June 2013

General Guidance on Early Detection and Timely Intervention for Deposit Insurance Systems

Prepared by the Research and Guidance Committee

International Association of Deposit Insurers

C/O BANK FOR INTERNATIONAL SETTLEMENTS
CENTRALBAHNPLATZ 2, CH-4002 BASEL, SWITZERLAND
TEL: +41 61 280 9933 FAX: + 41 61 280 9554
WWW.IADI.ORG

Table of Contents

Executive Summary

The mission of the International Association of Deposit Insurers (IADI) is to contribute to the enhancement of deposit insurance effectiveness by promoting guidance and international cooperation. Its vision is to share its deposit insurance expertise with the world. As part of its work, IADI undertakes research projects to provide guidance on deposit insurance matters.

In this respect, in response to the Financial Stability Forum's[1] recommendation that *"Authorities should agree on an international set of principles for effective deposit insurance systems"*, the Basel Committee on Banking Supervision (BCBS) and IADI jointly issued a set of Core Principles for Effective Deposit Insurance Systems,[2] which state as a precondition for effective deposit insurance systems that "the strength of prudential regulation and supervision will have direct implications for the effectiveness of a deposit insurance system. Strong prudential regulation and supervision should allow only viable banks to operate and be members of the deposit insurance system. Banks should be well capitalized and follow sound-and-prudent risk management, governance and other business practices. Other characteristics include an effective licensing or chartering regime for new banks, regular and thorough examinations, the risk assessment of individual banks and a *framework for the early detection and timely intervention and resolution of troubled banks*".

In addition, one of the key conclusions of the Asia-Pacific Economic Cooperation (APEC) policy dialog on deposit insurance is that "Ensuring that a framework exists for prompt corrective action and resolution of troubled banks can reduce the costs to depositors and the deposit insurer, contribute to financial system stability and help reduce the likelihood of an isolated bank failure turning into a financial crisis".

In response, and based on proposals from IADI members, the Research and Guidance Committee of IADI created the Subcommittee on Early Detection and Timely Intervention.[3] The Subcommittee has the mandate to define – based on international experience and observed practices of IADI members – general guidance that can enhance deposit insurers' understanding of possible areas for enhancing their role in the early detection of problem depository institutions (hereinafter referred as "banks") and timely intervention in their operations when it is deemed necessary and/or feasible.

IADI Guidance

The following guidance points summarize the main conclusions of this paper, and set out Supporting Guidance on the possible role of deposit insurance systems (DIS) in existing national frameworks and institutional arrangements for early detection of problem banks and timely intervention in their operations when it is deemed feasible from the point of view of maintaining financial stability and achieving the public policy objectives of deposit insurance systems. The guidance is reflective of, and adaptive to, a broad range of settings, circumstances and structures.

---

[1] In April 2009, the Forum was re-established as the Financial Stability Board (FSB).

[2] Bank for International Settlements, "Core Principles for Effective Deposit Insurance Systems", June 2009, p.8. ISBN print: 92-9131-790-X.

[3] The Subcommittee on Early Detection and Timely Intervention includes representatives from Bulgaria, Kazakhstan, Mexico, Russia (Co-Chair), Taiwan, Uruguay (Chair), and the United States.

Core Principle[4]: Early detection and timely intervention

The deposit insurer should be part of a framework within the financial system safety net that provides for the early detection and timely intervention and resolution of troubled banks. The determination and recognition of when a bank is or is expected to be in serious financial difficulty should be made early, and on the basis of well-defined criteria, by safety-net participants with the operational independence and power to act (Core Principle 15).

Supporting Guidance Points

1. Regardless of the specific responsibilities of the deposit insurer in any particular jurisdiction, the manner in which banks are supervised and regulated, and troubled banks resolved, has a major impact on the costs and other aspects of the deposit insurance system.

2. Timely detection of weak or problem banks is very important for the effective and stable functioning of the financial and deposit insurance systems. This ensures due preparation for expected insured events (bank failures), when the deposit insurer will need to rapidly accumulate and allocate the necessary financial, human and other resources (for effecting depositor payouts or arranging transfer of deposits as part of purchase and assumption transactions). Moreover, early identification of weaknesses and threats to DIS member banks allows supervisors and/or other financial safety-net players to take effective measures for reducing the likelihood and costs of bank failures, such as providing liquidity support, assisting mergers and acquisitions and, in certain cases, recapitalizing a bank at the expense of the deposit insurer or other authorized government agencies.

3. Regardless of whoever has responsibilities in this regard, it is important to recognize that the determination and recognition of when a bank is or is expected to be in serious financial difficulty should be made early, and that the intervention and resolution process should be initiated promptly and on the basis of well-defined criteria.The criteria should be clearly defined in law or regulation, and should be well understood by banks and their stakeholders.Because a bank’s financial performance and capital position can deteriorate quickly, trigger mechanisms based on single measures such as capital insolvency, illiquidity or poor quality of assets may not be sufficient. Effective trigger mechanisms for early intervention or corrective action should include a variety of relevant indicators of both a quantitative and a qualitative nature.

4. When dealing with troubled banks, neither a purely rules-based nor a purely discretionary prompt corrective action approach is recommended. Instead, a balance needs to be struck between the two. An effective method adopted in many economies is to use a sliding-scale intervention framework where the use of rules and discretion, the form of intervention and its timeliness are proportionate to the severity of the problems encountered by a troubled bank. It is important to constantly assess the effectiveness of existing systems of problem bank identification, conduct their stress-testing on a regular basis and adjust/adapt to changing circumstances.

5. Institutional arrangements for ongoing bank surveillance and intervention action need to ensure that the financial safety-net participants involved have clearly defined mandates, roles and responsibilities, as well as the operational independence and

[4] See Annex III for the definition of “core principle” and “supporting guidance points”.

powers to perform their respective roles in the early intervention/corrective action framework. This framework should be established by law or regulation and insulated against legal actions that aim at reversal of early and timely decisions related to corrective procedures, interventions and resolutions of troubled banks. It should be well defined, transparent and well understood. In addition, sound information sharing and coordination arrangements should exist among safety-net participants.

6. The best results can be achieved if intervention is initiated at an early stage of deterioration of a bank's condition, when identified problems can still be rectified. Timely corrective action/intervention can reduce the likelihood of a resolution being necessary, and contribute to maintaining banking system stability and public confidence while preserving the value of a problem bank, better protecting depositors and minimizing losses to the deposit insurance fund.

7. It is important for the bank supervisor, the resolution authority and the deposit insurer to have well-developed action/contingency plans for ensuring timely and effective implementation of intervention measures that are adequate and proportionate to the seriousness of a bank's weaknesses. It is good practice for intervention measures/corrective action to be coordinated between the deposit insurer, the resolution authority and the primary bank supervisor. When intervention is initiated by the deposit insurer but executed by another financial safety-net player, it is necessary to ensure that the deposit insurer is informed in a timely manner about the action taken and the results achieved.

8. Special attention should be paid to systemically important financial institutions (SIFIs) as the stability of many other banks, and ultimately of the deposit insurance system, can often depend substantially on their safety and soundness. In this regard, it is necessary for deposit insurers and resolution authorities to: (i) ensure that their interests are given due consideration in the development of government policy on dealing with potential problems in systemically important banks and financial groups; and (ii) that they are involved in recovery and resolution planning, and have timely access to supervisory information on a consolidated basis. To effectively fulfill its mandate, the deposit insurer should study its data needs and data processing capabilities in the context of higher requirements for such institutions' surveillance.

9. The introduction of the recovery and resolution plans proposed by the Financial Stability Board and Basel Committee on Banking Supervision, and backed by the G20, requires close coordination of relevant safety-net participants' actions at all stages of development, review, approval and implementation of such plans.[5] When new regulatory requirements are being established for systemically important financial institutions, deposit insurers should take the necessary action to adjust their risk identification and mitigation systems, as well as ensure adequate accumulation and allocation of financial and other resources.

10. Although informal arrangements for information sharing and coordination can work well, clearly specified agreements are highly desirable, given the sensitivity of bank-specific information and the need to maintain confidentiality. The challenge of maintaining open communication channels suggests that it may be useful to formalize these arrangements either through legislation, memoranda of understanding, legal agreements, or a combination of these instruments. These arrangements also may be

[5]See FSB, "Key Attributes of Effective Resolution Regimes for Financial Institutions", October 2011, pp. 16–18 and 33–40.

useful in providing a general framework for safety-net participants to coordinate their related activities. Rules regarding confidentiality of information should apply to all safety-net participants and agreements.

11. For information to be useful to the deposit insurer, it should be timely, accurate and relevant in order to facilitate an effective system for the ongoing evaluation of individual insured institutions as well as the banking industry as a whole. It is good practice when "… safety-net participants make information on banks that are in financial difficulty or are expected to be in financial difficulty available to the deposit insurer in advance and, where confidentiality requirements prevent this, or where the information is not available from other safety-net participants, the deposit insurer has the power to collect information directly from such banks".[6]

12. The deposit insurer's need for relevant information can vary significantly depending on its institutional mandate and powers but this does not obviate the need for close coordination and information sharing among safety-net participants in all cases. All the required information should be timely, accurate and relevant. In the case of a simple paybox system, the deposit insurance agency should have the basic information to ensure its readiness to pay off depositors in a timely and efficient manner when required to do so.

13. A deposit insurer with a broader mandate, such as loss or risk minimization, has a greater need for information to enable it to assess the financial condition not only of individual insured institutions, but of the entire banking industry. In addition, the risk minimizer and a deposit insurer which also acts as the resolution authority should be able to anticipate the financial troubles of individual banks and deal with them effectively when they arise.

14. Since the supervisory authority is usually the primary and most important source of banking information given its specific powers and responsibilities, there should be clear guidelines for this entity to share relevant information with other safety-net participants, including the deposit insurer. It is important to ensure that the supervisory authority is obliged to supply the required information within a specified period of time.A deposit insurer should also have the authority to request necessary additional information directly from insured banks, to conduct on-site reviews/examinations, to perform due diligence and to have access to depositor records before bank closure.[7]

15. For all deposit insurers it is important to be informed about the results/prospects for implementation of corrective/intervention measures and/or recovery and resolution plans, and to participate in their analysis so as to be better prepared for possible negative developments, when the deposit insurer's involvement will be required. If such an arrangement exists, the deposit insurer can make timely adjustments to its operations and plans, and more efficiently manage its resources. It is also good practice to have in place an effective mechanism to review decisions taken with respect to the early detection and timely intervention and resolution of troubled banks.

---

[6]BCBS and IADI, "Core Principles for Effective Deposit Insurance Systems, A methodology for compliance assessment", December 2010, p. 13.
[7]IADI, "General Guidance for the Resolution of Bank Failures", December 2005.

I. Introduction and Purpose

Since its establishment in 2002, IADI has been committed to sharing information and experiences about deposit insurance with the international community. IADI's mission is to improve the effectiveness of deposit insurance systems (DIS) by promoting guidance and cooperation. As part of that mission, IADI undertakes research projects on individual issues.

The rationale for developing this paper is the following:

- Effective prudential regulation and supervision, including recovery and resolution planning that facilitate early detection of troubled banks and timely corrective actions and intervention, are key preconditions for the effective functioning of deposit insurance and financial systems.
- Bank supervisors and deposit insurers use a wide variety of approaches to identify weak banks and implement corrective action and intervention.
- Substantial differences exist in deposit insurers' roles and powers as regards both the early identification of weak banks and timely intervention.

The main objectives of this document are:

- To describe and characterize existing approaches to identifying weak banks and implementing corrective action and intervention measures.
- To describe the most effective practices in this area utilized by bank supervisors and deposit insurers.
- To develop recommendations on implementing effective approaches and practices that allow the early identification of bank weaknesses and timely intervention in their operations in order to ensure the effective fulfillment by deposit insurance systems of their mandates and achievement of their public policy objectives.

  The effectiveness of deposit insurance systems, and their expenses/losses related to deposit insurance payouts and/or their participation in bank resolutions, are heavily dependent on the timely identification of problems and threats to the soundness and sustainability of DIS member banks, as well as the effectiveness of corrective action/intervention measures that aim at eliminating or mitigating these problems and threats.

In various jurisdictions, different financial safety-net participants are responsible for early detection and timely intervention, but in any case "It is critical to determine when a bank is in serious financial difficulty. This determination should be made on the basis of well-defined and transparent criteria by a safety-net participant with authority to act. Prompt and decisive actions are crucial to reduce the cost of a bank failure but care needs to be taken to address confidentiality issues to protect the exchange of information among financial safety-net participants."[8]

Effective deposit insurance systems and bank supervision and resolution regimes strengthen and contribute to the stability of financial systems. Thus, it is recommended that these systems be supported by laws and practices that empower supervisors and deposit insurance agencies to properly evaluate banking risks and promptly take any necessary corrective measures. Deposit insurance agencies (especially those

[8]FSF, "Guidance for Developing Effective Deposit Insurance Systems", 2001, p. 31.

responsible for bank resolution) and bank supervisors should work cooperatively to identify weak banks, take appropriate corrective action to remedy problems, and develop appropriate resolution strategies as it becomes necessary.[9]

Ensuring that a framework exists for prompt corrective action and resolution of troubled banks can reduce the costs to depositors and the deposit insurer, contribute to financial system stability and help reduce the likelihood of an isolated bank failure turning into a financial crisis.[10]

Early intervention, prompt corrective action and, when warranted, bank closure require that supervisors, resolution authorities and deposit insurers have the necessary legal authority, in-depth information on bank risk, financial resources, and incentives to take effective action.[11]

The purpose of this paper is to provide general guidance in support of IADI's Core Principles and Effective Practices for deposit insurers (and eventually other financial safety-net participants) interested in establishing or enhancing their mechanisms for managing their risks and planning operations based on the early detection of problem banks and on initiating/implementing timely corrective/intervention measures to prevent their failure or minimize the negative consequences of bank failures. It draws on the practices and experiences of deposit insurers and bank supervisors in several jurisdictions to develop guidance points for making these processes efficient and effective across a wide range of circumstances.

