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Enhanced Guidance for Effective Deposit Insurance Systems:

Mitigating Moral Hazard

Guidance Paper

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International Association of Deposit Insurers

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Executive Summary and Enhanced Guidance

This paper discusses the problem of moral hazard in the context of deposit insurance and the financial safety net. As requested by the Financial Stability Board (FSB) *Thematic Review of Deposit Insurance Systems: Peer Review Report*, the paper suggests additional guidance on the types of instruments and good practices that can help mitigate moral hazard.

Moral hazard refers to the tendency of a party to take risks with the belief that they will not have to bear the consequences of their actions. In the case of deposit insurance, moral hazard refers to the incentive for increased risk taking by insured institutions that can result when depositors and other creditors are—or believe they are—protected from losses, or when they believe that an insured institution will not be allowed to fail and thus do not monitor the institution's performance. In the absence of regulatory or other restraints, insured institutions have an incentive to use lower-cost insured deposits to undertake higher-risk projects than would otherwise be optimal. Unless effective steps are taken to curtail moral hazard, excessive risk taking can lead to increased losses to the deposit insurer or taxpayer and to a misallocation of economic resources.

Current guidance on mitigating moral hazard is provided by the BCBS-IADI *Core Principles* and *Core Principles Methodology*. Principle 2 states that moral hazard should be mitigated by ensuring that the deposit insurance system contains appropriate design features and through other elements of the financial system safety net. To be in compliance with Principle 2, the guidance suggests practices including: setting limits on the amounts insured, excluding certain categories of depositors from coverage, implementing differential or risk-adjusted premium systems where appropriate, and minimizing the risk of loss through timely intervention and resolution of troubled and failed institutions by the deposit insurer or other participants in the financial safety net with such powers.

Depending on their mandates, deposit insurers and other financial safety-net participants can mitigate moral hazard by creating and promoting appropriate incentives for banks and their stakeholders through good corporate governance and effective market and regulatory discipline.¹ These elements are considered most effective when used in concert. To that end, specific deposit insurance design features that affect insured institutions' risk taking and coordinated regimes for detecting and resolving troubled and failing institutions are important tools for mitigating moral hazard.

In good times, policymakers typically strive to balance the objective of maintaining financial stability with that of mitigating moral hazard. However, in times of crisis, preserving or restoring financial stability takes precedence and policies that protect the depositors and creditors of financial institutions (and often financial markets) may be

¹ In this paper, the terms bank, insured depository institution, and insured institution are used interchangeably.

pursued despite the effect on moral hazard. As a result, what constitutes an effective tool for mitigating moral hazard deserves reconsideration.

It became apparent during the 2008-09 financial crisis, that most depositors lack sufficient information and/or skills to effectively discipline insured institutions. Moreover, there is a greater risk that depositors will run both sound and unsound banks during periods of instability. Therefore, rather than relying on insured depositors to discipline banks, policymakers should place greater emphasis on market discipline from shareholders and unsecured creditors, including unsecured senior and subordinated debt holders and large-scale uninsured depositors. Failure resolution arrangements that impose losses on these stakeholders can reinforce their incentive to monitor insured institutions' risk taking and impose discipline on these institutions. Coordinated planning and information sharing by the relevant safety-net participants and effective communication with the stakeholders of financial institutions regarding these policies may be helpful for mitigating moral hazard and restoring the balance between financial stability and moral hazard.

Enhanced guidance: instruments and good practices that can help mitigate moral hazard:

1. Greater emphasis should be placed on market discipline from large-scale depositors, shareholders and other unsecured creditors (primarily unsecured senior and subordinated debt holders) to mitigate moral hazard; less reliance should be placed on discipline from small-scale (or retail) depositors.

- 1.1 Depositor discipline is not a completely effective tool for mitigating moral hazard because most small-scale depositors are largely unable or unlikely to monitor and discipline insured depository institutions. This has implications for the design of deposit insurance systems and the financial safety net, including coverage limits (level and scope) in normal times and failure resolution arrangements.
- 1.2 Market discipline, especially for larger or wholesale/commercial financial institutions, will come primarily from large-scale depositors, shareholders and unsecured senior and subordinated debt holders. To be effective, these stakeholders must be aware that they will bear the losses from the failure of an insured institution.
- 1.3 Market discipline alone is not sufficient to mitigate moral hazard; it is best used in concert with regulatory discipline from prudential supervision, effective deposit insurance design features and an effective failure resolution regime.

2. Deposit insurance design features can be effective tools for mitigating moral hazard. Deposit insurance systems should have coverage rules that limit the scope and level of coverage and that can, under certain circumstances, instill depositor discipline. Regulatory discipline can also be imposed by deposit insurance design features that directly affect the risk-taking behavior of insured depository institutions, such as risk-adjusted or differential premiums. Depending on its mandate, the deposit insurance

system may have other powers or authorities that mitigate moral hazard. These should include, among others, the ability to:

- Control entry and exit from the deposit insurance system;
- Issue cease-and-desist orders where appropriate;
- Terminate deposit insurance coverage;
- Utilize early-intervention tools (collect information, request or conduct examinations of insured institutions including on-site examinations and off-site monitoring);
- Pursue civil remedies and removal actions against parties at fault;
- Conduct least-cost resolutions, preferably as part of an integrated failure resolution regime; and
- Consider penalties for member institutions which offer exceedingly high deposit rates to attract deposits.

3. Relevant safety-net participants should place greater emphasis on developing and implementing effective, coordinated frameworks for early intervention and failure resolution.

- 3.1 Relevant safety-net participants (including foreign authorities in cases of cross-border resolutions) should work in an integrated and coordinated manner to resolve failed institutions promptly.
- 3.2 Deposit insurers and other safety-net participants should have timely access to and share relevant information.
- 3.3 Early detection and intervention tools should be utilized.
- 3.4 Failed institutions should be resolved at least cost to the deposit insurer and without taxpayer liability for solvency losses.
- 3.5 Shareholders and unsecured creditors, including large-scale uninsured depositors, should be responsible for failed institutions' losses and bear the cost of failure resolution according to the statutory creditor hierarchy.

