International Monetary Policy

2 Preliminary concepts [1]

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Lecture topic and references

- In this lecture we cover the preliminary concepts that we will use extensively during the course
- Mishkin, Chapters 1, 2, 3

What's money?

- We will talk extensively about money and the role of financial markets. Let's first understand what we mean by "money"
- Money is anything that is generally accepted as payment for goods, services or repayment of debt
- Money is not only currency (paper money and coins). Saving deposits can function as money by using checks or credit cards
- Money allows for specialization. Without money we can exchange goods only using barter

What's money?

- In general, money has three well-known functions:
  - Medium of exchange
  - Unit of account
  - Store of value

What's money?

- Money was originally defined as *commodity* money: it was identified with an object that had intrinsic value for everyone (gold or silver). This means that it was heavy to transport and carry around. Moreover its supply was out of control
- Modern payment systems use *fiat* money: paper money that has no intrinsic value and it is not convertible into any precious metal. Governments guarantee its legal tender: it must be accepted for payments. It's acceptance requires people's trust

Aggregate output and income

- Gross domestic product (GDP) is defined as the market value of all final goods and services produced in a country during a year
- Aggregate income is defined as the total income from factors of production
- Given that payments from final goods must eventually flow to the owners of factors of production, income payments must be equal to payments for final goods

Aggregate output and income

- GDP is a measure of production. The problem is that comparison of different production measures across years have both a quantity and a price effect

- Suppose that the economy produces only apples (X_t^A) and CDs (X_t^{CD}), sold at prices P_t^A and P_t^{CD} respectively

- Suppose that in year 2000 the economy produces 15 apples and 10 CDs, sold both at 2. One could measure total production as

$$P_{2000}^A X_{2000}^A + P_{2000}^{CD} X_{2000}^{CD} = 2 \cdot 15 + 2 \cdot 10 = 50$$

Aggregate output and income

- Say that in year 2010 the economy produces 10 apples and the same amount of CDs. Nevertheless there have been strong inflationary pressures and both prices have increased to 3 (50 % increase). The new measure of production would give

$$P^{A}_{2010}X^{A}_{2010} + P^{CD}_{2010}X^{CD}_{2010} = 3 \cdot 10 + 3 \cdot 10 = 60$$

- One might conclude that overall production has increased from year 2000, while actually it has decreased!

Aggregate output and income

- To control for the price effect use the convention of fixing the prices to a base year: compute a measure of production for year 2010 using prices from year 2000:

$$P^{A}_{2000}X^{A}_{2010} + P^{CD}_{2000}X^{CD}_{2010} = 2 \cdot 10 + 2 \cdot 10 = 40$$

which is in fact lower than 50

- Nominal (or current value) GDP uses prices of the corresponding year
- Real (or constant value) GDP uses prices of a base year

Aggregate price level

- Measuring the change in price has an identical problem: both a quantity and a price effect occur if comparing measures at different times
- One measure is the *GDP deflator*, defined as the ratio nominal GDP on real GDP. In our example above

$$\text{GDP deflator} = \frac{\text{nominal GDP}}{\text{real GDP}} = \frac{60}{40} = 1.5$$

and expressing this in index gives 150, so that inflation is 50 %.
- An alternative measure of inflation is the *consumer price index*, which does the same thing using a given basked of goods

What is the role of financial markets?

- Investment opportunities require funds. Funds surplus is typically held by savers, not by entrepreneurs
- In a decentralized economy we need something that transfers funds from those who have them (families, government in surplus) to those who need them (firms, families, government in deficits)
- This is exactly what financial markets do: transferring money from one economic player to another

That is the role of financial markets

- Financial markets play a crucial role in the monetary policy transmission mechanism, since monetary interventions go *through* financial markets and influence the real economy via financial markets
- Financial markets play a key role in the economic wealth of a country and on its political stability

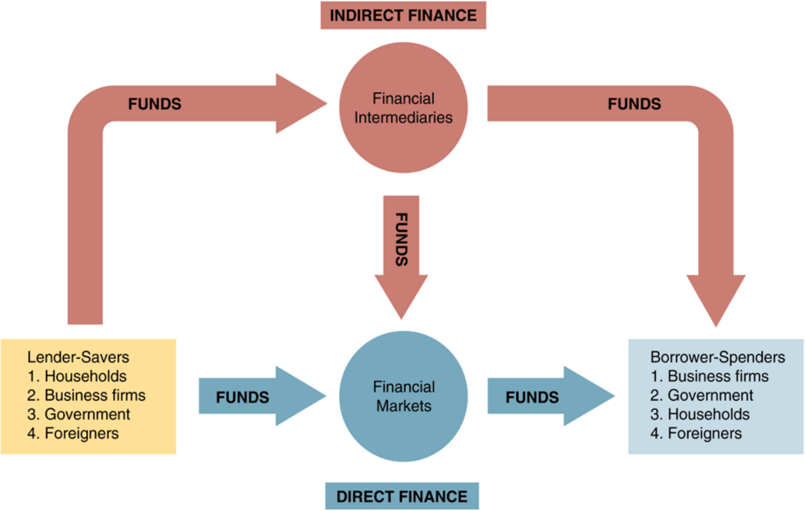
Financial instruments

- A firm or an individual can obtain funds in two ways: debt or equity
- A *debt instrument* (bond or mortgage) is a contractual agreement by the borrower to pay the holder of the instrument a fixed amount at regular intervals. When the instrument expires the full repayment is due
- An *equity instrument* (stock) is a contractual agreement to share claims on the net income. It generally offers periodic payments (dividends) and does not have a maturity.
- The key distinction is that a debt instrument does not imply business risk, while equity does: stockholders are residual claimant in the event of default and the dividend payment is uncertain

Different forms of finance

- Borrowers (firms, principally) issue financial instruments. There are two main forms of finance depending on who will hold these instruments
- *Direct finance* implies that the financial instrument is held directly by the saver. Its purchase will probably go through the service of a banking institution, but ultimately the instrument will be in the saver's portfolio
- *Indirect finance* implies that savers deposit their funds in a intermediary, which on the other hand will invest in financial instruments. Ultimately the savers does not have any contact with the firm issuing the instrument

Different forms of finance



Primary vs secondary market

- Independently on whether the security will be held by an intermediary or directly by the saver, instruments can be traded in two different markets
- On the *primary market* only newly issued securities are traded
  - Investment banks assist firms in issuing new instruments. They guarantee a price for the corporation's security and then sell the securities to the public or to other banks
- On the *secondary market* only already issued securities are traded. They are particularly important because:
  - Allow to sell a security instead of waiting to maturity (if debt), hence making it easier for corporations to issue new securities
  - Determine a price for new issuance on the primary market

The importance of indirect finance

- Intermediation is the primary route for moving funds from lenders to borrowers, although media attention is usually on securities markets
- Indirect finance is particularly important because it addresses three main issues
  - Reduces transaction costs since can exploit economies of scale (ex. lawyer needed for signing contracts)
  - Reduces the investor's risk exposure by providing risk sharing
  - Can alleviate asymmetric information problems: adverse selection and moral hazard