic risk using network analysis*, Introductory remarks by Gertrude Tumpel-Gugerell, ECB workshop, October 5, 2009.

7. **Although financial network analysis is increasingly recognized as a priority, the limited availability of data is a major challenge**. Progress in mapping the international financial network is most advanced in banking, based on data collected by the BIS. These have been used in the Fund to enhance cross-border vulnerability analysis, including in the GFSR and EWE. But in other areas, there are substantial data gaps (Box 1).

8. **Two key obstacles lie behind these data gaps**:

- The data exist but are not shared with the Fund on a regular basis owing to confidentiality or other restrictions imposed by national authorities. This is the case, for example, with data on individual institutions.

- The data do not exist in a useable form. This is the case, in particular, for networks involving decentralized OTC markets where intermediaries typically know their own exposures but not those of counterparties.

9. **The first obstacle reflects in part the limitations imposed by the Articles on the obligation of members to report information to the Fund**. Although Article IV, Section 3(b) gives the Fund the authority to require the member to provide the Fund with the information needed to conduct bilateral surveillance over exchange rate policies, Article VIII, Section 5 sets out several important limitations on the obligations of members.[7] In particular, members are under no obligation to provide information "in such detail that the affairs of individuals or corporations are disclosed."

10. **There are several options to overcome, or at least alleviate this obstacle**.

- An amendment of the Articles that would eliminate the restrictions of Article VIII, Section 5. Such an amendment, however, may not find broad support.

- Bilateral arrangements between the Fund and national or regional regulators. Such arrangements are already used in the context of FSAP assessments, where confidentiality protocols have been established to allow the use of information on individual financial institutions for risk assessment and stress testing, for example by presenting only aggregated results that do not identify individual institutions. Such arrangements, however, would need to be generalized and permanent.

- Voluntary arrangements among members to share such information with the Fund or disseminate it more broadly, e.g., through a "Financial Data Dissemination Standard" for countries with systemically important financial institutions. Such a Standard could involve, for example, two tiers of financial information: one for general dissemination and one for sharing with the Fund, with appropriate confidentiality safeguards, like the ones now used in FSAPs.

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[7] *The Fund's Mandate—The Legal Framework*, paragraph 17.

Box 1. Where Are the Main Data Gaps?

The Fund's capacity to map global financial networks remains limited despite significant improvements in data. Networks are mapped with data on bilateral exposures to markets and sectors in a country of financial institutions and investors in another country. Since these exposures can change relatively rapidly over time, data need to be frequent and timely enough detect the build-up in risks early enough for authorities (and markets) to respond. While in many instances data to map networks exist, significant improvements are needed, particularly in coverage, frequency, and timeliness.

Data Available for the Analysis of Key Global Networks

Global financing networks	Bilateral country exposures	Sector exposures	Maturity	Currency breakdowns
International banking market				
Debt securities & derivatives market				
Foreign exchange market				
International equity market			not applicable	

*Table columns reflect the BIS Banking Statistics, which allow mapping of international banking market networks and serve as a standard against which to assess the availability of data needed for a comparable mapping of other networks (http://www.bis.org/statistics/bankstats.htm).

Shading key:

	Largely available and, despite gaps, adequate for network analysis.
	Significant data gaps: data exist but limited coverage or timeliness makes them inadequate for network analysis.
	Largely unavailable.

As the figure illustrates, sufficient data to map networks are only available in the international banking market, although even there data need improvement. Data on debt and derivatives markets, foreign exchange markets, and cross-border equity markets have significant gaps in coverage, frequency, and timeliness. Specifically:

- **Banking.** Cross-border banking exposures are only available for BIS-reporting countries (roughly one-quarter of Fund membership). While these countries cover the most significant international banking markets, some important emerging markets are not reporting. The quarterly data are also reported with a four-month lag. The BIS is working to improve the coverage and timeliness.
- **Debt securities and derivatives markets.** The CPIS data on bilateral debt securities exposures shows the structure of the network but the annual frequency and one-year lag limits their use for identifying shifts in risk exposures. Derivatives, but not bilateral positions, are reported in the BIS semi-annual OTC derivatives survey.
- **Foreign exchange markets.** The BIS triennial foreign exchange survey reports turnover and amounts outstanding by instrument and currency but not bilateral exposures. The infrequent nature of the survey limits its usefulness for network analysis.
- **International equity markets.** The CPIS data report bilateral equity exposures but the annual frequency and one-year lag limit their usefulness for identifying shifts in risk exposures.

