



EMERGING CAPITAL MARKETS
Lecture 15. Banking Crises

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Banking Crises

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A. Introduction

- In a banking crises, the first question is whether the problem is related to just a bank in trouble or whether there is a banking crisis of the entire system (systemic banking crisis).
- A bank is in trouble when it is “**insolvent**” (when its equity has been eroded), even if it still has “**liquidity**” (it is still able to meet its current obligations through deposits and borrowings).
- Bank equity is eroded by a **high level of non-performing loans**.
- A systemic banking crises can be defined as one in which **most banks are insolvent** (even though many may still be liquid), or could become insolvent, due to a combination of internal and external factors that affect the entire system.
- It is not easy to identify a bank or banks in trouble because a bank can still have “liquidity” and be able to operate "normally" for a long time, even though its equity may have been fully eroded.
- **Normally, liquidity difficulties comes much later than insolvency.**

- Typically a bank's equity has been eroded several times, before the bank faces liquidity problems.
- Banks are exposed to **Moral Hazards**: If banks are not forced to follow prudential rules (in particular, to hold sufficient equity capital), they may gamble with depositors money.
- Banks will gamble more dangerously if non-performing loans have eroded all equity, in an attempt to save the bank.
- Strong bank supervision and preventive measures (**Prudential Regulations and Supervision**) are needed to detect "insolvency" early, in the absence of external signals of "illiquidity".
- Regulators must be able to detect **early on** increases in the level of non-performing assets (to max 10% of total loans), the adequacy of provisions for bad debts, and the net worth of the bank.
- Capital requirements act as a cushion for depositors: regulators must ensure that the bank is closed, re-capitalized or sold before all equity is eroded and depositors loose.
- Regulators represent small depositors, who are normally too dispersed and poorly informed to make judgments by themselves.

B. Frequency of Banking Crises

- A bank crisis is defined when non-performing loans reached 10%.
- Kindleberger identifies about 50 major banking crashes and Europe and the US going back to 1618.
- The World Bank identified over 130 countries (3/4 of the members of the World Bank/IMF, developed and developing) that have had banking crises since the 1980s.
- Caprio & Klingbiel (World Bank) have detailed data on 69 countries with crises between the late 1970s and 1996.
- Typically, emerging countries with sound bank regulations and supervision have been capable of avoiding banking crises -- Chile and Hong Kong, with strong banking supervision, have avoided banking crises and weathered well financial crises in neighboring countries.
- On the other hand, inadequate supervision alone is not a good predictor of a banking crisis -- a degree of self-regulation exists.

C. Special Nature of Banks: A Public Good

- Governments should not normally intervene in the activities of private companies, except in the case of banks.
- In addition to **Moral Hazards**, banks require “special” regulations and rescue because of their nature and functions:
 - ◆ Provide the country’s payment systems.
 - ◆ Intermediate between savers and investors.
 - ◆ Transform funds’ maturity & size, from short-term/small savings into longer-term/larger investments.
 - ◆ Risk-sharing, by diversification of savings and investments.
 - ◆ Information collection and dissemination.
 - ◆ Provide firms financial “discipline”/corporate governance.
- The key distinguishing factor is that if banks fail, the country’s **payment system** is in jeopardy, with substantial externalities.
- The soundness of the banking system affects not only banks, but the entire economy: banks can be considered public goods.

D. Cost of Banking Crises

- Impact on the *real sector* is great: output growth is affected.
- Impact on *monetary policy* can be large: exchange rates, inflation.
- Impact on *fiscal policy* and governments budgets is often high:
 - IMF estimated recorded fiscal costs can go above 20% of GDP in some cases (Argentina '80; Chile '82; Ivory Coast '88; Venezuela '94; Mexico '95; Thailand '97; Indonesia '97).
 - Caprio & Klingbiel report the most expensive bail-out was Argentina in 1980 at 55% of GDP.
 - The Mexican Crisis of 1994 has been recently estimated to cost 15% of 1997 GDP, to be amortized over 30 years.

