Abstract
This policy brief provides an overview of the newly created Financial Stability Board (FSB), detailing its structure and operations. It also reviews policy proposals from the FSB and affiliates that are coalescing as the international financial reform agenda to promote greater financial stability. Though the organizational structure under the FSB potentially provides opportunities for better communication and cooperation among national regulators and the myriad and multi-institutional committees and working groups producing the bulk of reform proposals lack transparency. Substantial reforms are being proposed, but these may not be enough to ensure stability of the international financial system.
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List of Acronyms

Bank for International Settlements  BIS
Basel Committee on Banking Supervision  BCBS
Committee on Payment and Settlement Systems  CPSS
Committee on the Global Financial System  CGFS
Early Warning Exercises  EWEs
Financial Stability Board  FSB
Financial Stability Board’s Senior Supervisors Group  SSG
Financial Stability Forum  FSF
International Accounting Standards Board  IASB
International Association of Insurance Supervisors  IAIS
International standard setting bodies  SSBs
International financial institutions  IFIs
International Organization of Securities Commissions  IOSCO
1 Overview of the Financial Stability Board

The April 2, 2009 London summit of G20 finance ministers and central bank governors articulated what would be the world’s coordinated response to the current global financial crisis and economic downturn, and its efforts to amend the international financial architecture. In addition to pledging substantial resources to provide liquidity to international capital markets and trade finance, the G20 also set in motion a plan to expand the Financial Stability Forum (FSF). The FSF—spurred into creation by the 1997-98 Asian (et. al.) financial crisis—launched in 1999 as an informal channel for communication and cooperation on stability and regulatory issues amongst the world’s financial officials. In April 2009, the G20 transformed the FSF into a broader-bodied and formalized international institution: the Financial Stability Board (FSB).

The FSF emerged at a time when financial crises, originating in developing countries with perceived inadequate regulatory foundations had spilled-over to the advanced economy countries. The FSF aimed to transform prudential regulatory standards in developing countries into something resembling the standards and regulations in practice in the United States and United Kingdom whose apparent success would provide a model for a harmonized international regulatory regime. Work on developing international regulatory standards was delegated to the international standard setting bodies (SSBs)—where developing countries were excluded almost entirely from participation. The FSF primarily played a clearinghouse role for the work of SSBs in this process, and reported sporadically on progress of standards development. The limited institutional scope of the FSF and resistance from many countries objecting to the legitimacy of a financial reform agenda developed without their participation has hampered progress on reforms and international cooperation.

Circumstances leading to the creation of the FSB are distinctly different: financial instability originating in advanced economy countries—from which international regulatory standards had been modeled—has spilled-over and enveloped much of the world. But this reverse scenario and apparent failure of the Anglo-American prudential regulatory model has not fundamentally altered the approach to building a stronger and more stable international financial architecture. The G20 endowed the FSB with a formal Secretariat and Chairperson and expanded the body’s membership from 12 to 24 nation-states as well as to the range of international financial institutions (IFIs) and SSBs.2 Section 2 explains the FSB’s organizational structure. Though the FSB’s mandate expands on the scope of the FSF to include monitoring compliance with international standards as well as monitoring of systemic financial vulnerabilities, its core function remains providing a forum for member country national regulators and officials from the IFIs and SSBs to cooperate in sharing information and coordinating

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1Helleiner (2009) explains the history and problems arising from the FSF and the international financial reform agenda.

2Section 2.1 below lists SSBs. Full FSB Membership details are available at http://www.financialstabilityboard.org/members/links.htm.
revisions to the “rules of the game” of international finance. Country representation at the SSBs, undertaking much of the heavy-lifting in developing the reform agenda, has expanded marginally (and in no case beyond the membership of the FSB).

Beyond the institutional evolution of the FSB, financial crises originating in countries upon which the international financial regulatory regime is based calls for closer examination of the reform agenda the FSB is now shepherding across the IFIs and SSBs—the most substantial of which come from the Basel Committee on Banking Supervision (BCBS) and pertain to how banks choose and manage risk. Section 3 describes the prudential regulatory proposals being developed, a number of which make substantial improvements to prudential regulatory efforts. But even these may not go far enough to curtail the excessively risky and destabilizing financial practices that have led to repeated and increasingly large international financial crises. As in the past, this reform agenda is driven by officials from a small group of countries, although the rules being developed will be urged upon non-member countries by a number of means. Moreover, some issues that impact on systemic financial stability are receiving insufficient attention, such as the role of central banks in maintaining financial stability and how to deal with nonbank financial institutions that at present largely fall outside the prudential regulatory architecture. The promising proposals under discussions are far from a fait accompli, and will be subjected to review and impact assessment, the results of which are to be reported at the BCBS’s July 2010 meeting.