Technically speaking, deposit insurers schemes can be divided into four broad categories:[12]

1. Narrow mandate systems that are only responsible for the reimbursement of insured deposits ("paybox" mandate);
2. A "paybox plus" mandate, where the deposit insurer has additional but limited responsibilities, such as some specific resolution functions;
3. A "loss minimizer" mandate, where the insurer actively engages in the selection from a full suite of appropriate least-cost resolution strategies; and
4. A "risk minimizer" mandate, where the insurer has comprehensive risk minimization functions that include a full suite of resolution powers as well as prudential oversight responsibilities.

Following the 2008/2009 financial crisis, deposit insurance agencies (DIAs) are expanding their mandates, so that they are now closer to a loss minimizer with a full set of responsibilities and functions. This expansion is likely to continue and reflects the increased attention paid to developing effective resolution regimes.[13]

The paper was prepared by the IADI Subcommittee on Early Detection and Timely Intervention. It was designed to take into account different country circumstances, settings, and structures, and was based on the judgment and experiences of IADI

[9] See Association of Supervisors of Banks of the Americas (ASBA), "Effective Deposit Insurance Schemes and Bank Resolution Practices", September 2006, pp. 7–8.
[10] See IADI, "IADI to Adopt the Key Conclusions of the APEC Policy Dialogue on Deposit Insurance as Official IADI Guidance", p. 4.
[11] FSF, "Guidance for Developing Effective Deposit Insurance Systems", 2001, p. 9.
[12] FSB, "Thematic Review on Deposit Insurance Systems – Peer Review Report, 2012, p. 4.
[13] FSB, "Thematic review on deposit insurance systems – Peer review report, 2012, p.4

members, as well as on relevant documents issued by international financial institutions, the Financial Stability Board (FSB), the Basel Committee on Bank Supervision and academics.

The paper also considers practical mechanisms that are or could be used by deposit insurers for effective coordination of their actions with other financial safety-net participants and for mitigation of risks posed by insured banks' financial position or behavior.

Key Concepts

In order to facilitate reading of this document the following concepts are used:

- **Bank Resolution**:adisposition plan for a failed or failing bank, which is directed by the responsible safety-net authority, and is generally designed to fully (up to the established coverage limit) reimburse or protect insured deposits while minimizing costs to the deposit insurer.[14]

- **Early warning system**: Empirically based models that attempt to estimate the likelihood of failure or financial distress of the bank over a fixed time horizon, based on the bank's current risk profile.[15]

- **Financial Safety Net**: A financial stability mechanism that usually comprises the deposit insurance function, prudentialregulation and supervision, and the lender-of-last-resort function.

- **Forbearance**: Granting at discretion an extension of time to certain distressed banks when they cannot comply with the minimum regulatory requirements.[16]

- **Intervention:** A procedure carried out by an authorized regulatory/ supervisory agency or, in some jurisdictions, the deposit insurer which has the legal authority by statute or by request, to limit and/or prohibit, partially or entirely, any kinds of operation in which financial institutions are engaged, as well as take other legitimate action to prevent bank failure or resolve the failing/failed bank.[17]

- **Paybox**: A deposit insurer with powers limited to paying out the claims of depositors.

- **Problem (weak) bank:** A bank "whose liquidity or solvency is or will be impaired unless there is a major improvement in its financial resources, risk profile, strategic business direction, risk management capabilities and/or quality of management".[18]

- **Prompt corrective action (PCA):** A set of progressively severe corrective, often preventive, measures taken by regulatory authorities against banks exhibiting progressively deteriorating financial performance or behaviors. The

[14]IADI, "General Guidance for the Resolution of Bank Failures", December 2005, p. 8.
[15]BCBS, "Supervisory Guidance on Dealing with Weak Banks", BIS, March 2002, p. 50.
[16] IADI Glossary: http://www.iadi.org/Publications.aspx?id=53.
[17] The FDIC (United States) generally does not use the term "intervention" to describe supervisory involvement taken while the bank is open. Instead, it usually applies the term "enforcement" to describe supervisory actions used to bring about improvements in institutions while they are open.
[18]BCBS, "Supervisory Guidance on Dealing with Weak Banks", BIS, March 2002, p. 6.

corrective measures are designed to reduce risk-taking by weak financial institutions and also require prompt, and often non-discretionary, action by regulatory authorities. The goals of many PCA schemes are to proactively identify and address financial or operational weaknesses that threaten the viability of a banking institution. PCA schemes have also been designed to reduce the likelihood of supervisory forbearance and lower the cost of failed bank resolutions by requiring early intervention in problem financial institutions.

- **Resolution authority:** A designated administrative authority responsible for exercising the resolution powers over financial firms within the scope of the resolution regime.[19]

- **Risk minimizer**: A deposit insurer with powers to reduce the risks it faces. These powers may include the ability to control entry and exit from the DIS, assess and manage its own risks, conduct examinations of banks or request such examinations, implement corrective action, and resolve failing banks.

- **Systemically Important Financial Institutions (SIFIs):** financial institutions whose distress or disorderly failure, because of their size, complexity and systemic interconnectedness, would cause significant disruption to the wider financial system and economic activity.[20]

[19] FSB, "Key Attributes of Effective Resolution Regimes for Financial Institutions", October 2011, pp. 5–6.
[20] FSB, "Policy Measures to Address Systemically Important Financial Institutions", November 2011 (www.financialstabilityboard.org/publications/r_111104bb.pdf).

II. Scope and Methodology

The document is based on experiences described in responses to a questionnaire distributed by the Subcommittee on August 8, 2010,[21] as well as on other IADI guidance papers and relevant literature.

The questionnaire consisted of 39 questions divided into the following categories:

- Early detection of problem banks
- Corrective actions and intervention measures
- Interrelationship with other financial safety-net participants
- Mechanisms for mitigation of deposit insurers' losses

As of May 2011, 33 responses to the questionnaire had been received from deposit insurers in the following jurisdictions:

1. Albania
2. Azerbaijan
3. Bahamas
4. Barbados
5. Brazil
6. Bulgaria
7. Canada and Quebec
8. Colombia
9. Germany
10. Guatemala
11. Guernsey
12. Hungary
13. Italy
14. Jordan
15. Japan
16. Kazakhstan
17. Kenya
18. Korea
19. Malaysia
20. Mexico
21. Nigeria
22. Philippines
23. Poland
24. Russia
25. Singapore
26. Taiwan
27. Thailand
28. Turkey
29. Ukraine
30. United Kingdom
31. Uruguay
32. United States

[21] The questionnaire was distributed among all deposit insurers that are members of IADI and EFDI. Responses were received from 33 of the 60 potential respondents.

III. Issues Regarding Early Detection and Timely Intervention

a. Early Detection

The responsibility for the early detection of bank problems is usually incumbent on the bank supervisor – the central bank or the special independent agency. At the same time, some deposit insurers have access to varying amounts and types of supervisory information. Deposit insurers with a risk-minimizer mandate or those that have a differential (risk-adjusted) premium system typically have this degree of access. It should be noted that some DISs have access to supervisory information only in relation to banks facing a heightened risk of failure.

Early detection of weak or problem banks is crucial for the effective and stable functioning of the financial system and DIS. This helps to ensure due preparation for expected insured events (bank failures), when the deposit insurer will need to rapidly accumulate and allocate the necessary financial, human and other resources (for effecting depositor payouts or arranging transfer of deposits as part of purchase and assumption transactions). Moreover, early identification of weaknesses and threats to DIS member banks makes it possible to take effective measures for preventing bank failures, such as providing liquidity support, assisting mergers and acquisitions and, in certain cases, recapitalizing a bank at the expense of the deposit insurer or other authorized government agencies.

It should also be pointed out that if the deposit insurer is accorded a role in the detection of problem banks, this can exert pressure on the bank supervisor, which can in turn prevent/mitigate supervisory forbearance and contribute to improving the quality and effectiveness of bank supervision.[22] Moreover, "deposit insurers have most at stake when a bank fails: therefore, giving them higher responsibility within the safety net can reduce the negative moral hazard effects of deposit insurance."[23]

Methods of Problem Bank Identification

In practice, there are many ways to assess the financial condition of banks and identify weak/problem institutions. Regardless of substantial differences in approaches, it is important that the relevant safety-net participants (central bank, independent bank supervisor or deposit insurer) have timely, relevant and good quality information from various reliable sources and mechanisms of communication with relevant parties.

The sources of information and channels of communication include:

- on-site examinations
- off-site surveillance
- communication with supervisors
- communication with bank management
- communication with bank auditors
- market information.

[22] For example, one of the criteria that will be used in assessing compliance by deposit insurance systems with the Core Principles for Effective Deposit Insurance Systems states that the deposit insurer should have "the right to seek, or request the supervisor or other safety-net participant, to carry out or provide for an audit or inspection of a member bank in a timely manner if evidence shows that deposits may be at risk. See BCBS and IADI, "Core Principles for Effective Deposit Insurance Systems.A methodology for compliance assessment", December 2010, p. 9.

[23] Beck and Laeven (2006), "Resolution of failed banks by deposit insurers", pp. 20–22.

Existing methods of problem bank identification can be divided into two major groups – (a) employing mainly quantitative financial information and (b) supervisory assessments.

Among methods mainly employing quantitative financial information, the most widely used are financial statements analysis and early warning systems based on financial risk metrics and indicators. Supervisory assessments include supervisory rating systems and comprehensive risk assessment systems (as a component of risk-based supervision).

In practice the majority of bank supervisors, as well as deposit insurers that have a risk-minimizer mandate, use a combination of various qualitative and quantitative methods for identifying weak banks and systemic risks that can threaten the financial soundness of individual deposit-taking institutions.

Studies tend to group systems studied into four categories of formal approaches:[24]

Financial statements analysis entails a bank supervisor/deposit insurer producing, on the basis of a bank's financial information, a set of financial ratios to assess the performance and financial condition of the bank. The analysis involves comparing an individual bank's financial indicators to a peer group and examining the trend in an indicator. The set of analyzed indicators typically includes capital adequacy, asset quality, profitability and liquidity ratios; the analysis generates a warning if certain ratios breach a predetermined critical level or fall within a predetermined interval. Sometimes there are outliers with regard to the past performance of a bank.[25]

Lags in the flow of information from the bank to the supervisors/regulators should be taken into account since analyses may be based on out-of-date information.

Early warning systems (EWS) are usually based on using various statistical models to estimate the likelihood of failure or the severity of financial distress over a fixed time horizon, or to predict future insolvency by estimating potential failure losses. Statistical models are typically intended to identify risks that can cause adverse future conditions in a bank. The objective of these systems is to identify potential risks in problem banks in a sufficiently timely manner, such that action can be taken by the appropriate authorities to minimize the losses or likelihood of losses arising from those risks.[26]An inability to capture qualitative factors (e.g. quality of management, internal controls, risk management practices), and to consider the effects of competitive and environmental factors, are the main disadvantages in these models.[27]

Supervisory rating systems such as CAMELS, CAEL (United States, etc.), PATROL (Italy) and ORAP (France) can be based both on the results of on-site examinations (on-site examination ratings) and on off-site analysis of regulatory and other available information including on-site examination reports (off-site supervisory ratings). Supervisory rating systems provide a structured and comprehensive

---

[24] Ranjana Sahajwala and Paul Van den Bergh, "Supervisory Risk Assessment and Early Warning Systems", BCBS Working Paper No. 4, BIS, December 2000, p.6.

[25] See Hennie van Greuning and Sonia Brajovic Bratanovic, "Analyzing Banking Risk. A Framework for Assessing Corporate Governance and Risk Management", 3rd edition, The World Bank, 2009, p.371.

[26] See David Walker, "Comprehensive Early Warning Systems and the Experience of the Canada Deposit Insurance Corporation (CDIC)",The SEACEN Center, 2002, p. 11.

[27]Basel Committee on Banking Supervision, "Supervisory Guidance on Dealing with Weak Banks", BIS, March 2002, p. 11.

framework. Quantitative and qualitative information is collected and analyzed on a consistent basis; the analysis is focused on deviations from "normal".[28]

In **comprehensive bank risk assessment systems**, a bank or banking group is disaggregated into significant business units and each unit is assessed for all business risks. Scores are assigned for each assessment criterion, and are then aggregated to the next higher level to ultimately arrive at a final assessment or score for the bank or banking group.[29]

Table 1 summarizes the generic features of the most frequently used methods of problem bank identification. Rows show the four broad approaches mentioned above, while columns display the main attributes and/or objectives which those categories tend to capture. Stars denote how significant these categories are for reaching the objectives. For example, the inclusion of qualitative assessments is not significant in statistical models, while the same attribute is very significant in on-site supervisory ratings.

Table 1. Approaches to early detection of problem banks – generic features[30]

	Assessment of current financial condition	Forecasting future financial condition	Use of quantitative analysis and statistical procedures	Inclusion of qualitative assessments	Specific focus on risk categories	Link with formal supervisory action
Supervisory ratings - on-site - off-site	 *** ***	 * *	 * **	 *** **	 * **	 *** *
Financial ratio and peer group analysis	***	*	***	*	**	*
Comprehensive bank risk assessment systems	***	**	**	**	***	***
Statistical models	**	***	***	*	**	*

* non-significant
** significant
*** very significant

Indicators of Possible Weaknesses

For problem bank identification, it may be useful to complement micro-level indicators with macro-level indicators. Macro-level indicators include aggregated microprudential indicators (AMPIs), market-based indicators (MBIs) and macroeconomic indicators (MEIs).

