

Econ 103 Money and Banking – Dr. Douglas Rice
Week 10 Lecture – Banking and Bank Performance



Banks face several types of risks, including default (or credit) risk, interest rate risk, foreign currency (or country) risk, liquidity risk, fraud risk, and operating risk. I would like to focus on credit risk, since this is the key area where banks tend to get in trouble. Credit risk is inherent in real-world lending. At its core, managing credit risk involves careful evaluation of borrowers and careful monitoring and collection after loans are made. Inevitably, there will be loan losses as banks make loans with diversified risk characteristics. As such, banks maintain reserves against anticipated loan losses. In addition, they maintain sufficient capital to make sure that additional losses are charged off to shareholders rather than depositors.

In a situation where a bank's loan portfolio goes sour and loan loss reserves and capital are insufficient to cover losses, the bank will become insolvent. This creates the danger that depositors will seek to withdraw their deposits, sometimes called a bank "run." But such problems need not spread to other banks, if they are healthy. In fact, the deposits would simply transfer to other banks and the overall financial system would remain intact. Thus, banks fail just like any other business.

Bank regulators have tried to mitigate these risks in several ways. The most important thing they do is to closely supervise and examine banks, and if necessary intervene before a bigger problem occurs (more on this later). If a bank is in desperate straits, the regulator will ideally move quickly to shut it down or possibly merge it with another institution. Efforts will be made to sell the loan portfolio and "transfer" deposits to another institution. In the case of major bank disasters, central banks will act as lenders of last resort to try to provide liquidity to the system.

Following the banking disaster accompanying the Great Depression, the government decided to require banks to purchase deposit insurance to protect depositors and prevent bank runs. There is a great deal of controversy surrounding it to this day. The key problem with deposit insurance is the risk of "moral hazard" which it presents. That is, the existence of insurance means bank depositors have less incentive to be selective about who they do business with. Banks, on the other hand, knowing they will be able to maintain their deposit bases and that the government will be pay off depositors, may feel freer to engage in riskier lending behavior. Furthermore, the existence of insurance allows banks to pay lower interest rates on their deposits than they otherwise would. If depositors were not insured they would undoubtedly demand higher interest from riskier institutions.



In the United States, we try to mitigate the moral hazard risk somewhat by charging banks risk-based premiums. The premiums are determined according to regulators' assessment of the quality of bank portfolios and management. Unfortunately, existing premium rates are not truly commensurate with the risk levels of the weakest institutions. In addition when the insurance fund is "fully-funded" (defined as 1.25% of total insured deposits), as it is currently, most banks do not have to pay any premiums. The FDIC also places a cap on insured deposits of \$100,000 per account (the FDIC has recommended indexing this coverage to inflation). The thinking is that the cap provides an incentive for large depositors to keep a closer eye on banks.

Vigilant banking supervision is also an important issue in this regulatory environment. In the 1970's and 1980's, when the U.S. experienced a significant number of bank failures (both S&L's and commercial banks.) These failures are usually blamed on insufficient oversight by regulators, although the moral hazard issue of depositor insurance cannot be ignored.

Now to the issue of capital adequacy. Following recent banking crises, current regulatory thought in the U.S. is that well capitalized banks tend to be safer banks. Indeed banks with guaranteed deposits and low capital have little at risk. Thus, there has been a big push in recent years to adopt common international capital adequacy standards. I have placed a schedule of capital categories and their respective risk weights in the Files area, as "Risk Categories."



In 1988, the Basle Agreement (under the auspices of the Bank for International Settlements) established a protocol for the classification of the risk profile of particular assets, and made recommendations for what constituted adequate capital, in light of the associated risks. The higher the weight, the riskier the asset is considered to be. When the assets have been weighted by their risk, the total of their weighted values is the risk exposure. The capital available for covering this risk is categorized into Tier 1 capital and Tier 2 capital. Tier 1 capital includes undivided profits and reserves, common stock and surplus, and the book value of the core capital

that was contributed by the owners. Tier 2 capital includes long-term and perpetual preferred stock, convertible and subordinated debt issues, and loan loss reserves. I'll say more about this in the supplementary lesson.

Notice that banks are required to measure their capital against "risk based" assets. That is higher risk loans are given a greater weight in each ratio's denominator. This is an area of great controversy, as many of the rules about risk based capital are a bit arbitrary. For example, any loan which banks make to a government that is a member of the Organization of Economic Cooperation and Development (OECD) is zero weighted. But the OECD includes both wealthy (e.g. Germany, Canada, Japan) and some not-so-wealthy countries (Mexico, Korea, Poland). Furthermore, most commercial and industrial loans are considered given a weight of 100%, regardless of their actual risk. Because of these and other problems, the Bank for International Settlements (BIS), which originated the capital adequacy standards in 1988, is completing a comprehensive revision of these standards.

The new rules, which are out for comment among banks and bank regulators, are tentatively scheduled to come into effect in 2005. I will provide more detail on the proposed revisions in my supplementary lecture. I should add, however, that most U.S. banks significantly exceed the current standards for capital adequacy. The biggest problems with capital adequacy are in Asia, which is no surprise in light of the region's recent economic and financial crisis.

