Topics in Banking: Theory and Practice
Lecture Notes 1

Academic Program: Master in Financial Economics (Research track)
Semester: Spring 2010/11
Instructor: Dr. Nikolaos I. Papanikolaou

The financial system
In strict terms, financial system consists of financial markets and financial institutions. In a broader view, financial assets and instruments, economic agents (individuals, households, and firms), governments and central banks are also parts of the financial system.

1. Assets
Asset categories
- Real Assets: natural resources; physical capital; human capital; cultural capital; intellectual property, etc.
- Financial Assets: money; equity; debt; bonds; derivative products; securitized products, etc.

Main characteristics of assets:
- Divisibility: it refers to the extent to which fractional amounts of an asset can be either bought or sold. E.g., equity can be divided into a number of stocks (in general, financial assets are viewed as divisible).
- Liquidity: it refers to the speed with which an asset can be sold (this is where the term ‘maturity’ comes into play).
- Standardization: given the multiple uses of financial assets, it is not surprising that financial agreements are costly to be made, maintain, and monitor. Standardization determines and promulgates criteria to which financial assets are expected to conform.
2. **Financial markets**

Some economic agents need to raise capital while others have surplus funds available to invest. These capital transactions can be made through financial markets. Several markets exist that govern the demand and supply of financial assets. Some of the most important types of financial markets are the following:

a. Money markets: short-term assets, i.e., <1 year maturity are traded here. 
   vs. 
   Capital Markets: medium & long-term assets, i.e., >1 year maturity as well as equity are traded.

b. Primary Markets: newly-issued assets are traded in these markets, e.g., an Initial Public Offering (IPO) of equity 
   vs. 
   Secondary Markets: existing assets are traded in these markets, e.g., Stock Exchanges.

c. Exchange markets: secondary financial markets where buyers and sellers meet each other physically in a single central location to trade their assets, e.g., Stock Exchanges. 
   vs. 
   Over-The-Counter (OTC) or Dealer Markets: secondary markets where buyers and sellers can meet electronically to conduct trades, e.g., NASDAQ.

d. Spots markets vs. Futures markets

3. **Financial institutions**

Entities of the financial system which operate within or outside financial markets and play an intermediate role between savers and borrowers. They are distinguished into deposit-taking institutions and non-deposit taking ones.

a. Deposit-taking (or depository) financial institutions

   These institutions are empowered to accept and hold monies from the public. Traditionally, they take in deposits and grant loans. As a result, they play a key role in the transmission of monetary policy to the financial markets, to borrowers and depositors as they hold a large share of the nation’s money stock in various types of deposits.
i) Commercial banks

Typically, commercial banks’ current operations are granting loans and receiving deposits from economic agents.

Main banking operations:
- Liquidity and payment services
- Asset transformation
- Risk management
- Processing information and monitoring borrowers

Not every single bank performs all the above tasks. Large, universal banks usually do, but smaller banks rather not.

Main sources of funds for commercial banks:
- Borrowed funds: Equity provided by owners, Repurchase Agreements (repos)$^1$, Federal Funds, Central Bank Loans.
- Deposits of various types:
  - Demand deposits: the depositor can withdraw the deposits at any time without any previous notice to the depository institution. Usually, checking and savings accounts are demand deposits.
  - Time deposits: they refer to deposits that must be held at the depository institution for a pre-specific period of time with the understanding that the depositor can only withdraw by given written notice (e.g., (certificates of deposits CDs).

ii) Near Banks

This type of financial institutions competes with commercial banks for the collection of deposits and the provision of financial services. By spreading the yield changes from the money market to the rest of the financial system – especially to mortgage lending and term-deposit markets – they are a vital part of the transmission process of monetary policies. Most of these institutions are relatively specialized in their

---

$^1$ Repos mean that the owner of a security borrows funds from a lender and surrenders the security to the lender as collateral. The borrower agrees to buy back the security later at a specific date for a higher price to reflect the addition of interest on the loan.
operations because of laws. Some of them, for example, cannot engage in commercial lending, whereas some others do not compete in international markets as banks.

- Trust companies: they comprise commercial banks’ main competitors for deposits. In general terms, they are established to manage others’ money. They were established initially because commercial banks were denied to act as trustees. Trust companies alone may act as trustees, such as administrators for an estate or deceased person, or for the distribution of stock dividends. The main functions of a Trust Company are:
  1. Intermediation function
  2. Trusteeship functions, i.e., to administer assets the company does not own, such as estates, trusts and business agencies.

There is no limit on ownership of a trust company. One person can own the entire stock of a trust company. This unlimited ownership clause gave rise to problems such as conflict of interest between depositors and owner.

