

E216 : Economics of MONEY AND BANKING

Second grade

First term

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Chapter 3

What Is Money?



Learning outcome

- 1. Definition of money**
- 2. Functions of Money**
- 3. Evolution of the Payment system**
- 4. Measurement of Money**



1. Meaning of Money

Money “money supply”: anything that is generally accepted in payment for goods or services or in the repayment of debts.

- When most people talk about money, they’re talking about currency
- **Currency:** consists banknotes (**paper money**) and coins
- Currency is one type of money.

1. Meaning of Money

Wealth: the total collection of pieces of property that serve to store value.

- It includes not only money but also other assets such as bonds, stocks, arts, land, furniture, cars, and houses.
- **Income:** flow of earnings per unit of time.
- Money (a stock concept) is different from wealth and income
- Money is a stock (i.e., it is a certain amount at a given point in time).

2. Functions of Money

1. Medium of Exchange

2. Unit of account

3. Store of value

2. Functions of Money

Medium of exchange

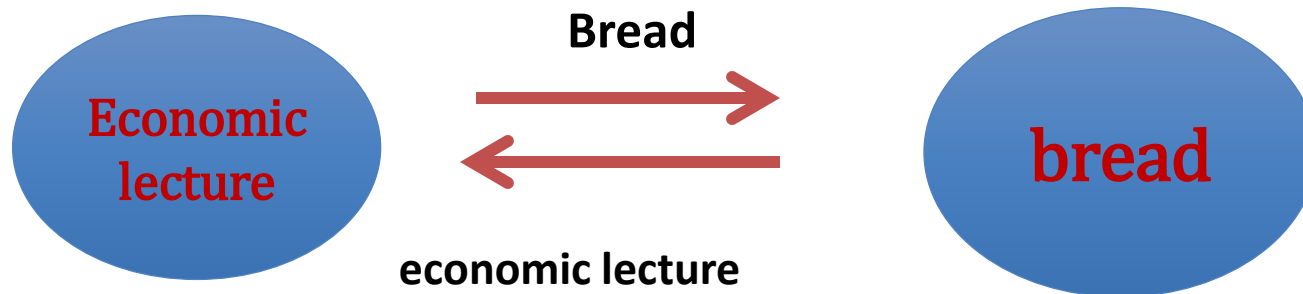
What if there is no money???

- **Barter economy:** one without money, in which goods and services are exchanged directly for other goods and services.
- **Transaction cost:** The time spent trying to exchange goods or services.

2. Functions of Money

Medium of exchange

Direct exchange (2 goods)



Double coincidence of wants: people has to find someone who has a good or service they want and who also wants the good or service they offer

What if :

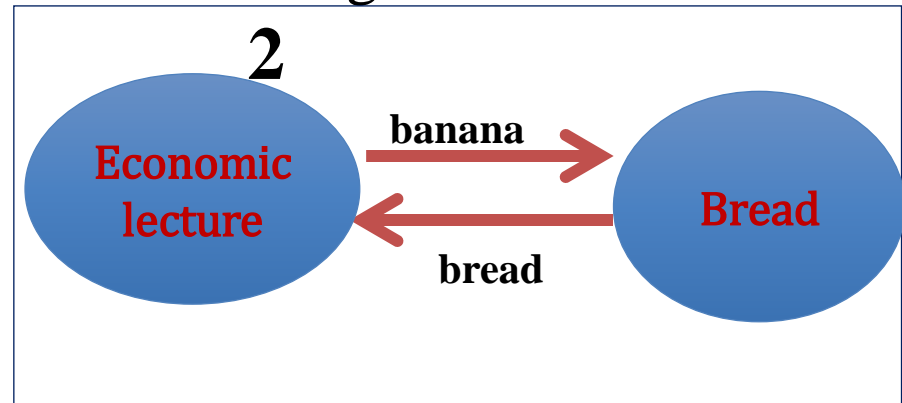
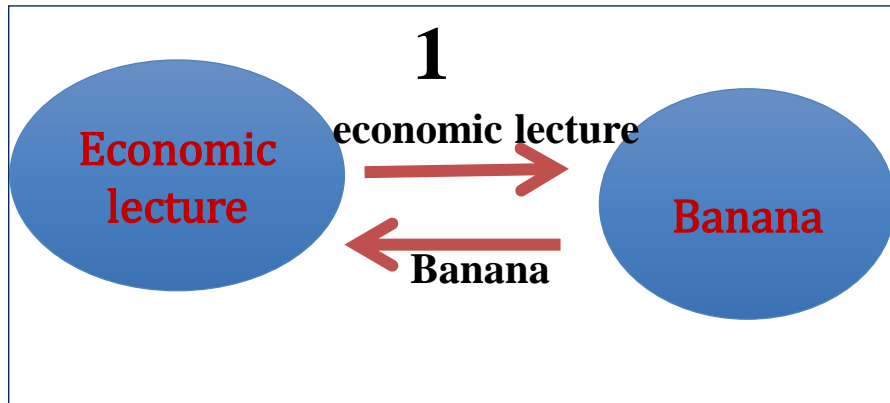
bread owner wants to exchange it for banana not for economic lecture?