[28] Ibid, p. 12.
[29] Ranjana Sahajwala and Paul Van den Bergh, "Supervisory Risk Assessment and Early Warning Systems", BCBS Working Paper No. 4, BIS, December 2000, p. 18.
[30] Ibid, p. 6.

The AMPI framework recommended by the IMF is based on the assessment of six groups of aggregated indicators:

- Capital adequacy
- Asset quality
- Management soundness
- Earnings and profitability
- Liquidity
- Sensitivity to risk.

The aggregated indicators provide information relating to risk trends in groups of banks and the banking sector as a whole. The indicators are derived from individual banks' balance sheets and other detailed financial information; they are then aggregated and used to identify systemic trends and individual banks' weaknesses. In practice, most supervisors use similar indicators, although the details can vary.[31] In addition, two main quantitative early detection methods are available, which it is advisable to use for assessing credit performance and default predictions: the Moody's KMV model and the Z-scores model.[32]

There are also some crucial issues that should be addressed appropriately with specific qualitative models. For example, poor controls and poor management were the most common factors in all institution failures in the United States during 1997–2007.[33] In this regard, corporate governance in banks has had an increasing influence on the way banks take risks. Weak governance of banks "... reverberates throughout the economy with negative ramifications for economic development."[34] In particular, "deposit insurance induces banks to rely … more on insured depositors with no incentives to exert corporate governance." In addition, deposit insurance "... has helped produce banks with low capital-asset ratios. As capital-asset ratios fall, this increases the ability of owners to increase risk because depositors no longer have incentives to monitor and deposit insurance increases the incentives for bank owners to increase risk because of lower capital-asset ratios."[35]

To identify the strengths and vulnerabilities of the banking system and individual banks, it is also useful to conduct market-based assessments. The following MBIs are usually analyzed:[36]

- Dynamics of market prices of instruments (shares, bonds) issued by financial institutions
- Excess yields offered by financial institutions
- Credit ratings of financial institutions and their borrowers/investments in portfolio.

As financial institutions are affected by macroeconomic developments, it is important to keep track of the overall macroeconomic situation and certain specific macroeconomic indicators. These indicators include:[37]

---

[31]D. Mayes, "Early Intervention and Prompt Corrective Action in Europe", 2009, pp,19.

[32] Power and Level validation of Moody's KMV EDF credit measures in North America, Europe and Asia: Modeling Methodology, 2007; Altman, E. "Financial Ratios, Discriminant Analysis and the prediction of corporate bankruptcy", The Journal of Finance, 1968.

[33]See M. Anthony Lowe, "Marketing: Resolution of a Problem institution", Seminar on dealing with problem bank situation, 2008.

[34] Levine Ross, "The corporate Governance of Banks: A concise concepts and evidence", 2004, World Bank Policy Research WP 3404.

[35]Ibid.Ross also reviews evidence on which government policies could improve governance of banks.

[36]"Macroprudential Indicators of Financial System Soundness", IMFOccasional Paper 192.

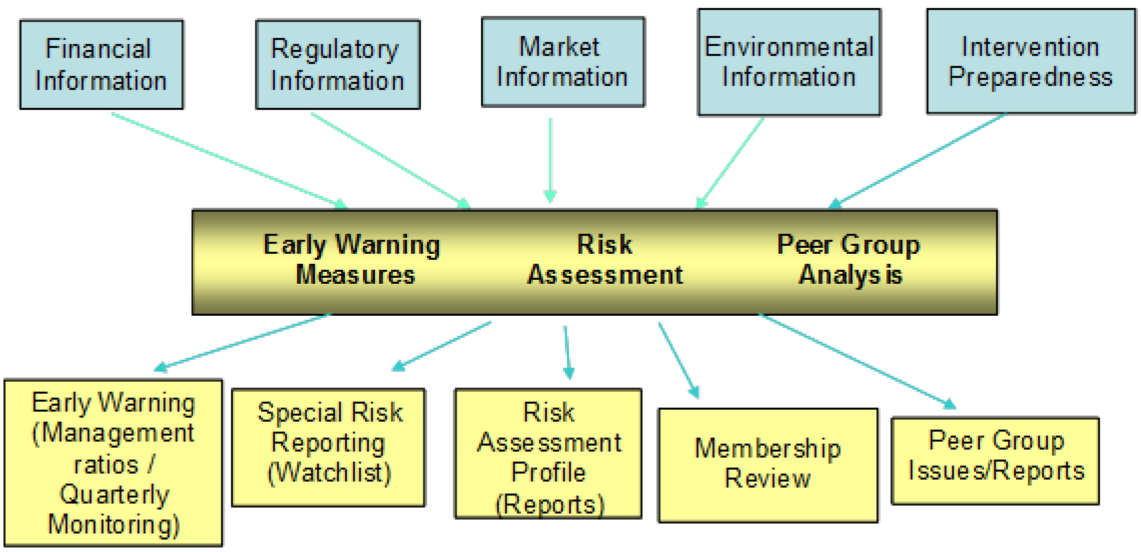
- Economic growth
- Balance of payments
- Inflation
- Interest and exchange rates
- Lending and asset price booms
- Other factors, including fiscal deficit, directed lending and investment, regulatory regime, unemployment rates, wages and salaries.

For early detection of weak banks, deposit insurers and other safety-net players monitor and analyze a number of micro-level indicators (sometimes called "red flags") in addition to macro-level factors. They usually include:

- Declining capital levels
- Deteriorating profitability
- Rapid growth
- Deterioration in asset quality
- High off-balance sheet business
- Liquidity problems
- Non-responsive management
- Insider abuse and fraud
- Poor risk management
- Frequent non-compliance with applicable laws and regulations.

A combination of these approaches can help deposit insurers, in close cooperation with other safety-net participants, to identify in a timely manner the external and internal risks that can threaten financial institutions. It is important to have a progressive system of bank surveillance – it should be stronger and more in-depth for weaker banks. In the event of a serious deterioration in a bank's financial condition or increased risks, the relevant safety-net player should initiate intervention in the bank.

Figure 1 presents an example of a risk assessment framework that is used by the Canada Deposit Insurance Corporation (CDIC).



[37]FSI Connect Tutorial: "Problem Banks – An Introduction". Problem Banks and Macro-level Indicators. (www.fsiconnect.org).

Recent Developments

In recent years, especially under the influence of the global financial crisis, the issue of early identification of problems that arise both in the banking sector as a whole and in individual banks has become a central element of discussions related to lessons of the crisis. As a result, the global community has begun to implement a number of high-level international initiatives aimed at improving surveillance of systemic risks, developing comprehensive mechanisms for early identification of threats to banking system stability, and revising approaches to bank supervision and strengthening of regulatory standards, especially for systemically important financial institutions and groups. Supported by the G20 leaders, the FSB and international financial institutions are implementing initiatives aimed at increasing the size and quality of regulatory capital (including Basel III), introducing and implementing additional internationally agreed liquidity standards, and strengthening regulatory requirements on the management of operational, credit, liquidity and counterparty risks.[38]

The crisis also revealed serious problems with the quality of models used both by banks for managing risks and by bank supervisors (and deposit insurers) for assessing banking system stability and the financial condition of individual banks, and identifying weak institutions. In this context, it is important to constantly assess the effectiveness of existing systems for problem bank identification, regularly stress-test them, and adjust/adapt them to changing circumstances. The necessary work should be done to re-engineer currently used own/shared models and methods of risk assessment, to reduce their reliance on ratings from credit rating agencies.[39]

One of the trends in recent years has been the spread of risk-focused surveillance (supervision) – a process by which the risks facing each institution are analyzed and an appropriate supervisory strategy is developed. The supervisory strategy is unique for each institution, thereby avoiding the rigid structures long associated with examinations and other supervisory processes. Risk-focused supervision relies heavily on internal risk management processes.[40]

In a context of financial stability surveillance, special attention should be paid to systemically important financial institutions as the stability of many other banks, and ultimately of the DIS, can depend to a substantial extent on their safety and soundness. In this regard, it is necessary for deposit insurers to: (i) ensure that their interests are taken into consideration in the development of government policy on dealing with potential problems in systemically important banks and financial groups; and (ii) ensure timely access to supervisory information on a consolidated basis.[41] To effectively fulfill its mandate, the deposit insurer should study its data needs and data processing capabilities in the context of higher requirements for such institutions' surveillance.

[38] See www.financialstabilityboard.org and www.bis.org.
[39] See FSB, "Principles for Reducing Reliance on CRA Ratings", October 2010.
[40] Those institutions with a demonstrated ability to identify, measure, monitor and control the risk of financial loss will receive a reduced level of regulatory scrutiny during onsite examinations. See, e.g.,www.frbsf.org/banking/bsr/about.html.
[41] See also FSB, "Intensity and Effectiveness of SIFI Supervision", November 2010.

Deposit Insurers' Practices

The results of the survey conducted while preparing this paper show that the majority of deposit insurers play a modest role in the early detection of problem banks. Of the 32 respondents to the questionnaire, only 8 (25%) indicated that they have such a mandate. In other cases, the identification of problem institutions is the responsibility of the central bank/bank supervisor.

At the same time, 24 deposit insurers (75%) indicated that they have access to information that can facilitate the identification of problem DIS member banks; of these respondents, 21 (66%) have access to supervisory information from the supervisor, 15 (47%) to financial reports provided by banks directly to the deposit insurer, and 12 (37.5%) to market information.

It should be noted that mechanisms which allow the deposit insurer to have access to such information are set out in law or regulation in 16 jurisdictions (50%), and in relevant MOUs in 19 (60%); in one case (Germany), they are set out in the adhesion contract (between banks and the institutional protection scheme – BVR).

As regards the ways deposit insurers use such information, 17 respondents (53%) indicated that they use it for their risk identification and forecasting models, 10 (31%) for reviewing and preparing summary reports, 13 (41%) for assigning risk ratings to insured institutions that affect premium rates, and 10 (31%) for assigning risk ratings that affect the action that can be taken by the deposit insurer against individual banks.

b. Timely Intervention

In the majority of jurisdictions, the responsibility for timely intervention in banks lies with bank supervisors, as does the responsibility for the early identification of problem institutions; in some jurisdictions, deposit insurers are also empowered to initiate corrective action or other forms of intervention. The main goals of such interventions include forcing banks to eliminate deficiencies or lower their risks, conduct their business with due care and responsibility, properly manage risks, and minimize potential damage – to depositors, the banking system and the economy as a whole - that can result from a bank failure.

The best results can be obtained if intervention is initiated at an early stage of deterioration of a bank's condition, when identified problems still can be rectified. Timely corrective action/intervention can reduce the likelihood of a resolution being necessary, and contribute to maintaining banking system stability and public confidence while preserving the value of a problem bank, better protecting depositors, and minimizing deposit insurers' exposure to loss.

Under normal circumstances, it is the responsibility of the board of directors and senior management of the bank to determine how the bank should solve its problems. However, should the bank engage in unsound banking practices or breach statutory or other key supervisory requirements, the banking supervisor (and in certain cases the deposit insurer) should have the power to compel the bank to take necessary remedial action – and a statutory responsibility to ensure that the remedial action taken is appropriate.[42]

[42]BCBS, "Supervisory Guidance on Dealing with Weak Banks", BIS, March 2002, p.19.

In addition, decisions related to corrective action and intervention should be insulated against legal actions that aim at their reversal.

Thus, to achieve effective early intervention it is important that the responsible safety-net player(s) have adequate legal authority to take remedial action, including directing banks to recognize losses, seek additional capital, cease and desist from specific activities, replace management or comply with other requirements.

Guiding principles

When dealing with troubled banks, neither a purely rules-based nor a purely discretionary approach to implementing corrective/intervention measures is recommended. Instead, a balance needs to be struck between the two. An effective method adopted in many jurisdictions is to use a sliding-scale intervention framework where the use of rules and discretion, the form of intervention and its timeliness are proportionate to the severity of the problems encountered by a troubled bank.

The main guiding principles to be followed when implementing intervention measures are:

- **Comprehensiveness**. A comprehensive intervention should address all aspects of specific problems that a bank faces and their causes and other underlying issues. The corrective or enforcement action should be aimed at achieving predetermined outcomes within a specified period of time. If problems are not dealt with promptly, they can grow rapidly, making the eventual resolution effort more difficult and more expensive, as well as having the potential to spread and become systemic.
- **Proportionality.** Intervention should be proportional to the scale and scope of the identified problems or weaknesses. Inadequate or ill-prepared intervention measures may not fully address the existing problems, leaving the bank in an unsound condition. On the other hand, excessive intervention measures could result in ineffective use of resources, both for the deposit insurer (or other relevant authority) and the bank's management.
- **Consistency.** To ensure certainty and a clear understanding of possible intervention measures that can be applied to banks facing difficulties, it is important to treat similar problems in different types of banks in a consistent manner.
- **Flexibility.** While it is typical for legislation or regulations to specify a set of triggers or rules concerning the application of specific intervention measures, in practice a deposit insurer (or other relevant authority) should have the possibility to choose from the available range of actions, taking into account its judgmental assessments of various factors.
- **Cost efficiency.** Intervention measures can involve significant costs for both the bank and the deposit insurer (or other relevant authority). Before taking certain actions, it is therefore necessary to assess possible options and try to choose the one that allows the desired outcome to be achieved at the lowest direct and indirect costs for both the bank and the deposit insurer. It is also recommended to have in place a mechanism to review decisions taken with respect to the early detection and timely intervention and resolution of troubled banks.
- **Management commitment.** The management of the bank must be committed to the action plan for corrective action.

Implementation of corrective/intervention measures

While the deposit insurer typically has limited intervention powers, it is good practice for the bank supervisor to keep it informed about corrective action or other intervention measures being taken against a DIS member bank, especially if there is a real possibility/threat of failure and/or closure, when the deposit insurer's involvement will become necessary – for executing depositor payouts or participating in bank resolution efforts.