2 FSB Organizational Structure

Since inaugurating on 26-27 June 2009, the FSB has begun to flesh out its internal structure, establishing a Plenary, a steering committee, three standing committees covering, and a number of working groups tasked with implementing the FSB’s mandate to reform and monitor the international financial architecture, and to promote international financial stability. The FSB Secretariat, hosted at the Bank for International Settlements (BIS) in Basel, Switzerland, provides an organizational foundation for the work of the FSB. This section explains the various components and functions of the FSB. The organizational structure erected under the FSB creates potential opportunities for better communication and cooperation among national regulators and policymakers. But the organization lacks substantial transparency and little information is available regarding the member composition, agenda, or deliberative processes of the FSB’s standing committees and working groups that are formulating the international financial reform agenda (Section 3). Supervisory colleges, inherited from the FSF and convened by the FSB for the purpose of monitoring “systemically important” transnational financial institutions, are similarly opaque; the FSB itself remains uncertain about the colleges’ efficiency and efficacy in maintaining systemic financial stability.
2.1 Membership

As specified in the FSB Charter, membership is restricted to “National and regional authorities responsible for maintaining financial stability, namely ministries of finance, central banks, supervisory and regulatory authorities,” the IFIs and international standard-setting bodies.[3] FSB country memberships include: Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Korea, Mexico, Netherlands, Russia, Saudi Arabia, Singapore, South Africa, Spain, Switzerland, Turkey, United Kingdom, United States, as well as the European Commission, the European Central Bank, and the Hong Kong Special Autonomous Region. While calling for “a greater voice and representation” for emerging and developing economies, “including the poorest” (G20 2009), the poorest are not being represented in these international fora deliberating on financial reform.

International institutions members include: the Bank for International Settlements (BIS), the IMF, the OECD, the World Bank, the BCBS, the Committee on Payment and Settlement Systems (CPSS), the Committee on the Global Financial System (CGFS), the International Accounting Standards Board (IASB), International Association of Insurance Supervisors (IAIS), and the International Organization of Securities Commissions (IOSCO).

Membership commits member countries to work together to promote financial stability, to maintain financial openness and transparency, to implement international financial standards, and to undergo periodic peer review, including and beyond IMF/World Bank Financial Sector Assessment Program evaluations and the Early Warning Exercises (EWEs) conducted jointly by the IF and FSB. Member countries also should implement the FSF-developed Principles on Sound Compensation Policies.[4] The FSB will report on each member countries adherence to these commitments. The FSB charter does not specify procedures for expanding membership, but states merely that member eligibility will be “reviewed periodically.”

The FSB Charter does provide channels for participation of regulators and officials from non-member countries by invitation to meetings of FSB standing committees and working groups (Section 2.4). Similarly, the charter provides for participation by invitation of private financial interests, however no such provisions are made for civil society or non-governmental organizations to engage with the international institutions on issues of financial reform.

2.2 FSB Plenary

The FSB Plenary comprises the institution’s highest-ranking decision-making body. The FSB charter calls on the Plenary to make all decisions by consensus.

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In addition to approving the FSB’s work program and adopting reports and recommendations, the FSB Plenary appoints the FSB Chairperson and rules on FSB membership and amendments to the FSB charter. Representation on the Plenary is limited to the central bank governors, heads of the relevant regulatory agency or finance ministry, or their immediate deputies. The FSB charter calls for the Chair to convene two Plenary meetings each calendar year (March and September), and additional meetings in extraordinary circumstances.

Seats on the Plenary are to be allocated based on the size of national economies, financial market activity, and “national financial stability arrangements” of member jurisdictions.

2.3 FSB Chairperson

The FSB Chairperson serves as the FSB’s Chief Executive Officer. Appointed by the Plenary for renewable three-year terms, the Chairperson convenes and chairs meetings of the Plenary and the Steering Committee, oversees the FSB Secretariat (section 2.6), and is generally responsible for stewardship of the organization. The current FSB Chairperson, Dr. Mario Draghi, Governor of the Banca d’Italia, also served as chair of the FSF since 2006. The FSB Charter specifies that the Chair should, “in the discharge and functions as the Chair,” hold allegiance to the FSB and to “no other authorities or institutions.” The FSB’s website asserts that Chairman Draghi, “chairs the FSB in a personal capacity,” but it is unclear what the distinction between Dr. Draghi’s dual roles means in practice.

