
BANKING REGULATION

Lecture 1 – RECENT TREND IN BANKING ACTIVITY

HOW DID FIs CHANGE?

The products sold and the risks faced by modern FIs are becoming *more complex* and *increasingly similar* because of:

- 1) **DEREGULATION**: increased competition; consolidation within the country (M&A); diversification across *products* and *geography* (foreign bank entry)
 - a. **Glass-Steagall Act, 1933**:
 - i. Separation between Investment Banks (IBs) & Commercial Banks (CBs)
 - ii. CBs are with deposits but restricted asset choice
IBs are without deposits but greater freedom on the asset side
 - iii. IBs have protection from CBs competition in the equity market
 - iv. CBs are subject to many regulations related to capital, risk, etc, while IBs are subject to only Securities and Exchange Commission
 - b. **Financial Service Modernization Act, 1999**:
 - i. Removes barriers between CBs, Insurance companies and IBs
 - ii. Creation of “*financial services holding companies*” that could engage in banking, insurance and securities activities (it basically does everything and so they hold the highest share of total assets)
 - iii. Large banks could place certain activities in its subsidiaries
- 2) **FINANCIAL INNOVATION**: new derivative market

Understanding these changes are important because the risks of FIs change together with these structure and activities of banks.

Although product and geographical diversification and derivative instruments were supposed to reduce the risk faced by FIs, they have actually resulted in **higher systemic risk**.

DEREGULATION and **FINANCIAL INNOVATION** facilitates a change of the business model from “**originate and hold**” to “**originate and distribute**”.

- **ORIGINATE and HOLD**: creation of **FUNDING** liquidity through **ASSETS TRANSFORMATION**
 - 1) Banks hold loan to maturity
 - 2) Banks hold credit risk
 - 3) Banks have an incentive to screen and monitor borrowers
 - 4) Banks have an incentive to price risk correctly
- **ORIGINATE and DISTRIBUTE**: creation of **MARKET** liquidity through **LOAN SALE** and **SECURITIZATION**
 - 1) Better risk sharing between banks and markets
 - 2) Banks get rid of the associated credit risk

Lecture 2 – LIQUIDITY, INTEREST & CREDIT RISKS

LIQUIDITY RISK

LIQUIDITY RISK arises for 2 reasons:

1. LIABILITY SIDE liquidity problems:

- a. Risk that many depositors demand immediate cash for their financial claims
- b. ST lenders do not renew their credit lines

2. ASSET SIDE liquidity problems:

- a. The risk of being unable to satisfy claims like loans commitments
- b. Drop in investment portfolio value (caused by *increase* in interest rate)

LIABILITY SIDE OF THE COMMERCIAL BANK:

1) DEPOSITS:

- I. **Demand deposits** – have a high degree of withdrawal risk. Withdrawals can be instantaneous and largely expected by the DI manager, such as pre-weekend cash withdrawals. Despite the 0 explicit interest paid on demand deposit accounts, competition among DIs and other FIs has resulted in the payment of implicit interest, or payments of interest-in-kind on these accounts. Finally, demand deposits have an additional cost in the form of non-interest bearing reserve requirements the DI must hold.
- II. **NOW accounts** – are interest-bearing. The major difference between NOW accounts and demand deposits is that NOW accounts require the depositor to maintain a minimum account balance to earn interest. The payment of explicit interest and the existence of minimum balance requirements make NOW accounts potentially less prone to withdrawal risk than demand deposits.
- III. **Passbook savings** – are generally less liquid than demand deposits and NOW account for 2 reasons. First, they are non-checkable and usually involve physical presence at the FI for withdrawal. Second, the DI has the legal power to delay payment or withdrawal requests, which provides important withdrawal risk control to DI managers.
- IV. **Money market deposit accounts (MMDA)** – are liquid but not as liquid as demand deposits and NOW accounts. In the US, MMDAs are checkable but subject to restrictions on the number of checks written on each account per month, the number of transfers per month, and the minimum denomination of the amount of each check.
- V. **Retail time deposits and CDs** – are fixed-maturity instruments and carry early withdrawal penalties (before maturity) such as the loss of a certain number of month's interest. These instruments have relatively low withdrawal risk compared with demand deposits and NOW accounts.