E. Prediction of Crisis

- Early Warning: It is possible to predict that a banking system is vulnerable to a crisis based on deviations from past trends of “explanatory” variables, such as:
 - **Current Account Indicators**
 - Adverse movements in exports/imports
 - Large deterioration in the ratio of current account to GDP (beyond 3%)
 - Terms-of-trade deterioration
 - Large movements in real exchange rates
 - **Capital Account Indicators**
 - Large increase in the ratio of external debt to GDP (beyond 60%)
 - Large short-term capital inflows/outflows
 - High ratio of short-term debt to international reserves (beyond 1.0)
 - Quick drop in international reserves (below 3 months of imports)
 - **Financial Sector Indicators**
 - Excessive rate of growth of bank credit/GDP
 - Deterioration in the level of non-performing assets to total assets (beyond 10%)
 - Other erosion in the banks’ capital base
 - Increase in the level of connected lending
 - Increased cases of bank fraud and looting
 - Inadequate bank supervision
 - High ratio of fiscal deficits to GDP (beyond 3%)
 - Large money supply increases relative to international reserves
 - **Real Sector Indicators**
 - Large declines in asset prices, particularly real estate prices and stock prices
 - Large increase in the number of corporate losses or bankruptcies

....Prediction of Crisis

- But it is much more difficult to predict its timing. The accuracy of models to predict the timing of bank crises is not high. Models don't take account of non-economic factors (political, social).
- If there is an element of “attack” (e.g. runs by domestic or foreign depositors) it is hard to predict what will start it.
- The “triggers” could be a financial crisis in a neighboring country (such Russia/Ukraine), the collapse of a large bank, a large increase in import prices, a political crisis, a major case of banking fraud, etc.

F. Causes of a Crisis in a Single Bank

(1) Speculative Causes (Liquidity Crisis)

- Start as liquidity crises, without insolvency, with depositors taking away funds in excess of reserve requirements.
- Could just be due to mob psychology or mass panic.
- “Self-fulfilling” bank runs: a critical mass of people “believes” that the bank is in trouble (e.g., due to a management change)

(2) Fundamental Causes (Solvency Crisis)

- Insolvency due to a high level of non-performing loans – associated to lending booms - followed by a Liquidity Crisis.
- The classic model: A bank operating in a depressed area
- May be desirable: it may be an optimal & efficient bank run

(3) Mismanagement Causes (Solvency Crisis)

- Fraud/looting/corruption by bank managers, employees.
- Bad lending due to inappropriate regulations and supervision.

G. Causes of a Systemic Bank Crisis

(1) Speculative Causes (Liquidity Crisis)

- Widespread speculation with contagion effects (few cases)
- Contagion due to heavy inter-bank lending.
- Aggregate liquidity shocks throughout the economy.
- Imperfect information about health of banks.

(2) Fundamental Causes (Solvency Crisis)

- Credit booms leading to excessive debt, a quick reversal of capital flows, and **insolvency** due to inability to service debt and high level of non-performing loans
- A country-wide economic recession leading to high level of NPL.
- Poor macro policies leading to **internal and external instability**.
- **International effects** related to current account deficits, unstable international capital flows and foreign exchange rate crisis.

(3) Mismanagement Causes (Solvency Crisis)

- Widespread fraud and looting.
- Bad lending (to un-creditworthy borrowers) due to poor banking regulations in the face of inappropriate financial liberalization.

H. Policy Response to Banking Crises

The response will depend on the origin of the runs on banks:

a. **Speculative-type crises should be dealt with:**

- Liquidity support provided by the Central Bank
- Introduce deposit insurance - but only for small depositors
- Better disclosure of information and transparency

b. **Fundamental-type Crises should be dealt with:**

- Significant financial assistance in foreign exchange
- Macroeconomic Measures to deal with Economic Instability and revive economic growth.
- Government Intervention in Troubled Banks, including Restructuring Programs for Affected Borrowers.

c. **Mismanagement-type Crises (fraud/looting and poor financial banking regulation) should be dealt with:**

- Improved Legal Structure and Corruption Prevention
- Improvement of banking regulations and supervision
- Intervention in Troubled Banks.