I. Introduction, Objectives and Methodology

The April 2008 *Report of the Financial Stability Forum on Enhancing Market and Institutional Resilience* stressed the importance of effective depositor compensation and the need for an international set of principles for effective deposit insurance practice.² In response to that request, the Basel Committee on Banking Supervision (BCBS) and the International Association of Deposit Insurers (IADI) in June 2009 jointly issued *Core Principles for Effective Deposit Insurance Systems (Core Principles)* and subsequently developed a companion methodology to enable assessments of compliance with these core principles.³ In February 2011, the Financial Stability Board (FSB) accepted the *Core Principles* in their list of Key Standards for Sound Financial Systems.⁴

In February 2012, the FSB completed a peer review of deposit insurance systems using the *Core Principles* as a benchmark. The FSB *Thematic Review on Deposit Insurance Systems: Peer Review Report (FSB DI Peer Review)* took stock of FSB-member jurisdictions' deposit insurance systems and drew lessons from members' experiences on the effectiveness of reforms implemented in response to the recent financial crisis.⁵ The FSB *DI Peer Review* identified certain areas in the *Core Principles* that need more precision on how to achieve compliance or that need to better reflect evolving best practices.⁶

This paper addresses the concerns about moral hazard that were raised in the FSB *DI Peer Review*. In response to the recent financial crisis, many FSB member countries expanded depositor protections (both the level and scope of coverage) and introduced structural improvements to their deposit insurance systems.⁷ Failure resolution arrangements were also enhanced to address the challenges identified by the crisis. Noting "It is now widely accepted that moral hazard is not only an issue relevant to the

² See, FSB *Report of the Financial Stability Forum on Enhancing Market and Institutional Resilience* http://www.financialstabilityboard.org/publications/r_0804.pdf

³ See, the BSBC/IADI *Core Principles for Effective Deposit Insurance Systems* (hereinafter *Core Principles*) June 2009, and BSBC/IADI *Core Principles for Effective Deposit Insurance Systems: A methodology for compliance assessment* (hereinafter *Core Principles Methodology*) December 2010. http://www.financialstabilityboard.org/cos/cos_090618.htm

⁴ The FSB has designated standards for 12 policy areas, including deposit insurance, as key for sound financial systems and deserving of priority implementation depending on country circumstances. While the key standards vary in terms of their degree of international endorsement, they are broadly accepted as representing minimum requirements for good practice that countries are encouraged to meet or exceed. http://www.financialstabilityboard.org/cos/key_standards.htm

⁵ See, FSB *Thematic Review on Deposit Insurance Systems: Peer Review Report* (hereinafter FSB *DI Peer Review*) 8 February 2012 http://www.financialstabilityboard.org/publications/r_120208.pdf. The FSB *DI Peer Review* was conducted under the FSB *Framework for Strengthening Adherence to International Standards*. http://www.financialstabilityboard.org/publications/r_100109a.pdf.

⁶ The topics identified in the FSB *DI Peer Review* are: monitoring the adequacy of coverage, addressing moral hazard, ensuring effective coordination and coverage in cases of multiple deposit insurance systems (DISs), conducting scenario planning to ensure payout readiness, exploring the feasibility and desirability of greater use of ex-ante funding, and developing appropriate mechanisms for public awareness.

⁷ See, FSB *DI Peer Review*, Annex A: Cross-country comparison of deposit insurance measures taken during the financial crisis, p. 35-6.

design features of a deposit insurance system but also more broadly in the context of resolution management,”⁸ the FSB recommended that additional guidance be developed on the types of instruments and good practices that can help mitigate moral hazard.

The paper draws on research and publications on moral hazard including those by the Financial Stability Forum Working Group on Deposit Insurance, BCBS, IADI, and the FSB. The paper is organized as follows. Section II introduces the moral hazard problem and examines the effects of deposit insurance on the incentives of insured institutions’ stakeholders. Section III reviews current guidance for deposit insurers on mitigating moral hazard. Section IV examines the methods for reducing moral hazard in some detail. Section V discusses the implications of financial crises for mitigating moral hazard and is followed by a concluding section.

II. Moral Hazard and Deposit Insurance

When well-designed, the financial safety net contributes to the stability of the financial system.⁹ If poorly designed, however, increased risk taking, notably moral hazard, can result. Consequently, moral hazard is a concern for all safety-net participants, and the mitigation of moral hazard is an essential element of safety-net design.

Moral hazard is present in insurance settings, including deposit insurance. In general, moral hazard can be defined as the tendency of a party (an individual or institution) to take risks or act less carefully than otherwise, leaving another party to hold some responsibility for the consequences of those actions.¹⁰ In the context of deposit insurance, moral hazard refers to the incentive insured institutions have to use lower-cost insured deposits to undertake higher-risk projects or actions than would otherwise be optimal. This is possible when depositors and other stakeholders ignore the insured institution’s risk-taking behavior, which they are likely to do when they are, or believe they are, protected from losses or when they believe that an insured institution will not be allowed to fail.

Deposit insurance, the imposition of blanket guarantees, and the belief that an insured depository institution will not be allowed to fail affect the incentives of stakeholders—depositors, other creditors, shareholders, bank managers and directors—to monitor the performance of an insured institution and to discipline an insured institution’s risk taking. Depositors whose funds are insured have little reason—and often limited access to the necessary information or skills—to monitor insured institutions.¹¹ Unsecured

⁸ FSB *DI Peer Review*, p. 10.

⁹ The FSB defines the financial safety net to include prudential regulation and supervision, emergency lender of last resort, deposit insurance and problem-bank insolvency frameworks. See FSB *DI Peer Review*, p. 8.

¹⁰ For example, automobile insurance coverage may lead some to drive more carelessly than they would otherwise because they will not fully bear the costs associated with an accident. It is for this reason that most automobile insurance policies include a deductible.

¹¹ A key mandate of deposit insurance systems is to promptly reimburse insured depositors when an insured institution fails. If depositors are confident that they will be reimbursed promptly and accurately, they are less likely to impose the unwanted discipline of a bank run on their institution.

creditors, including some uninsured depositors, are generally better able to seek the necessary information and resources in order to do so, but may not invest the necessary time or resources if they do not believe they are at risk.¹² Likewise, it is in the interest of the insured institutions' shareholders to control the institution's risk taking in order to protect their investments. However, their incentive may be weakened when an institution is poorly capitalized or insolvent and is allowed to remain open without consequence. In such a situation, with little remaining equity and limited liability, shareholders (owners) may be inclined to "bet the bank," that is, take on even more risk at the expense of the deposit insurer or the government. Senior management and directors of troubled institutions may have a similar incentive to use insured deposits to fund ever-riskier endeavors.¹³

These incentives and the extent of moral hazard will vary depending on the type of deposit insurance system: implicit, explicit limited-coverage, or blanket guarantee. In general, the stakeholders' incentives to monitor institutions and exert discipline are greater when they are exposed to loss in the event the insured institution fails.¹⁴ This is most likely in explicit, limited-coverage deposit insurance systems.¹⁵ However, when insured institutions and the companies that own them are protected from loss or perceived to be too big to fail, as was the case in many countries during the 2008-09 financial crisis, moral hazard is more likely to be a concern. Unless effective steps are taken to curtail moral hazard, excessive risk taking can lead to increased losses to the deposit insurer or taxpayer and a misallocation of economic resources.