2.4 Standing Committees and Working Groups

The FSB Plenary established three Standing Committees to assist in carrying out its institutional directive to review and propose regulatory changes for national and the international financial systems. The Plenary appoints the committee chairs, who in turn determine the membership of the standing committees. Member jurisdictions may decide whether the Plenary member or another individual (affiliated with a relevant agency) will serve on these bodies. As of December 2009, the following bodies have been created under the FSB:

- Standing Committee for Assessment of Vulnerabilities — responsible for coordinating ongoing monitoring of financial stability, overseeing joint EWEs, and reviewing institutional and policy arrangements that may contribute to financial instability. Chaired by Jaime Caruana, General Manager of the BIS.

5Article 14.5.
6http://www.financialstabilityboard.org/about/overview.htm.
• Standing Committee for Supervisory and Regulatory Cooperation — responsible for coordinating work on policy revisions across the SSBs. Chaired by Adair Turner, Chairman of the UK Financial Services Authority.

• Standing Committee for Standards Implementation — responsible for conducting FSB member country peer review analyses and proposing a framework for monitoring compliance with prudential regulatory and supervisory standards. Chaired by Tiff Macklem, Associate Deputy Minister of the Department of Finance of Canada.


• Expert Group on Non-cooperative Jurisdictions — responsible for developing policies to isolate and deter offshore financial havens.

• Working Group on Compensation — responsible for developing best practices to align compensation incentives with financial institutions’ risk management and internal control goals.

Some specifics of policies issues involved in the work of these committees and working groups are discussed further in Section 3 below.

2.5 Steering Committee

The FSB Plenary, at the chair’s suggestion, appoints a Steering Committee that convenes (at least) quarterly to oversee the institution’s workings, as well as:

• to promote coordination across the FSB’s various bodies and in their interactions with outside organizations;

• to conduct joint strategic reviews of policy development work in the SSBs bodies;

• and to otherwise conduct that deemed necessary in the business and functioning of the FSB.

2.6 Secretariat and Secretary General

The FSB Secretary General, suggested by the Chairperson and appointed by the Plenary, serves as the FSB’s Chief Operations Officer. The Secretary General hires for and manages operations at the FSB Secretariat. The Secretariat, in turn, provides the material and human resource foundation for all the organizational workings of the FSB.

7 The SSBs are listed in Section 2.1
2.7 Supervisory Colleges

The FSB has formed more than thirty supervisory colleges intended to monitor “large and complex financial institutions.” A joint FSB-IMF-BIS (BIS 2009c) report submitted to the G20 enunciates guidelines for assessing which financial institutions are systemically important. The guidelines are rather general and leave substantial room for discretion and adaptation to time-varying and context-dependent circumstances. The FSB oversees supervisory colleges for 24 large multinational financial institutions and six insurance companies, spanning ten nominal “home” countries (listed in the Appendix). Supervisory colleges are intended as a venue for national supervisors to share information and to coordinate monitoring efforts. In this way, the colleges “should change the way that national supervisors work” (FSB 2009a), providing them a better understanding of the risk profiles of individual institutions and a means to coordinate potential regulatory responses. The FSB remains unclear on what constitutes good practice and efficient and effective operation in supervisory colleges, and has left performance evaluation of the colleges to a future time.

In some countries regulators are already putting to use in prudential regulatory efforts assessments of systemically important financial firms. In the UK in particular, such institutions are being asked to draft “living wills”—plans for resolving all counterparty claims in the event of a crisis—that will be incorporated into early warning exercises and macroprudential stress-testing simulations (Jenkins and Davies 2009).

3 Financial Reform Agenda

Calls for more cooperation, better quality and more timely information disclosure, cracking down on tax cheats, and so on, are an all-too-common refrain following international financial crises. Though an important and highly significant endeavor, arduous efforts at international cooperation to improve information reporting and disclosure have not succeeded in mitigating pervasive, contagious international financial crises. Instead, international financial crises have been increasing in frequency and severity for several decades (Bordo, et al. 2001).

A report from the FSB’s Senior Supervisors Group (SSG) on lessons of the current crisis identifies a number of failings in the corporate governance structure and incentive and compensation structures in financial firms (FSB 2009b).