Three Pillars of Fundamental Crisis Resolution

1. Secure Substantial Financial Assistance.

- ▶ Foreign assistance is vital to insure foreign creditors that the country has the resources to serve all of its external short term debts.

IMF and bilateral financing (\$ billion, % of GDP)			
	IMF plus bilateral commitment	IMF commitment	Bilateral commitment
Mexico (1995)	38.9 (9.6%)	18.9 (4.6%)	20 (5%)
Thailand (1997)	14 (7.7%)	4 (2.2%)	10 (5.5%)
Indonesia 1997	26.3 (11.6%)	11.3 (5%)	15 (6.6%)
Korea (1997)	40.9 (7.7%)	20.9 (4%)	20 (3.8%)
Russia (1998)	15.1 (3.5%)	15.1 (3.5%)	
Brazil (1998-99)	32.9 (4.1%)	18.4 (2.3%)	14.5 (1.8%)
Turkey	33.8 (17%)	33.8 (17%)	
Argentina (2000-2001)	23.1 (8.1%)	22.1 (7.8%)	1 (0.4%)

.....Three Pillars of Crisis Resolution.

2. Promptly Implement a credible Macroeconomic Program to gain back the confidence of local and international investors:

- ▶ This program should eliminate the current account deficit through a “real” currency devaluation and control credit growth, which will boost exports and reduce imports.
- ▶ Since the stabilization measures will reduce GDP growth, the Government Program should also include measures to improve the business climate to restart economic growth and improve international competitiveness.

3. Implement a Program of Interventions in Troubled Banks:

- ▶ The international experience with bank resolution programs, and lessons from them is discussed in the next slides.
- ▶ A point to highlight here is that the resolution of bank troubles will require the implementation of a good program to deal with affected bank borrowers, both corporate and households.

Bank Intervention – The Case of Spain 1978-1983

- ▶ The Deposit Guarantee Fund (DGF) was created to administer deposit insurance and deal with troubled banks. It was equally funded by the banks and the Bank of Spain.
- ▶ The banking sector restructuring involved:
 - ▶ The Bank of Spain performed in-depth assessments of the banks.
 - ▶ Viable banks were asked to increase capital. Liquidity support to these banks was conditional on new capital injections by existing shareholders.
 - ▶ Insolvent banks were taken over by DGF. Banks' debts were written off against the banks capital and new capital was injected. The non-performing loans were purchased by the GDF to clean the banks' balance sheets ("bad" bank).
 - ▶ Banks' management was replaced, while legal, regulatory and accounting rules were strengthened.
 - ▶ The "good" and clean restructured banks were sold to private investors.
- ▶ The costs of the banks' bail-out program amounted to about 15% of pre-crisis GDP.
- ▶ **Success factors:**
 - ▶ Prompt policy response to contain and resolve the crisis.
 - ▶ Central Bank restructuring activities were separated from its monetary policy and supervisory functions.
 - ▶ The "cleaning" of bank balance sheet allowed bank managers to focus on their core banking businesses.

Bank Intervention – The Case of Sweden 1992-1996

- ▶ The Program started with a containment phase: (1) blanket guarantees were introduced to protect creditors, (2) a Bank Support Authority was established.
- ▶ The banking sector restructuring involved a classification of banks:
 - ▶ Type A banks: capital adequacy ratio (CAR) around 8% -- recapitalization by shareholders with possible capital guarantee from the BSA if CAR is not met;
 - ▶ Type B banks: $CAR < 8\%$ but the bank is expected to return to profitability -- capital injections by the government;
 - ▶ Type C banks: insolvent banks without long-term viability -- liquidation or sale to recover as much as possible of the banks' value.
- ▶ Results: 27% of new capital was provided by private owners and 83% by the state.
- ▶ Two public Asset Management Companies (AMC) were established to buy NPLs. Over 90% of the equity capital put by the government into the AMCs was recovered.
- ▶ The gross cost of the bail-out was 3.6% of 1997 GDP.
- ▶ **Success factors:**
 - ▶ Quick and consolidated policy response to contain and resolve the crisis.
 - ▶ High credibility of crisis resolution program: transparency (expected losses were recognized early), no limits were explicitly put on funds to resolve the crisis.
 - ▶ Political and financial independence of crisis resolution agency.
 - ▶ Market discipline maintained (measures to minimize distortions in place).

