FRM Part 1

Book 3 - Financial Markets and Products

Chapter 1

BANKS

Learning Objectives

After completing this reading you should be able to:

- ✓ Identify the **major risks** faced by a bank.
- ✓ Distinguish between **economic capital** and **regulatory capital**.
- ✓ Explain how deposit insurance gives rise to a **moral hazard problem**.
- ✓ Describe investment banking financing arrangements including **private placement**, **public offering**, **best efforts**, **firm commitment**, and **Dutch auction** approaches.
- ✓ Describe the potential **conflicts of interest** among commercial banking, securities services, and investment banking divisions of a bank and recommend solutions to the conflict of interest problems.
- ✓ Describe the distinctions between the "**banking book**" and the "**trading book**" of a bank.
- ✓ Explain the **originate-to-distribute model** of a bank and discuss its benefits and drawbacks.

The Major Risks Faced by a Bank

Credit risk

- This is the risk that borrowers **will fail to meet their obligations** in accordance with agreed terms.

Market risk

- This is the risk of losses in a **bank's trading book** due to changes in stock prices, interest rates, foreign exchange rates, commodity prices, and credit spreads.

Operational risk

- This is the possibility of loss resulting from **failed internal processes**, systems or people, or external events.

Liquidity risk

- This describes the risk resulting from the lack of a ready market for an investment, which in turn raises the specter of being **unable to meet day-to-day funding needs**.

Reputational risk

- This is a potential **loss in reputational capital** based on either real or perceived losses in reputational capital.

Economic Capital vs. Regulatory Capital

Economic capital

- The amount of capital that a bank needs in order to *remain solvent and maintain its day-to-day operations*.
  - Also known as risk capital, it's the amount of capital required to absorb the **impact of unexpected losses** during a specified time horizon, at a given level of confidence.

Regulatory capital

The amount of capital a bank is required to hold in accordance with laid down **regulations**, rules, and guidance. For instance, according to Basel II, regulatory capital can be divided into three tiers:

- **Tier I capital** – core capital
- **Tier II capital** – supplementary capital, e.g., general loan reserves
- **Tier III capital**, e.g., short-term subordinated debt

The Link between Deposit Insurance and Moral Hazard

- When a bank becomes insolvent, **depositors** may end up **losing a percentage of their money**.
  - However, in most developed countries, **the government guarantees** that if a bank fails, the bank's depositors will be in line for compensation.
  - This is known as **deposit insurance**. For example, the U.K. government provides deposit insurance to most banks up to a limit of £85,000.
- **Moral hazard** describes the fact that by **being insured**, customers will take little or no interest at all in the way a bank handles their money.
  - After all, the depositors are assured of getting their money back **even if the bank fails**.
- In a system with deposit insurance, a lack of scrutiny means that banks are **free to lend as much as they want** to whomever they wish, besides investing in other income generating assets of their choice.

Different Investment Banking Financing Arrangements

Investment banking mainly deals with the raising of debt and equity financing for corporations or governments:

Step 1

- A typical arrangement starts with a corporation approaching an investment bank with a request for help in **raising a specified amount of money**.

Step 2

- The two entities then agree on the **form of finance desired** – debt or equity – and the **investment bank underwrites the issue**.
  - This means the bank agrees to **approach investors** and ask them to subscribe to the issue.

Step 3

- The bank then sells the securities to investors.
  - For example, an IPO would involve the **sale of shares to investors**.

Different Investment Banking Financing Arrangements

The arrangement to sell the securities can take one of several forms:

I. **Private Placement** - The securities are sold to a small number of chosen investors.
   - In other words, the sale is closed to the **general public**.
   - Private placements are considered relatively cost-effective because they do not involve “going public” together with the associated costs, such as road shows and ads.
   - The offer price is usually less than the fair value of the issuer to **increase the chances of a full subscription** (all securities getting sold successfully).
   - “Series A” Funding Rounds or “Series B” investments are examples of private placements.

Different Investment Banking Financing Arrangements

The arrangement to sell the securities can take one of several forms:

II. **Public offering** - A public offering involves the sale of **equity shares** or some other financial instruments **to the public**.

- In the U.S., this type of arrangement is subject to approval by the Securities and Exchange Commission (SEC).
- A public offering can take the form of a **best effort** or a **firm commitment**.

1) On a best efforts basis, the bank does as well as it can to place the securities with investors. The bank **receives a fee** that in part depends on the success of the placement.
2) On a firm commitment basis, the investment bank buys the securities **from the issuer** and **attempts to place them with investors**.
   - ✓ This type of arrangement is **riskier for the bank** because if it fails to resell all the securities, it will be forced to hold them itself.
   - ✓ The investment bank makes a profit equal to the difference between the subscription price and the price paid to the issuer.