Recent initiatives by STA have started to improve the availability of data on the structure and scale of these networks, although they still lack the frequency and timeliness required for effective surveillance.

- The **Coordinated Portfolio Investment Survey** (CPIS), reporting bilateral, cross-border country exposures by sector for equity, and short and long-term debt. Data are annual with a one-year lag. STA is creating a task force to consider enhancements to the CPIS and IIP datasets.
- The **Coordinated Direct Investment Survey** (CDIS), reporting foreign direct investment position by country for equity and debt. Data are annual starting at end-2009.
- **International Investment Position** (IIP) data, reporting multilateral external debt and equity holdings in a country. The Board agreed in March 2010 to add them in the SDDS with a quarterly periodicity.

11. **The second obstacle has to be addressed through coordinated action by national authorities**. The BIS and CPIS statistics illustrate how this can be done. But further effort is needed to compile more detailed, frequent, and timely data on debt, derivatives, and foreign exchange instruments from OTC markets and CCPs, whose role in global financial stability has grown hugely since the BIS data were created. The Fund could help support the development of a repository for such information. This would go a long way toward closing the gaps identified in Box 1. National supervisors would also benefit from more detailed market exposure data.

12. **This would require the key LCFIs and intermediaries that dominate these markets to report exposures with breakdowns at least by product, country, and sector**. One advantage is that the risk management systems of many of these intermediaries already track high-frequency exposures. And while these firm-level data are commercially sensitive, aggregating them would protect confidentiality, as is the case with the BIS and CPIS statistics. CCPs and exchanges centralize information and, hence, can more easily provide these data.[8]

13. **The recent G-20 initiative to address data gaps—in which the Fund is playing the leading role with the FSB—is a big step toward improving data availability for global network analysis**. Recognizing how data gaps had compromised the effectiveness of financial surveillance, the G-20 requested that the Fund and the FSB develop proposals to address these gaps.[9] Their report confirmed the need to collect data to adequately map and assess the robustness of financial networks. Specifically, it recommended to investigate "collection … of information on linkages between individual financial institutions" (Recommendation 8), and to develop a data "template … for systemically important global financial institutions to better understand [their] exposures to different financial sectors and national markets" (Recommendation 9).

14. **Nonetheless, the technical and resource challenges this process would pose for the Fund (and others) should not be underestimated**. At the conceptual level, work will be required to define the most useful breakdowns and clarify how data would be aggregated. Moreover, close consultation would be needed with the intermediaries, who themselves should benefit substantially from seeing aggregate data. And given the significant resource implications of collecting and—more importantly—making efficient use of these additional data, this effort should remain focused on what is necessary and sufficient to generate concrete value added to surveillance.

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[8] Reporting would need to be on a gross, as well as net, basis, since gross exposures cannot be netted when markets turn illiquid, as the recent crisis demonstrated. Exposures among reporting institutions would also have to be netted to show their consolidated exposure as a group across the network, while the unconsolidated data would indicate the extent of counterparty exposures within the network.

[9] See *The Financial Crisis and Information Gaps*, Report to the G-20 Finance Ministers and Central Bank Governors, October 29, 2009. The report highlights three types of financial data gaps: (i) on the build-up of risk in the financial sector (e.g. FSIs, leverage and maturity mismatches, and risk transfer); (ii) on international financial network connections (e.g. among systemically important institutions, and cross-border financial flows and exposures); and (iii) on the vulnerability of national economies to shocks. It contains 20 recommendations, on which the G-20 are to receive a progress report in June 2010.