When protections are extended to all or most depositors and liability holders—as was done in many countries during the 2008-09 financial crisis—what constitutes an effective tool for mitigating moral hazard must be reconsidered. This, in turn, may have implications for deposit insurance and general safety-net design, including coverage limits (level and scope) during normal times and failure resolution arrangements.¹⁶

¹² In this paper, the term unsecured creditors refers primarily to unsecured senior and subordinated debt holders, as these creditors generally have more leverage and incentive to monitor bank risk taking and impose market discipline. Other creditors may be unable or less willing to do so, including secured creditors, who are unlikely to suffer losses should the bank fail, and non-debt unsecured creditors, such as general trade creditors.

¹³ Because they risk professional reputations and potential liability, this incentive may be tempered.

¹⁴ In the event an insured institution fails, depositors stand to lose some portion of their uninsured balances and, in some countries, may also face delays in receiving insured funds. Shareholders and other creditors will lose some or all of the value of their equity or unsecured debt and may also face additional losses from delay and uncertainty as to the timing and amount of recoveries and any resultant liquidity strains. Such delays may undermine the credibility of, and confidence in, the deposit insurance system.

¹⁵ Under a system of blanket guarantees, where full protection is provided to depositors, shareholders and other creditors—often in response to a financial crisis that threatens the collapse of the financial system—there is little or no incentive to monitor or discipline an insured institution. When deposit protection is implicit (or when there is no deposit protection), the incentive to monitor or discipline will likely depend on stakeholders' certainty regarding the ability and willingness of the government to provide *ad hoc* protection in the event the institution fails. In an explicit, limited-coverage system, uninsured depositors and other unsecured creditors have stronger incentives to monitor the performance of their institutions and to keep their funds in institutions they regard as safe.

¹⁶ As discussed below, resolution regimes that close failing institutions and impose losses on shareholders and unsecured creditors and mechanisms that "bail-in" unsecured debt holders to absorb losses in ongoing institutions are useful for mitigating moral hazard.

Moral hazard can be mitigated by providing insured institutions and their stakeholders with alternative incentives that control excessive risk taking. Current guidance advocates adopting certain deposit insurance design features, such as limited coverage and risk-adjusted premiums, and structuring other features of the financial safety net in order to counter moral hazard.

III. Guidance on Mitigating Moral Hazard

The BCBS/IADI *Core Principles* provides guidance on the problem of moral hazard and deposit insurance.¹⁷

- Principle 2 states: “Moral hazard should be mitigated by ensuring that the deposit insurance system contains appropriate design features and through other elements of the financial system safety net (see “Preconditions” paragraph 16).”

The *Core Principles* supporting guidance for Principle 2 suggests that, among other things, policymakers place limits on the amounts insured, exclude certain categories of depositors from coverage, and implement differential or risk-adjusted premium systems. Policymakers also can address moral hazard by “creating and promoting appropriate incentives through good corporate governance and sound risk management of individual banks, effective market discipline and frameworks for strong prudential regulation, supervision and laws (including minimization of the risk of loss through the timely resolution of troubled banks).”¹⁸ As noted, these elements involve tradeoffs and are most effective when used together.

The BCBS/IADI *Core Principles Methodology* provides criteria for assessing a country’s compliance with the *Core Principles*. The essential criteria for compliance with Principle 2 are:

- “The design of the deposit insurance system recognizes the existence of moral hazard and mitigates it as much as possible in-line with public policy objectives. Specific design features that mitigate the risk of moral hazard may include: limited deposit insurance coverage and scope; where appropriate, deposit insurance premiums that are assessed on a differential or risk-adjusted basis; and, minimizing the risk of loss through timely intervention and resolution by the deposit insurer or other participants in the safety net with such powers.”
- “The financial safety net creates and supports appropriate incentives to mitigate moral hazard. These may include: the promotion of good

¹⁷ See, BCBS/IADI *Core Principles*, p. 9. Moral hazard also is addressed in the September 2001 report of the Financial Stability Forum’s Working Group on Deposit Insurance, *Guidance for Developing Effective Deposit Insurance Systems*. (FSF Guidance) http://www.financialstabilityboard.org/publications/r_0109b.pdf

¹⁸ See BSBC/IADI *Core Principles* “Preconditions” paragraph 16, p. 8.

corporate governance and sound risk management of individual banks, effective market discipline and frameworks for, and enforcement of, strong prudential regulation, supervision and laws and regulations (to be assessed through a review of 'Preconditions')."¹⁹

Ensuring that the preconditions identified in the *Core Principles* are met or are in place is important for developing effective deposit insurance systems and for those systems' ability to mitigate moral hazard. The preconditions are: an ongoing assessment of the economy and the condition of the banking system, the sound governance of agencies comprising the financial safety net, strong prudential regulation and supervision, a well-developed legal framework, and sound accounting and disclosure regimes. Key elements for reviewing whether preconditions are met are detailed in the *Core Principles Methodology* and serve as important guidance for mitigating moral hazard.²⁰ Guidance papers on key design features developed by the IADI Research and Guidance Committee also meet this purpose.

IV. Methods of Reducing Moral Hazard

Public-policy objectives and country-specific factors will affect policymakers approach to mitigating moral hazard. In particular, a country's institutional factors, including economic conditions and the legal, accounting, disclosure, supervisory and resolution regimes, must be conducive to controlling moral hazard.

Methods of mitigating moral hazard include corporate governance and risk management; market discipline exercised by depositors, other creditors and shareholders; and regulatory discipline exercised by deposit insurance, supervisory and resolution authorities.²¹ Each method has potential advantages and disadvantages. Many countries utilize elements of all three methods, as they are considered most effective when used in concert.