Different Investment Banking Financing Arrangements

The arrangement to sell the securities can take one of several forms:

III. **Dutch Auction** - In a Dutch auction, the price of the offering is set after **taking into consideration all bids** to determine the highest price at which the offering can be sold.
   - In their bids, investors indicate the number of securities they are prepared to buy, and the price they are willing to pay for each.
   - Securities are **allotted to investors in order of bid prices**, where the highest bid is considered first, then the next highest, until all the securities have been allotted.
   - However, it's important to note that **all investors pay the same price** – usually the **lowest bid acceptable**.

   Example >>

Dutch Auction

Example

- Jelly Corp. wishes to sell **$10 million shares using a Dutch auction**. The underwriter starts the auction by offering a price of $50 per share. Determine the price that will be paid by all the successful bidders

Price	Bids	Shares
$50	1	2,000,000
$48	2	1,000,000
$47	1	2,000,000
$45	2	2,000,000
$44	3	1,000,000
$42	5	3,000,000

Dutch Auction

Example

- Jelly Corp. wishes to sell **$10 million shares using a Dutch auction**. The underwriter starts the auction by offering a price of $50 per share. Determine the price that will be paid by all the successful bidders

Price	Bids	Shares	Cumulative
$50	1	2,000,000	2,000,000
$48	2	1,000,000	4,000,000
$47	1	2,000,000	6,000,000
$45	2	2,000,000	10,000,000
~~$44~~	~~3~~	~~1,000,000~~	~~13,000,000~~
~~$42~~	~~5~~	~~3,000,000~~	~~28,000,000~~

Solution

- $45 is the lowest winning price bid, and **all successful bidders** will pay $45/share.

Different Investment Banking Financing Arrangements

Apart from investment banking, banks engage in other income-generating activities. These include:

- **Advisory services:**
  - This entails giving advice to companies on mergers and acquisitions, restructuring, and divestments.
  - The client could be the target or even the acquirer.

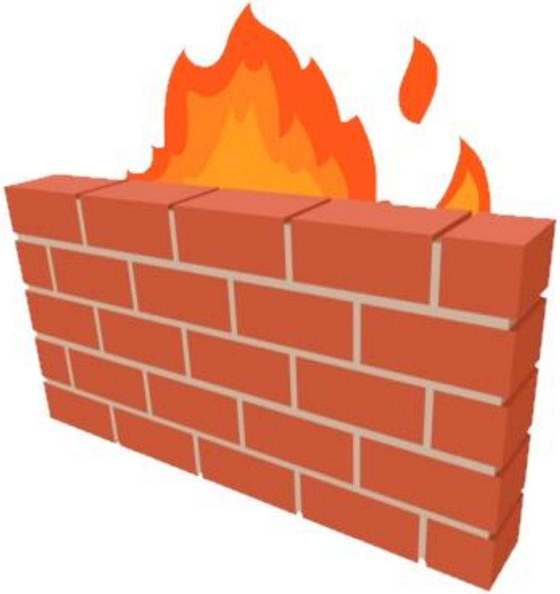
- **Securities trading:**
  - A majority of banks involve themselves in securities trading through the **brokerage** of both equity and debt instruments.
  - Most investments are however short-term to ensure the bank has enough liquidity.

Potential Conflicts of Interest in Banking

1. When giving investment advice, a bank **might be tempted to recommend the securities being sold by its investment banking wing**, even if such securities do not fit the profile of the customer.
2. The research division may mark a share as “buy” just to impress the management and **create business for the investment banking division**. This often happens when the research team is under pressure from management.
3. If a bank obtains confidential information that suggests one of its corporate borrowers may default in the near future, the bank may be tempted to push for floatation of a bond by the borrower, sometimes very aggressively. The bank would then use the proceeds to **pay off the loan**.
4. During the appraisal process for credit, banks oft obtain lots of information about the borrower. A bank may be tempted to **pass that information to the investment banking division** to help it provide advice to a potential acquirer.

Firewalls

- In an attempt to avoid conflict of interests, some banks have introduced formal information barriers where members of the investment banking division may are barred from communicating directly with their research division counterparts.
  - Some companies have gone as far as requiring any communication between the two divisions to happen only through the **compliance department**.



