

International Business and Finance Seminar 1

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Welcome!

- ▶ I am Dr. Cholwoo Kim at the department of economics.
- ▶ I will be around for all your seminars as well as the study groups.
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- ▶ Class materials: [International Business and Finance Resource Page](#)
- ▶ Attendance monitoring: I usually ask you to confirm your attendance during the seminar.

Banking

- ▶ Some key concepts
 - ▶ Types of banks
 - ▶ What is a balance sheet, and what does it consist of?
 - ▶ Main sources of the bank's profits
 - ▶ What is reserve, and how does it play a role in “creating” money?

The Bank Balance Sheet

- ▶ A bank's balance sheet lists sources of bank funds (**liabilities**) and uses of those sources (**assets**).

Assets	Liabilities
Cash	Deposits: retail
Liquid assets	Deposits: wholesale
Loans	
Other investments	
Fixed assets	
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	Equity
	Other capital terms
Total assets	Total liabilities and equity

- ▶ Banks invest these liabilities (sources) into assets (uses) in order to create value for their capital providers. → **Value of Capital = Total Assets – Total Liabilities**

How banks create money

► Fractional-Reserve Banking system

Assume the initial deposit is \$1,000 and each bank should keep 10% of the deposit as reserves.

First Bank		Second Bank		Third Bank			
Assets		Liabilities		Assets		Liabilities	
Reserves	\$100	Deposits	\$1,000	Reserves	\$90	Deposits	\$900
Loans	\$900			Loans	\$810		

Bank	Increase In Deposits
First	\$1,000
Second	+ 900 (= 0.9 × \$1,000)
Third	+ 810 (= 0.9 ² × \$1,000)
Fourth Bank	+ 729 (= 0.9 ³ × \$1,000)
•	+ •
Total change in checking account deposits	= \$10,000 (= $\frac{1}{1-0.9} \times \$1,000$)

► \$1,000 deposit creates a total of \$10,000 in deposits.

Multiple Choice Questions

1) Which of the following are reported as assets on a bank's balance sheet?

- A) Borrowings
- B) Reserves
- C) Savings deposits
- D) Bank capital
- E) Only A and B of the above

2) In general, banks make profits by selling _____ liabilities and buying _____ assets.

- A) long-term; shorter-term
- B) short-term; longer-term
- C) illiquid; liquid
- D) risky; risk-free

3) Which of the following statements is true?

- A) A bank's assets are its sources of funds.
- B) A bank's liabilities are its uses of funds.
- C) A bank's balance sheet shows that total assets equal total liabilities plus equity capital.
- D) All of the above are true.

4) Which of the following statements is true?

- A) A bank's assets are its uses of funds.
- B) A bank's assets are its sources of funds.
- C) A bank's liabilities are its uses of funds.
- D) Only B and C of the above are true.

5) Which of the following statements is false?

- A) A bank's assets are its uses of funds.
- B) A bank issues liabilities to acquire funds.
- C) A bank's assets provide the bank with income.
- D) Bank capital is an asset on the bank balance sheet.

6) A bank's balance sheet

- A) shows that total assets equal total liabilities plus equity capital.
- B) lists sources and uses of bank funds.
- C) indicates whether or not the bank is profitable.
- D) does all of the above.
- E) does only A and B of the above.

7) Which of the following are reported as liabilities on a bank's balance sheet?

- A) Reserves
- B) Checkable deposits
- C) Loans
- D) Deposits with other banks

8) Which of the following are reported as liabilities on a bank's balance sheet?

- A) Discount loans
- B) Cash items in the process of collection
- C) State government securities
- D) All of the above
- E) Only B and C of the above

Analytical Questions

1) Some Central banks do not pay interest on required reserves. Some bankers see this as a tax on their business. Can you explain why?

2) Define these concepts for banks: Return On Assets (ROA), Return On Equity (ROE), and Net Interest Margin (NIM). What do they show?

3) The source of bank operating income has changed over the years. Discuss.

4) How is Net Interest Margin (NIM) a good measure of bank performance? Bank management performance?

5) ROA and ROE are considered performance evaluation tools for banks. Do they always move in the same direction? How does an increase in capital affect them?

6) Assume that the following banks have the same net amount of 2 million, but they are different due to the capital structure:

BANK ALFA

Reserves 12 million

Loans 90 million

TOTAL ASSETS 102 million

Deposits 85 million

Bank Capital 17 million

TOTAL Liabilities and Equity 102 million

BANK BETA

Reserves 12 million

Loans 90 million

TOTAL ASSETS 102 million

Deposits 100 million

Bank Capital 2 million

TOTAL Liabilities and Equity 102 million

Which Bank is more attractive for shareholders? Which bank is riskier in case of loan depreciation at 15 million? Show your calculations to support your suggestions.

Analytical Questions

2) Define these concepts for banks: Return On Assets (ROA), Return On Equity (ROE), and Net Interest Margin (NIM). What do they show?