Bank Intervention– The Case of Mexico 1994

- ▶ The resolution of troubled banks was handled by the Banking Fund for Savings Protection (Fobaproa) funded by the Central Bank.
- ▶ The banking sector restructuring involved:
 - ▶ A Temporary Capitalization Program (Procapte) under Fobaproa. It purchased convertible bonds issued by banks, while banks were required to deposit the funds obtained through the program at the Central Bank. The debt would become capital if not paid back before five years, or if the capital-asset ratio fell below 8%.
 - ▶ Fobaproa took control of several insolvent banks. These interventions were followed by negotiations with potential buyers and in most cases banks were re-sold after being re-capitalized and cleaned up of their non-performing loans.
 - ▶ Fobaproa purchased NPLs (**under questionable procedures**) above their market value on the condition that existing shareholders inject new capital into the banks. NPLs were purchased with non-tradable long-term (ten years) promissory notes. These notes replaced the NPLs on the asset side of the banks' balance sheets.
 - ▶ In 1998, a new deposit insurance agency - Institute for the Protection of Bank Savings (IPAB) was created to manage NPLs absorbed by the Fobaproa.
 - ▶ Several programs were introduced to workout debts of the banks' borrowers.
- ▶ The total cost of these bailout initiatives amounted to 14.4% of GDP. More than a half of this came from the operations of the banks taken over by the government.

Bank Intervention – The Case of Korea 1997

- ▶ The banking sector restructuring involved the following:
 - ▶ Banks with low capital adequacy ratios were required to develop management rehabilitation plans, including injections of new capital.
 - ▶ A Financial Supervisory Commission (FSC) was established to restructure banks (management change, capital injections, merging or selling the banks, etc.).
 - ▶ A Management Evaluation Committee (MEC) was created to perform in-depth assessments of troubled banks. Following these reviews, insolvent banks were liquidated while their good assets were sold. Solvent banks were required to implement business rehabilitation plans.
 - ▶ Bank merges were encouraged and supported with capital injections.
- ▶ The Korean Assets Management Corporation was established to deal with NPLs:
 - ▶ 50% of the distressed assets were resolved by the banks (via sale of collateral, calling in loans, etc.), while the remaining 50% were purchased by the KAMCO.
 - ▶ KAMCO purchased NPLs with government guarantees and publicly traded bonds, issued by the specially created Non-Performing Asset Management Fund.
 - ▶ KAMCO began selling its portfolio of NPLs soon after the economy improved.
- ▶ The costs of the financial sector restructuring program was estimated at 32% of average 1998-2000 GDP. About 40% of this amount was recovered by the end of 2003. The banks absorbing about 30% of the non-recovered NPLs.

I. Intervention in Troubled Banks

- Normally a special Banking Authority should be created with strong legal powers to resolve promptly the problems of the troubled banks.
- To avoid conflicts between monetary policy objectives and fiscal costs, this Authority works better if it is independent of the CB.
- The Authority will also need to allocate the losses:
 - Losses could be shared between depositors, taxpayers and shareholders; or all depositors could be protected; or taxpayers' costs could be minimized.
 - Normally shareholders absorb the initial cost until their equity is wiped-out. Large depositors take the second cut. Then taxpayers absorb the rest of the cost.
- The banking authority may also have to deal differently with the bank managers: either penalize bad managers and impose bank restructuring on them; or create incentives for banks to self-reveal their true state and propose their own restructuring methods (which may mean go “soft” on managers).

J. Bank Intervention Principles

1. Dealing with the Troubled Bank: Bank Closure - versus - Bank Rescue.
2. Recapitalization of Surviving Banks
3. Management of Non-performing Loans (Balance Sheet Cleaning).
4. Depositor Protection

1. Dealing with Troubled Banks:

Bank Closure versus Bank Rescue.

