Credit/Deposit/Money Creation

Discussion

- Where does money come from?
- Have you ever thought of money will create more money?

Banking System

- Today we will experience how money can be created within the banking system.

  - Central Bank
  - Bankers
  - Loan customers
  - Firms

Banking System

- Divide the class into three zones
  - Zone 1:Bankers
  - Zone 2: Loan customers
  - Zone 3: Firms
- Teacher serves as the central banker.
- Money will be in the form of pebbles.

Rules of the Game: Bankers

- Each banker tries to maximize the bank's profits.
- Cash reserve assets earn zero interest.
- Each bank starts the simulation with no excess reserves to lend out.

Rules of the Game: Bankers

- Banks have a minimum cash reserve requirement of 10% for deposits, round up to the nearest pebble.
- Bankers are expected to issue deposit certificate (please refer to Fig. 2) for any new deposit made with them.

Rules of the Game: Bankers

- Bankers should record the new deposit and extra cash reserves they keep to satisfy the cash reserve requirement on the consolidated balance sheet of the banking system posted/drawn on the blackboard.

Rules of the Game: Bankers

- In lending out excess cash reserve, bankers lend the whole amount to a single loan customer, without worrying about diversifying the new business over several different loans. It is assumed that the new loan is only a small addition to the banks' total loans.

Rules of the Game: Loan customers

- **Loan customers must provide their bankers with an IOU (please refer to Fig. 1) for any loan they arrange.**
- **The amount of loan must be assumed to match whatever amount the banker has to lend.**

Rules of the Game: Loan customers

- The entire amount of any loan must be paid to whatever firm supplies the resources which the loan customers need; loan customers keep none of the loan proceeds in cash or deposits.

Rules of the Game: Firms

- **Firms have the capacity and are eager to fill orders as they come in from loan customers.**
- **Firms must keep some of the payment form loan customers in cash, and deposit the rest in a bank. The amount of cash kept in hand by firms can be between one and three pebbles.**

Note that this rule violates one of the assumptions of "no leakage" stated in textbooks. Nevertheless, this rule provides the opportunities for students to make decisions. It is up to teacher's preference to apply this rule.

Resources

- Each pair of bankers
  - A bag of pebbles (each bag should circulate independently but simultaneously)
  - Deposit certificates

- Each pair of loan customers :
  - IOUs

Business Strategies

- Now, you will have 3 minutes to discuss with your partner your business strategies.
- For all the bankers, plan your strategies on how to win firm’s deposits;
- For all loan customers, plan the business you want to set up and the types of resources you have to buy from firms;
- For the firms, decide what goods and services you want to sell and how to attract loan customers to buy.

Cash Reserves

❖ **I (Central Bank) have several new bags of pebbles, i.e., extra cash reserves that I want to inject into this banking system. Once the bankers receive the cash reserves, you can start to find any interested loan customers right away.**




Between banker and loan customer

- Bankers who receive the cash reserves go to the loan customer zone to find the

  willing borrowers.

- Borrowers then write out an IOU for the same amount in acknowledge. Bankers add the amount of new loan to the loan category in the consolidated balance sheet.

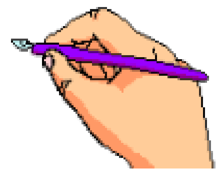
Between loan customer and firm

- The loan customers approach students in the firm zone in order to buy whatever they need.

- The firms receive the sales revenues *and* take out any amount they may need to spend later and then deposit the rest of the money into banks.

Between banker and firm

- Bankers who successfully win any deposit from the firms should issue a deposit certificate and record the extra deposits to the consolidated balance sheets of the banking system.



Required reserve

- **The successful bankers take out what pebbles they must keep as required reserves (to the nearest pebble) and record the amount of required reserves in the consolidated balance sheet.**
  - **Banks are required to keep only a fraction of their cash deposits received from customers as reserves in vaults.**

直至所有袋中的小石頭都被銀行和公司抽走，即再沒有超額現金借給借貸客戶，遊戲才結束。

- The pebbles left are excess reserves, for which the bankers would like to find willing borrowers.

Discussion

- Add up all the changes/entries in three areas of reserves, deposits and loans separately.

- What happens to the consolidated balance sheet of the banking system?

Discussion

- Initially, how much money was there (how many pebbles were there) in this economy?
- How much money was there after our game?
- Can you observe any deposit/ credit/ money creation in this game?

Money Creation

Firms' extra cash holdings+

Summation of deposits or the summation of loans-

The money put into the banking system initially

Discussion

- How can banks create deposit/ credit/ money?

  - Bankers cannot create any money unless they receive a bag of cash reserve, either from the central bank or from a deposit. Banks can only lend out what they take in.

Discussion

- **How does the process of deposit creation affect aggregate demand?**
  - **If the loan customers use the extra loan to buy newly produced physical assets, such as new equipments, that would represent an aggregate demand expansion.**