Supplemental Lecture – BIS Capital Adequacy



As discussed in the Lesson, the capital adequacy of financial institutions has received increased priority over the past decade. Since 1988, the Bank for International Settlements (BIS), based in Basle, Switzerland, has set minimum recommended global capital adequacy standards for banks. (The BIS is a multinational agency that has been described, on occasion, 'as a club for rich-country central bankers.') Some countries, including the United States., have set even more stringent standards for their banks. The late 1990s banking crises in Asia placed increased scrutiny on capital adequacy standards. In June 1999, the BIS's Basle Committee on Banking Supervision came up with a set of recommendations for a wholesale revision of these standards. After a period of review by banks and their regulators, a revised set of recommended standards was released in January 2001. Banks had until May 2001 to comment on that proposal, which was originally intended to be implemented in 2004. But criticism of the proposal, mostly emanating from banks, led to a delay in the entire process. The BIS was supposed to produce a "final draft" proposal in January 2005, but this has been delayed until later this year. The intention now is that the new standards (dubbed Basle 2) will be implemented in 2005. But there is already talk of delay until 2006 (or later), as the BIS struggle to achieve a consensus agreement.

Before discussing the details of the BIS proposal, let me first give you a brief overview of the existing standards.



BIS standards focus on two capital ratios. The first is the ratio of a bank's tier 1 capital to its risk weighted assets. Tier 1 capital consists mostly of common and preferred stock. Assets are risk weighted by attaching fixed weights to asset classes on the bank's balance sheet. For instance, U.S. banks' holdings of U.S. government securities are zero risk weighted, inter-bank loans (in OECD countries) and bank holdings of municipal general obligation bonds are 20% risk weighted, loans secured by residential property are 50% risk weighted, and most commercial and industrial loans are 100% risk weighted.

The second key ratio is the ratio of a bank's tier 2 capital relative to its risk adjusted assets. Tier 2 capital (sometimes called total risk capital) includes tier 1 capital plus things like subordinated notes (junior debt) and hybrid capital instruments (securities with a mixture of equity and bond characteristics). Defining tier 2 capital is a bit fuzzy, with banks doing some funky accounting tricks to boost the level of tier 2 capital. Regulators keep a close eye on this stuff.

The BIS standards say that a bank is adequately capitalized if it has a minimum tier 1 capital ratio of 4% and minimum tier 2 capital ratio of 8%. In the first nine months of 2001, U.S. commercial banks had an average tier 1 capital ratio of 9.68%, and a tier 2 capital ratio of 12.45%, according to the FDIC. Most European banks are also well capitalized. In contrast, numerous banks in Japan and other parts of Asia have much lower capital ratios (many have no capital, since they became insolvent following the 97-98 financial crisis).

As I mentioned, the BIS is proposing that capital adequacy standards be substantially revised to correct perceived flaws in the current system. Most of the revisions have to do with the definition of risk-based assets. For example, under the current system, most commercial and industrial loans are assigned a 100% risk-based asset weighting. The BIS is proposing that the system be revised to take into account broad credit risk



differences within this category. In their original 1999 proposal, the BIS suggested that credit agency (such as Moody's and S&P) ratings be utilized to categorize loans. But this idea got a poor reception from banks because of their concerns about credit agency accuracy (even more of a worry today) and how they would treat loans to companies that do not have assigned credit ratings (only companies that issue bonds have ratings). The revised BIS proposal, released in January 2001, proposed giving "sophisticated" banks the option to use their own internal rating systems to categorize loans, subject to close scrutiny of these rating systems by bank regulators. The new system would allow for a much broader classification of commercial loans than under the current system, which treats them all alike.

If something resembling the latest BIS proposal is implemented it is anticipated that the biggest banks will benefit the most, as they have the most sophisticated internal rating systems. Many loans currently given a 100% risk weighting will be given a lower weighting, reducing capital requirements for these loans. (The BIS also allows for the

possibility that the lowest quality credits can be given a risk-based asset weighting exceeding 100%.) This approach will benefit shareholders of these banks, but will put a greater strain on regulators to make sure banks are properly assessing risk. Having spent many years working in the credit side of a large international bank, this approach concerns me some. I envision banks and regulators cozily “negotiating” on how to assign risk to various assets. Hopefully, this will not turn out to be the case.

Another flaw in the current capital adequacy system is that all loans guaranteed by OECD governments receive a zero risk weighting in the BIS standards. The OECD used to be primarily a rich-country organization, but less-wealthy countries (Mexico, Turkey, Korea, Poland, etc.) have joined in recent years. The BIS is proposing that the new capital standards differentiate loans to these countries (perhaps utilizing agency ratings) by credit quality.

The current BIS standards also give a lower risk weighting to short-term inter-bank loans than long-term loans. This has encouraged much of the short-term lending to emerging markets that contributed to recent banking crises. Under the new system, the BIS also wants regulators to scrutinize how banks assess market risks in their trading portfolios. In addition, it wants banks to carry additional capital to insure against “operational risk”, including potential losses resulting from management and systems failure, or external events. This makes sense, but measuring operational risk is easier said than done. A heated debate about how much capital is needed to cover operational risk has been one of the key reasons for delayed implementation of Basle 2. Last year, the BIS said it will recommend banks set aside 12% of capital to guard against operational risk, down from its original proposal of 20%.