A. Corporate governance and risk management

Corporate governance is the set of relationships between a financial institution's board of directors, management, shareholders and other stakeholders, including the institution's regulators, supervisors and, in some cases, the deposit insurer. Good corporate governance and sound risk management help to assure that the business strategies of financial institutions are consistent with safe-and-sound operations, and thus can act as the first line of defense against excessive risk taking.²²

¹⁹ A situational analysis or review of preconditions, including the strength of prudential regulation and supervision, the effectiveness of the legal framework, and the soundness of the accounting and disclosure regimes, is important for the safety-net's ability to mitigate moral hazard. See, BCBS-IADI *Core Principles*, p. 7-9.

²⁰ See, *Core Principles Methodology*, p. 7-9.

²¹ The ability of deposit insurers to mitigate or reduce moral hazard will depend in part on the mandate of the deposit insurance system. For example, deposit insurers with a mandate to minimize risk are likely to have broader powers and an enhanced ability to affect moral hazard by the means discussed in this paper. When this is not the case, the responsibility for mitigating moral hazard may fall on other safety net participants, such as the supervisory authority.

²² See, Principle 5 on Governance. Corporate governance in the context of financial institutions is discussed in the FSF *Guidance* and the Group of Thirty, *Toward Effective Governance of Financial Institutions*.

To the extent that their mandates permit, financial safety-net participants can help mitigate moral hazard by creating and promoting incentives for good corporate governance and management of insured institutions.²³ These include, among other things, internal standards, processes, and systems for ensuring appropriate direction and oversight by directors and senior managers; transparency and accuracy of accounting and financial information; adequate internal controls and audits; management of risks and the evaluation of bank performance; alignment of remuneration with appropriate business objectives; personal liability incentives on directors and officers; and management of capital and liquidity positions.

Competitive pressures or other external forces that reduce earnings and capital positions may, at times, weaken the effectiveness of corporate governance and risk management. In the face of such pressures, insured institutions may choose to reach for yield by undertaking riskier loans and investments or to reduce expenses by cutting back on resources for processes that control risk, such as internal controls, audits and risk management. Therefore, as a tool for mitigating moral hazard, good corporate governance and management work best when accompanied by market and regulatory discipline.

B. Market discipline

Market discipline occurs when, given appropriate incentives, the reaction of stakeholders to market forces acts to curtail excessive risk taking. As an insured institution becomes troubled and approaches failure, efforts by uninsured depositors, other unsecured creditors and shareholders to limit their loss exposure can generate market signals about the riskiness of the institution. For example, uninsured depositors may shift funds from institutions perceived to be unsound to those perceived to be sound, and unsecured creditors and shareholders may look to sell their interests in troubled institutions. Changes in the interest rates offered by riskier institutions and in the prices of their publicly traded securities provide signals to the market about the perceived riskiness of the bank.²⁴

Whether such market signals provide an accurate assessment of risk will depend in large part on whether stakeholders have access to accurate and relevant information on the condition and performance of insured institutions. This, in turn, requires strong accounting and disclosure regimes that ensure accurate and consistent information on risk is available to the public. Stakeholders also must have the financial sophistication to distinguish between sound and unsound institutions.

The effectiveness of market discipline for mitigating moral hazard will depend on factors such as: the relative cost of acquiring the information and analytical skills needed to monitor bank risk as compared to the cost or inconvenience of shifting funds to less-

²³ For example, deposit insurers with the power or authority to audit financial institutions may be able to influence those institutions' corporate governance structure.

²⁴ The ratings on a financial institution's publicly issued debt by credit rating agencies also provide information to the market about the institution's perceived riskiness.

risky investments; the ability of depositors and other market participants to monitor bank risk on the basis of publicly available information, given the opacity of bank portfolios; and the threat to financial stability when potentially ill-informed depositors have greater risk exposure.²⁵ Supervisors and deposit insurers also must be willing and able to promptly close and resolve troubled or failed institutions and uniformly apply deposit insurance limits to depositors of all failed institutions.

1. Depositor discipline

Policymakers have sought to instill market discipline through deposit insurance design features that affect depositor behavior—primarily by limiting deposit insurance coverage. This includes placing limits on the level of insurance coverage and the type of instruments and depositors eligible for coverage. Policymakers also set rules for applying coverage limits. For example, a commonly used rule is to limit deposit insurance coverage on a per-depositor, per-institution basis. By limiting coverage, some depositors will be exposed to potential loss in the event their insured institution fails. These may be, for example, the high-value deposits held by relatively few depositors.²⁶ To minimize their loss exposure, uninsured depositors may choose to place their funds in institutions perceived to be operated in a safe-and-sound manner or to be too big to fail. When possible, they may spread their deposits among several institutions in order to remain fully insured.²⁷

Depositor discipline can also be instilled by excluding from coverage funds held by depositors considered to be capable of monitoring the performance of their insured institutions. Some deposit insurance systems exclude from coverage certain deposits. Among these are interbank deposits; deposits of those individuals deemed responsible for the condition of the insured institution, including directors, managers, large shareholders and auditors; deposits of governments and other public bodies; deposits denominated in foreign currencies; and deposits found to be connected to money-laundering or other illegal activities. Where coverage limits are applied on a per-depositor, per-institution basis, so-called bearer deposits may be excluded from coverage. Deposits bearing excessively high interest rates also may be excluded in order to prevent weak banks from siphoning deposits from other, healthier institutions.²⁸

A country's choice of deposit insurance coverage rules often reflects their primary policy objectives. In an explicit, limited coverage deposit insurance system, a low level and narrow scope of coverage, for example, is consistent with a primary policy objective of

²⁵ See, Hanc (1999), p. 6 ff.

²⁶ See discussion in the IADI paper, Enhanced Guidance on Effective Deposit Insurance Systems: Deposit Insurance Coverage.

²⁷ To the extent that they are fully protected, insured depositors should not have an incentive to run their insured institution. However, under certain conditions, such as during periods of financial instability or when other institutions are troubled or failing, all depositors, insured and uninsured alike, may have an incentive to run regardless of their institution's true condition. This is also the case in situations where public awareness of the deposit insurance scheme is lacking or if the payout delays are considered too long.

²⁸ This may be difficult to do in practice. Alternatively, weak banks could be prohibited from gathering high-rate deposits. See, Enhanced Guidance on Effective Deposit Insurance Systems: Deposit Insurance Coverage.

fully protecting households with small amounts of savings, and presumes that other depositors can effectively impose discipline. A high level and broad scope of coverage is more closely aligned with limiting the risk of bank runs, encouraging new entrants and facilitating banking-sector development.²⁹ However, the choice of coverage rule often balances the need to have sufficiently high coverage to contribute to financial stability by preventing depositor runs with the goal of limiting moral hazard.

