

## **Chapter 7 – Trouble with Banks (Lectures for 24APR and 01MAY)**

### **Role of Banks in Intermediation**

– In the presence of large asymmetric information problems banks specialize in screening and monitoring borrowers, producing information that can be used to make high quality loans (i.e. with a high probability of being repaid). High quality loans, which result from efficient bank intermediation, will increase investment and therefore increase economic growth. In the absence of any other financial institutions that can perform this job, economic growth would be slower. Thus development of banks can benefit economic growth. However, the production of poor quality loans can result in resources being used inefficiently, which will not allow economic growth to reach its potential. In the extreme case, poor quality loans can also result in severe instability (banking crises) that can have devastating effects on real economic growth.

Here we explore 4 issues concerning bank efficiency and stability.

#### **A. The Government Safety Net and Stability of the Banking System: Deposit Insurance / Lender of Last Resort**

**Deposit Insurance** – *government coverage of depositors' accounts in the event of bank closure and insolvency.* Govt. officials try to close a bad bank before it is insolvent in order to liquidate the bank and pay of the depositors. If depositors are not paid off completely they are said to be taking a “haircut.”

*Purpose:*

- a. To provide a stable source of funds to the banking system
- b. To prevent panics, contagion (to healthy banks) and financial system instability. Give an example of contagion and panics.
- c. Protect unsophisticated depositors who do not possess the resources to monitor banks.

*Types of coverage and the Incentives Established*

- a. Deposit Insurance and Financial Instability: The Case of Full Coverage by the Government
  - (1) The fate of the bank is separated from depositors. Depositors do not have incentive to monitor
  - (2) Government must monitor banks and they may or may not do an adequate job. Their own wealth is not at stake, although they have the correct preferences for preserving financial system stability (as opposed to possibility those of depositors, bondholders and stockholders).
  - (3) Moral Hazard problem may arise. Banks have incentive to take undue risks if strict monitoring does not take place.

- (4) The result may be a risky banking system with high probability of default and misdirected funds. The deposit insurance fund and the government (ultimately the taxpayers) are at risk to lose a large amount of funds.

b. Building a Deposit Insurance System to stabilize the financial system : The Case of Partial Coverage by the Government

- (1) The small and unsophisticated depositors are covered and thus they are encouraged to keep their funds in a bank.
- (2) The large and sophisticated depositors are encouraged to monitor. This also requires transparency of the banking system (i.e. disclosure laws).
- (3) Government still should monitor and regulate
- (4) Pricing of Deposit Insurance – premiums are paid to fund the payoff of depositors in the event of bank failure.
  - a. Flat-premium deposit insurance - encourages a bank to choose risky assets because the bank is required to incur only a part of any loss if its assets become non-performing. Provides a cross subsidy from safe to risky banks and endangers the guarantee fund.
  - b. Risk-based premium deposit insurance – requires that the bank pay for coverage associated with increased risk. This thus discourages risk taking.
  - c. Any pricing of deposit insurance will not be perfect and thus always result in encouraging risky behavior, cross subsidies and risk associated with the fund going bankrupt.
- (5) Co-insurance – percentage of coverage on deposits. Forces the depositor to bear some of the risk on all deposits. Variations include: 50% coverage on all deposits, 100% up to a limit and then 50% of the amount over that limit.

c. Alternative Insurance Arrangement - Private Deposit Insurance by Banks

- (1) Monitoring of banks by other banks
- (2) This would require sharing information between banks
- (3) If solvent banks had liquidity problems due to panics, other banks could supply this liquidity and solve a crisis.

d. Other Problems Associated with the Safety Net

- (1) **TBTF policy:** Large institutions may have a “Too-Big-To-Fail” (TBTF) implicit guarantee. Government may provide this implicit insurance due to the adverse impact that a large failed bank would have on the financial system and the economy. This implicit guarantee may produce a moral hazard problem if depositors have no incentive to monitor. Consolidation of the banking system results in a larger part of the system covered under TBTF.

### **Lender of last resort**

If a bank is solvent, but illiquid, a central bank usually has a policy of making loans to banks to help them through the liquidity crises.

This can result in lack of monitoring and therefore Moral Hazard

## **B. Government and Market Discipline**

### **Government Regulation**

#### **\* Restrictions on Assets and Capital**

1. Concentration limits
2. Provisioning Requirements
  - a. What is it?
  - b. What does it do?
3. Capital requirements
  - (1) Basle risk-weighted capital requirements (8%)
  - (2) Capital leverage ratio (equity capital to total un-weighted asset) (5%). Below 5% triggers regulatory restrictions. Below 3% are stricter.