1. Will any trade take place in a barter economy?
2. How will introducing money into the economy benefit these three persons?

2. Functions of Money

Medium of exchange

- **In this case:**
- Find a person who has banana and want to exchange it for economic lecture. Then bread could be exchanged for bananas.



What If:

- banana owner wants another good (rice), then the economic lecturer must find a fourth person who has rice and want to exchange it for banana.

2. Functions of Money

Medium of exchange

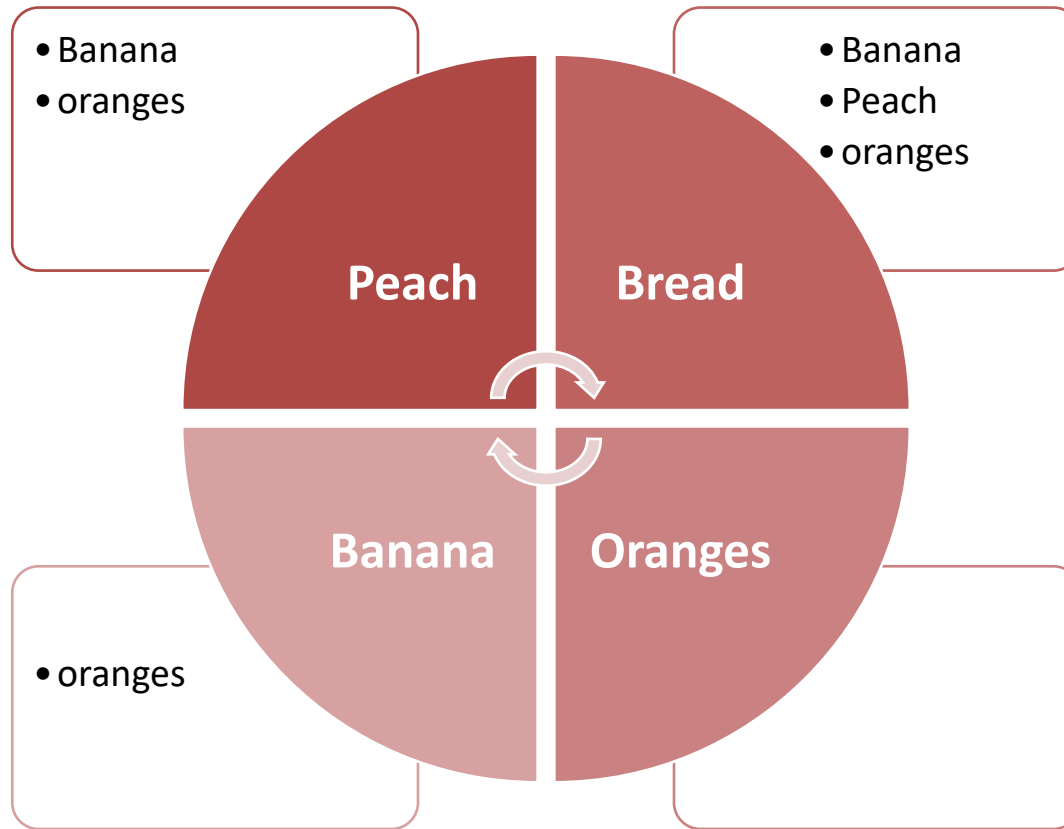
The use of money as a medium of exchange:

- Eliminates the trouble of finding a double coincidence of needs and reduces transaction costs.
 - ✓ Promotes specialization and the division of labour.
- **For a commodity to serve as medium of exchange must**
 - be easily standardized (identical): making it simple to determine its value
 - widely accepted
 - be divisible (easy to “make change”)
 - be easy to carry
 - not deteriorate (worsen) quickly

2. Functions of Money

Unit of account

- Used to measure the value in the economy.
- In the previous example (assuming an economy with 4 goods):
We need to know the value of each good in terms of the other two goods.



2. Functions of Money

Unit of account

- Thus, for 3 commodities we need to know 6 prices
- **How to find the number of prices?**
- The number of prices = $\frac{n(n-1)}{2}$ *n = number of goods*
 - In case of 10 goods, we need 45 prices.
 - In case of 100 goods, we need 4950 prices.
 - In case of 1000 goods, we need 499500 prices.

We **can reduce the number of prices** and the transaction cost by **comparing the money value** of different goods

- In case of 10 goods, we need 10 prices.
- In case of 100 goods, we need 100 prices.
- In case of 1000 goods, we need 1000 prices.

2. Functions of Money

Store of wealth

- Money is used to save purchasing power over time (i.e., save purchasing power from the time income is received until the time it is spent).
- Other assets like stocks, bonds, land, houses, or jewellery can also be used to store wealth
- These assets often pay the owner a higher return than money (interest rate or dividends).
- **Why people hold money while it has zero return?**
- **Liquidity:** the relative ease and speed with which an asset can be converted into a medium of exchange.

3. Evolution of the Payments System

- Commodity money.
- Fiat money (paper money).
- Checks.
- Electronic payments.
- E-Money (electronic money).

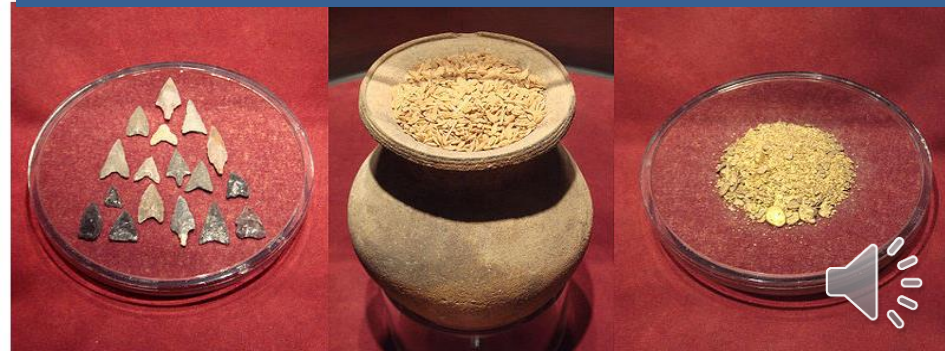


the first historic character to have his image registered in a coin was Alexander the Great, of Macedonia, around the year 330 B.C.

Commodity Money in Brazil at the 17th century: Brazil wood, sugar, cocoa, tobacco and cloth



Commodity Money in Japan before the 8th century: arrowheads, rice grains and gold powder



3. Evolution of the Payments System

1. Commodity Money:

- For any object to function as money, it must be generally acceptable; everyone must be willing to take it in payment for goods and services.
- valuable, easily standardized and divisible commodities (e.g. precious metals, cigarettes, crops).
- **Disadvantage:** such a form of money is very heavy and is hard to transport from one place to another

Commodity Money: it is money made up of precious metals or another valuable commodity.