In practice, a wide range of intervention measures, including corrective actions and resolution, are applied to banks, either to eliminate the identified deficiencies and change their behavior or, as an ultimate choice, to ensure their orderly exit from the market. In any case, it is critical that intervention measures be implemented in a timely manner. International experience shows that bank problems can worsen rapidly if not promptly addressed. That is why the bank supervisor, where applicable, or the resolution authority or deposit insurer should have the flexibility to implement necessary intervention measures even when established supervisory thresholds/triggers are not breached.

It is good practice for the deposit insurer, regardless of its mandate, to use its risk assessment systems to draw up a "watch list", as a tool in its internal preparations for intervention and resolution, and for coordinating its action plans with other relevant authorities.

As bank resolution issues have already been a subject of study by IADI, and a relevant guidance paper exists,[43] in this paper intervention measures are considered mainly in the context of corrective measures applied to banks.

Range of corrective actions

The determination and recognition of when a bank is or is expected to be in serious financial difficulty should be made early and on the basis of well-defined and transparent trigger mechanisms by safety-net participants with the operational independence and legal authority to act. Because a bank's financial performance and capital position can deteriorate quickly, trigger mechanisms based on single measures such as capital insolvency or illiquidity may not be sufficient. Effective trigger mechanism for prompt corrective action should include a wide range of relevant indicators.[44]

The type of specific corrective action depends on the severity of the weaknesses identified at the bank. While weaknesses/deficiencies in a bank's operations can be identified in the course of off-site surveillance, on-site examination is a substantially more effective method of understanding the nature, causes, and seriousness of the weaknesses. As a result, even those deposit insurers which can formally implement corrective measures against banks on their own usually limit themselves to informing the primary supervisor on their findings/concerns and/or to requesting a special examination/inspection or implementation of corrective supervisory action.

---

[43]IADI, "General Guidance for the Resolution of Bank Failures", December 2005.
[44] See IADI, "IADI to Adopt the Key Conclusions of the APEC Policy Dialogue on Deposit Insurance as Official IADI Guidance", September 2005, pp. 4–5.

When choosing the most appropriate corrective action, the relevant authority should strive to target both the identified problem/deficiency and its causes. Depending on the severity of problems the bank faces, especially the existence/non-existence of an immediate and significant threat of illiquidity or insolvency, the implemented corrective measures can be either informal or formal.

Informal action can be justified when the weaknesses that were identified are not very serious and the deposit insurer/bank supervisor is confident that the bank's management will be able to address existing problems in a timely and efficient manner. Such action usually takes the form of an agreement between the bank and the supervisor/deposit insurer.

Examples of informal corrective action include:[45]

- *Moral suasion* – convincing the bank to take appropriate action on its own
- *Letter* – correspondence sent to the bank outlining identified deficiencies, how they should be addressed and the timeframe for correction
- *Board resolution* – a resolution prepared by the bank's board of directors and adopted in the board minutes; it outlines the bank's plans to take corrective action to address problems, and the corresponding timeframe for correction
- *Memorandum of understanding* – a written agreement between the bank and the supervisor/deposit insurer, detailing the specific action to be taken by the bank to address problems, and the corresponding timeframe for correction.

When identified weaknesses are more serious and the solvency of the bank is in question, laws or regulations typically prescribe a number of formal corrective actions in greater detail.

Formal action is generally used when the bank's financial condition has deteriorated to an unacceptable level and its management is either unable or unwilling to take the necessary corrective action. Such action is binding on the bank, with penalties for non-compliance. The greater the danger of bank insolvency the more intrusive corrective action is justified.

Examples of formal action include prompt corrective action, cease and desist orders, penalties/fines and removals/prohibitions:[46]

Prompt corrective action is a framework of mandatory and discretionary action to be initiated by the supervisor/deposit insurer/bank when a bank's capital levels fall below identified thresholds. It is used in the United States and some other jurisdictions. The framework links the intensity of corrective action, including bank closure, to declining capital ratios, both in terms of risk-weighted and non-risk-weighted assets or simple leverage ratios.

Cease and desist orders are used when there is a significant deterioration in a bank's asset quality and earnings, there are serious violations of laws or regulations, or there are unsafe and unsound practices threatening the solvency of the bank. A cease and desist order is a comprehensive formal document, prepared and issued with legal advice, which outlines in detail the concerns and timeframe for correction of the problem.

[45] See FSI Connect Tutorial: "Problem Banks – Corrective Actions and Resolution". Topic: Problem Banks – Corrective Actions (www.fsiconnect.org).
[46] Ibid.

In specific circumstances, the bank supervisor or deposit insurer may impose *penalties/fines* on banks or individuals for violation of laws/regulations, cease and desist orders, or any other condition provided in writing by the supervisor/deposit insurer in connection with approval of an application or any written agreement between a bank and supervisor/deposit insurer. The purpose of the penalties is not only to punish the violator, but also to deter future violations.

Another type of corrective action that can be used by a supervisor/deposit insurer is the power to *removefrom office* a director, officer or employee of the bank, or *prohibit* shareholders or other interested parties from participating in the affairs of the bank.

Corrective action can be targeted to the behavior of various interested parties such as a bank's shareholders, its directors and managers, or the bank itself. The Supervisory Guidance on Dealing with Weak Banks,[47] issued by the Basel Committee on Banking Supervision in 2002, gives the following examples of such actions.

Impact on shareholders

- Call for cash (equity) injection by shareholders
- Suspension of particular or all shareholders' rights, including voting rights
- Prohibition on the distribution of profits or other withdrawals by shareholders

Impact on directors and managers

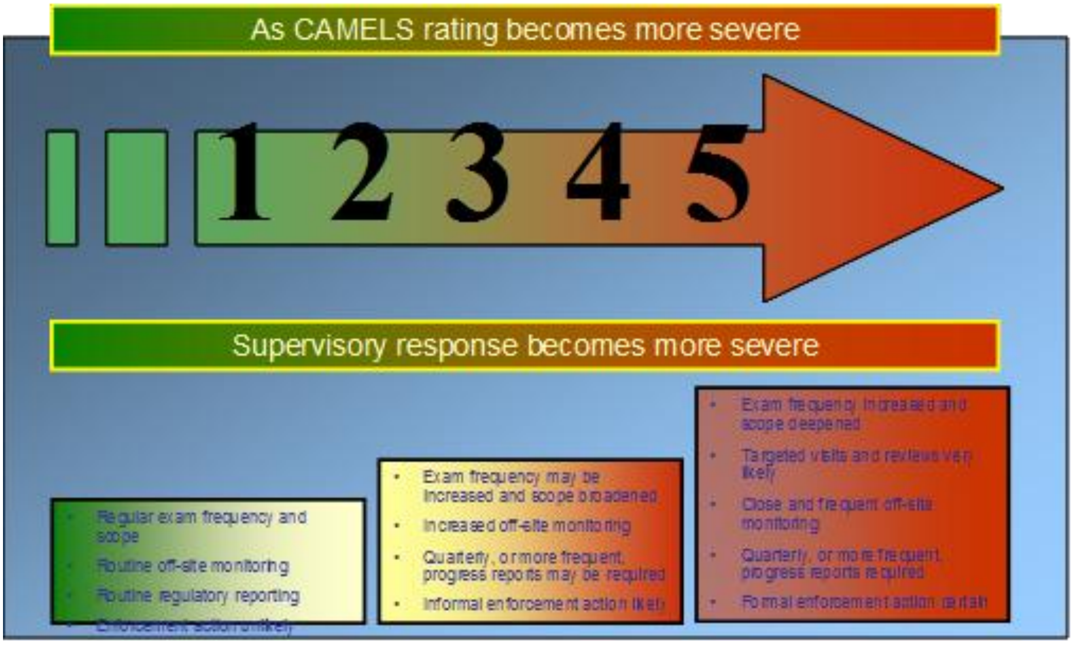
- Removal of directors and managers
- Limitations on compensation (including management fees and bonuses) to directors and senior executive officers

Impact on the bank

- Requiring the bank to improve governance, internal controls and risk management systems
- Maintaining higher capital adequacy and liquidity ratios
- Placing restrictions or conditions on the business conducted by the bank
- Downsizing of operations and sale of assets
- Restricting expansion of branches or closing of branches at home or abroad
- Immediate or enhanced provisioning for those assets of doubtful quality and for those which are not represented in the accounts at fair value
- Banning principal or interest payments on subordinated debts
- Cessation of any practices that are harming the institution, such as irregularities and violation of laws or regulations governing the bank's activity
- Prohibiting or limiting particular lines of business, products or customers (including concentration limits)
- Prior supervisory approval of any major capital expenditure, material commitment or contingent liability
- Appointing an administrator or conservator.

[47]BCBS, "Supervisory Guidance on Dealing with Weak Banks", BIS, March 2002, pp. 20–21.

Figure 2 presents an example using a CAMELS rating for risk-focused surveillance and implementation of corrective measures by the Federal Deposit Insurance Corporation (FDIC, United States).



Recent developments

The recent financial crisis has intensified efforts by international institutions and standard setters as well as national authorities to strengthen capital requirements, liquidity, and the risk management practices of financial institutions including banks. In order to efficiently initiate and implement necessary corrective actions and other intervention measures, deposit insurers should ensure that the implementation of these new requirements and their timely and accurate integration into bank surveillance and intervention arrangements are closely monitored.

In the recent *Core principles for effective supervision – consultative document* (revised from 2006), the BCBS stresses the need to provide each responsible authority with legal powers to undertake timely corrective actions to address safety and soundness concerns.The use of these powers, once weaknesses or deficiencies in banks or banking groups are identified, is also considered of paramount importance.[48]

An important area that requires special attention is the ongoing review by the FSB and the Basel Committee of international approaches to resolution of cross-border banks and banking groups. In March 2010, the BCBS issued its final *Report and Recommendations of the Cross-border Bank Resolution Group.* [49] This report recommends that jurisdictions should have in place special resolution regimes to deal with failing financial institutions, and that these regimes should include the following features: "A process for early intervention with clear conditions governing their application…; A mechanism to fund ongoing operations during the resolution process, for instance, by relying on a deposit insurance fund…". In *Key Attributes for Effective*

[48]BCBS, "Core principles for Effective Banking Supervision – Consultative Document", BIS, December 2011, pp.21–22 and 34– 35.
[49]www.bis.org/publ/bcbs169.pdf.

Resolution Regimes for Financial Institutions, the FSB states that an effective resolution regime should protect depositors "… where applicable and in coordination with relevant insurance schemes and arrangements…",[50] and that "Jurisdictions should ensure that no legal, regulatory or policy impediments exist that hinder the appropriate exchange of information, including firm-specific information, between supervisory authorities, central banks, resolution authorities, finance ministries and the public authorities responsible for guarantee schemes."[51] Deposit insurers should also take into account and understand their role in fulfilling other recommendations in these documents, relating to: the establishment of national frameworks for the coordinated resolution of financial groups, convergence of national resolution tools and measures, planning in advance for orderly resolution, cross-border cooperation and information sharing, and development of principles and options for the exit from public intervention.

For timely and effective intervention, it is important to have in place contingency plans developed in close cooperation with bank supervisors, resolution authorities and other safety-net participants. These plans should contain a detailed description of possible action to address various weaknesses that may arise in the future. As it is intended to require banks and banking groups (especially systemically important ones) to draw up comprehensive recovery and resolution plans ("living wills"), it is important for deposit insurers to define and set out in laws or other regulations their role in setting standards for such plans, their review, approval and implementation. On this basis, the deposit insurer will be able to assess what resources it will need to effectively play this role.

Deposit insurers should also identify their particular role in implementing a number of new intervention measures that are under consideration and include: "powers for relevant safety net players to prohibit payment of dividends, … to require implementation of a bank's recovery plan to address specific funding problems, and to appoint a special manager for a limited period to take over control and run the bank with the objective of addressing its problems and restoring it to financial health." [52] It is also important for deposit insurers to receive timely and adequate information on the implementation of possible intervention measures such as writing down certain debts of the bank or converting it to equity for restoring the bank's capital position ("bail-in"), sale of subsidiaries and/or spin-off of business units, etc.[53]

An important issue is the treatment of systemically important and complex and interconnected deposit-taking institutions and financial conglomerates. Deposit insurers should participate in the process of assessing sustainability and resolvability as well as improving resolution methods for such institutions, in order to achieve their public policy objectives and effectively fulfill their mandates.

Deposit Insurers' Practices

The results of the survey conducted while preparing this paper show that the majority of deposit insurers do not have legal authority to initiate corrective action or other intervention measures. Only 10 respondents (31%) can independently initiate

---

[50] See FSB, "Key Attributes of Effective Resolution Regimes for Financial Institutions", October 2011, p. 3.
[51]Ibid, p. 18.
[52] See European Commission, "Consultation on Technical Details of a Possible Crisis Management Framework for financial institutions", FAQ, MEMO/11/6, Brussels, January 2011.

[53] Ibid.

such action, while 11 (34%) can recommend that the relevant authorities take certain supervisory action and 5 (16%) can request that action be taken.

In 23 jurisdictions triggers for intervention are formalized in laws or regulations, while in 14 jurisdictions the bank supervisor or the central bank has some discretion in the implementation of intervention measures. The most commonly used triggers for initiating corrective action and/or intervention measures are inadequate capital – 28 respondents (87.5%), inadequate liquidity – 26 (81%), poor quality of assets (75%), unsafe and unsound practices (81%). Other triggers mentioned include excessive concentration of risk, violation of anti-money laundering and other laws and regulations, high interest rates on deposits, weak internal control systems and failure to correct deficiencies or to submit reliable information, etc.