#### **\* Supervision and Chartering**

1. CAMEL ratings – capital adequacy, asset quality, management, earnings, and liquidity (ratings 1-5, 1 is best)
2. Emphasis is on risk management procedures
3. Licensing of banks (screens potential banks for initial problems)

\* Restrictions on Competition – competition increases moral hazard as banks compete to get customers. Mkt. Power discourages cheap high quality products. By chartering, this can be balanced.

### **3. Market Discipline**

[See Special hand out for this.]

## **B. Bank Efficiency**

### **Efficient Operation of the Banking System – Bank Efficiency**

1. Policymakers try to promote efficiency
  - a. Privatization
  - b. Promotion of Competition
  - c. Foreign Bank Entry

## 2. Concept of Efficiency – Operationalizing Efficiency

### a. Cost Efficiency

$$C_i = f(Y_i, P_{\text{Inputs}}, \text{Environmental Variables}) + e_i + u_i$$

If all the variables that are important to producing a given level of output are included in the above function  $[f(\cdot)]$ , then differences in these variables will explain differences in cost between banks. Any differences in costs that remain are attributed to good luck and bad luck ( $e_i$ ) and to managerial efficiency differences ( $u_i$ ).  $u_i$  is assumed to be constant over time, while  $e_i$  averages to zero over time.

Note that output is assumed to be fixed and the firm is faced with various input prices and environmental variables. They then make decisions on how many inputs to hire to produce the given level of output at minimum cost.

### b. Profit Efficiency

$$\Pi_i = f(P_i, Y_i, \text{Environmental Variables}) + e_i + u_i$$

, where price of output is given and the bank chooses the optimal level of output.

Problem: Output prices are seldom available and banks often produce services that are not homogeneous across banks, as assumed in the model of perfect competition. That is, they have market power and try to distinguish their output from their competitors (monopolistic competition). This is especially so in EFMs, which have a small number of banks

### c. Alternative Profit Efficiency – this model addresses the issue of market power, which is often prevalent in EFM banking systems.

$$\Pi_i = f(Y_i, P_{\text{Inputs}}, \text{Environmental Variables}) + e_i + u_i$$

This assumes that banks are faced with constant output, input prices and environmental variables. They control the quality, and therefore, price of output.

## Efficiency and Ownership/Corporate Governance

- d. Most studies on EFMs find state-owned banks to be the least cost efficient, then private domestic and then foreign banks. This makes sense in terms of banking skills in hiring and management coming from foreign banks. However, foreign Greenfield banks often follow their business customers into the country and don't need to develop branches and bear other cost associated with domestic retail customers.
- e. Most studies find state-owned banks in EFMs to be alternative profit efficient relative to private banks. This is usually explained by government subsidies given to banks or that state-owned banks tend to have market power in some regions or with some types of customers.
- f. The Role of Foreign Banks
  - (1) Most studies find foreign banks to be the most cost efficient and the least profit efficient.
  - (2) A handful of studies look at types of Foreign Bank Entry
    - Greenfield
    - Purchasing Domestic Bank
    - Purchasing a state-owned bank (privatized)

Often there are restrictions put on entry. E.g. (1) Greenfield may only service foreign companies or cannot get into retail banking, (2) a foreign bank may not be able to enter unless they purchase a weak domestic bank or buy restructuring bonds (that pay low rates) to subsidize the restructuring of weak domestic banks, or the government may force foreign banks to maintain the over-employment often found in newly privatized banks or allow the government to have voting rights.

### Evidence on Entry: Poland

- Foreign banks that enter Greenfield are efficient immediately.
- Banks that buy domestic or newly privatized state-owned banks catch-up within 4-6 years (in Poland)

### **C. Non-Performing Loans**

1. A big initial problem in EFM banking is near-zero or negative capital for state-owned banks and uncertain or declining capital for new banks.
2. Although bank capital is the ultimate indicator of bank health and the cornerstone of bank regulation, the value of bank capital at any particular time is only as stable and predictable as the value of bank loans. That is, maintenance of capital is ultimately a NPL problem.
3. Problem is how to increase capital and maintain high capital.
  - a. One-time government recapitalization of banks, coupled with privatization and good practices.
  - b. Basel capital requirements
  - c. Good provisioning practices.