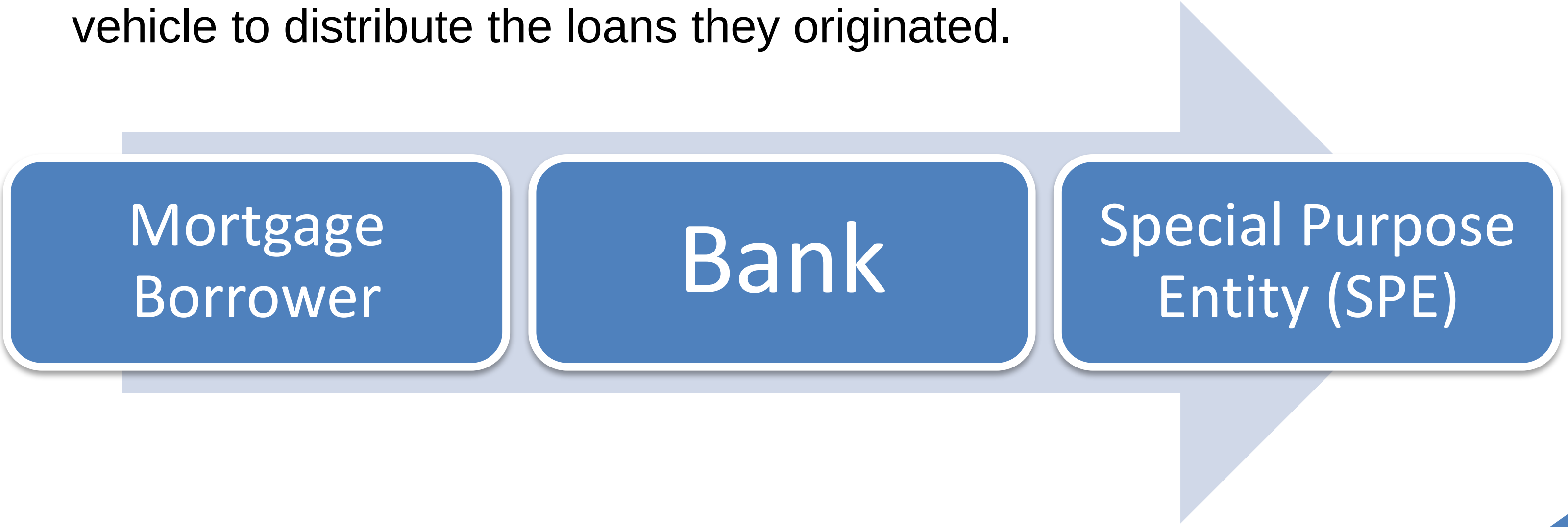
Distinctions between the "Banking Book" and the "Trading Book" of a Bank

- The **banking book** consists of assets on the **bank's balance sheet** that are expected to be **held until maturity**.
  - In other words, the bank cannot sell them.
  - The bank does not mark such assets to market, nor is it required to **record them at fair value**.
  - Historical cost **accounting** is used.
  - The **VaR** for assets in the banking book is measured at **99.9%** confidence on a **1-year time horizon**.
- The **trading book** consists of assets that are available for sale, meaning that they are eligible for day-to-day trading.
  - Under Basel II and III, the trading book has to be **marked to market** on a daily basis.
  - In addition, the VaR for all assets making up the trading book has to be measured at **99%** confidence on a **10-day time horizon**.

The Originate-to-Distribute Model

- Historically, banks used to **originate loans** and then keep them on their balance **until maturity**.
  - That was the **originate-to-hold model**.

- With time, however, banks gradually and increasingly began to **distribute the loans**.
  - By so doing, the banks were able to **limit the growth of their balance sheet** by creating a somewhat autonomous investment vehicle to distribute the loans they originated.



The Originate-to-Distribute Model

Advantages of the originate-to-distribute model:

- It introduces **specialization** in the lending process. Functions initially designated for a single firm are now split among several firms.
- It reduces banks' reliance on the **traditional sources of capital**, such as deposits and rights issues.
- It introduces flexibility into banks' financial statements and helps them **diversify some risks**.

Disadvantages of the model:

- Allowing banks to hive off part of their liabilities can result in **relaxation of lending standards** and contribute to **riskier lending**.
- By splitting functions among multiple firms, the model can make it difficult for borrowers to **renegotiate terms**.
- The assets (loans) retained in the balance sheet become increasingly **less representative** of the role they play in the process of extending credit.
  - In other words, the role and impact of banks as lenders in an economy is **obscured**.

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NEXT

INSURANCE COMPANIES AND PENSION PLANS