- As soon as a problem of insolvency is detected, the Banking Authority must proceed quickly (take **Prompt Corrective Action** -- PCA) .
- Prompt action is needed because insolvent banks have **tremendous incentives to take huge bets**, gamble dangerously with undue risks in order to survive, since their own capital has already been eroded by high non-performing loans.
- If the bets are successful, they may have resolved their problems.
- But if the bet turns sour, the bank would have lost little anyhow -- once you have lost your capital and you are broke, it can not get any worse.
- PCA is also needed -- with an intervention decision taken quickly and literally overnight -- **to avoid runs on deposits**: once depositors know that a bank is in trouble they will queue in the bank to retire their deposits, thus deepening the crises.

- In the US in the 1980's, undercapitalized savings and loan associations took huge bets to survive -- investing in riskier assets -- that led to massive losses that cost US\$100 billion.
- The US Federal Insurance Corp. Act of 1991, contains Prompt Corrective Action provisions, requiring bank supervisors to intervene early and vigorously when a bank gets into trouble.
- To enable Prompt Corrective Action, the Banking Authority should have clear processes and procedures to deal with banks in trouble (clear "bank resolution" policies).
- These procedures should define clearly the criteria to be used by the Banking Authority for choosing expeditiously between asking a solvent bank to solve the problem by itself, asking for re-capitalization by owners, closing a bank, or selling it to other more solvent domestic or foreign banks.
- To act quickly the Banking Authority must have a strong legal mandate to decide on the future of the troubled bank with minimum consultations with outsiders.

- This decision to close or rescue a bank should be made by the Banking Authority, independently of the Central Bank, which may be more concerned with monetary stability and less concerned with costs and banking-related factors.
- The decision on whether to close or rescue a bank (through re-capitalization or sale) should depend on:
 - The financial costs of liquidation versus cost of rescue (the most important criteria).
 - The quality of the bank portfolio (if the level of non-performing assets is too high, there is little value in rescuing) and its impact on solvency (the level of equity of the bank).
 - The extent of interconnections of the bank with other banks through the inter-bank markets.
 - Risk of spreading the crisis for other causes.
 - The need to minimize a “credit crunch” that may result from the closure of large banks.

2. Recapitalization of Surviving Banks

- Before any funds are provided to banks, the Banking Authority must organize “portfolio audit” of banks, starting with the largest banks, to assess the long-term viability of banks and level of NPLs.
- Only banks that show that they can be viable over the long-term should be re-capitalized. Banks whose capital have dropped below 20% of the regulation level should be considered for closure or sale.
- If current shareholders remain as owners of the bank, they should re-capitalize their banks from their own resources.
- The purpose of Government financial intervention is to protect tax payers and depositors, not the shareholders; otherwise, if shareholders are bailed out, moral hazards would develop, inducing them to take high risks.
- If recapitalization is beyond the current shareholders' capacity, they may just delay the process or under-fulfill capital, with the results that the bank may not recover.
- In many cases, bringing new shareholders is the best option.
- Government capitalization should be the last option.

3. Management of Non-performing Loans (Balance Sheet Cleaning).

- The Banking Authority has three options to deal with non-performing loans in intervened banks:
 - (1) Self-rely on the newly recapitalized bank or the new owners of the bank to clean the B/S: that is to take adequate measures to collect the amounts due under non-performing loans.
 - (2) Separate the good loan portfolio from the bad portfolio and then transfer the bad loans to a Government **Asset Recovery Agency** (hospital), which specializes in recovering overdue amounts from borrowers. Then sell the bank as a "clean" bank. A key question is the price at which assets should be bought by the ARA to minimize losses that taxpayers will need to assume.
 - (3) Just cancel all bad debts and absorb all bad loans.
- The decision depends on the number of banks with large NPL (if many, an ARA may be efficient), the degree of information asymmetry (who can have better information on the borrowers), the risk that banks will just rollover bad debt, the likely default rate, the capacity to develop loan workouts for bank borrowers, the probability of success of the “hospital”, and its cost for taxpayers.