B. Deeper Engagement with Systemic Financial Intermediaries

15. **Beyond collecting data, surveillance of global financial networks will require a deeper engagement with systemic financial intermediaries**. Such intermediaries include global LCFIs, asset managers, and central counterparties (CCPs). Engaging more systematically with them would help assess both (i) financing and risk transfer through global networks; and (ii) risks to the functioning of the networks from changes in their financial condition (e.g., accumulations of concentrated risk exposures) or behavior (e.g., shifts in global asset allocation strategies or regulatory arbitrage).[10] This would also help identify those financial institutions and markets that become systematically important over time.

16. **Fund staff have always had contacts with private sector institutions**. In bilateral surveillance, contacts with domestic systemic financial institutions were a source of insights that informed the overall macro-financial risk assessment. At the global level, however, dialogue with systemic financial intermediaries has been less systematic.

17. **The Fund's engagement with systemic intermediaries now needs to be intensified and expanded**. While contacts have intensified since the crisis, the Fund needs to engage with representatives of global LCFIs and other systemic intermediaries at a sufficiently senior level to provide a reliable perspective on strategic and policy issues. The Fund is well placed to engage globally with LCFIs and their networks, and assess risks beyond the perimeters of national supervision. This could also facilitate access to relevant data (on a voluntary basis).

18. **Such engagement, however, would need to be managed carefully**. Engaging with private institutions at the strategic and policy level does not fall neatly into the traditional model of Fund surveillance. These institutions are under no obligation to provide information to, or indeed engage with, the Fund. Moreover, the Fund's engagement would need to include other organizations overseeing the above intermediaries, such as supervisors, central banks, industry associations, and other institutions in charge of assessing systemic financial intermediaries, while making it clear that the Fund does not seek to duplicate their supervisory responsibilities.

III. IMPROVING THE TRACTION OF FINANCIAL SECTOR SURVEILLANCE

19. **The effectiveness of all surveillance, including financial sector surveillance, ultimately depends on how successful the Fund is in helping bring about good policies**. For this, high-quality analysis and timely risk identification is a necessary but not sufficient condition: the Fund also needs the right vehicles for engaging policy makers.

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[10] For instance, certain networks proved more vulnerable than others in the recent crisis owing to severe strains on many LCFIs, which contributed to relatively sharp contractions in financing through international banking and OTC markets. In contrast, intermediation through CCPs proved more robust.

20. **The companion paper explores several options to improve the traction of surveillance, emphasizing cross-country perspectives and multilateral engagement**. To be sure, most of these options are not limited to financial sector issues but apply to the entire area covered by the Fund's mandate. The modalities could be set out in a *Multilateral Surveillance Decision* and could take a number of forms, including spillover reports for systemic countries and new, flexible multilateral consultation procedures, discussed in detail in the companion paper.

21. **In the financial sector area, these contacts should not be limited to national authorities but could encompass other institutions involved in financial stability-related policies**, such as supervisory colleges, overseers of payment systems, and clearing houses. This would entail either a more formal Fund relationship with these institutions or more flexible forms of engagement (such as the "facilitator model" used with Sovereign Wealth Funds) in which the Fund convenes groups of official and private sector counterparts to discuss a topic of mutual interest.[11]

22. **In addition, three options are particularly relevant for financial sector surveillance, both bilateral and multilateral**. These are explored in more detail below.

A. The Role of the FSAP in Surveillance

23. **Bilateral surveillance lies at the core of the Fund's engagement with its members but its coverage of financial sector issues, while increasing, is still limited and relies heavily on the FSAP for input**. The vehicle for engaging policy makers at the bilateral level—the Article IV consultation—is well established and can indeed be effective, but it has often not been sufficiently focused on financial sector issues. Instead, following the Asian crisis of the late 1990s, the Fund developed a separate instrument for financial sector analysis and policy dialogue with its members: the FSAP.

24. **Despite the centrality of financial sector issues to the Fund's mandate, the FSAP has limitations as a surveillance instrument**. Indeed, it is legally not a surveillance instrument at all but a form of technical assistance, performed at the request of the recipient country. Moreover, the FSAP is not the sole responsibility of the Fund: it is a joint program with the World Bank in emerging and low-income countries, although the Bank has no surveillance mandate. As recognized at the recent Board review, these two elements complicate the integration of the FSAP into the Article IV process.[12] The Fund has tried to overcome these limitations in a number of ways: by linking FSAPs with Article IV consultations and presenting

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[11] The Fund facilitated the International Working Group of SWF Managers in 2008 and helped them negotiate the *Generally Accepted Principles and Practices: Santiago Principles*.