Another issue that has come up is how to assess risk associated with bank lending to small and medium sized businesses. These businesses are usually not rated by the rating agencies, and bank internal systems may be biased to assigning small businesses higher risk designations. The fear is that Basle 2 will create biases (beyond those which exist already) against lending to small business. A number of German banking institutions, which lend heavily to small and medium sized enterprises, have complained the new standards will unduly punish them. The BIS, under pressure from the German government, is giving greater consideration to this issue in its current deliberations. To implement the new more flexible system, the BIS is also recommending more stringent supervisory review of capital adequacy (we already have that for the most part in the U.S.) and better disclosure of banks’ financial condition to shareholders and depositors. U.S. banks have improved their disclosure over the past decade, but they could do better

(evidenced by recent off-balance sheet problems revealed at PNC bank after a Fed examination).

It goes without saying that the Basle 2 will be more complex than the current system, and thus will require incredible sophistication on the part of bank regulators to implement. Given differences in bank regulatory regimes around the world, there is reason to be skeptical of the practicality of the proposed changes. (The existing system has deep flaws, but its main advantage is simplicity.) That said, information about banks' financial condition is becoming more transparent in most countries, which implies that investors and depositors should be able to identify high risk and undercapitalized banks more quickly than in the past.

I should add that the BIS has no real authority over sovereign nations. It is only in a position to recommend that countries implement capital adequacy standards. It is up to individual governments and their regulators to impose these standards. There will be considerable pressure to do so, as global investors will clearly prefer to send their money to countries with well capitalized and responsibly regulated banking systems. For more information on the latest BIS proposal, check out the BIS web site at <http://www.bis.org/bcbs/index.htm>

Supplemental Lecture – American Banking Regulation

It is impossible to comprehensively view banking in the United States without taking in something of the history of bank regulation. Although this subject is worthy of a course in its self, there are some highlights that stand out.



Glass-Steagall: 1933-1999, the Glass-Steagall Act enforced a separation of commercial banking, securities houses and insurance firms. This artificial separation of these businesses which had been tied by their nature and history introduced significant inefficiencies into American banking. In France, 60% of insurance is sold through banks. In Spain, 80% of insurance is sold this way. In America, the Gramm-Leach-

Bliley Act (one of the regulatory successors to Glass-Steagall) sharply restricts the sharing of customer information between banking and insurance divisions of the same company. While motives are difficult to infer, it can nevertheless be seen that a law intended to protect banks, securities firms and insurers from competition would need to look very

much like the Glass Steagall Act.

Unit-banking Laws: One of the names for protectionist behavior within the banking industry, unit-banking laws have restricted banks' ability to have more than one branch. In effect, banks under these state-specific laws were restricted to conducting all of their activity out of a particular building (one branch.) These laws severely constrained the ability of banks to exploit economies of scale, and necessitated the creation of the legal entity known as the multi-bank holding company, which provided a partial detour around the effects of the state laws. Consequently, banks have been forced to be smaller, less stable and more numerous. The number of commercial banks in the United States (about 8,000) tends to be on the order of one hundred times as many banks found in other first-world countries.

Public Depositor's Insurance: By providing insurance on deposits that is underwritten by taxpayers, the government introduces a significant moral hazard into banking. That is, bankers are less risk-averse than they otherwise would be. (Moreover, depositors are less careful about choosing a financial institution.) Certainly, by removing the penalty of a bad risk from the shoulders of bankers, the existence of federal deposit insurance amplifies the need for other banking regulation. Unit banking laws, with the effect of preventing banks from reaching optimal sizes, has no doubt itself amplified the need for depositor's insurance. The Savings & Loan bailout is properly understood as one of the public cost of this moral hazard.

Regulation Q: 1933-1980, Regulation Q (a particular regulation within the Banking Act of 1933) set a limit on the interest that could be paid to depositors through their accounts. In microeconomics classes, this kind of regulation is generically referred to as a price control. The Banking Acts of the Great Depression (the Banking Acts of 1933, 34 and 35) also made it much more difficult to obtain a charter for a bank, which made it possible for authorities to restrict the number of banks. By centrally controlling price and supply, the net effect was to cartelize the banking industry. This reduces the access that the public has to banking services.



The recognition of this reduction of access can be seen in both market responses (such as the proliferation of check-cashing counters) and political responses (such as the Community Reinvestment Act of 1977.) This last piece of legislation requires banks to make local investments that they would not otherwise pursue. Certainly, there would be less political impetus to provide regulatory means for more access to banking, had American banking not been cartelized in the first place.

This harkens back to pre-Civil War banking, when states often required that banks carry a certain amount of state debt in their assets, as a condition of the charter. When the state projects that backed these bonds proved unprofitable (as did the canal transportation projects of the early 19th century), the state bond requirements (along with unit-banking laws) proved the undoing of many banks, and sparked a run of bank failures.