- 2) **WHOLESALE CDs** – allow depositors to liquidate their positions in these CDs by selling them in the secondary market rather than settling up with the DI, as a result, a depositor can sell a relatively liquid instrument without causing adverse liquidity risk exposure for the DI. The only withdrawal risk is

MARKET RISK

MARKET RISK – the risk incurred when trading assets and liabilities due to changes in prices, interest rates, exchange rates, market volatility and market liquidity.

FIs *trading portfolio* can be differentiated from its *investment portfolio* on the basis of time horizon and liquidity:

- The **trading portfolio** contains assets and liabilities (**unhedged**) that can be quickly bought or sold on organized financial markets (such as long and short positions in bonds, FX, equities, derivatives).
- The **investment portfolio** contains assets and liabilities that are relatively illiquid and held for longer periods (such as consumer and commercial loans, and retail deposits).

The resulting earnings uncertainty (or **market risk**) can be measured over periods as short as one day or as long as a year. In particular, FIs are concerned about the fluctuations in value or **value at risk** (VAR) of their trading account assets and liabilities for periods as short as one day – **daily earnings at risk** (DEAR) especially if such fluctuations pose a threat to their solvency.

As volatility of asset prices increases, the market risk faced by FIs that adopt open trading positions increase. An extreme case of this type of risk involved is the 2008-09 crisis. As mortgage borrowers defaulted on their mortgages, FIs that held these mortgages and MBS started announcing huge losses on them. It is these securitized loans, particularly subprime mortgage loans that led to huge financial losses resulting from market risk.

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allow and FI to develop new and innovative products enhancing its long-term survival chances.

OPERATIONAL RISK – the risk that existing technology or support systems may malfunction, for example a fraud that impacts the FI's activities may occur or external shocks such as hurricane and floods may occur.

SOVEREIGN RISK – the risk that repayments by foreign borrowers may be interrupted because of interference from foreign governments or other political entities. For example, when a domestic corporation is unable to repay a loan, FI usually has resource to the domestic bankruptcy court and eventually may recoup at least a portion of its original investment when the assets of the defaulted firm are liquidated or restructured. By comparison, a foreign corporation may be unable to repay the principal or interest on a loan even if it would like to do so. In this case, the government of the country in which the corporation is headquartered may prohibit or limit debt repayments due to foreign currency shortages and adverse political events; and FI claimholder has little resource to local bankruptcy courts or to an international court.

INSOLVENCY RISK – the risk that an FI may not have enough capital to offset a sudden decline in the value of its assets as a result of one or more of the risks described above. In general, the more equity capital to borrowed funds an FI has – that is, the lower its leverage – the better it is able to withstand losses. Thus, both the management and regulators focus on capital as a key measure of FI's ability to remain solvent.

"FISCAL BANK SOLVENCY NEXUS"

There is an important link between the fiscal positions of the **government** and the solvency/vulnerability of the **domestic banks**. The link comes from:

- 1) The FIs located in one country hold a lot of sovereign debt on its **ASSET**-side of the bank B/S (they have lent a lot of money to the government), and so they are heavily exposed to sovereign risk.
- 2) Sovereign credit risk on the asset-side spreads to the **LIABILITY**-side as well because these FIs have funding problems in the market. Why? Because these FIs are considered riskier (as a result of holding riskier sovereign debt), their ability to raise capital on the market becomes limited. The only way to raise funding in REPO is to increase the collateral or pay higher interest rate but increasing collateral means the FI needs to buy more sovereign debt to obtain the REPO loan!

Moreover, the value of the FI's **capital** with a lot of sovereign exposure goes down. But these FIs will not be able to raise more capital by issuing new shares because investors lost confidence in these FIs that have high exposure to toxic sovereign debt. As a consequence, investors who owned the stocks of these banks started to sell their stocks. The market value of equity further goes down as the problem exaggerates, while the risk weights of assets go up because the asset-side becomes riskier and it becomes difficult to meet the capital requirements.