3. Evolution of the Payments System

2. Fiat Money:

- It started as commercial banknote issued by banks that carried a guarantee that it was convertible into coins or into a quantity of precious metal.
- **Fiat money:** Paper money printed by governments must legally be accepted as payment for debts but they are not convertible into precious metal.



Advantage: It is much lighter than coins or precious metal.

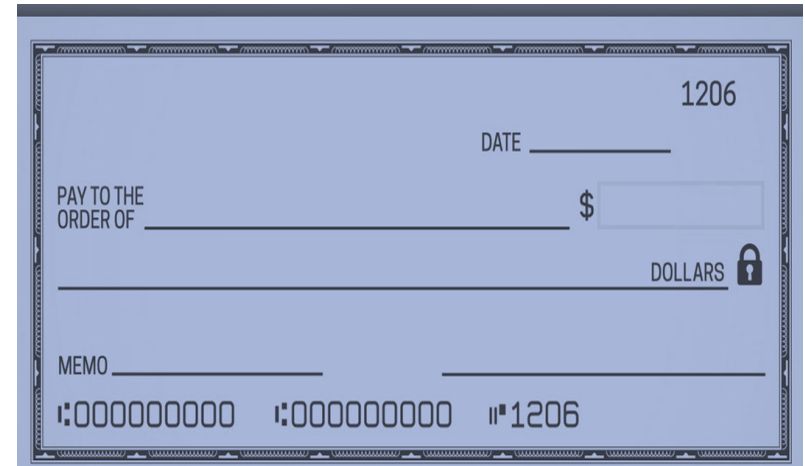
Disadvantage: that they are easily stolen and can be expensive to transport in large amounts because of their bulk.



3. Evolution of the Payments System

3. Checks:

- It is an instruction to your bank to transfer money from your account to someone else's account when she deposits the check.



Advantages of Checks:

- reduces the transportation costs and improves economic efficiency.
- Suitable for large transactions
- Loss from theft is greatly reduced.

Disadvantages of Checks:

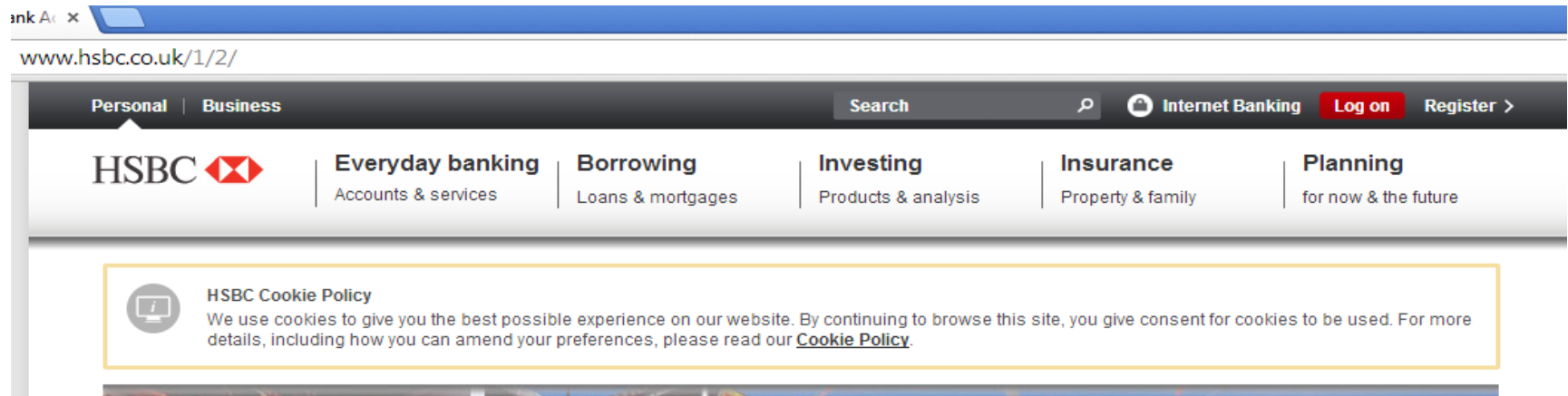
- It takes time to get checks from one place to another
- It takes time to be able to use the fund you have deposited.
- Costs of processing checks are high