- ▶ Return on assets (ROA) is a metric that indicates **a company's or bank's profitability** in relation to its total assets. ROA can be used by management, analysts, and investors to determine whether a company/bank uses its assets efficiently to generate a profit. You can calculate ROA by **dividing the net income by the total assets of the company/bank**.
- ▶ Return on equity (ROE) is the measure of a company's or bank's net income divided by its shareholders' equity. ROE is a gauge of **a corporation's profitability** and **how efficiently it generates those profits**. The higher the ROE, the better a company is at converting its equity financing into profits. To calculate ROE, **divide net income by the value of shareholders' equity**.
- ▶ Net interest margin (NIM) is a measurement comparing the net interest income a financial firm generates from credit products like loans and mortgages with the outgoing interest it pays holders of savings accounts and certificates of deposit (CDs). Expressed as a percentage, the NIM is **a profitability indicator** that approximates the likelihood of a bank or investment firm thriving over the long haul. This metric helps prospective investors determine whether or not to invest in a given financial services firm by providing visibility into **the profitability of their interest income versus their interest expenses**. **Net Interest Margin = (IR - IE) / Average Earning Assets**, where: IR: Investment returns, IE: Interest expenses, Average Earning Assets: Typically includes loans, mortgages, and investments that generate interest.

Analytical Questions

1) Some Central banks do not pay interest on required reserves. Some bankers see this as a tax on their business. Can you explain why?

- ▶ If bankers are forced to keep part of their deposits as reserves, they are **losing the opportunity to earn interest on these reserves**. If the central bank does not pay interest to banks, they can interpret this as a “tax”, since the lost earnings are “money left on the table”.

Analytical Questions

- 3) The source of bank operating income has changed over the years. Discuss.
- ▶ A bank's operating income consists of **interest income mainly**, but over the years, banks have managed to diversify toward **non-interest income**. The components of non-interest income are **investment banking, derivatives trading, deposit and transaction fees, insufficient funds fees, annual fees, monthly account service charge fees, and dormant account fees**.
 - ▶ **This non-interest income** is important to sustain the banks and reap **higher margins**. **Recent regulations** have been put in place to limit the trading and proprietary activities of banks with the assumption that **non-traditional activities always increase the systemic risk of banks**. This view is still subject to open debate.

Analytical Questions

4) How is Net Interest Margin (NIM) a good measure of bank performance? Bank management performance?

- ▶ NIM is a difference between interest income and expenses over bank assets. **If a bank maintains a high-interest spread**, i.e., it earns a relatively high interest on assets and pays lower interest on deposits and other liabilities, **the bank's operating income increases**. This is the main source of a bank's net income. Thus, the bank has the right policy to achieve goals, and we can conclude that **the management is performing well**.

Analytical Questions

5) ROA and ROE are considered performance evaluation tools for banks. Do they always move in the same direction? How does an increase in capital affect them?

▶ The ROA and ROE may move in the same direction. If a bank's net income increases, this will increase the ROA and ROE. However, there may be situations where **an increase in capital may not affect both rates**; for example, a bank may decide to **increase equity capital** for security reasons or for regulatory requirements. If at the same time, the net income remains the same, this action will **affect ROE (decline), but will not have any effect on ROA.**

▶ ROA & ROE

$$\text{ROA} = \frac{\text{Net Income}}{\text{Total Assets}}$$

$$\text{ROE} = \frac{\text{Net Income}}{\text{Equity}}$$

Analytical Questions

6) Assume that the following banks have the same net amount of 2 million, but they are different due to the capital structure:

BANK ALFA

Reserves 12 million

Loans 90 million

TOTAL ASSETS 102 million

Deposits 85 million

Bank Capital 17 million

TOTAL Liabilities and Equity 102 million

BANK BETA

Reserves 12 million

Loans 90 million

TOTAL ASSETS 102 million

Deposits 100 million

Bank Capital 2 million

TOTAL Liabilities and Equity 102 million

Which Bank is more attractive for shareholders? Which bank is riskier in case of loan depreciation at 15 million? Show your calculations to support your suggestions.

Analytical Questions

For shareholders, the **ROE is the main coefficient**. Thus, in the case of Alfa, the $ROE = 2 \text{ million} / 17 \text{ million} = 0.1176$ or approximately 12%. For Beta, we have $2 \text{ million} / 2 \text{ million} = 1$ or 100%.

Here Beta is the more attractive bank.

Let us assume that the **loan depreciation is 15 million**. We have the following balance sheets for each bank:

BANK ALFA

Reserves 12 million

Loans 75 million

TOTAL ASSETS 87 million

Deposits 85 million

Bank Capital 2 million

TOTAL Liabilities and Equity 87 million

BANK BETA

Reserves 12 million

Loans 75 million

TOTAL ASSETS 87 million

Deposits 100 million

Bank Capital -13 million

TOTAL Liabilities and Equity 87 million

As we see when the loan depreciation occurs, **Beta has a negative capital, which means that this is too risky**; the supervisory authorities may introduce bank license issues or other restrictions. We can conclude that in terms of return, bank shareholders are better off if the bank's equity capital is lower, however, **in case of deposit outflow or loan quality deterioration higher capital level is preferred**.