Money and Banking
Money and Money Demand

Gu, Xin

School of Finance
Zhejiang Gongshang University

Outline

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- You are tired and irritated. You tell you Randy that you just need "money".
- Why aren't the tickets money? Why aren't they as good as money?

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- Without it, all goods were exchanged or traded by **barter** - by trading goods for goods.
- Suppose you were working for a computer store, you might be paid in keyboards, which would not only be difficult to exchange for other goods and services, but also rather cumbersome to carry around.

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- Barter system is costly in terms of *search time* - the time spent looking for someone who has groceries and wants computer keyboards.
- Something that becomes generally acceptable as a means of payment in exchange for goods and services will necessarily also function as a store of value.

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- There is a difference between the time people receive money and the time they spend it.
- However, money is not the only financial assets or goods in the economy serving the store of value function.
- Paintings, diamonds, stocks and bonds also store the value. What makes money so special?

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- It is impossible for you to exchange for a bottle of water by a painting.
- In order to exchange, we need some method of specifying the amount of money required to pay for a given quantity of a particular good, i.e., unit of account.
- Suppose there were three goods in the economy, without unit of account, each good has two prices in terms of other two goods.

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- Yet, it does not mean that bonds ARE money.

History of Money: Payment System

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- For example, in China, tax were paid in silver whereas small transactions were conducted in copper coins.

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- First, you will take copper coins (e.g., 10,000) to covert them into silver coins (e.g., 100) at the official price.
- Second, you will go to the market to convert silver coins with copper coins at market price, say, $1 : 150$. In your case, you can get $15,000$. Without any hardworking, you profit with $5,000$ copper coins.

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- Either in China or in international payment system (e.g., Bretton Woods System) suffers Gresham's law.

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- Because fiat money is not linked to physical reserves, it risks becoming worthless due to hyperinflation.

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- Fiat money, compared with metallic money, is more elastic and central banks have much greater control over its supply.
- It gives central banks the power to manage economic variables such as credit supply, liquidity, interest rates and money velocity.

Monetary Aggregates

How Money is Measured ?

1. The definition of money does not tell us anything about how money is measured.

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3. The Fed publishes M1 and M2 (though it has M3 from 2006, however, it contains little economic meaning more than M2).

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   - *demand deposit* at commercial banks, bearing no interest.

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   - *retail money-market mutual fund shares* carrying check-writing privileges as well.

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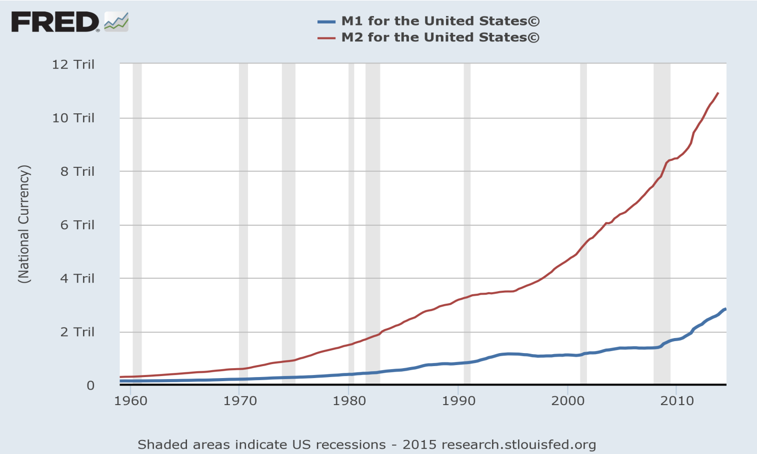

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3. Money and Quasi Money: sum of money and quasi money.

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- In this sense, the total nominal value of transactions in the economy in a given time t equal to $P_t Y_t$.
- On the other hand, value paid for goods and services equal to the value of money flow used for buying goods and services.
- The money flow is equal to the nominal quantity of money supply M_t multiplied by the average number of times the quantity of money in circulation, i.e., V_t.

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- Based on those assumptions, we have

$$M_t^d = \frac{1}{V} P_t \bar{Y} \, , \tag{2}$$

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- Marshall and Pigou focused on the factors that determine individual demand for holding cash balances.
- Even tough interest rate was recognized as a factor, they still believe individual’s demand for cash balances is proportional to the nominal income.

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- P_tY_t is the nominal income. It is a behaviorial description of holding money while Fisher's approach is more mechanical.
- However, it is incomplete, because it ignores many other factors.

Keynes' Theory

- Three motives of holding money proposed by Keynes.

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- He treats money as one type of asset in which wealth holders can keep a part of their wealth.
- Friedman considers the demand for money merely as an application of a general theory of demand for capital assets.

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- Like other capital assets, money also yields return and provides services.
- So the Friedman's nominal demand function for money can be written as

$$M_t^d = f\left(W_t, h_t, r_t^m, r_t^b, r_t^e, P_t, \pi_{t+1}^e, U_t\right), \tag{4}$$

where W_t is wealth, h_t proportion of human wealth, r_t^m money return, r_t^b bond return, r_t^e equity return, P_t price level, π_{t+1}^e expected inflation, and U_t institutional factor.

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- Human wealth is the value of an individual's present and future earnings.
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- The total wealth of an individual represents an upper limit of holding money.