Respondents indicate that the following forms of intervention are used in their jurisdictions:

Form of action	Responsible safety-net player		
	Bank Supervisor	Deposit Insurer	Central Bank
a. Conducting extraordinary/special inspection/examination	18	12	12
b. Request/order to correct deficiencies	18	7	13
c. Request/order to submit a plan for eliminating deficiencies	17	8	13
d. Increasing the premium rate for a member institution	12	16	1
e. Termination of membership in the DIS	3	9	6
f. Prohibition on conducting certain types of operation	17	5	14
g. Request to remove top management	17	5	13
h. Providing open bank assistance	1	15	12
i. Taking an institution under the control of the bank supervisor/deposit insurer/other government entity without closing it, and temporary management of its operations (temporary nationalization)	9	13	11

Form of action	Responsible safety-net player		
	Bank Supervisor	Deposit Insurer	Central Bank
j. Member institution closure	13	4	16
k. Initiating bankruptcy proceedings against a member institution	13	10	12
l. Resolution of a closed member institution	4	17	10

Some points revealed by the table should be highlighted. There are forms of intervention that are quite generalized. Indeed, conducting special examinations, increasing premium rates for a member institution, providing open bank assistance and resolving a closed member institution are good and quite widespread practices. However, there are forms of intervention which are unusual among DIAs, such as: request/order to correct deficiencies; request/order to submit a plan for eliminating deficiencies; prohibition of certain types of operation; request to remove top management and the closure of a member institution. These are forms of intervention that are generally carried out by much more supervision-oriented deposit insurers (e.g. FDIC). Finally, taking control of an institution (nationalization) without closing it is a fairly widespread intervention practice, but one which has both advantages and disadvantages. For example, it is particularly beneficial where there are no alternative sources of credit in the country. Nevertheless, protecting all the bank's creditors may erode market discipline.[54]

Respondents also indicated the following principal objectives of corrective action/intervention: reducing depositor losses – 25 (76%); reducing taxpayer losses – 18 (55%); reducing incentives for excessive risk-taking – 13 (39%); recapitalization by shareholders – 13 (39 %); and reducing deposit insurer losses – 12 (36%).

c. Interrelationship with other Safety-Net Players

It is necessary for a deposit insurer to have due arrangements in place for effective information sharing and coordination of its actions with other safety-net participants in the course of ongoing surveillance, implementation of corrective/intervention measures and bank resolution.

Information sharing is one of the vital areas in the relationship between the deposit insurer and other safety-net players. The types of information to be shared may be specified by law, formal agreement or informally. Depending on its institutional mandate and powers, the deposit insurer's need for relevant information can vary significantly. The nature of the information required by the deposit insurer in normal times will also differ from that in a crisis.

In the case of a simple paybox system, the deposit insurer should have, at least, the basic information to calculate insurance premiums and reimburse depositors in a

[54]Steven Seelig, "Techniques of Bank Resolution", in *Bank Restructuring and Resolution*, David Hoelscher (ed.), IMF, 2006.

timely and efficient manner when required to do so. Such information would relate to data on the bank's deposit base, including information on the amount of insured deposits held by individual depositors.

A risk-minimizing deposit insurer will, however, have a greater need for information given its broader mandate. It must be in a position to assess the financial condition not only of individual member institutions, for example through access to their financial statements and other reports, but also of the entire industry. In addition, the risk minimizer should be able to anticipate the weaknesses of individual banks and deal with them effectively when they arise. This requires well-defined roles, responsibilities, information sharing and coordination of activities with other financial safety-net participants. When this is accomplished, it can result in a high level of effectiveness and minimization of losses for the deposit insurer and the financial system as a whole.[55]

Depending on the breadth of their individual mandates, deposit insurers may need to supplement information provided by supervisors and/or resolution authorities with information collected directly from banks.

Although informal arrangements for information sharing and coordination can work well, clearly specified agreements are highly desirable, given the sensitivity of bank-specific information and the need to maintain confidentiality. The challenge of maintaining open communication channels suggests that it may be useful to formalize these arrangements. The following coordination methods are usually adopted: membership of other financial safety-net participants on the deposit insurance system's board of directors, use of memoranda of understanding (MOUs), specially designated committees (like the Deposit Insurance Committee in Korea and National Risk Committee in the United States), legal agreements or a combination of these techniques.These arrangements also may be useful in providing a general framework for safety-net participants to coordinate their related activities. Rules regarding confidentiality of information should apply to all safety-net participants.

For information to be useful to the deposit insurer, it should be timely, accurate and relevant, to facilitate an effective system of ongoing evaluation of individual insured institutions as well as the banking industry as a whole. Well-designed information sharing arrangements help the deposit insurer to ensure its constant readiness for effective fulfillment of its responsibilities. Timely access to relevant information allows proper advance planning of the deposit insurer's involvement in interventions and resolutions of weak/failing banks based on a clear understanding of the situation and its prospects, and can contribute to better allocation of the deposit insurer's resources and, ultimately, to improving the sustainability of the banking system. It can also help to improve market discipline and create incentives for more responsible behavior, for example through the use of risk-based premium systems that differentiate between banks according to their risk profiles. Deposit insurers can also use such information for optimizing the investment policy, improving the management of the deposit insurance fund's financial resources, and minimizing lost profits.

In many instances, the supervisor is not obliged to respond to the deposit insurer's requests for information within a specified period of time. However, when establishing a DIS or reforming an existing system, requirements can be introduced which oblige the supervisory authority and resolution authorities to supply the deposit insurer with

[55]IADI, "General Guidance to Promote Effective Interrelationships among Financial Safety Net Participants", January 2006, p. 9.

required information within a specified time limit. Information on banks that are in financial difficulty or are expected to be in financial difficulty should be available to the deposit insurer in advance and, where confidentiality requirements prevent this, or where the information is not available from other safety-net participants, the deposit insurer should have the power to collect information directly from such banks. It is also good practice for a deposit insurer, especially one with a risk-minimizer mandate, to have the authority to conduct on-site reviews, perform due diligence, and have access to depositor records before bank closure.[56]

For all deposit insurers, it is important to be informed about the results/prospects of implementation of corrective action/intervention measures and participate in their analysis, so as to be better prepared for possible negative developments, when the deposit insurer's involvement will become necessary. If such an arrangement exists, the deposit insurer can make timely adjustments to its operations and plans, and more efficiently manage its resources.

Institutional arrangements for implementing corrective action and intervention measures need to ensure that the financial safety-net participants involved have clearly defined mandates, roles and responsibilities, that the intervention framework is well defined, transparent and well understood, and that there are sound information sharing and coordination arrangements among the safety-net organizations.

It is recommended to formalize interrelationships between the deposit insurer and other financial safety-net players. A good example of such a formalized coordination mechanism is Canada's "Guide to Intervention for Federally Regulated Deposit-Taking Institutions", [57] which sets out a graduated approach to implementing corrective/intervention/restructuring measures, and describes the intervention activities of the CDIC (Canada Deposit Insurance Corporation) and the OSFI (Office of Superintendent of Financial Institutions).

Recent developments

Some jurisdictions have created inter-agency systemic risk councils (or similar bodies). For example, the United States has established the Financial Stability Oversight Council for inter-agency coordination in addressing macro-prudential and systemic risk issues. Uruguay has also established the Comité de EstabilidadFinanciera (Financial Stability Committee), with similar objectives. It is important to ensure adequate representation of the deposit insurance system's interests in the decision-making process of such a body. The deposit insurer's involvement in the council's activity will depend on its mandate and role in the financial safety net.

The introduction of the recovery and resolution plans proposed by the FSB and the Basel Committee on Banking Supervision also requires close coordination of relevant safety-net participants' actions at all stages of development, review, approval and implementation of such plans. [58] When new regulatory requirements are being established for systemically important financial institutions, deposit insurers should take the necessary action to adjust their risk identification and mitigation systems, as well as ensure adequate accumulation and allocation of financial and other resources.

---

[56]IADI, "General Guidance for the Resolution of Bank Failures", December 2005.
[57] Seewww.cdic.ca/e/CDICs_Guide_to_Intervention_DTI_e.pdf.

[58]See FSB, "Key Attributes of Effective Resolution Regimes for Financial Institutions", October 2011; and BIS, "Report and Recommendations of the Cross-Border Bank Resolution Group", March 2010, pp. 32–33.

Deposit Insurers' Practices

In a majority of jurisdictions (78%), supervisors are required by law or regulation to inform the deposit insurer about the occurrence of a triggering event for corrective action/intervention. In other cases, the deposit insurer is informed only if its involvement is expected/required. Twenty (62.5%) respondents indicated that such information sharing and cooperation is based on legislation, while 17 (53%) respondents reported that such information is provided to them under a MOU between the bank supervisor and the deposit insurer (multiple responses were allowed).

d. Mechanisms for Mitigating Risks of Deposit Insurance Systems

It is important to note that a number of deposit insurers have a set of tools that allow them to take action to minimize their potential expenses/losses from a bank failure. Examples of such tools range from initiation and implementation of formal and informal corrective actions to intervention and resolution measures chosen on the basis of a least-cost or similar test/principle. It is important to note that in recent years some jurisdictions have expanded the mandates of their DISs to enable them to participate more actively in recovery and resolution planning as well as in implementing resolution powers (e.g. United States, Russia). Involving deposit insurers in the recovery and resolution planning process can also facilitate the mitigation of risks that DISs might face.

It is recommended to use such risk/loss minimization instruments in close cooperation with other relevant financial safety-net participants, based on criteria and triggers that are consistent with the deposit insurer's public policy objectives and mandates.

Among such powers, the respondents to the survey indicated the authority to arrange purchase and assumption transactions (56%), provide assistance to a member institution (53%), ensure effective management and marketing of a failed bank's assets (50%), assist mergers and acquisitions (47%), and establish bridge institutions (37.5%).

e. New Practices in the Wake of the 2008/2009 Crisis

This section describes new temporary and permanent policy reactions prompted by the 2008/2009 crisis. Since then, some DIAs have adapted their schemes to include different kinds of permanent institutional arrangements and/or extraordinary measures. However, the direction such changes have taken varies. Most changes were system-wide and included changes in the scope and limits of deposit insurance coverage and modifications to DIS powers.[59] As mentioned in section (d), new mandates have been given to DIAs, and consequently new responsibilities concerning early detection and timely intervention.

Regarding early detection, there is a clear tendency for DIA, no matter what its mandate, to collect data, analyze the risk profile of banks, and participate in stability evaluations. Similarly, there is an emerging view that the DIA should be a key player in the decision on whether or not to intervene in a problem bank. Indeed, some argue that the DIA should provide "a second view about individual banks, reinforce supervisory

---

[59] FSB,"Thematic review on deposit insurance systems – Peer review report", 2012, p. 11.

judgments or challenging supervisory conclusions".[60] However, the way in which, and degree to which, these new practices are implemented depends critically on how the crisis has affected the banking system in different jurisdictions.

As regards systemic risk surveillance, DIAs are increasingly being considered for participation in financial stability councils. We also consider this alternative as a best practice for financial stability, since the "second view" argument remains valid. It is therefore vital that the DIA has the analytical capacity and tools to assess systemic risks from its own perspective. New research has shown that some approaches work better than others in dealing with systemic risk. For example, in the context of the European Systemic Risk Board (ESRB), Bini (2009) analyzes risk detection and risk assessment as two main areas of focus when addressing systemic risk. Regarding the first approach, old early warning system models are criticized because "they performed well in the sample but they typically failed to predict future crisis". Instead, Bini takes into account new research which performs better, particularly with respect to credit cycles and asset price bubbles. On the other hand, macro-testing models used for risk assessment generated hardly any failures, even for large shocks, and could be improved "by using appropriate data, more granular than previously available and capturing better and a larger number of adverse feedback loops that can play a role in amplifying the transmission of instability in the financial system".[61] In addition, it would be advisable to explore two important global early warning systems when predicting a banking crisis: the logit EWS and the signal extraction EWS.[62]

[60] We are very grateful to D. Hoelscher for his comments.
[61] See Aikan, Alessandri, Eklund, Gai Kapadi , Mora Sterne and Willison, "Funding liquidity risk in a quantitative model of systemic stability", Bank of England WP No. 372, 2009.
[62] See David, E Philip and Karim Dilruba,"Comparing Early Warning Systems for Banking Crisis", Journal *of Financial Stability*, 2008.

IV. Conclusion

Regardless of the specific responsibilities of the deposit insurer in any particular jurisdiction, the manner in which banks are supervised and regulated, and troubled banks resolved, has a major impact on the costs and other aspects of the deposit insurance system.

Timely detection of weak or problem banks is very important for the effective and stable functioning of the deposit insurance system. This ensures due preparation to expected insured events (bank failures), when the deposit insurer will need to rapidly accumulate and allocate the necessary financial, human and other resources (for effecting depositor payouts or arranging transfer of deposits as part of purchase and assumption transactions). Moreover, the early identification of weaknesses and threats to DIS member banks allows supervisors and/or other financial safety-net players to take effective measures for preventing bank failures, such as providing liquidity support, assisting mergers and acquisitions, requiring implementation of recovery plans and, in certain cases, recapitalizing a bank at the expense of the deposit insurer or other authorized government agencies.

Regardless of whoever has responsibilities in this regard, it is important to recognize that the determination and recognition of when a bank is or is expected to be in serious financial difficulty should be made early, and that the intervention and resolution process should be initiated promptly and on the basis of well-defined criteria. The criteria should be clearly defined in law or regulation, and should be well understood by banks and their stakeholders. Because a bank's financial performance and capital position can deteriorate quickly, trigger mechanisms based on single measures such as capital insolvency, illiquidity or poor quality of assets may not be sufficient. Effective trigger mechanisms for early intervention or corrective action should include a variety of relevant indicators of both a quantitative and a qualitative nature.