- Mortgage and Loan companies: originally, they were established as co-operative ‘Building Societies’ in which members pooled their savings so that each member (in turn) could borrow to build a house. The term ‘Building Societies’ is still in use in the U.K. the birthplace of the M/L companies. In general, their main function is to acquire land, build homes and develop farms. M/L companies cannot engage in estate, trust and agency business.

- Thrift Institutions:
  - Savings and Loan (S&L) Associations: they are self-financed service to the public. They acquired funds by offering the following: a) Savings accounts in which the depositor must wait for 30 days before withdrawing funds, b) Certificate of Deposits (CDs), c) checking accounts known as Negotiable Order of Withdrawal (NOW) and d) Brokered deposits, which are raised by paying a broker a fee and higher interest to the depositor. Given that S&L must pay higher interest on deposits to attract depositors, they engaged in riskier projects that promised higher returns.
- Mutual Saving Banks: they are mutual-type S&L, i.e., they are exclusively charted by state governments and not by the federal government. Their main function is to offer NOW accounts and save deposits to the public. They acquire assets in form of residential mortgages.

- Credit Unions: a Credit Union (CU) has the following characteristics: it is member-owned, not-for-profit institution, and independent in the sense that it is accountable only to its members. How it works? The members deposit funds in the CU and determine its lending and investment policies. Voters hold a share and elect board of directors. To become a member, one has to be a depositor. Once a member, the membership entitles a voting right to reflect ownership. Eligibility to membership is based on town, University or cultural society. CUs are composed of members who share a common bond. The bond is based on similarity of occupation, religious affiliation or geographical location of its members. In many cases, CUs allow a perpetual membership even if the common bond is broken (e.g., loss of employment, change of occupation). Today, the common bond restriction is removed from most of the existing CUs; they are simply cooperative banks. Deposits at CUs are of two types: a) Demand deposits that make approximately 20% of total deposits. Demand deposits are called ‘Draft Accounts’. Members can write drafts to provide immediate payments, and b) Time Deposits that make the rest 80% of total deposits. Time deposits are called ‘Share Accounts’ to reflect the ownership role of each member. Loans offered by CUs are of three types: a) Consumer loans, b) mortgage loans, and c) assets in treasury instruments.

b. Non-deposit-taking financial institutions

Evidently, these institutions are not funded by deposits of any type. They rather involved with other types of assets. Examples are contractual savings institutions (life insurance companies, property & casualty insurance companies, pension funds, etc.), mutual funds, finance companies, investment banks, Government Sponsored Enterprises (GSEs), etc.

---

2 Government financial institutions like Central Banks can also viewed as non-deposit-taking institutions.
i) **Insurance companies**

They accept premiums which are typically invested and, in return, they pay compensation should a certain event occurs.

**ii) Pension funds**

They invest individuals or group of individuals’ money into financial markets with the purpose to provide them retirement payments.

**iii) Mutual Funds**

They manage a pool of money that has been placed with the fund by investors money is invested in a specified variety of assets, mostly securities. The mutual fund’s value changes over time depending on changes in the value of fund’s assets.

**iv) Finance Companies (Credit Institutions)**

They use debt or equity (and not deposits) to finance loans.

**v) Investment Banks**

They perform a variety of services. This includes underwriting, acting as an intermediary between an issuer of securities and the investing public, facilitating mergers and other corporate reorganizations, and also acting as a broker for institutional clients.

**vi) GSEs**

Federal agencies that provide loans directly to farmers and home mortgagors (e.g., Freddie Mac, Fannie Mae)

**Banks’ balance sheet**

The standard accounting tool for listing banks’ assets and liabilities is the well-known balance sheet. Assets reveal how banks use their funds as well as what the bank owns and appear on the left-hand side of the balance sheet. Liabilities, on the other hand, show the funding sources of banks or, in other words, what the bank owes and go to the right-hand
side. Apart from assets and liabilities, banks have also some kind of cushion of funds so that a sudden dip in its assets does not make it insolvent. This is the so-called bank capital or net worth, which again appears in the right-hand side of banks’ balance sheet.

Using the first rule of accounting according to which both sides of the balance sheet must add up to the same amount, we obtain:

\[
\text{Assets} = \text{Liabilities} + \text{Bank Capital (Net Worth)}
\]

An important banks’ asset is total reserves or simply reserves. It is kept by banks in order to meet deposit outflows (withdrawals, checks drawn on the bank, etc.) and because it is required to do so by the regulatory authorities. Most often, reserves are some percentage of banks’ total deposits.

The difference between banks’ total reserves and required reserves gives excess reserves:

\[
\text{Excess reserves} = (\text{Total}) \text{ reserves} - \text{Required reserves}
\]