First, the SSG identifies problems with corporate governance structures resulting in failures “to establish, measure, and adhere to a level of risk acceptable to the firm.” Second, compensation practices in financial firms are often inconsistent with firm goals of internal control and risk management, conferring status,

8An earlier SSG report highlights a number of strategic errors and miscalculations contributing to the crisis (FSB 2009c). FSB (2009b) focuses on failings of a structural nature.
influence, and material rewards on individuals taking excessive risks. Finally, the FSB faults inadequate information technology as obstructing effective risk identification and measurement within and across the whole of individual financial firms. These challenges are compounded in implementing appropriate internal controls and risk-management practices in large, complex organizations, especially so in those thirty identified as “systemically important” that prompted the Supervisory Colleges (Section 2.7). Reviews of policies and best practices are underway across the range of SSBs—coordinated by the FSB. Perhaps the most critical of the regulations under review are those pertaining to how financial institutions measure the risk exposure of their lending and trading activities, and how they insulate against the risk of potential losses by holding capital reserves, detailed in a consultative report from the BCBS: Strengthening the Resilience of the Banking Sector (BCBS 2009c). In this report the BCBS outlines a framework for improving the quality of bank capital and practices for measuring and managing risk in individual financial institutions (Section 3.1).

Another probable cause of the crisis—not identified in the SSG report—is the procyclical (self-reinforcing) tendencies of financial institutions. Profit opportunities presented in good economic times lead financial institutions to underestimate the riskiness of their activities and to expand the availability of credit supplied by increasingly leveraging financial resources. Expanded credit enables growth in the non-financial economy, in turn prompting expectations of profit opportunities that justify more credit expansion and leveraging from financial institutions. At some point, it becomes apparent that risk perceptions have missed the mark, and finance has over-extended and over-leveraged, masked by the veneer of an unsustainably robust economy. Recognizing that finance has been extended to uncreditworthy uses with high probabilities of default, financial institutions then contract credit, which can cause disruptions in even healthy areas of the real economy. While this scenario describes a classic financial cycle leading to financial instability (Minsky 1986; Borio 2007), it also suggests that something larger is missing from international prudential regulatory standards: the ability of financial institutions to assess risk that change and evolve over time, and to determine prudent levels of leverage and capital reserves. Several proposals under discussion at the BCBS potentially begin to address these issues, for example requiring financial institutions to build countercyclical capital buffers (Section 3.2) and to publish a supplemental, internationally-consistent leverage ratio (Section 3.3). But the political tractability of such reforms will remain to be seen.

At this stage, reforms outlined in the BCBS reports are merely proposals, and will be subject to review and impact assessments carried out and reported on at the BCBS’s July 2010 meeting. The proposals are by no means foregone conclusions, and already reactions from the financial community have been less than sanguine (Jenkins and Masters 2009). And, as discussed below, even these proposals may not go far enough in eliminating the excessive risk and destabilizing financial practices that are contributing to the increasingly frequent and deep international financial crises. Alongside the proposals under consideration, it is
also worth considering other changes to the international financial architecture could help mitigate future financial instability, while promoting socially-efficient allocation of the world’s financial resources.

3.1 Revised Capital Reserve Requirements

Much of the discussion over revisions to capital reserve requirements centers on how “capital reserves” are to be defined under the Basel II framework for risk management and prudential best practices. Capital reserves are assets that financial institutions hold to insulate against potential unexpected losses, ensuring that it can remain solvent and in business. Basel II establishes international standards and best practices for (regulated) financial institutions to assess the riskiness of their financial positions and to provision commensurately safe levels of capital reserves.

The issues in revising capital reserve requirements involve both (a) how financial institutions assess the riskiness of their financial balance sheets—the quantity and quality of financial assets in relation to the quantity and time horizon of financial liabilities—and (b) what assets can be counted as “safe,” to be held in reserve against potential losses from riskier financial positions. In revising capital requirement standards, the BCBS has also emphasized the need for greater transparency in capital holdings, particularly as pertains to off-balance sheet derivatives holdings in the “trading book,” for complex securitized positions, and for counterparty credit risk exposures.