The nature and quality of a country's safety-net arrangements are also relevant to the level and scope of coverage chosen. For example, strong supervisory, regulatory and enforcement systems can be effective tools for mitigating moral hazard stemming from higher coverage limits and a broader scope of coverage. Other institutional factors are also relevant for this decision. Past instability may argue for more generous coverage as a means to promote financial stability, or cost considerations may argue for less generous coverage when the resources available to the deposit insurer or the country itself are limited or if supervisors and regulators are unable or unwilling to take prompt corrective action. Also important may be the availability of deposit-like alternatives (such as money market funds) and the presence of state-supported or owned institutions or insured institutions considered to be too big to fail (depositors may choose to "run" to such institutions if coverage levels and scope are too narrowly set).

Views on the effectiveness of depositor discipline have evolved as deposit insurers have gained experience. In particular, recent experience underscores the importance of maintaining coverage levels that are sufficient to protect the majority of depositors, while leaving a meaningful percentage of the value of deposits exposed. Design elements intended to instill discipline in small-scale retail depositors, such as coinsurance and low coverage levels, have been shown to be less effective for mitigating moral hazard, especially during periods of financial distress or crisis. In normal times, when failures are likely to be singular and not systemic, the shortcomings of depositor discipline may not be apparent.

Coinsurance, whereby depositors bear a pre-specified share under the coverage limit in the event of a bank failure, was once touted as an effective way to impose depositor discipline. Although coinsurance is used to control moral hazard in many insurance settings (for example, automobile insurance deductibles), it became clear during the financial crisis that coinsurance is not an effective tool for mitigating moral hazard in deposit insurance.³⁰ IADI has recommended against the use of coinsurance, as it can inflict losses without instilling discipline and may trigger bank runs.³¹

²⁹ High levels of protection, however, could encourage risk-taking and could contribute to financial instability in the long run.

³⁰ For example, prior to the 2008-09 financial crisis, the U.K. deposit insurance scheme included coinsurance as a feature. Deposit insurance coverage was provided up to £35,000—the first £2,000 was fully insured and a haircut of 10 percent was imposed on the next £33,000. Deposits were also subject to netting or set-off against outstanding loan balances, which further complicated the extent of coverage provided. A depositor run on Northern Rock Bank in September 2007 led U.K. authorities to reform their deposit insurance system. Deposits are now fully covered to £85,000, a level commensurate with the EU directive, and are not subject to set-off.

³¹ See, *Core Principles Methodology*, p. 16, Principle 9 Coverage, Essential criteria 6.

Effective depositor discipline can only be imposed by a very small number of large-scale depositors, and that discipline is likely to be insufficient to adequately control moral hazard. It can be encouraged, however, by ensuring that coverage limits are set to protect the majority of individual depositors while exposing a meaningful value of deposits to market discipline.³² Therefore, policymakers should look to additional sources of market discipline to mitigate moral hazard: shareholders and certain unsecured creditors.

2. Shareholder and unsecured creditor discipline

Since the crisis, many deposit insurance systems have eliminated coinsurance and/or raised their deposit insurance coverage limits, effectively relying solely on shareholders, and unsecured creditors, including large-scale depositors, to provide such discipline. Holders of equity and unsecured debt (senior and subordinated) have an incentive to monitor the condition and performance of the institution and impose discipline because they are unprotected and at risk of loss. In particular, holders of subordinated debt, which is typically issued with long-term maturities and ranks below all other forms of debt issued by the institution, are likely to have a tolerance for risk on par with that of the deposit insurer.³³ As noted above, although equity holders are motivated to protect their investments, they may have a greater tolerance for risk than the deposit insurer, especially when their institution is troubled.

Relying on shareholders and these unsecured creditors to exert market discipline is most effective for institutions that raise significant funds from the capital markets.³⁴ Public issuance of unsecured debt and equity also exposes these institutions to scrutiny from rating agencies and security analysts that may be helpful in assessing their performance and in strengthening support for greater transparency and disclosure of information on their risk.

Equity holders' and unsecured creditors' incentives to monitor risk and impose discipline hinge on whether they believe that their investments are at risk should their institution fail. Policymakers can provide this incentive by ensuring that losses are borne by shareholders and unsecured creditors in accordance with a country's statutory creditor hierarchy when an insured institution fails. This can be accomplished, in part, by structuring an integrated failure resolution regime, as discussed below.

³² Moral hazard can be mitigated only by the behavior of a very small number of large-scale depositors. Retail depositors lack the necessary information and skills to exert discipline. Corporate depositors may have the expertise to exert discipline, but the cost of doing so may be high given close ties to their institutions. See, Enhanced Guidance for Effective Deposit Insurance Systems: Deposit Insurance Coverage.

³³ When required on top of existing equity requirements, and sold to other than insured institutions, subordinated debt can serve as added protection from loss to the deposit insurer by transferring some of its risk to the capital markets. Market prices on subordinated debt can serve as a signal of the market's assessment of the condition of a given institution, especially when issued on a continuous basis. However, subordinated debt may be feasible for only large institutions in countries that have highly liquid bond markets and has not been widely adopted.

³⁴ Market discipline for smaller institutions that are primarily funded with deposits will need to come from another source, such as large-value deposits (see, Enhanced Guidance for Effective Deposit Insurance Systems: Deposit Insurance Coverage, IADI draft November 2012.).

Altering the rankings of creditor classes through depositor preference can instill market discipline by providing unsecured (non-deposit) creditors further incentive to monitor risk, and may limit the incentive for uninsured depositors to run.³⁵ Under depositor preference, the deposit insurer—standing in the place of insured depositors—and uninsured depositors usually are made whole before other creditors receive any of the proceeds from the liquidation of a failed institution’s assets. This shifts the costs of failure to those unsecured creditors, giving them stronger incentives to monitor risk. In response, however, unsecured creditors may offset this incentive by protecting themselves through netting arrangements, collateral demands and additional charges.

General depositor preference also may affect the incentives of uninsured depositors. Because they would rank above—rather than at par with—other unsecured creditors, their expected losses and possibly their incentive to monitor the institution could be reduced. Depositor preference also could theoretically affect regulators by reducing their incentives to take prompt corrective action in non-systemic cases, if the high priority of the deposit insurer’s claims would result in lower resolution costs. The net effect of depositor preference depends on the relative ability and willingness on the part of other creditors, and those who rank ahead of them, to monitor and control risk.