3. Evolution of the Payments System

4. Electronic Payment

- Banks provide a website in which you just log on, make a few clicks, and thereby transmit your payment electronically.



- For repeated bills, you can make an instruction to be automatically deducted from your bank account.
- Estimated cost savings when a bill is paid electronically rather than by a check exceed one dollar.



3. Evolution of the Payments System

5. E-Money (electronic money):

- There are **three types of E-money**:

1. Debit card

2. Stored-value card (smart card).

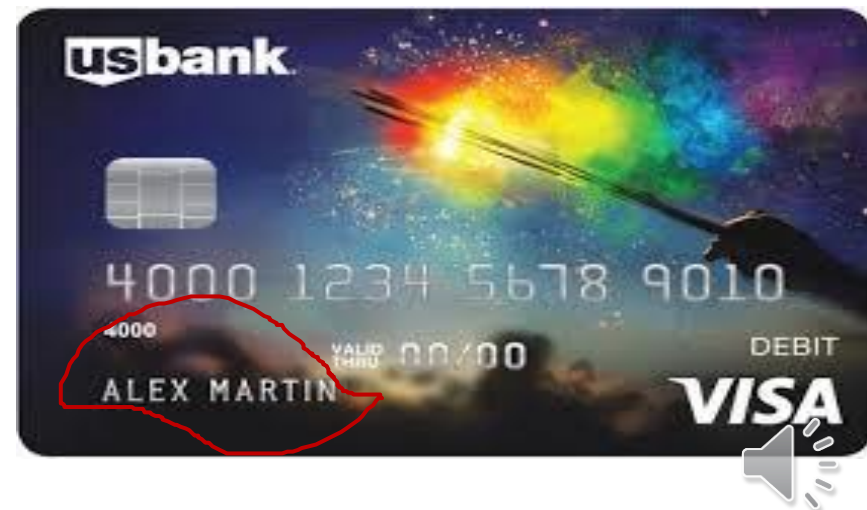
3. E-cash



3. Evolution of the Payments System

1- Debit card: it enable consumers to purchase goods and services by electronically transferring funds directly from their bank accounts to a merchant's account.

- It must be used by the authorized person.
- The cardholder owns the available funds in the card
- It may be issued on a current account or on a salary account.



3. Evolution of the Payments System

2. **Stored-value card (smart card):** is a payments card with a monetary value stored on the card itself, not in an external account maintained by a financial institution.

Fare Card
cards



Gift Card



telephone calling



3. Evolution of the Payments System

Differences between debit, credit and smart cards

- In **debit cards**, the money is on deposit with the issuer, and **credit cards**, money is lent from the issuer and it is subject to credit limits set by the issuer.
- Debit and credit cards are usually **issued in the name of individual account holders**, while **stored-value cards may be unnamed**, as in the case of gift cards and telephone calling cards.
- Stored-value cards **are prepaid money cards** and may be **disposed** when the value is used, or the card value may be **topped up**, as in the case of a fare card.