Proposals focus on strengthening capital requirements and (known) loss provisioning for a range of financial activities. In July 2009, the BCBS (2009a) issued “final requirements” in accounting for financial institutions’ “trading book” risks and securitization exposures, followed shortly thereafter by guidelines for accounting of counterparty credit risk exposure from “over-the-counter” (OTC) derivative positions. Counterparty credit risk must be incorporated into financial institutions’ internal VaR assessments. VaR estimates how much a financial institution stands to lose, given its current financial position, in the event of extreme adverse movements in financial markets. These assessments will be paired with capital charges reflecting the credit worthiness of counterparty institutions. In other words, as counterparty trading partners become more risky, financial institutions will be required to hold more capital reserves against the increased riskiness—so-called credit value adjustments (CVA). Additional proposed measures specifically target systemically important financial institutions—those deemed “too big to fail.” Reserve requirements on assets of systemically important financial institutions will incur capital surcharges. Financial institutions would be required to assign additional risk-weighting of 25

9For more information regarding international work on capital requirements, see BIS (2009a and 2009b).
10Counterparty risk exists when one financial institution contractually committed to deliver payments or assets to a second financial institution may become insolvent and unable to deliver on those obligations.
percent on exposures to financial institutions with assets exceeding US$25 billion. The surcharge would apply on exposures to regulated banks and insurance companies as well as on exposures to unregulated nonbank financial institutions.

Certainly this expanded dragnet of (proposed) capital requirements, should they be adopted as international standards following impact assessment in 2010, will curtail some of the risks contributing to the current financial crisis. However, these revisions are premised on assessments of and calibration to past behavior and performance of financial institutions as well as new arbitrary thresholds and limits. Economist Robert Parenteau (2009) cautions: “Higher capital ratios can provide the buffer that reduces solvency risk, but in the absence of foreknowledge of the size of future bank losses, it is difficult to identify a priori the appropriate capital ratio – except to say, on the basis of the recent experience, they were simply not high enough.” For example, a recent study from the BIS found that in stress test simulations “the vast majority of stress scenarios based on historical data are not severe enough” to reasonably predict the costs of future crises (Alfaro and Drehmann 2009). A more prudent approach then—recognizing that the scale of potential future bank losses is unknowable, would be to design prudential regulations creating disincentives for becoming “too big”: tax incentives, reserve and capital requirements scaled to the size of the firm, antitrust laws, and so on.

3.2 Countercyclical Capital Buffers

During periods of duress financial institutions often find their capital most strained at the same time that the terms of raising capital in private money markets are deteriorating and the prospects for raising capital through normal financial operations are dwindling. Financial institutions may find themselves in such a situation due to underestimation of risk amidst the classic financial cycle described in Section 3 above, leading in good times to cyclically diminishing minimum capital requirements—even under the newly proposed revisions to capital reserve requirements. In response, the BCBS (2009b: 68) proposed “common sense best practices” for financial institutions to conserve their capital bases against cyclical fluctuations in minimum capital requirements, so-called “countercyclical capital buffers.” These best practices include building buffers above minimum required capital in good times that can be drawn down during times of financial duress, as well as not distributing dividends to shareholders, paying employee bonuses, or buying back shares when capital levels are imprudently low.

Few would argue that such voluntary measures on the part of financial institutions are indeed common sense. However in practice these could often be inconsistent with the profit-maximizing behavior of financial institutions (under the current regulatory framework) as well as strategic decisions about corporate governance and control. Building countercyclical capital buffers would require financial institutions to lend less and to hold more resources in low-
yielding reserves at precisely the time when lending appears most profitable. Failure to maximize short term profits (relative to competitors) would likely adversely affect share prices, exposing the financial institution to take-over and curbing benefits of share ownership and stock options enjoyed by executives and managers. Thus, in addition to pursuing strategies that minimize holdings of low-yielding reserves, executives face incentives to prop up share prices by distributing dividends and by using the financial institution’s resources for share buy-backs. Indeed, such practices have been prevalent in the present crisis even in financial institutions receiving government bail-outs (BCBS 2009b: 69). On December 18, 2009, the BCBS said that “banks with weak capital bases should be barred from paying bankers’ bonuses until they bolstered their capital buffers,” to be phased in by the close of 2012 (WSJ 2009).