C. Regulatory discipline

Because market discipline alone may not be successful in controlling excessive risk taking, many countries rely primarily on regulatory discipline to mitigate moral hazard. Regulatory discipline involves intervention by public or private authorities to prevent market forces from producing socially undesirable results, such as runs or excessive risk taking. Regulatory discipline encompasses actions by financial safety-net participants—in accordance with their mandates—to curtail moral hazard, including statutory provisions and discretionary powers vested in public authorities.³⁶

A strong regulatory and supervisory system and an effective closure regime that minimizes costs to the deposit insurer are important for mitigating moral hazard. Supervisory authorities generally have access to more comprehensive information on risk taking gained from on-site examinations and off-site monitoring than would be contemporaneously available to the markets. Supervisors and deposit insurers also may be successful at rehabilitating troubled institutions and limiting the cost of their failure, given legal powers and incentives to act promptly before problems become irreversible.

³⁵ Depositor preference can instill either more or less discipline from depositors and creditors, depending on the type of depositor preference used or other mitigating factors. For example, if all depositors will be preferred under a scheme of general depositor preference, the result may be less discipline on the part of uninsured depositors and greater discipline on the part of non-deposit unsecured creditors. If depositor preference is extended only to insured depositors and the deposit insurer, then uninsured unsecured creditors could be incented to exert more discipline.

³⁶ Agreements reached among participants in privately managed deposit insurance systems also can instill regulatory discipline. For example, such systems may rely on mutual monitoring by their member institutions, which could affect individual institution’s behavior and risk-taking appetite. However, in most countries, regulatory discipline is provided solely by public authorities.

To be effective, regulatory discipline requires information sharing and cooperation between and among financial safety-net participants on a number of fronts. Although the authorized powers of safety-net participants—especially those of deposit insurers—differ among countries, all participants should have access to timely and accurate information on the condition of insured institutions.³⁷ In addition, regulatory discipline requires a well-developed legal system and substantial human and technological resources. As in all things, balance is required; if unduly stringent, regulatory discipline can inhibit moderate risk taking by insured institutions.

Regulatory discipline can be exercised through requirements pertaining to the chartering and insuring of new institutions, qualifications for managers and directors, regulatory approval of changes of control, risk-management requirements, provisions for internal controls and external audits, and failure resolution, among other things. These requirements may be features of the deposit insurance system or the responsibilities of other safety-net participants.

The following discussion focuses on three aspects of regulatory discipline that are particularly relevant for controlling moral hazard: deposit insurance design features, prudential regulation and supervision, and failure resolution regimes.

1. Deposit insurance system design features

FSB members participating in the *FSB DI Peer Review* were asked two questions about moral hazard: 1) what specific deposit insurance design features mitigate against the risk of moral hazard and 2) how is moral hazard assessed by the deposit insurance system and the financial safety net so that it can be mitigated.³⁸ The responses from FSB members emphasized depositor discipline—placing limits on the amounts insured and excluding certain categories of deposits and depositors from coverage. FSB members also relied on risk-adjusted or differential premium systems, prudential regulation and supervision, and integrated early intervention and resolution powers. Many respondents noted that although moral hazard was difficult to assess, cooperation and information sharing among financial safety-net participants was necessary for mitigating moral hazard.

As noted by FSB members and discussed above, regulations that limit the level and scope of deposit insurance coverage can, under certain circumstances, instill depositor discipline. Other deposit insurance design features can directly affect insured institutions' risk taking. One important design feature is a system of risk-adjusted or differential premiums. The ability to assess risk-adjusted or differential deposit insurance premiums can be an effective tool for imposing discipline on insured institutions. When deposit insurance assessments are based on a flat rate, insured institutions have an incentive to increase their portfolio risk while incurring little or no additional insurance expense. High-risk, poorly managed institutions may then be

³⁷ For example, deposit insurers with risk-minimization mandates may participate in on-site examinations and off-site monitoring of insured institutions. Regardless of mandate, however, all deposit insurers should have ready access to this information on insured institutions. (See, Principle 6, *Core Principles*.)

³⁸ See, *FSB DI Peer Review*, Annex E, p. 66.

subsidized at the expense of well-run institutions. However, if premiums are linked to risk or other differential measures³⁹, the added cost of deposit insurance may deter excessive risk taking and help mitigate moral hazard. For differential premiums to be effective, the deposit insurer must have access to detailed and timely information on the risk characteristics and other features of insured institutions and have the analytical capability and technological resources to accurately differentiate among institutions.⁴⁰ Because it can be costly and time consuming to develop this expertise, a system of differential or risk-adjusted premiums may be difficult to design and implement in new systems and in emerging or transitional economies.⁴¹ Differential premiums are most likely to have their desired effect on insured institutions' risk taking when the industry is healthy or sound. Introducing risk-based premiums when a substantial number of institutions are weak may lead to their further decline. Deposit insurers may take such circumstances into consideration when determining deposit insurance premiums.

Depending on its mandate, a deposit insurance system may have additional powers that affect institutions' risk taking. Among these are the ability to: control entry and exit from the deposit insurance system (approve deposit insurance for new charters, issue cease-and-desist orders where appropriate and terminate deposit insurance coverage); utilize early-intervention tools (collect information, request or conduct examinations of insured institutions including on-site examinations and off-site monitoring); pursue civil remedies against parties at fault; and conduct least-cost resolutions, preferably as part of an integrated failure resolution regime.

2. Prudential regulation and supervision

Prudential regulation and supervision is designed to control excessive risk taking by insured institutions and ensure that they operate in a safe-and-sound manner.⁴² Many regulatory and supervisory requirements have significant implications for controlling moral hazard. The ability to intervene early and to enforce prompt corrective action is an important regulatory tool, especially in light of the potential destabilizing effects of a large-institution failure on the deposit insurer, the financial system and the economy as a whole. Minimum capital requirements work to absorb losses and instill discipline from shareholders. Other regulatory safeguards that work to prevent unsafe-and-unsound banking practices can also mitigate moral hazard.

Because the problems of barely solvent and insolvent institutions typically worsen over time, losses accumulate and owners' incentive to take on greater risk may increase. These incentives can be mitigated when the relevant safety-net participants (primarily supervisors and in some cases deposit insurers) have the legal power and means to

³⁹ For example, a differential premium could include a specific charge to reflect the extent to which an insured institution offers excessive interest rates on deposit products. Such behavior could be indicative of excessive risk taking or liquidity problems at the institution (see above "Market discipline" and "Depositor discipline").