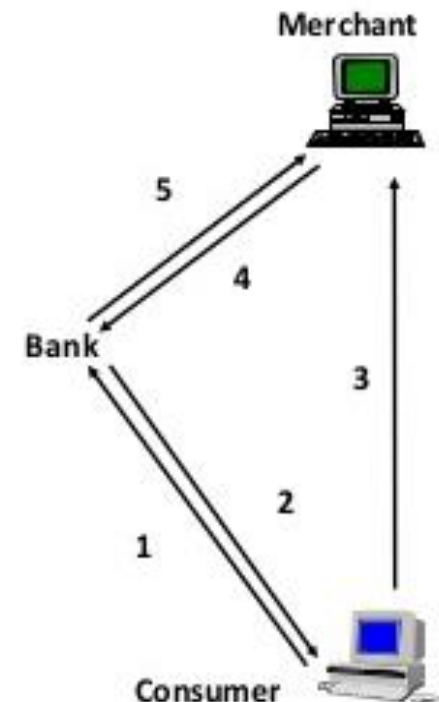


3. Evolution of the Payments System

- E-cash:** you can get e-cash by setting up an account with a bank that has links to the Internet and then has the e-cash transferred to your PC.

E Cash Processing

- 1) Consumer buys e-cash from Bank
- 2) Bank sends e-cash bits to consumer (after charging that amount plus fee)
- 3) Consumer sends e-cash to merchant
- 4) Merchant checks with Bank that e-cash is valid (check for forgery or fraud)
- 5) Bank verifies that e-cash is valid
- 6) Parties complete transaction



4. Measurement of Money

- How do we measure money?
- Which particular assets can be called “money”?

➤ Two ways of measuring money:

1. Based on liquidity

- Most liquid assets are classified as narrow definition of money
- Least liquid assets are classified as broad definition of money

2. Based on its functions.

- Assets that are used as medium of exchange are classified as narrow definition of money
- Assets that are used as store of value are classified as broad definition of money

4. Measurement of Money

Measuring Money in USA

1. **M1 (most liquid assets)** = currency + traveller's checks + demand deposits + other checkable deposits.
- **M2 (adds to M1 other assets that are not so liquid)** = M1 + small denomination time deposits + savings deposits and money market deposit accounts + money market mutual fund shares.

4. Measurement of Money

Traveller's check:

- It is as an alternative to hard currency where travellers can use to buy goods or services when traveling to foreign countries.
- It offers a safe way to take currency overseas as the bank provides security against lost or stolen checks.
- It is a prepaid several fixed amount (e.g. \$50, \$100,etc.)
- They are available all major currencies, such as U.S. dollars, British pounds, Canadian dollars, the European euro and the Japanese yen.
- **Checkable deposits:** are bank accounts that allow the owner of the account to write checks to third parties.
- **Time deposits:** have a fixed maturity length, ranging from several months to over five years, and have large penalties for early withdrawal (the loss of several months' interest)

4. Measurement of Money

Savings accounts: transactions and interest payments are recorded in a monthly statement or in a small book (the passbook) held by the owner of the account.

Money market account:

- is usually pays a higher interest rate than a savings account
- it provides the account holder with limited check-writing ability (i.e., we benefits of both savings and checking accounts but it requires a higher balance than a savings account

Money market mutual fund shares: is an investment whose objective is to earn interest for shareholders. These shares could be purchased through mutual funds.

4. Measurement of Money

Table 1 Measures of the Monetary Aggregates

Measures of the Monetary Aggregates	
	Value as of May 16, 2011 (\$ billions)
M1 = Currency	958.8
+ Traveler's checks	4.6
+ Demand deposits	573.1
+ Other checkable deposits	<u>399.0</u>
Total M1	1,935.5
M2 = M1	
+ Small-denomination time deposits	848.3
+ Savings deposits and money market deposit accounts	5,530.4
+ Money market mutual fund shares (retail)	<u>688.4</u>
Total M2	9,002.6

Source: www.federalreserve.gov/releases/h6/hist.

4. Measurement of Money

2. Based on its functions:

- **Narrow definition of money:** focuses on the role of money as a way of payments: M1
- **Broad definition of money:** focuses on the role of money as a store of value: M2

✓ In Egypt, we have two measures of money

- $M1 = \text{currency outside banks} + \text{demand (current) deposits}$
- $M2 = M1 + \text{time deposits} + \text{savings deposits}$