[12] *Financial Sector Assessment Program After Ten Years—Experience and Reforms for the Next Decade*.

both the Article IV report and the Financial System Stability Assessment (FSSA) to the Board at the same time; by emphasizing the need for Article IVs to follow up on the implementation of FSAP recommendations; and last but not least, by introducing a number of reforms to the FSAP at the last Board review of the program designed to make it more flexible and better integrated with surveillance, as discussed in section I. But while these measures push the limits of the original design of the FSAP, they do not address its inherent limitations.

25. **The time has come to re-examine the position of FSAP in bilateral surveillance**. Voluntary participation was a key feature of the program at its inception. Over time, however, the views of the membership and the Board have evolved. At the most recent Board review of the FSAP (September 2009), it was recognized that, while its voluntary nature increases ownership by the authorities, it also complicates country prioritization, constrains the Fund from allocating scarce resources where they are most needed, and is a major obstacle to integrating FSAP results into surveillance. A majority of Directors favored keeping participation voluntary but stressed the importance of participation by all systemically important economies. During the discussion of the overview paper on the Fund's mandate in February 2010, "many Directors supported making FSAP assessments mandatory for countries with systemically important financial systems," while "a number of other Directors considered it appropriate to maintain the voluntary, cooperative approach to the FSAP."

26. **Making FSAPs or FSAP stability modules a mandatory part of surveillance, at least for systemically important Fund members, would be a major step toward closing the gap between the FSAP and bilateral surveillance**. It would help enhance the depth and quality of financial sector analysis in Article IV consultations in these countries and, at a more fundamental level, it would affirm the centrality of financial sector issues in Fund surveillance. The introduction of modular FSAPs following the last Board review provides additional flexibility: the mandatory requirement could apply only to the Fund's stability modules, with structural and developmental elements remaining voluntary. However, making the FSAP or FSAP modules mandatory would require addressing a number of issues (Box 2). These issues lie outside the scope of this paper and will be examined in a follow-up Board paper addressing specifically this topic.

Box 2. Mandatory FSAPs?

As discussed during the latest FSAP review, a Board decision adopted by simple majority of the votes cast could make the FSAP or the Fund stability module a mandatory part of Article IV surveillance. Implementing this decision, however, would require a number of changes in the Fund's policy framework and the modalities of the FSAP program.

- **An objective mechanism to decide which countries, and under which circumstances, would undergo an FSAP assessment**, to ensure even-handed treatment of the members.
- **Arrangements to ensure that members provide adequate data** for the detailed vulnerability analysis and stress testing currently conducted as part of FSAPs, with adequate safeguards for privacy and confidentiality, as discussed in section II.
- **The increased financial and human resources that would allow the Fund to ramp up the delivery of FSAP assessments without compromising quality.** During the last few years, the Fund has been delivering 15–20 FSAPs annually. Even if the FSAP were to be made mandatory—and more frequent—for only a subset of the membership, the number of assessments, and associated resource needs, would have to increase correspondingly.
- **The role of the World Bank.** At present, the Fund and the Bank are "equal partners" in FSAPs conducted in emerging and low-income countries (advanced economies being covered by the Fund alone). Since the Bank has no surveillance mandate, it would need to be defined what role Bank staff would play in FSAP assessments that were deemed mandatory, but in any event the Bank could continue to engage through its development modules.

B. Collaboration with Financial Sector Standard Setters

27. **The Fund has traditionally had a limited role in the development of financial sector standards**. The Fund has developed the standard on Monetary Policy Transparency, but its role in the establishment of the core financial sector standards and codes on banking, insurance, and capital market supervision (and now deposit insurance) has been subordinate to that of BCBS, IAIS, IOSCO, and IADI. Its role has been advisory, helping to orient international regulatory reforms. The Fund has played this role based on its broad focus on macro-financial stability and, importantly, on its unique perspective on the implementation of international standards stemming from its role in assessing compliance through ROSCs. However, the Fund's inputs have generally been provided informally or at a technical level, as it is not a full member of the key decision-making structures within standard-setting bodies, and often has just observer status in technical committees.