Institutional arrangements for ongoing bank surveillance and intervention action need to ensure that the financial safety-net participants involved have clearly defined mandates, roles and responsibilities, as well as the operational independence and powers to perform their respective roles in the early intervention/corrective action framework. This framework should be established by law or regulation, insulated against legal actions that aim at reversal of early and timely decisions related to corrective procedures, interventions and resolutions of troubled banks. It should be well defined, transparent and well understood. In addition, sound information sharing and coordination arrangements should exist among safety-net organizations.

The best results can be achieved if intervention is initiated at an early stage of deterioration of a bank's condition, when identified problems still can be rectified. Timely corrective action/intervention can reduce the likelihood of a resolution being necessary, contribute to maintaining banking system stability and public confidence while preserving the value of a problem bank, better protecting depositors and minimizing losses to the deposit insurance fund.

It is important for the bank supervisor, the resolution authorities and the deposit insurer to have well-developed action/contingency plans for ensuring timely and effective implementation of intervention measures that are adequate and proportionate to the seriousness of a bank's weaknesses. It is good practice for intervention measures/corrective action to be coordinated between the deposit insurer, the resolution authority and the primary bank supervisor. On the other hand, when intervention is initiated by the deposit insurer but executed by another financial safety-net player, it is necessary to ensure that the deposit insurer is informed in a timely manner about the action taken and the results achieved.

The introduction of the recovery and resolution plans proposed by the Financial Stability Board and the Basel Committee on Banking Supervision requires close coordination of relevant safety-net participants' actions at all stages of development, review, approval and implementation of such plans. When new regulatory requirements are being established for systemically important financial institutions, deposit insurers should take the necessary action to adjust their risk identification and mitigation systems, as well as ensure adequate accumulation and allocation of financial and other resources.

For information to be useful to the deposit insurer, it should be timely, accurate and relevant in order to facilitate an effective system for the ongoing evaluation of individual insured institutions as well as the banking industry as a whole. It is good practice when "… safety-net participants make information on banks that are in financial difficulty or are expected to be in financial difficulty available to the deposit insurer in advance and, where confidentiality requirements prevent this, or where the information is not available from other safety-net participants, the deposit insurer has the power to collect information directly from such banks".

The deposit insurer's need for relevant information can vary significantly depending on its institutional mandate and powers but this does not obviate the need for close coordination and information sharing among safety-net participants in all cases. All the required information should be timely, accurate and relevant. In the case of a simple paybox system, the deposit insurance agency should have the basic information to ensure its readiness to pay off depositors in a timely and efficient manner when required to do so.

References

Aikan, D; P. Alessandri, B. Eklund; P. Gai; S. Kapadia;, E. Martin; N. Mora; G. Sterne and M. Willison, "Funding liquidity risk in a quantitative model of systemic stability", Bank of England WP No. 372, 2009

Altman, E"Financial Ratios, Discriminant Analysis and the prediction of corporate bankruptcy", The Journal of Finance, Vol. 23, No. 4. September 1968.

Association of Supervisors of Banks of the Americas (ASBA): "Effective Deposit Insurance Schemes and Bank Resolution Practices", September 2006.

Bank for International Settlements (BIS): "Core Principles for Effective Deposit Insurance Systems" June 2009. ISBN print: 92-9131-790-X.

Bank for International Settlements (BIS): "Report and Recommendations of the Cross-Border Bank Resolution Group" March 2010.

Basel Committee on Banking Supervision (BCBS) and BIS: "Core principles for Effective Banking Supervision- Consultative Document". December 2011.

Basel Committee on Banking Supervision (BCBS) BIS: "Supervisory Guidance on Dealing with Weak Banks", March 2002.

Basel Committee on Banking Supervision (BCBS) and International Association of Deposit Insurers (IADI): "Core Principles for Effective Deposit Insurance Systems A methodology for compliance assessment". December 2010.

Bolzico, Javier, Yira Mascaro and Paola Granata:"Practical Guidelines for Effective Bank Resolution". The World Bank.Policy Research Working Paper 4389. - 2007.

Davis, E Philip and Dilruba Karim: "Comparing Early Warning Systems for Banking Crisis", Journal of Financial Stability. 2008

European Commission: "Consultation on Technical Details of a Possible Crisis Management Framework for financial institutions" – FAQ, MEMO/11/6, Brussels, 6 January 2011.

Financial Stability Board (FSB):"Policy Measures to Address Systemically Important Financial Institutions" FSB 4. November 2011.

Financial Stability Board(FSB): "Principles for Reducing Reliance on CRA Ratings"FSB 27. October, 2010.

Financial Stability Board (FSB):"Thematic Review on Deposit Insurance Systems – Peer Review Report" 2012

Financial Stability Board(FSB): "Intensity and Effectiveness of SIFI Supervision-Recommendations for enhanced supervision" FSB 2. November 2010.

Financial Stability Forum (FSF): "Guidance for Developing Effective Deposit Insurance Systems" 2001

Financial Stability Board (FSB):"Key Attributes of Effective Resolution Regimes for Financial Institutions". October 2011.

FSI Connect. Tutorial: "Problem Banks – Corrective Actions and Resolution". www.fsiconnect.org

FSI Connect Tutorial: "Problem Banks – An Introduction" Problem Banks and Macro-level Indicators.www.fsiconnect.org.

Government of Canada: "Guide to Intervention for Federally Regulated Deposit-Taking Institutions". 2008.http://www.cdic.ca/e/CDICs Guide to Intervention DTI e.pdf.

Greuning, Hennie van and Sonja Brajovic Bratanovic: "Analyzing Banking Risk. A Framework for Assessing Corporate Governance and Risk Management".3rd edition.The World Bank. 2009.

International Association of Deposit Insurers (IADI):"General Guidance for the Resolution of Bank Failures". IADI 5, December 2005.

International Association of Deposit Insurers (IADI):"General Guidance to Promote Effective Interrelationships among Financial Safety Net Participants 12 January, 2006.

International Association of Deposit Insurers (IADI) Glossary: http://www.iadi.org/Publications

International Association of Deposit Insurers (IADI): "IADI to Adopt the Key Conclusions of the APEC Policy Dialogue on Deposit Insurance as Official IADI Guidance". September, 2005

International Monetary Fund (IMF): "Macroprudential Indicators of Financial System Soundness".IMF:Occasional Paper 192. April 2000

Korablev, Irina and Douglas Dwyer: "Power and Level validation of Moody's KMV EDF credit measures in North America, Europe and Asia: Modeling Methodology. Moody's-KMV -2007

Laeven, Luc and Thorsten Beck: "Resolution of failed banks by deposit insurers: Cross Country Evidence" World Bank Policy Research Working Paper No. 3920, 2006

Levine, Ross: "The corporate Governance of Banks: A concise concepts and evidence" World Bank Policy Research WP 3404, 2004

Loser,Claudio; Miguel Kiguel, and David Mermelstein: "A Macroprudential Framework for the Early Detection of Banking Problems in Emerging Economies. Asian Development Bank, March 2010.

Lowe, M. Anthony: "Marketing: Resolution of a Problem institution"(Power Point), Seminar on dealing with problem bank situations(2008).Financial Stability Institute (FSI) and Toronto Centre. Basel, Switzerland. May 2008.

Mayes, David "Early Intervention and Prompt Corrective Action in Europe",Bank of Finland Research Discussion Paper No. 17, 2009

OCC: "An Examiner's Guide to Problem Bank Identification, Rehabilitation, and Resolution", January 2001.

Sahajwala, Ranjana and Paul Van den Bergh: "Supervisory Risk Assessment and Early Warning Systems". BCBS Working Paper 4, BIS, December 2000

SEASEN Centre: "Comparison of Problem Bank Identification, Intervention and Resolution in the SEASEN Countries", 2008.
www.frbsf.org/banking/bsr/about.html.

Seelig, Steven: "Techniques of Bank Resolution", *in*"Bank Restructuring and Resolution": David Hoelscher (ed.), IMF, 2006.

Walker, David: "Comprehensive Early Warning Systems and the Experience of the Canada Deposit Insurance Corporation (CDIC)" The SEACEN Center. 2002

www.frbsf.org/banking/bsr/about.html.

www.bis.org/publ/bcbs169.pdf.

ANNEX I. Details of Early Detection and Timely Intervention Regimes in Selected Jurisdictions[63]

1. **Albania:** In Albania, the central bank has the role of bank regulator and supervisor, and is responsible for early detection and timely intervention. However, in accordance with the MOU between the Albanian Deposit Insurance Agency (ADIA) and the central bank, ADIA has access to supervisory information from the central bank and uses it for reviewing and preparing summary reports. The Albanian deposit insurance system has a narrow mandate ("paybox") and ADIA is not empowered to initiate any corrective/intervention action.

2. **Azerbaijan:** The Azerbaijan Deposit Insurance Fund (ADIF) indicated that its deposit insurance system has the mandate of "paybox with extended powers". The central bank is the only bank regulator and supervisor, and the ADIF does not have any access to supervisory information, nor can it initiate any corrective action or intervention measures against DIS member banks. Grounds for initiating corrective action and intervention measures (by the central bank) are formalized in laws and regulations, and include inadequate regulatory capital, low levels of accessible liquidity, deterioration of the quality of assets, unsafe and imprudent practices, non-payment of insurance premiums when due, inability to meet liabilities, and initiation of court bankruptcy proceedings. The only intervention measure that can be implemented by the ADIF is the termination of a bank's membership in the deposit insurance system (subject to central bank consent). Among the public policy objectives of the early detection and timely intervention regime, the ADIF indicated maintaining financial stability and reducing depositors' losses. The central bank is required (by law and MOU) to inform the ADIF on decisions made on initiating forced liquidation, bankruptcy proceedings, imposing a moratorium on meeting liabilities, appointment of a temporary administrator or revocation of the banking license. The ADIF can manage its losses through its participation in bankruptcy proceedings in the capacity of temporary administrator or liquidator of failing/failed banks.

3. **Bahamas:** The deposit insurance system has a "paybox" mandate. The central bank is responsible for bank regulation and supervision but the Deposit Insurance Corporation (DIC), based on provisions of legislation, has access to supervisory information (on request). The DIC cannot initiate any corrective action by itself, but has various powers to act "Where the central bank advises the Corporation (a) that the rights of depositors or creditors of an institution are threatened; (b) that an institution is likely to become unable to meet its obligations or is about to suspend or has suspended payments; or (c) that an institution is not maintaining high standards of financial probity or sound business practices". The DIC has, among others, powers to:

   (a) investigate the affairs of the institution concerned and any of its affiliate and to appoint a person or persons for that purpose;

   (b) to such extent as it thinks fit, assume control of and carry on the affairs of the institution and, if necessary, take over the property and undertaking of the institution;

   (c) take all steps it considers necessary to protect the interests and preserve the rights of depositors and creditors of the institution;

[63] Unless noted otherwise, the primary source of all information is the responses provided by the corresponding deposit insurers to the Subcommittee survey.

(d) restructure the business or undertaking of the institution, or reconstruct its capital base;

(e) provide such financial assistance to the institution as it considers necessary to prevent the collapse of the institution;

(f) acquire or sell or otherwise deal with the property, assets and undertaking of or any shareholding in the institution, at a fair market price;

(g) appoint such persons as it considers necessary to assist in the performance of the functions conferred by paragraphs (d) to (i).

4. **Barbados:** The Barbados Deposit Insurance Corporation (BDIC) indicated that the country's deposit insurance system is a "paybox with extended mandate". It has access to supervisory information (quarterly and on request) and plays a role in the early detection and timely intervention and resolution of troubled banks (together with the central bank, which is the primary bank regulator and supervisor). The BDIC also receives financial reports directly from DIS member institutions. The information is used by the BDIC for building risk detection models and preparing summary reports. While the BDIC does not have legal authority to initiate corrective/intervention measures (these are at the discretion of the central bank), to reduce its own losses it can provide financial assistance to DIS member banks, assist bank mergers and acquisitions, and arrange purchase and assumption transactions (such actions are initiated/prescribed by the central bank).

5. **Brazil:** The Brazilian deposit insurance system has a "paybox" mandate. The Central Bank is responsible for bank regulation and supervision. The Fundo Garantidor de Créditos (FGC) does not have access to any supervisory information and cannot initiate any corrective/intervention measures. However, the central bank is required to inform the FGC when it initiates intervention, extrajudicial liquidation or bankruptcy of a member institution, or when it declares an institution insolvent. Among the bank resolution options available to the FGC are: providing financial assistance to a member institution; and arranging purchase and assumption transactions.

6. **Bulgaria:** The Bulgarian Deposit Insurance Fund (BDIF) has the mandate of "paybox with extended powers". The central bank and the bank supervisor are responsible for early detection and timely intervention in troubled financial institutions. The BDIF does not have access to any supervisory information and cannot initiate any corrective/intervention measures but it has the right to request that the central bank provide it with information on the financial position of a bank. The central bank is required by law to inform the BDIF only when it issues an order requiring a bank that is placed under special supervision (due to the heightened risk of its insolvency) to increase its capital. However, the BDIF can provide financial assistance to troubled banks and plays a role in administering bankruptcy proceedings in failed banks.