4. Depositors Protection

- A deposit insurance scheme should be put in place to increase confidence on the banking sector.
- Only small depositors should be protected since they are normally unable to assess the soundness of the bank
- All depositors should be required to pay a small deposit insurance premium to create a deposit insurance fund capable of paying small depositors in case of trouble.
- Initially, when the fund is still small, the Government may have to provide financing to the fund.
- Large depositors should not be insured (over \$100,000 in the US, over \$10,000 in many emerging markets).
- Large depositors should be able to assess information on the health of the bank and exercise a degree of market control.
- Otherwise moral hazards will break financial discipline with negative bank selection: large depositors will go to those banks paying the highest interest rates, regardless of their soundness.

K. Policies and Interventions that have Worked

A World Bank study of 24 countries shows:

1. A comprehensive approach correcting accounting, legal, regulatory and supervision problems in banking is needed.
2. Prompt action is needed. Countries using some form of Prompt Corrective Action (PCA) do better.
3. Operational restructuring of the banks themselves is also needed, addressing management deficiencies.
4. A designated lead agency should coordinate and implement systemic bank restructuring and it should have some degree of autonomy. The lead agency should be separate from the Central Bank.

5. Removing non-performing loans from banks' balance sheets and transferring them to a separate Asset Recovery Agency (“hospital”) is effective.
6. Loan workouts for bank borrowers are needed and can be done either by central organizations or by loan collection agencies tied to individual banks. No strong case for a particular institutional setup.
7. Central bank liquidity support may be needed but the Bank should not provide long term finance to banks.
8. Government financial support of insolvent banks should be minimized, but it is unavoidable. Bond transfers and other financial instruments to provide a bank quasi-capital were not always successful. The financial support needs to be incentive-compatible.

9. Loss sharing should be a principle though in practice few countries impose losses on depositors. Charging for deposit insurance is one mechanism to achieve to charge depositors.
10. Firm bank “resolution” policies are needed. Policy should avoid the “too big to fail” syndrome. A set of processes and procedures should be in place to act quickly -- and expeditiously sell or merge a failing bank.
11. Continuous monitoring of the process is needed.