28. **Going forward, the Fund could play a more systematic role in the standard setting process, building on its enhanced analysis of macro-financial linkages and global financial networks**. Financial regulation/standard-setting is largely sector-specific and national in implementation. With this approach comes the potential for regulatory gaps across sectors and countries, arbitrage, and for nationally sensible but globally inefficient outcomes. As evidenced during the recent crisis, in a world of financial interdependencies, the potential for systemic risk from these sources is material. More systematic analysis of global regulatory efficiency and its

implications for stability could provide value added to the standard-setting process, and the Fund is uniquely placed to provide this. For example, in the area of cross-border resolution, following a G-20 request, Fund staff is currently preparing a paper that will make proposals to enhance international collaboration. At a minimum, Fund participation in the deliberations of the Joint Forum would be useful.[13] Another option would be for the Fund to obtain a more formal status as a member of these standard setting bodies, allowing for a higher level of engagement and impact in their policy debates. At the same time, such a step could create tensions with the Fund's role as an independent authority assessing compliance with these standards and codes.

C. Collaboration with the FSB

29. **The Fund is collaborating closely with the FSB over a wide range of issues**. Although formal membership of the Fund in the FSB has not yet been discussed by the Board, Fund staff is working closely with the FSB, as it did with its predecessor, the Financial Stability Forum (FSF). Box 3 outlines the key objectives of the FSB and the areas of collaboration with the Fund.

30. **Although the division of labor with the FSB was defined in November 2008, areas of overlap between the two institutions are becoming increasingly apparent**. A joint letter by the Managing Director and the Chairman of the FSF delineated the key responsibilities of the two institutions: the Fund is responsible for the surveillance of the global financial system and the macroeconomic policies of its members, while the FSF's—now FSB's—primary responsibility is the elaboration of international financial standards and policies and the coordination of the various standard-setting bodies. In some areas, this division of responsibility works well: for example, the Fund in practice takes the lead on macro-financial issues in the context of the joint EWE. But in others, the lines are blurred: for example, the FSB's peer review process can in principle cover financial vulnerabilities and financial stability policies, which are also the domain of the Fund's Article IV and FSAPs. To some extent, such overlaps are inevitable (especially since the role and functions of the FSB are still evolving), and indeed beneficial. At the same time, they point to the need to clarify the respective roles and institutional relationship between the Fund and the FSB in order to maximize synergies and avoid duplication.

[13] The Joint Forum, a working group of the BCBS, IOSCO and IAIS, deals with cross-sectoral issues, including the regulation of financial conglomerates. The Joint Forum is comprised of an equal number of senior bank, insurance and securities supervisors representing each supervisory constituency.

Box 3. The FSB and Collaboration with the Fund

The FSB and its mandate

The FSB was established in April 2009 as successor to the FSF, which was founded in 1999 by the G7 Finance Ministers and Central Banks to enhance cooperation among the various national and international supervisory bodies and international financial institutions (IFIs). The FSB comprises senior representatives of national financial authorities from the G-20 (central banks, regulatory and supervisory authorities, and Ministries of Finance), IFIs, standard-setting bodies, and committees of central bank experts.

The FSB is mandated to address vulnerabilities and develop and implement strong regulatory, supervisory, and other policies in the interest of financial stability, and specifically to:

- assess vulnerabilities affecting the financial system and identify and oversee action to address them;
- promote coordination and information exchange among authorities responsible for financial stability;
- monitor and advise on market developments and their implications for regulatory policy;
- advise on and monitor best practice in meeting regulatory standards;
- undertake joint strategic reviews of the policy development work of the international standard setting bodies to ensure their work is timely, coordinated, focused on priorities, and addressing gaps;
- set guidelines for and support the establishment of supervisory colleges;
- manage contingency planning for cross-border crisis management, particularly with respect to systemically important firms; and
- collaborate with the IMF to conduct EWE.