7. **Canada:** The Canada Deposit Insurance Corporation has the mandate of "risk minimizer". Together with the bank regulator and supervisor (OSFI), the CDIC is responsible for early detection and timely intervention in troubled insured institutions. The CDIC has constant access to supervisory information (shared database) and uses it for building risk detection and assessment models, reviewing and preparing summary reports, and assigning separate risk ratings for each insured institution – for calculating premium rates and initiating corrective/intervention action. The CDIC can initiate independent corrective action and has a variety of powers to fulfill its mandate and minimize its

exposure to loss. They include, among others, requests for information, communication of concerns, obtaining undertakings, conducting special examinations and preparatory exams, assessing a premium surcharge, terminating or canceling insurance, petitioning for a winding-up, and obtaining an order vesting assets or shares of a federal member institution in CDIC to allow a restructuring. Other available options include requests to correct deficiencies, prohibition to conduct certain types of operations, providing open bank assistance and managing the resolution of a failed member institution. Most intervention actions are at the discretion of the supervisor and/or deposit insurer. However, while each agency has discretion there is a general framework in place to guide prompt corrective action. A "Guide to Intervention for Federally Regulated Deposit-Taking Institutions" (see Annex II for a brief summary) has been jointly developed and published by CDIC and OSFI. It sets out the roles and responsibilities of the two agencies when dealing with supervisory issues and interventions. It indicates the actions or options available to OSFI and CDIC, separately and together, in relation to the circumstances in which institutions may find themselves.

8. **Colombia:** The Colombian deposit insurance system has the mandate of "paybox with extended powers". The bank supervisor is separate from the central bank, and is responsible for early detection and timely intervention and resolution of problem banks. FOGAFIN (the deposit insurer) has access to supervisory information from the bank supervisor (monthly and on request) and uses this information for building risk detection models, for reviewing and summarizing, and for assigning separate risk ratings to each insured institution that affect premium rates. FOGAFIN cannot initiate corrective or intervention measures, except premium surcharges and termination of a bank's membership in the DIS. Tools for the minimization of potential DIS expenses/losses that are available to FOGAFIN include: providing financial assistance to a member institution; assisting mergers/acquisitions; arranging purchase and assumption transactions; establishing a bridge institution; and ensuring effective management and marketing of a failed institution's assets.

9. **Germany:** The Protection Scheme of German Cooperative Banks (BVR IPS) is a specific deposit insurer, as it protects its member institutions from failure (Institutional Protection System – part of the National Association of German Cooperative Banks). The BVR IPS acts in accordance with its Statute, which empowers it to receive financial information directly from its member banks and use such information for early detection of emerging problems and concerns and for timely intervention aimed at preventing member banks' failures (or at their restructuring as a "going concern"). Based on the information received from its members (and their auditors), the BVR IPS builds risk detection models (for annual classification of banks), prepares summary reports, and assigns risk ratings to each member institution that affect premium rates and the severity of bank surveillance and failure prevention/rehabilitation measures.

10. **Guatemala:** The deposit insurance system of Guatemala (Fondopara la Protección del Ahorro – FPA) is managed by the central bank. Responsibility for early detection and timely intervention lies with the bank supervisor, which is separate from the central bank. The system is of the "paybox" type and the FPA does not have access to supervisory information, nor can it initiate any corrective/intervention measures.

11. **Guernsey:** The Guernsey Banking Deposit Compensation Scheme (GBDCS) has a mandate of "paybox with extended powers". The bank supervisor is responsible for early detection and timely intervention. The Scheme does not have any access to supervisory information and cannot initiate any

corrective/intervention action (such action is at the discretion of the bank supervisor). However, the Scheme does play a leading role in failed bank resolution. It can provide financial assistance to a resolved bank, assist its merger with a sound institution, and arrange purchase and assumption transactions.

12. **Hungary:** The Hungarian deposit insurance system is managed by the National Deposit Insurance Fund (NDIF) and has a "paybox" mandate. A special body separate from the central bank is responsible for early detection and timely intervention. The NDIF does not have access to supervisory information and cannot initiate any corrective/intervention measures. However, the NDIF can increase the rate of premiums depending on the riskiness of a bank, and it plays a role in bank resolution.

13. **Italy:** The Interbank Deposit Protection Fund (FITD) is of the "paybox with extended mandate" type. Early detection of weak banks and timely intervention and resolution of such institutions is the responsibility of the Central Bank (as the bank regulator and supervisor). The FITD has access to supervisory information and uses it for assigning risk ratings to member institutions that affect their premium rate. The FITD does not have legal authority to initiate corrective/intervention action (such action is at the discretion of the central bank), and is not involved in bank resolution.

14. **Japan:** The Deposit Insurance Corporation of Japan (DICJ) has a the mandate that may be described as "loss minimizer". While formal banking supervisory authority rests with the Financial Services Agency — with the Bank of Japan conducting the examination of financial institutions on a contractual basis — DICJ has a full set of tools to deal with bank resolution in order to minimize the loss to taxpayers/its insurance fund. The tools include: providing financial assistance to assuming financial institutions; acting as a financial administrator of failed banks; providing bridge bank functions;[64] purchasing and recovering assets of failed banks; and pursuing responsibility of the management team of the failed bank.

15. **Jordan:** The Jordanian deposit insurance system is managed by the Jordan Deposit Insurance Corporation (JDIC) and has a mandate of "paybox with extended powers". The Central Bank of Jordan is responsible for early detection and timely intervention. The JDIC has access to supervisory information and uses it for building risk detection models, reviewing and preparing summary reports. The JDIC has authority to initiate corrective action (such as increasing the membership fee of a bank, or requesting that a foreign bank's branch submit to the corporation a deposit, financialbonds or any other security) or recommend supervisory action to the central bank. The JDIC is empowered to conduct extraordinary/special examinations, increase the premium rate for a member institution, initiate bankruptcy proceedings and resolve a closed institution (depositor payout, purchase and assumption transactions, managing bank bankruptcy estate).

16. **Kazakhstan:** The Kazakhstan Deposit Insurance Fund (KDIF) has a mandate of "paybox with extended powers". Responsibility for early detection of weak banks is shared by the central bank and the bank supervisor, while intervention and resolution of troubled banks are the responsibility of the bank supervisory authority. The KDIF has access to supervisory information and uses it for

---

[64] With the revision of the Deposit Insurance Act in 2011, DICJ is now authorized to use its existing 100% subsidiary ("Resolution and Collection Corporation") as a bridge bank; in other words, DICJ will not need to maintain a separate legal entity as a bridge bank in preparation for bank resolution.

reviewing and assigning risk ratings that affect premium rates and possible action that can be taken by the KDIF. Among the corrective/supervisory actions that can be independently initiated by the deposit insurer, the KDIF indicated on-site examinations and premium surcharges. The bank supervisor does not inform the KDIF of corrective/intervention action except when the KDIF's involvement is anticipated or imminent. The KDIF indicated that it is in discussions with the relevant authorities regarding the possible extension of its powers to include activities such as participation in arranging assisted mergers and acquisitions, bridge bank operation and open bank assistance arrangements.

17. **Kenya:** The deposit insurance system of Kenya is managed by the Deposit Protection Fund Board (DPFB) and has the mandate of a "paybox". The Central Bank of Kenya is responsible for early detection and timely intervention. The DPFB has an access to detailed supervisory information and uses it for preparing summary reports. The deposit insurer cannot initiate corrective/intervention action. The only action of that kind that is available to the DPFB is increasing the premium rate for a member institution. The DPFB plays a role in the bank resolution process.

18. **Korea:** The Korea Deposit Insurance Corporation (KDIC) is a "risk minimizer". The safety-net participant responsible for early detection and timely intervention is the Financial Services Commission (FSC),[65] which is independent from the Bank of Korea. The KDIC has access to supervisory information from the Financial Supervisory Service (FSS)[66] and uses it for building risk detection and assessment models, reviewing and preparing summary reports, and assigning separate risk ratings to each insured institution in preparation for introducing a risk-based premium system in 2014. The KDIC can initiate independent corrective action and intervention such as requesting submission of data related to the business or financial status of insured financial institutions, conducting examinations (jointly with the FSS and/or the central bank), and declaring a financial institution to be insolvent or insolvency-threatened. The KDIC can also request that the FSS examines an insured institution and reports the results, etc. to the KDIC. The FSS informs the KDIC about initiating corrective measures at the time of their enforcement. While there are no formally specified grounds for the supervisory authorities to inform the KDIC when they enforce corrective/intervention actions against an insured institution, the Chairman of the KDIC, as ex-officio commissioner of the FSC, deliberates and votes for an agenda in advance relating to the implementation of corrective measures. The KDIC has a wide set of bank resolution tools, including providing open bank assistance, assisting mergers and/or acquisitions, arranging purchase and assumption transactions, establishing and running bridge banks, etc.

19. **Malaysia:** The Malaysia Deposit Insurance Corporation (MDIC) is a risk minimizer. It plays a role in early identification of problem financial institutions and timely intervention in their operations (together with the central bank). The MDIC has access to supervisory information – both from the bank supervisor and from member institutions – and uses it (together with market information) for building risk detection models, reviewing and preparing risk assessment reports, assessing risk-based premiums, and initiating action against an institution. The MDIC is authorized to recommend remedial supervisory action to the central

[65]The FSC serves as a consolidated policymaking body for all matters pertaining to supervision of the financial industry as a whole.

[66]The FSS acts as the executive supervisor for the FSC and principally carries out examination of financial institutions along with enforcement and other oversight activities as directed or charged by the FSC.

bank, including the issuance of a non-viability notice which will allow for the activation of the MDIC's extended resolution powers. In addition, the MDIC possesses loss mitigation powers, which allow the initiation of its own independent action such as imposing a premium surcharge, prohibiting certain types of operations, requesting the removal of management, performing due diligence and preparatory examinations, undertaking specific examinations (after consultation with the central bank), providing financial assistance in the form of loans, advances or guarantees, deposits with a member institution, and acquiring assets, shares or capital instruments of the member institution. The central bank and the MDIC have agreed a set of criteria for triggering early intervention allowing for the execution of its loss mitigation powers, and criteria for the issuance of the non-viability notice by the central bank for execution of failure resolution activities. The MDIC has a wide range of bank resolution options, including providing open bank assistance, temporary nationalization, and establishing a bridge institution. The MDIC and the central bank have concluded a Strategic Alliance Agreement, setting out a coordination mechanism in which the two regulatory bodies engage each other actively throughout each supervisory and resolution stage of the member institution.

20. **Mexico:** The Institutopara la Protección al Ahorro Bancario (the Institution for the Protection of Banking Savings – IPAB) is a deposit insurer of the "paybox with extended powers" type. While the bank supervisor (CNBV) is responsible for the early detection of problem banks, the deposit insurer shares the responsibility for timely intervention and resolution of such banks with other safety-net players. For these purposes, the IPAB uses supervisory information from the bank supervisor, market and other information provided by the central bank and by banking institutions through inspection visits, among others, in accordance with the provisions of a specific law and MOUs. The information is used for building risk detection models and preparing summary reports. The IPAB can initiate intervention by requiring supervisory actions such as inspection visits. It can also conduct special examinations, provide open bank assistance, take an institution under its control and manage its operation, initiate bankruptcy proceedings against a member institution, and resolve a failed bank. The legislation requires the bank supervisor to inform the deposit insurer if and when an institution does not meet capital requirements or operates in an unsafe and imprudent manner. The IPAB has a full range of bank resolution powers including providing open bank assistance, assisting mergers and/or acquisitions, arranging purchase and assumption transactions, establishing bridge banks, and managing and marketing the assets of a failed bank.

21. **Nigeria:** The Nigeria Deposit Insurance Corporation (NDIC) is a deposit insurer of the "risk minimizer" type. Together with the central bank, the NDIC is responsible for early detection and timely intervention and resolution of troubled banks. It has full access to supervisory information and receives financial reports directly from member institutions. The information is used for building risk detection models, and assigning risk ratings to banks that affect premium rates and possible action by the deposit insurer. The NDIC can initiate such actions as termination of insurance status, request to raise fresh capital, providing liquidity support, recommendation to change management or the board of a bank, etc. The NDIC has a wide range of intervention tools, including conducting special examinations, requesting the elimination of deficiencies, and increasing the premium rate. The NDIC can use various resolution options ranging from providing financial assistance to receivership management.

22. **Philippines:** The deposit insurance system of the Philippines is managed by the Philippine Deposit Insurance Corporation (PDIC) and has a mandate of "paybox with extended powers". The central bank is responsible for early detection and timely intervention. However, the PDIC, which has access to supervisory information from the central bank and from financial reports filed by member institutions as well as market information, is able to build its own risk detection models and assign risk ratings to institutions that affect possible PDIC action. The PDIC can independently issue a cease and desist order to a member bank and ask the bank to institute corrective action within 15–45 days from the issuance of the cease and desist order; it can also remove insurance coverage on deposit products found to be unsafe and unsound, or from unlawful sources. Powers that allow the PDIC to mitigate its losses include extraordinary examinations (these require central bank approval), providing open bank assistance, assisting mergers and acquisitions, and receivership management.

23. **Poland:** The Bank Guarantee Fund of Poland (BGF) has a mandate of "paybox with extended powers". While it indicated that it is not responsible for early detection and timely intervention (this is the responsibility of the bank supervisor, which is separate from the central bank), it does have access to supervisory information and uses it for building risk detection models, reviewing and preparing summary reports as well as for setting the deposit insurance system's policy. The BGF does not have legal authority to initiate corrective or intervention action but can provide financial assistance to member banks, and assist their mergers and acquisitions. The bank supervisor is required (based on the MOU with the BGF) to inform the BGF of its decisions to impose corrective/intervention measures or sanctions against DIS member banks (after making the decision).