⁴⁰ *Core Principles* guidance on differential premiums (Principle 11) emphasizes the importance of transparent criteria for determining premiums.

⁴¹ See, e.g., FSF Guidance, p. 9, 27-8.

⁴² The de facto standard for sound prudential regulation and supervision of insured institutions is the *Core Principles for Effective Banking Supervision*, developed by the BCBS in cooperation with fellow supervisors. An updated version of these principles was issued by the BCBS in September 2012. It can be found at: <http://www.bis.org/publ/bcbs230.pdf>.

intervene early and enforce remedial actions and impose legal sanctions on troubled institutions. Such actions include, among other things, directing institutions to recognize losses and seek additional capital, cease and desist from specific activities, change managers and remove directors, and comply with established requirements. Legal sanctions can be imposed against improper activities that can increase institution risk, such as self-dealing, conflicts of interest, negligence and failure to take required actions.⁴³

For these actions to be effective, timely information on the condition of insured institutions must be available. Key consideration also should be given to the powers, incentives and financial resources required to close institutions that are beyond rehabilitation. Closely related is the deposit insurers' ability to promptly reimburse insured depositors.

Other regulatory tools and supervisory practices that limit unsafe-and-unsound banking practices can also mitigate moral hazard. Limits may be placed on the ability of insured institutions to collect brokered deposits if the institution is inadequately capitalized. Limits may be placed on extensions of credit to executive officers, directors and principle shareholders of an insured institution. Similarly, limits can be placed on an insured institution's exposure to a single borrower and loans to its affiliates, among other things.

Mandatory minimum risk-based capital requirements can instill regulatory discipline and mitigate moral hazard because owners have a greater stake in the sound operations of an institution when they have substantial equity at risk. Capital also provides a cushion to absorb losses and protect the deposit insurer. However, to be effective, minimum capital requirements must be enforced and accounting regimes must accurately portray equity positions.

The level at which capital requirements are set can affect institutions' incentives. For example, if capital requirements are perceived to be too high, or if external sources of capital are perceived to be too costly,⁴⁴ institutions may choose to forego some otherwise profitable lending rather than raise additional capital. They also may engage in regulatory arbitrage, seeking alternative ways to take on additional risk without increasing capital, for example, by using special purpose vehicles to move assets off the balance sheet.

The effectiveness of capital requirements as a deterrent for excessive risk taking will depend in part on shareholders' and creditors' perceptions of risk. If there is an

⁴³ Appropriate sanctions for improper official acts should also apply to supervisory and deposit insurance personnel, although they should be protected against the threat of litigation designed to intimidate them or otherwise influence their official actions. (See Principles 13 and 14 on legal issues and FSF Working Group on Deposit Insurance Discussion paper, Options for Addressing Moral Hazard.) Similarly, the accounting and disclosure regime should be held responsible for their actions, e.g., auditors should be made accountable for the quality of their reports on bank performance.

⁴⁴ As long as there is an implicit or explicit guarantee for which shareholders do not pay an actuarially fair price, they are likely to perceive that capital requirements are too high. Similarly, although external sources of capital are generally available, the price in terms of value dilution to current shareholders may also be perceived to be too high.

expectation that public support will be forthcoming should their institution become troubled, they may be willing to take on greater risk (higher leverage) than otherwise. Similarly, under these conditions, managers and directors may choose to take on added risk, especially if their compensation is related to current profitability.

3. Failure resolution

Failure resolution regimes that close failing institutions and impose losses on shareholders and unsecured creditors or “bail-in” unsecured debt holders to absorb losses in ongoing institutions are essential tools for mitigating moral hazard.⁴⁵ The need for a robust failure resolution framework and its importance for mitigating moral hazard was a key finding of the FSB *DI Peer Review*. In many ways, an integrated failure resolution regime is the ultimate form of regulatory discipline. It provides an effective incentive for discipline by shareholders and unsecured creditors and thus can mitigate moral hazard.

The requirements for an effective failure resolution regime are the subjects of BCBS-IADI Core Principle 16 and of the October 2011 FSB report, *Key Attributes of Effective Resolution Regimes for Financial Institutions*.⁴⁶ The FSB report sets out core resolution powers and tools that the FSB considers to be necessary for an effective resolution of a financial institution. Such a regime should be able to resolve all financial institutions in an orderly manner; maintain continuity of core economic functions; and, importantly for the control of moral hazard, impose losses on shareholders and unsecured and uninsured creditors, in order of seniority. Taxpayers should not be exposed to loss from solvency support. As part of the overall supervisory process, the *Key Attributes* also encourage policymakers to adopt an ongoing resolution and recovery planning process, especially for those institutions whose failure would have a negative, systemic effect on financial stability.

An effective failure resolution regime requires cooperation and coordination among and between safety-net participants, including the deposit insurer, receiver and resolution authority. It incorporates many of the moral hazard mitigation tools discussed above, including the authority to take early intervention and prompt corrective actions. Importantly, the failure resolution regime should be able to close failing banks in a timely and orderly fashion and at least cost to the deposit insurer, and should be provided with a wide range of resolution tools (including the use of bridge institutions and the ability to perform a bail-in within resolution). Losses should be borne by shareholders and unsecured creditors; insured depositors should be promptly reimbursed. It should do this while maintaining financial stability and continuing the provision of essential financial services. Essential to achieving this is shared access by

⁴⁵ Current policy discussions have focused on “bailing-in” certain creditors of failed or failing institutions. Losses would be imposed on shareholders; unsecured creditors would have their claims written down to reflect any losses that shareholders could not cover. The remaining claims of unsecured creditors could be bailed-in or converted to equity in the restructured or new operations.

⁴⁶ See, FSB *Key Attributes of Effective Resolution Regimes for Financial Institutions*, http://www.financialstabilityboard.org/publications/r_111104cc.pdf

relevant safety-net participants to timely, accurate and relevant information on the condition of institutions and their depositors in the event of failure.

V. Financial Crises and Moral Hazard

In good times, policymakers strive to balance the objective of maintaining financial stability with that of mitigating moral hazard. However, in times of crisis, the primary objective is to preserve or reestablish financial stability. As the recent crisis has shown, in order to do so, the depositors and creditors of financial institutions as well as financial markets may be protected without regard for the effect on moral hazard.