Collaboration between the IMF and the FSB

Fund staff participate in the Plenary, the Steering Committee, and two of the three standing committees of the FSB: the Standing Committee on the Assessment of Vulnerabilities, which includes the joint EWE; and the Standing Committee on Standards Implementation, which draws on the IMF's work on FSAPs and ROSCs for the FSB peer reviews and evaluation of compliance with cooperation and information exchange standards. Fund staff also participates in the Working Group on Cross-Border Issues, which reports to the Standing Committee on Supervisory and Regulatory Cooperation. The FSB and the Fund are working together on data gaps issues for the G-20.

As was noted in a November 2008 joint letter by the FSF Chairman and the IMF Managing Director, the roles of the IMF and the FSB are complementary in the following ways:

- Surveillance of the global financial system is the responsibility of the IMF.
- Elaboration of international financial sector supervisory and regulatory policies and standards and coordination across the various standard setting bodies is the principal task of the FSF (subsequently FSB). The IMF participates in this work and provides relevant inputs.
- Implementation of policies in the financial sector is the responsibility of national authorities. The IMF assesses authorities' implementation of such policies through FSAPs, ROSCs, and Article IV consultations.
- The IMF and the FSB cooperate in the EWE: the IMF assesses macro-financial risks and systemic vulnerabilities, while the FSB assesses financial system vulnerabilities, drawing on the analyses of its member bodies, including the IMF.

31. **The Fund will continue to approach cooperation with the FSB in a pragmatic, flexible, and cooperative manner**. The Fund will continue to bring to bear its expertise in integrating macroeconomic and financial issues in surveillance at the country and global levels, given its universal membership. For its part, the FSB has unique convening powers and close involvement with national financial supervisors in systemic countries and with international standard setters, and thus the ability to play a central coordinating role on financial regulatory and oversight policies. While these respective approaches may sometimes overlap, they provide the basis for fruitful and efficient collaboration. At the same time, it has to be recognized that the approaches of the two institutions will sometimes differ. For example, the FSB process of assessing compliance with standards related to international cooperation and information exchange may involve measures (e.g., sanctions on jurisdictions deemed to be not cooperating with the FSB) that depart from the Fund's voluntary and cooperative approach to standards assessments.

32. **As regards the division of responsibilities and institutional relationship between the two institutions**, including the question of Fund membership in the FSB, this will need to be explored further, including in light of legal frameworks of the two institutions. This will be the topic of a separate Board paper after the spring meetings.

IV. CONCLUSION

33. **Enhancing financial sector surveillance is part of the broader agenda of modernizing Fund surveillance**. It involves far-reaching adjustments in resources, organization, and operations, which are already underway. But it may also demand more fundamental changes in the Fund's approach to surveillance in general.

34. **This paper laid out some options for changes aimed at improving the assessment of financial sector risks and giving greater traction to financial sector surveillance**. They include broadening the set of data available to the Fund for mapping and assessing risks associated with financial networks; finding new ways of engagement with LCFIs and systemic financial intermediaries; expanding the Fund's contribution to the development of international financial sector standards; making the FSAP a mandatory part of surveillance, at least for systemically important countries; and defining an effective relationship between the Fund and the FSB. They complement the options presented in the companion paper on the mandate and modalities of surveillance, forming a coherent set of ideas aimed at modernizing the Fund's mandate. Discussion of these ideas, their pros and cons and associated risks and challenges, will form the basis for specific proposals for Board action.

35. **This agenda would transform surveillance and empower the Fund to make a stronger contribution to global financial stability, but would present formidable challenges to the institution**.

- It would require defining new financial data sets for networks and methods of aggregation across institutions and markets, and developing the expertise and methodological tools to use them.
- It would mean finding ways to engage systemic financial intermediaries at the global level, including LCFIs, that go beyond the traditional forms of policy dialogue with member country authorities.
- It would demand close and effective cooperation with the existing and emerging multilateral institutions, including notably standard setters and the FSB, while preserving the Fund's independence and accountability to its entire membership.
- Greater emphasis on systemic countries, networks, and institutions would inevitably create tradeoffs with other aspects of the mandate of the Fund, notably its engagement with low-income countries.
- Last but not least, several of these proposals would have major resource implications. The impact of the increasingly close engagement with the FSB is already generating substantial new demands, notably for additional FSAPs and ROSCs. And implementing two of the options proposed above (collecting and processing large quantities of new information and making the FSAP mandatory, if only for a subset of the membership) would require resources that go well beyond the present envelope.

