Topic 1: An Introduction to Money and the Financial System*

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This lecture introduces the six parts of the financial system and the five core principles that will be used throughout the course as each topic is covered.

1 The Six Parts of the Financial System

The **financial system** has six parts, each of which plays a fundamental role in our economy:

- **Money** is an asset that is generally accepted as payment for goods and services or repayment of debt. For example, coins and paper currency.[1] Money has three characteristics: [i.] a means of payment; [ii.] a unit of account; and [iii.] a store of value. Two measures of money, or monetary aggregates:
  - **M1** includes only currency and various deposit accounts on which people can write checks.
  - **M2** equals all of **M1** plus assets that cannot be used directly as a measure of payment and are difficult to convert into currency quickly.
- **Financial instruments** or **securities** are the written legal obligations of one party to transfer something of value, usually money, to another party at some future date under specified conditions.[2] Financial instruments have two characteristics: [i.] their terms are standardized; and [ii.] they communicate information. Two classes:
  - **Underlying instruments** or **primitive securities** are used by savers/lenders to transfer resources directly to investors/borrowers, e.g. stocks and bonds.
  - **Derivative instruments** are those whose value and payoffs are "derived" from the behavior of the underlying instruments, e.g. futures, options, and swaps.

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Disclaimer: these are notes that I used by myself to lecture from and for educational purposes only. The material presented here is largely based upon the undergraduate textbook by Stephen Cecchetti and Kermit Schoenholtz (2014), *Money, Banking and Financial Markets*, 4th Edition, McGraw-Hill/Irwin. Please do NOT circulate.

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[1] Though money is not the only store of value, we all hold money because it is liquid. **Liquidity** is a measure of the ease with which an asset can be converted into money.

[2] Similar to money, financial instrument can act both as a means of payment and a store of value. In addition, it can be used to transfer risk between the buyer and the seller.

- **Financial markets** are the places where financial instruments are bought and sold. They serve three roles in the economic system: [i.] offer savers and borrowers liquidity; [ii.] pool and communicate information; and [iii.] allow risk sharing. Two categories:
  - **Primary financial markets** are those in which a borrower obtains funds from a lender by selling newly issued securities.
  - **Secondary financial markets** are those where people can buy and sell existing securities, e.g. the New York Stock Exchange.
- **Financial institutions** or **intermediaries** are the firms that provide access to the financial markets, both to savers who wish to purchase financial instruments and to borrowers who want to issue them. For example, banks, securities firms, and insurance companies. See Figure 3.2 below.

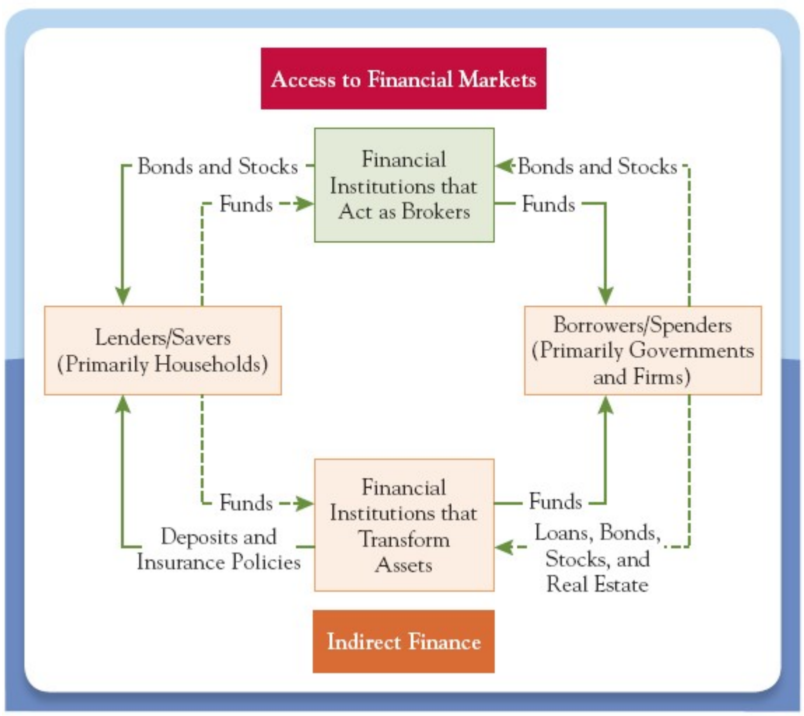

Figure 3.2. Flow of funds through financial institutions

- **Government regulatory agencies** are responsible for ensuring that the elements of the financial system operate safely and reliably.
- **Central banks** monitor and stabilize the economy. For example, the Federal Reserve System and the European Central Bank.

2 The Five Core Principles of Money and Banking

Though the nature of our financial system is changing over time, there are five core principles of money and banking that stand the test of time:

- *Core Principle 1: Time has value.* The resources being borrowed have an opportunity cost to the lender so the borrower has to pay rent on them. For example, with an interest rate of 4%, a four-year $10,000$ car loan requires 48 monthly payments of $226 each, meaning the borrower will repay $848 in addition to the loan amount.

- *Core Principle 2: Risk requires compensation.* Investors must be paid in the form of explicit payments to assume risk; the higher the risk, the bigger the required payment. For example, a government on the verge of being unable to pay its bills has to pay an extremely high interest rate to issue bonds.

- *Core Principle 3: Information is the basis for decisions.* Most of us collect information before making decisions; the more important the decision, the more information we gather. For example, before a bank makes a loan, a loan officer will spend a great deal of time gathering the information needed to evaluate the creditworthiness of loan applicants.

- *Core Principle 4: Markets determine prices and allocate resources.* Financial markets gather information from a large number of individual participants and aggregate it into a set of prices that provide a basis for allocating the capital. For example, the higher the price of stocks issued by a firm wishing to finance the construction of a new factory, the more likely the firm will raise the capital for the investment.

- *Core Principle 5: Stability improves welfare.* A stable economy grows faster than an unstable economy. This is why stabilizing the economy is a primary function of central banks around the world. For example, officials of these institutions are charged with keeping inflation low and stable and keeping growth high and stable.

3 Economic and Financial Data

Here are some very good online resources of economic and financial time series data.

- FRED Economic Data: http://research.stlouisfed.org/

- Bureau of Economic Analysis: http://www.bea.gov/