Policy Response to a Banking Crisis

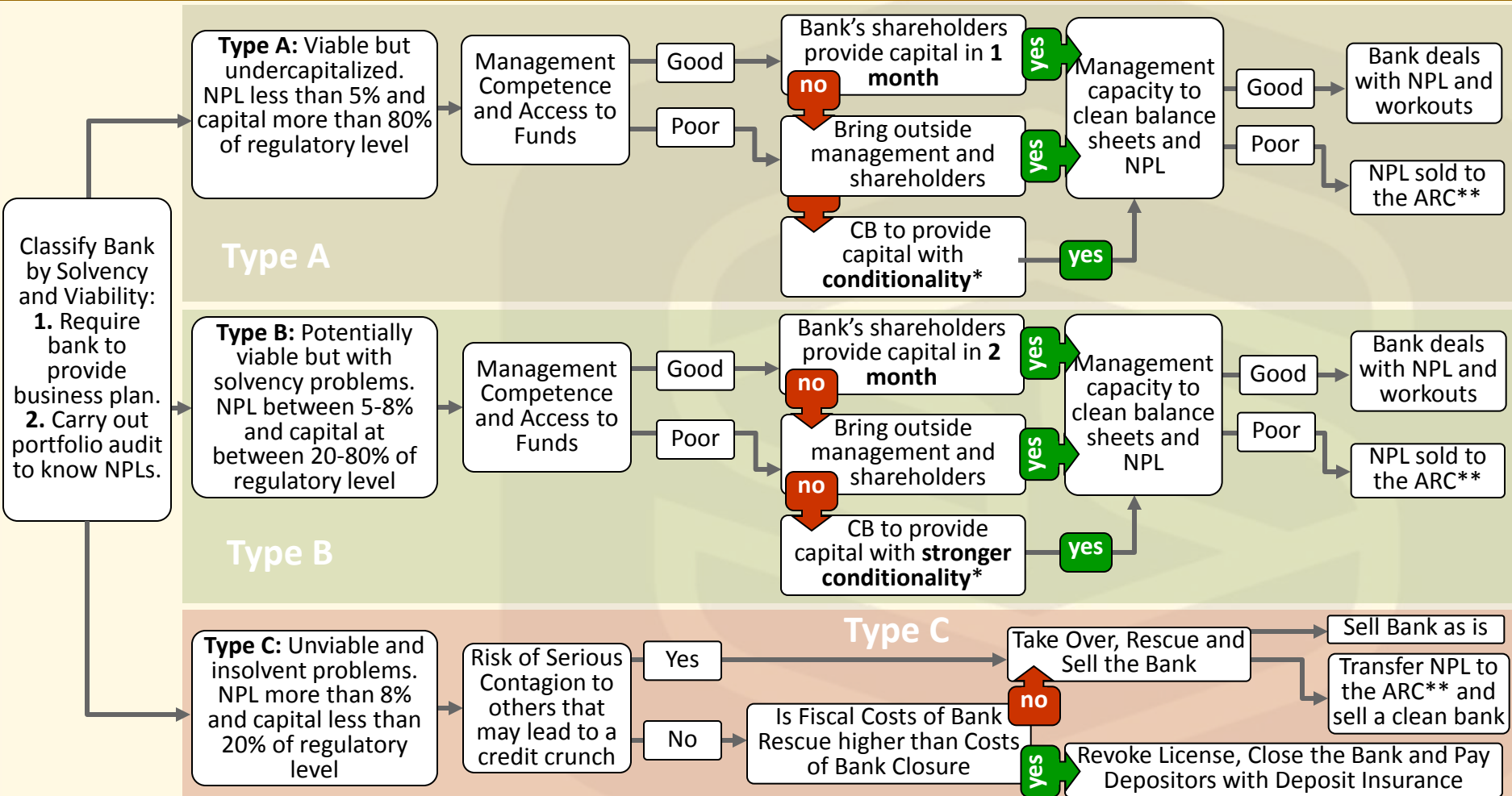
Policy Response	Policy applied (% of crises)
Deposit freeze	11.9%
Bank holiday	9.5%
Blanket guarantee	28.6%
Liquidity support/emergency lending	71.4%
Peak liquidity support (fraction of deposits)	27.7%
Lowering of reserve requirements	36.6%
Prudential regulations suspended or not fully applied	73.0%
Distressed asset management company was established	59.5%
Large-scale government intervention in banks	85.7%
Bank Closures	66.7%
Nationalizations	57.1%
Mergers	61.0%
Capital injections by private shareholders	66.7%
Sales to foreigners	51.4%
Recapitalization of banks	76.2%
Recap level	7.8%
Gross cost to government (fraction of GDP)	7.8%
Recovery of recap expense	51.6%
IMF program put in place	52.4%
Fiscal cost net (share of GDP)	13.0%
Output loss (share of GDP)	20.1%

Source: IMF: Systemic Banking Crises: A New Database

►► Resolution of a banking crisis has typically involved:

- ❶ Creation of a government-owned Banking Authority to address NPLs.
- ❷ Government-assisted recapitalization of banks.
- ❸ Dealing with insolvent banks through bank closures, mergers and sales to local/foreign investors.
- ❹ Restructuring of NPLs to minimize losses to depositors and creditors, including debt workout for borrowers.
- ❺ Prompt state intervention into the operations and management of banks if needed.

Decision Tree for Bank Interventions



* If central bank (CB) provides capital, conditionality may include limits on new lending, loans to subsidiaries and officers, limits on dividends and asset sales.

** Decisions to transfer NPL to ARC also depends on degree of information asymmetry, risks of bad debt rollovers, default rates, loan recovery capacity, fiscal costs, adequate management for ARC, market demand for distressed debt, adequacy of property rights, legal framework for bankruptcy, adequacy of loan documentation.