These issues will frame the agenda for the next stage of the debate on the mandate and modalities of the Fund's surveillance, as well as on the new medium-term budget framework.

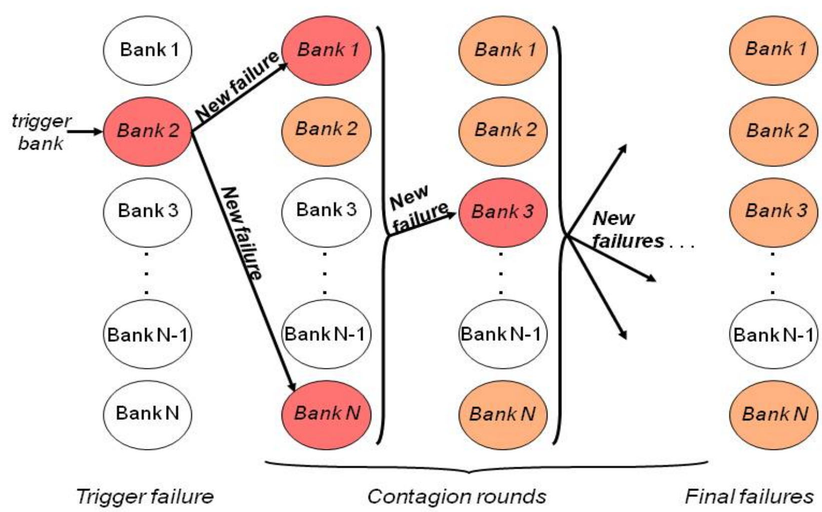
APPENDIX I. FINANCIAL NETWORK ANALYSIS

1. **The recent financial crisis has underscored the notion that to ensure the stability of financial systems, it is necessary to understand financial linkages across institutions, markets, and countries**. Network analysis allows regulators to map cross-border risks across financial institutions. In addition, it can also be used to study different stress scenarios and track the multiple rounds of spillovers that are likely to arise from financial linkages.

2. **The Fund has been among the first to attempt to use network analysis for surveillance**. Network analysis as a surveillance tool was featured in the April 2009 *Global Financial Stability Report* (chapter 2). Recently, network analysis has been used by staff in different contexts, including the Japan 2009 Article IV Consultation, and the EWE.

3. **The starting point of network analysis is the compilation of data on inter-institution (or inter-market) exposures**. On this basis, network analysis can be used to simulate different types of shocks (e.g., credit and liquidity shocks) to specific institutions, markets, or countries in order to: (i) track the contagion effects on other institutions in the network (as illustrated in Figure 1), (ii) identify those institutions that cause the largest contagion losses on the system, and (iii) identify those institutions that are most vulnerable to shocks emanating from other institutions in the network.