24. **Quebec:** The Autorité des marchés financiers (AMF) has a "risk minimizer" mandate and is responsible for early detection and timely intervention and resolution of troubled insured institutions in the Canadian province of Quebec. It has access to supervisory and market information, and can receive financial reports directly from member institutions. The information is used for building risk identification models and assigning risk ratings to member institutions that affect premium rates and possible action by the deposit insurer. The AMF can initiate independent actions (such as acquire assets or any security issued by an insured institution, constitute a legal person to carry out the winding-up of a failed institution and act as liquidator and receiver). The AMF can issue guidelines to set out its expectations with respect to financial institutions' legal requirement to follow sound and prudent management practices (e.g. liquidity risk management, governance, compliance, integrated risk management, etc.). It may also provide guidelines on the advertising of, and information supplied about, the guarantee covering money deposit products. The AMF may order a registered institution to cease a course of action or to implement measures specified by the AMF if, in its opinion, the registered institution is not adhering to sound management and commercial practices, or is not complying with a provision of the Deposit Insurance Act, a regulation or a written instruction. The AMF has a wide range of powers related to intervention and resolution of member institutions, including conducting on-site examinations, requesting the correction of deficiencies, requesting that a plan for eliminating deficiencies be submitted, terminating membership in the DIS, prohibiting certain types of operation, providing open bank assistance, temporarily taking over the institution, closing an institution initiating bankruptcy proceedings, and various tools for bank resolution.

25. **Russia:** The Deposit Insurance Agency of Russia (DIA) has a "paybox with extended powers" mandate. In Russia, the central bank is responsible for early detection and timely intervention. The DIA has limited access to supervisory information (only placed on the central bank's website), and uses this information together with market information to build its risk detection models (mainly for estimating deposit insurance fund sufficiency). The DIA cannot initiate independent corrective action or intervention measures but it can request the central bank to conduct an extraordinary inspection (on-site examination). The DIA can provide financial assistance to member institutions, take an institution under its control, arrange purchase and assumption transactions (only in relation to banks deemed to be systemically important), and manage receivership/liquidation of an institution. The central bank does not inform the deposit insurer of any corrective action or intervention measures it has initiated, except when it revokes a banking license (usually two to three days before the license revocation).

26. **Singapore:** The Singapore Deposit Insurance Corporation (SDIC) is a "paybox" deposit insurer. The central bank (Monetary Authority of Singapore), as the bank regulator and supervisor, is responsible for early detection and timely intervention and resolution of troubled banks. The SDIC does not have access to supervisory information and cannot initiate any corrective action or intervention.

27. **Taiwan:** The Central Deposit Insurance Corporation (CDIC Taiwan) has a "risk minimizer" mandate. While the bank supervisor is responsible for early detection and timely intervention, the CDIC Taiwan has access to supervisory information both from the bank supervisor and directly from member institutions. The information is used for building risk identification models, reviewing and preparing summary reports, assigning risk ratings to institutions that affect premium rates and possible action by the deposit insurer. The CDIC Taiwan cannot initiate independent action but can recommend the supervisor to take over a problem institution or dispatch people to provide on-site guidance to a problem institution. The CDIC Taiwan has a wide range of powers, including conducting special inspections and investigations, requesting a plan for eliminating deficiencies, termination of insurance, providing open bank assistance, etc. The deposit insurer can also use various bank resolution tools to minimize its exposure to loss.

28. **Thailand:** The Deposit Protection Agency of Thailand (DPA) manages the deposit insurance system, which is of the "paybox" type. The central bank is responsible for early detection and timely intervention and resolution of weak banks. The deposit insurer has access to supervisory information (including information on measures imposed or to be imposed on member institutions) and can receive financial reports directly from member institutions. This information, together with market information, is used for building risk detection models and preparing summary reports. Corrective/intervention measures available to the DPA include increasing the premium rate for a member institution and initiating bankruptcy proceedings against a member institution.

29. **Turkey:** The Savings Deposit Insurance Fund (SDIF) has the mandate of a "paybox with extended powers" The bank supervisor is responsible for early detection and timely intervention. The SDIF has access to supervisory information from the bank supervisor and uses it for reviewing and preparing summary reports, and for assigning risk ratings that affect premium rates. The deposit insurer cannot initiate corrective action or intervention but plays an important role in bank resolution. Bank resolution tools that are used by the SDIF include providing assistance to mergers/acquisitions, arranging purchase and assumption transactions, and receivership/liquidation management.

30. **United Kingdom:** The Financial Services Compensation Scheme (FSCS) is the deposit insurer, and has a "paybox with extended powers" mandate. Early

detection and timely intervention are the responsibility of the Financial Services Authority (FSA) and the Bank of England (the central bank). The FSCS does not have a right of access to supervisory information and cannot initiate any corrective/intervention measures. The FSA has agreed to keep the FSCS informed in as timely a manner as is reasonably practicable of any regulatory and market developments that may impact on the planning or operation of the FSCS (whether for product, firm or wider financial stability reasons). The FSCS can act to pay compensation to depositors or can cover the costs of a transfer of deposits, provided that the transfer is beneficial to the generality of claimants and unlikely to result in additional cost, or any additional cost is likely to be justified by the benefits. The bank liquidator has a duty to facilitate the FSCS payout or transfer. The FSCS can also be required to contribute to the costs of resolution, carried out by the Bank of England (as the resolution authority) but no more than the net costs to the FSCS in the liquidation alternative. The FSCS has an automatic place on the Banking Insolvency Procedure liquidation committee; in this way, the FSCS can influence the conduct of the insolvent bank to seek to manage its costs.

31. **Ukraine:** The Deposit Guarantee Fund of Ukraine (DGFU) has a "paybox with extended powers" mandate.[67] The central bank is the bank regulator and supervisor, and is responsible for early detection and timely intervention and resolution of troubled banks. The DGFU has access to supervisory information from both the central bank and member institutions. This information is used for reviewing and preparing summary reports as well as for assigning risk ratings to member institutions which affect the actions that can be taken by the deposit insurer. The DGFU can recommend to the central bank certain supervisory measures against a member institution.

32. **Uruguay:** The deposit insurance system of Uruguay is managed by the Corporación de Protección del Ahorro Bancario (COPAB), which is a "paybox with extended mandate" deposit insurer. The bank supervisor is responsible for early detection of weak institutions, while the central bank is mainly responsible for timely intervention. The COPAB has access to supervisory information – both from the bank supervisor and directly from member institutions – and uses supervisory and market information for building risk identification models, preparing summary analytical reports and assigning separate risk ratings to member institutions that affect premium rates. However, the deposit insurer does not have legal authority to initiate corrective action or intervention measures. The bank supervisor informs the deposit insurer about the imposition of sanctions or corrective/intervention measures whenever a member institution has not met regulatory rules. The COPAB can influence its risks and possible losses by increasing the premium rate for a member institution, and utilizing bank resolution tools such as arranging purchase and assumption transactions and managing bank receiverships/ liquidations.

33. **United States:** The Federal Deposit Insurance Corporation (FDIC) is the deposit insurer, with a mandate that may be described as "risk minimizer". Together with other financial safety-net participants, it is responsible for early identification and timely intervention. The FDIC has full access to supervisory information, as well as to market information. It uses this information for building risk detection models, preparing summary and other analytical reports, and assigning risk ratings to insured institutions that affect both their assessment rates and supervisory actions. The FDIC can initiate a range of

---

[67] The DGFU indicated that its deposit guarantee system is in the process of being reformed; it is intended that in the future the deposit insurer will be involved in intervention and resolution of weak banks.

disciplinary, corrective, and punitive measures. These could include informal supervisory actions, such as MOUs and Board Resolutions, which are supervisory agreements designed to effectuate corrective actions, but are not enforceable in court. The FDIC may also take formal supervisory actions that are court-enforceable, which could include cease and desist orders, termination of deposit insurance, the imposition of civil money penalties, and suspension and removal from office of bank insiders and institution-affiliated parties, including directors, officers, employees, controlling stockholders, and independent contractors.

As deposit insurer, the FDIC monitors a great deal of information about all insured depository institutions and communicates frequently with other appropriate federal banking agencies when problems are detected. Many informal supervisory recommendations are made as part of this interchange among regulators. Formal recommendations for supervisory action are authorized by the FDIC's backup enforcement authority in Section 8(t) of the FDI Act. That provision authorizes the FDIC to recommend actions under the change in bank control provisions of Section 1817(j), the broad enforcement provisions of Section 8 of the FDI Act, and under the affiliate transaction restrictions of Section 1828(j). If the primary federal supervisor does not take the recommended action, the FDIC can take such action directly if certain statutory findings can be made. While the FDIC has the authority to conduct special examinations of any FDIC-insured institution to determine the condition of the FDIC-insured institution for insurance purposes or if the institution presents a heightened risk to the deposit insurance fund, the FDIC does not have authority to demand that other supervisory authorities take any particular supervisory action.

The law does not require that a bank supervisor inform the deposit insurer that it is considering possible prompt corrective actions/measures or sanctions against a member institution; however, information sharing protocols and agreements between US bank supervisors, in effect, provide the FDIC with information about a bank's condition and planned supervisory actions that are being considered by other bank supervisors. In addition, the FDIC receives directly the quarterly financial reports which would reveal that an institution has dropped to a lower PCA category, thus triggering the possibility of PCA sanctions.

The FDIC is the only financial safety-net player that is responsible for bank resolution. It has a wide range of resolution tools available and, depending on the situation and circumstances, can provide financial assistance to a member institution, arrange various purchase and assumption transactions, establish temporary bridge institutions and manage bank receiverships/conservatorships to ensure effective management and marketing of a failed institution.

ANNEX II. OSFI-CDIC Guide to Intervention for Federal Financial Institutions: Key Intervention Stages and Activities[68]

Stage 0: At Stage 0, OSFI and CDIC would carry out their regular supervisory and regulatory activities with the institution.

Stage 1: OSFI has identified deficiencies in the institution's financial condition or procedures that could lead to the development of further problems. At that stage, OSFI discusses remedial actions and monitors the institution more closely. OSFI may enter into a prudential agreement with the institution to implement corrective measures, impose business restrictions or issue a direction of compliance. CDIC does not normally intervene directly with the institution at Stage 1, but if circumstances warrant, may conduct a special examination to obtain more information on the institution and better understand its exposures to risk (although this is more likely to occur during Stage 2 or Stage 3 activity).

Stage 2: The institution poses serious safety and soundness concerns and is vulnerable to adverse business and economic conditions. At that point, OSFI tightens its monitoring, requires the institution to take remedial measures, and requires enhanced audits of the institution. OSFI may impose further business restrictions or directions of compliance. At this stage, OSFI develops a contingency plan to enable it to take control of the institution's assets if the situation deteriorates. At Stage 2, CDIC places the institution on its watch list, leading to more information gathering. If CDIC believes that payment of a significant deposit held by an institution is imminent, it may, with the approval of the Superintendent, conduct a preparatory examination to prepare for such payment.

Stage 3: The institution has failed to remedy the problems identified at stage 2, and its future financial viability is worsening. As a result, the potential menu of options becomes more serious, requiring heightened attention and coordination by FISC. At this Stage, OSFI expands its contingency plan and directs external experts to assess the business, and may maintain a physical presence at the institution to monitor the situation on an ongoing basis. At this point OSFI may also discuss with the institution resolution options such as restructuring, prospective purchasers, capital injections or liquidity support from a parent.

CDIC can take such measures as temporary deposits, loan guarantees, the acquisition (and thus control) of assets, or other so-called assisted transactions. The objective of such actions would depend on the financial condition of the institution, and would be carried out with the institution as a willing partner. For instance, if the institution or parts of it are salvageable, CDIC could support the institution with loans or guarantees until it recovers or until its parts can be sold off. Alternatively, if insolvency is inevitable, such tools can also be used to float the institution temporarily so as to better manage an eventual liquidation and minimize losses to depositors and CDIC.

[68]Submitted by the CDIC as an Annex to the Survey.

Further to this, there is a separate option that the CDIC Board could consider at Stage 3. If OSFI confirms that the institution has ceased, or is about to cease, to be viable, CDIC may initiate a formal restructuring process ("Financial Institutions Restructuring Program (FIRP)" process. There are strict rules in the CDIC Act as to how this process would operate. First, CDIC would request that the Minister recommend that the Governor in Council appoint CDIC as receiver in respect of the institution, or require the shares and subordinated debt of the institution to be vested in CDIC. Once such a decision is made, CDIC has 60 days to complete restructuring transactions (e.g., selling parts of the business, amalgamating the institution with another one, etc.). These transactions also have to be approved by the Minister. CDIC can obtain 60-day extensions up to a total of six months. The parts of the business that remain after six months must then be liquidated under the Winding-up and Restructuring Act.

Stage 4: The institution is experiencing severe financial difficulties and its non-viability is imminent. At that stage, OSFI can take temporary control of the institution's assets and, unless advised by the Minister that it is not in the public interest to do so, extend the term of this control. Notably, an institution does not have to be at Stage 4 in order for OSFI to take control. There are several grounds for taking control of an institution in the *Bank Act* and the most appropriate one would be chosen in the circumstances.

If OSFI takes control, it would normally ask the Attorney General to seek a wind-up order and petition the court on the basis that depositors are at risk, on the basis of the Superintendent's opinion. This would lead to a liquidation of assets and subsequent payout. CDIC, as creditor, may also petition the court for a wind-up order on the grounds that the institution is insolvent, however this requires rigorous proof of insolvency, and may be a more challenging test to meet in order to instigate a liquidation and payout.

ANNEX III. Definitions of Key IADI Guidance Terms

IADI's objects state that the Association will: "… set out guidance to enhance the effectiveness of deposit insurance systems [and] such guidance shall take into account different circumstances, settings and structures".[69] For the purposes of this paper, we have set out the following definitions for the guidance IADI provides:

- **Core Principles** are fundamental statements applied to a broad policy area. Although principles focus on what is important or fundamental, they can also be applied broadly and provide a high degree of flexibility in implementation to suit individual country circumstances.

- **Supporting Guidance Points** help to clarify the principle(s) and can add additional information to help practitioners apply the Core Principles.

When developing guidance, it is important to ensure that it assists jurisdictions in developing and enhancing their deposit insurance systems and, as far as possible, that this guidance is adaptable to the overall culture, history, political, economic, legal and institutional environment.

[69]See the Statutes of the International Association of Deposit Insurers, Article 2 (b), Basel, October 2004.