Summary: Preparing for and Dealing with a Bank Crisis

□ Before the Crisis:

1. Build Confidence.
2. Develop an early warning system of key indicators which may indicate whether the probabilities of a crisis are increasing or not.
3. Monitor closely the amounts of external private sector debt (banking and non-banking) that is maturing each month over the next 12 months and compare it with debt repayment capacities.

□ After the Crisis:

1. Agree on **Organizational Arrangements** to confront the crisis:
 - a. Enter a Memoranda of Understanding among government agencies (CB, Ministry of Finance, Ministry of Economy, etc) to clarify responsibilities and actions to address the crisis.
 - b. Enter a Memoranda of Understanding with other Central Banks whose countries have a large banking presence in the country on matters of coordination, exchange of information and possible financing.

Preparing for and Dealing with a Bank Crisis (Cont.)

2. Agree and implement **Emergency Crisis Containment Measures**, which may include a deposit freeze, bank holiday, blanket deposit guarantees, initial liquidity support, lowering reserve requirements, blanket guarantees to foreign bank creditors.
3. Secure **external financing**, as the crisis will be resolved only with significant external financial support that returns confidence.
4. Agree and implement **Macroeconomic measures**:
 - a. Adjust fiscal, monetary and foreign exchange rate policies to eliminate macroeconomic imbalances and build confidence that the current issues (CA deficits, short term debt and banking sector weaknesses are addressed).
 - b. Implement a comprehensive program of economic reforms to improve the investment climate and revive growth.
 - c. Develop possible confidence-enhancements measures such as road-shows, etc. to convince foreign banks and investors that the situation is under control.

Preparing for and Dealing with a Bank Crisis (Cont.)

5. Agree and implement **Banking Crisis Resolution Measures:**
 - a. Consider the desirability of a Bank Regulatory Forbearance to permit banks to operate with lower capital requirements.
 - b. Require all domestic banks to prepare contingency financing plans, identifying the various sources of financing that could be tapped and developing the necessary arrangements to speed up this financing.
 - c. Developing Bank Resolution Options identifying the corrective actions that the government could take for different types of banks (such as closure, merger, restructuring), depending on their size, whether the problem is related to liquidity, related to solvency, related to bad management, capacity to raise equity, etc. A way to do this is to develop “Decision Trees” with “bank resolution options” that classify banks and actions into three categories: Class A for those banks that may have liquidity problems but are solvent, whose resolution would be undertaken by the banks; Class B for those banks that have liquidity and some solvency problems (with equity below the norm, but still positive) and whose resolution may require capital injection by the current owners with some liquidity support from the Central Bank (with some operational/borrowing/lending restrictions); Class C for those banks that have both liquidity and solvency problems that would have to be merged or closed down (Zombie banks).

Preparing for and Dealing with a Bank Crisis (Cont.)

- d. Enact required legislation to permit Prompt Corrective Action by the authorities.
- e. Consider the desirability of creating a government-owned Asset Recovery Company (similar to the RTC of the US) to buy and resolve some of the distressed assets of the banks.
- f. Help banks to develop measures to restructure their distressed loans, including simplified legal and judiciary procedures for foreclosures of delinquent loans.
- g. Consider modifications to the current Deposit Insurance to raise confidence and avoid bank runs, while avoiding moral hazards.
- h. Consider carrying out Practical Crisis Exercises in forms that are simulated but do resemble reality, a practice done regularly by the Swedish Central Bank.

M. Prevention of Bank Crises

- In the next section, we will deal with the substantive measures that can be taken to **avoid and prevent** bank crises.
- In general, the financial sector **is just a reflection** of the real economy: when the real economy is strong, the financial sector will be strong.
- Accordingly, bank crises would be avoided when the entire **financial sectors** becomes stronger:
 - When macroeconomic policies are sound, with low fiscal and current account deficits, low debt, and good rates of GDP growth.
 - When the banking system is deep and extensive attracting a large amount of deposits.
 - When banks have the incentive to lend wisely with a good portion of their own equity at risk.
 - When the banking authorities are capable of detecting bad banks early on and act expeditiously to resolve the problem.