Figure 1. Network Analysis as a Tool to Identify Systemic Financial Linkages

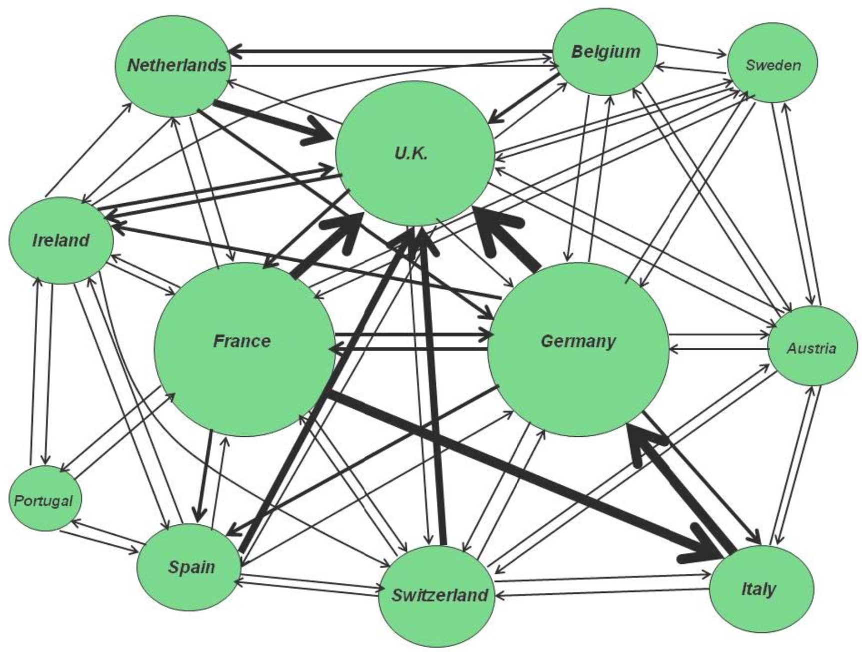


Source: GFSR (April 2009) and Marquez and Martinez (2008).
Note: This graph depicts the dynamics of the network analysis. Starting with a matrix of interbank exposures, the analysis consists of simulating shocks to a specific institution (the trigger bank) and tracking the domino effect to other institutions in the network.

4. **As an illustration of how network analysis could serve the Fund in its cross-border financial sector surveillance, consider the network of international interbank exposures obtained from the BIS International Banking Statistics** (Figure 2, data as of March 2008). A

network approach to these exposures would help in identifying the key nodes in the web of international financial linkages, as well as the direction and size of those financial flows whose disruption could cause systemic distress.

Figure 2. Cross-Border Interbank Connections
Among Selected European Countries



Source: IMF staff estimates and BIS International Banking Statistics.

Note: The size of each node is proportional to the total amount of interbank claims of that country on other countries in the network. The origin of the arrows denotes the lending country and the end of the arrow the borrowing country; the thickness of the arrows is proportional to the value of the bilateral exposure. Data are based on the BIS *immediate borrower basis* statistics, and thus are consolidated by residency of the lending bank but not of the borrower.

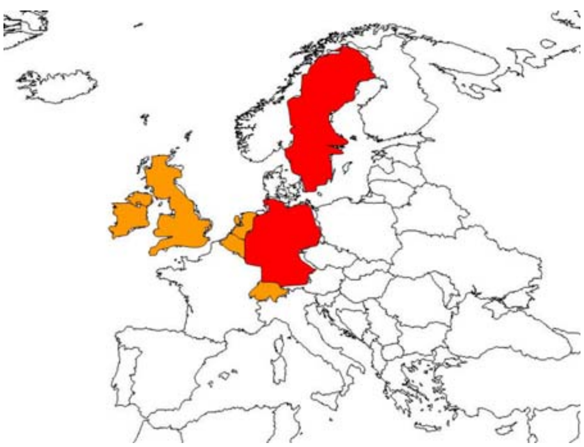
5. **In addition, network analysis could be exploited to simulate and track the international contagion path that would follow severe distress events in one of the nodes of the network**. Consider, for instance, the hypothetical case of a severe credit event in the United Kingdom's cross-border interbank loans. Figure 3 features the ensuing contagion path and shows how this shock would spread to other financial systems.[14] With such a tool at hand, applied to a broader range of financial markets and instruments, the Fund could reinforce its early warning capabilities, and also be able to improve its advice on relevant measures to stem contagion trends before they unravel.

[14] See the April 2009 GFSR (Chapter 2), and Espinosa, Marco and Juan Solé *Cross-Border Financial Surveillance: A Network Perspective,*" forthcoming IMF Working Paper, for details on how the network analysis described in this Annex was carried out.

Figure 3. Risk Map Illustrating the Contagion Path
Following a Severe Distress Event in the U.K.

Panel 1 (trigger failure)
Affected Countries: United Kingdom

Panel 2 (1st contagion round)
Affected Countries: United Kingdom, Belgium, Ireland, Netherlands, Switzerland



Panel 3 (2nd contagion round)
Affected Countries: United Kingdom, Belgium, Ireland, Netherlands, Switzerland, Sweden, Germany

Panel 4 (final round)
Affected Countries: United Kingdom, Belgium, Ireland, Netherlands, Switzerland, Sweden, Germany, France

Source: GFSR (Chapter 2, April 2009).