Hoping that financial institutions will voluntarily adhere to these common sense best practices—when the incentives of the current regulatory regime are lined up against such behavior—is not a prudent approach to ensuring systemic financial stability. The BCBS suggests tentatively that more direct measures might be needed in exceptional times to ensure that financial institutions preserve buffers above minimum capital reserve requirements, in particular in times of excessive credit growth that may obscure true underlying risks accrued by financial institutions. While most parties agree that inability to deal with excessive credit growth is a problem with the current prudential regulatory regime, there is little consensus on how to address the problem. The challenge of this approach is both empirical and political: how can robust, sustainable growth be distinguished from excessive, destabilizing growth?; who will determine when credit growth is excessive? The BCBS (2009b: 71) argues, “The proposals under development could not be implemented as a strict rules-based regime.” In other words, enacting a more stringent (and compulsory) regime for countercyclical capital buffers will require national regulators or central banks to exercise discretion, invoking special regulations in times of declared excessive credit growth. Borio and Shim (2007) argue that the costs of mistakenly invoking exceptional measures against excessive credit growth would be negligible in times of robust, sustainable growth—particularly relative to the costs of allowing excessive credit growth to continue unchecked—but regulators will undoubtedly face immense pressures not to intervene in destabilizing expansions as the profitability of such expansions for financial institutions is very high, at least in the short term. The BCBS plans to release details of a more developed plan for countercyclical capital buffers at its July 2010 meeting.

### 3.3 Supplemental Leverage Ratio

Over-leveraging is widely seen as an underlying cause of the current crisis, and is a key component of the financial cycle described above. The BCBS has proposed introducing a “leverage ratio” for individual financial institutions as a supplement to the standard risk-based measures prescribed by the Basel II framework for assessing capital adequacy. The leverage ratio is intended to provided a
simple and transparent indicator of the overall exposure of financial institutions that integrates both on- and off-balance sheet positions. While compelling no action or change in the behavior and activities of financial institutions, it is hoped that regulators and financial market participants will use the additional information to better assess risks embodied in individual financial institutions and the financial system as a whole.

3.4 Off the Agenda: Central Banks Can Target Asset Bubbles, Too

Other issues seem to be firmly off the international financial reform agenda, for example central bank mandates. In many countries, central banks—whether by legal mandate or in de facto practice—pursue price stability as the primary objective of monetary policy. In fact, 21 countries have committed their central banks to pursue an explicit “inflation target,” focused exclusively on managing price stability (IMF 2005). But central banks might also pursue a mandate to prevent destabilizing and costly asset price “bubbles”—particularly as inflation targeting policies are sometimes associated with a procyclical effect on the macroeconomy (inflating expansions, but deepening economic downturns). Though there are inherent empirical difficulties in identifying bubbles in real time,[11] a recent study by Borio and Drehmann (2009) of the BIS shows that rapid run-ups in asset prices and expansion of credit precede and are highly predictive of future financial instability. Indeed, the figure presented in Section 1 below shows how strongly these simple variables can presage financial crises. Federal Reserve Chairman Alan Greenspan (1996) famously identified “irrational exuberance” in financial markets in December 1996, only to see the stock market (S&P 500 index) increased nearly 200 percent in real terms before peaking in August 2000.[12] Though Greenspan’s successor, Ben Bernanke, did not admit a housing price bubble, the evidence was there. Real US housing prices—after a flat historical trend for the past fifty years—had jumped 59 percent in just 6 years by the time Bernanke testified at his confirmation hearing, “There is no housing bubble” (Henderson 2005). Were central banks to pursue mandates to prevent asset bubbles, a number of simple and transparent policies are readily available to ensure stable growth and orderly finance while mitigating the risk of costly crises (Baker, et. al. 2009).

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11 These same difficulties also beset statistical methodologies used in Early Warning Exercise analyses conducted jointly by the IMF and FSB.
4 References


Appendix: List of Systematically Important Financial Institutions\textsuperscript{13}

United States

- Bank of America
- Merrill Lynch
- Citigroup
- Goldman Sachs
- JPMorgan
- Chase
- Morgan Stanley

Canada

- Royal Bank of Canada

UK

- Barclays
- HSBC
- Royal Bank of Scotland
- Standard Chartered

Switzerland

- Credit Suisse
- UBS

France

- BNP Paribas
- Société Générale

Spain

\textsuperscript{13}As reported by Jenkins and Davies (2009).
• BBVA
• Santander

Japan

• Mitsubishi UFJ
• Mizuho
• Nomura
• Sumitomo Mitsui

Italy

• Banca Intesa
• UniCredit

Germany

• Deutsche Bank

Netherlands

• ING

Insurance groups

• Aegon
• Allianz
• Aviva
• Axa
• Swiss Re
• Zurich
Figure 1: Credit Expansion and Financial Instability

Often Rapid Credit Expansion Precedes Instability

Blue=3-yr MA trend; Red=actual