During the recent crisis, many countries took extraordinary measures and extended unprecedented levels of support to their financial institutions and markets in order to minimize contagion and damage to the economy.⁴⁷ Among those measures were increases in the level and scope of deposit insurance coverage, including full or blanket guarantees in some cases, and extensions of some deposit insurer's powers.⁴⁸ In addition, system-wide measures, such as liquidity support facilities, recapitalization programs, and wholesale debt guarantees were introduced in some countries. Bank-specific measures, such as recapitalization and asset purchase plans or guarantees were also used. In many cases, the enhanced protections extended during the crisis were clearly temporary and have since been withdrawn or phased out. In other cases, some measures, such as higher coverage levels, have been made permanent.⁴⁹

As noted in the *FSB DI Peer Review*, these measures were adopted "as a prudential response to reassure bank depositors and maintain financial stability in the midst of a financial crisis."⁵⁰ Nevertheless, there has been a significant increase in sovereign exposures and arguably weakened market discipline and increased moral hazard. As financial stability returns and economies recover, whether the perception that financial institutions and markets will continue to be protected—and the resulting moral hazard—can be dispelled or mitigated is a concern.

The recent crisis has shown that jurisdictions will take the necessary measures to maintain liquidity and prevent instability during a crisis. In doing so, certain creditors—typically depositors and other short-term creditors that are able to run—are likely to be protected. These measures, however, should not prevent the resolution authority from imposing losses on shareholders and long-term unsecured creditors of failed institutions.⁵¹ If shareholders and long-term unsecured creditors are made to bear losses

⁴⁷ See, for example, *FSB DI Peer Review*, p. 9, ff., and Annex A, Table 1.

⁴⁸ Expanded powers included, among other things, enhancements to the systems for assessing and collecting deposit insurance premiums and reimbursing depositors. The role of some deposit insurers in the resolution of failed institutions was granted or expanded.

⁴⁹ See, *FSB DI Peer Review*, p. 12-14 and Annex A, Table 2, available at http://www.financialstabilityboard.org/publications/r_120208.pdf

⁵⁰ See, *FSB DI Peer Review*, p. 11.

⁵¹ See the previous section. In some jurisdictions, resolution authorities are planning to impose losses through write-downs and/or the conversion of certain creditor claims into equity (e.g. bail-in). In utilizing such approaches it is important that moral hazard is also mitigated through measures to ensure that the failed institutions are effectively

in the event of a failure—whether in normal or crisis times—they will have a greater incentive to exert market discipline, which in turn can help mitigate moral hazard. Coordinated planning and information sharing by the relevant safety-net participants (central banks, deposit insurers, and supervisory and resolution authorities) and effective communication with the stakeholders of financial institutions (depositors, creditors, shareholders and bank management) regarding these policies may be helpful in restoring the pre-crisis balance between financial stability and moral hazard.

VI. Conclusion

When accompanied by measures that promote discipline and mitigate moral hazard, deposit insurance can instill confidence and contribute to financial stability. As noted in the *Core Principles*, deposit insurers and other financial safety-net participants can mitigate moral hazard by creating and promoting appropriate incentives through good corporate governance and sound risk management of individual banks; effective market discipline; and frameworks for, and enforcement of, strong prudential regulation and supervision. To that end, specific deposit insurance design features that affect insured institutions' risk taking and coordinated regimes for early detection and timely intervention and resolution of troubled institutions are important tools for mitigating moral hazard.

The 2008-09 financial crisis provided lessons for mitigating moral hazard. As became apparent during the crisis, most depositors lack sufficient information or skills to effectively discipline insured institutions. Moreover, they are likely to run both sound and unsound banks during periods of instability. Policymakers should look to large-scale depositors, shareholders and other unsecured creditors—rather than small-scale retail depositors—for market discipline. Failure resolution arrangements that impose losses on shareholders and unsecured creditors can reinforce the incentives for these stakeholders to monitor insured institutions' risk taking and impose discipline on these institutions.

Because market discipline alone is insufficient to mitigate moral hazard, it should be used in concert with other tools including good corporate governance and risk management and regulatory discipline from, among other things, deposit insurance design features, prudential supervision, and an effective, coordinated framework for intervention and failure resolution. Policymakers should ensure that the deposit insurer and other safety-net participants have the necessary tools and practices in place to mitigate moral hazard.

References

1. Basel Committee on Banking Supervision (BCBS). 2012. Core Principles for Effective Banking Supervision. Basel. <http://www.bis.org/publ/bcbs213.pdf>
2. BCBS-International Association of Deposit Insurers (IADI). 2009. Core Principles for Effective Deposit Insurance Systems. Basel. <http://www.bis.org/publ/bcbs156.pdf>
3. BCBS-IADI. 2010. Core Principles for Effective Deposit Insurance Systems: A methodology for compliance assessment. Basel. <http://www.bis.org/publ/bcbs192.pdf>
4. Financial Stability Forum (FSF) Working Group on Deposit Insurance. 2001. Guidance for Developing Effective Deposit Insurance Systems. Basel. http://www.financialstabilityboard.org/publications/r_0109b.htm
5. FSF Working Group on Deposit Insurance. 2000. International Guidance on Deposit Insurance: A Consultative Process. Basel.
6. FSF Working Group on Deposit Insurance. 2001. Options for Addressing Moral Hazard. Discussion paper. Basel.
7. Financial Stability Board (FSB). 2011. Key Attributes of Effective Resolution Regimes. Basel. http://www.financialstabilityboard.org/publications/r_111104cc.pdf
8. FSB. 2012. Thematic Review on Deposit Insurance Systems: Peer Review Report. Basel. http://www.financialstabilityboard.org/publications/r_120208.pdf
9. Group of Thirty. 2012. Toward Effective Governance of Financial Institutions. Washington, D.C. <http://www.group30.org/images/PDF/TowardEffGov.pdf>
10. Hanc, George. 1999. Deposit Insurance Reform: the State of the Debate. *FDIC Banking Review* 12: no.3:1-26. http://www.fdic.gov/bank/analytical/banking/1999dec/1_v12n3.pdf
11. IADI. 2012. Enhanced Guidance for Effective Deposit Insurance Systems: Deposit Insurance Coverage. Draft (November).
12. International Monetary Fund (IMF). 2011. Contingent Capital: Economic Rationale and Design Features. IMF Staff Discussion Note. January 25.