Selected Topics

In

International Economics

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الناشر: جهاز نشر وتوزيع الكتاب الجامعي- جامعة حلوان

القاهرة- جمهورية مصر العربية

الفصل الدراسي الأول للعام الجامعى 2023- 2024

Introduction:

Foreign trade economics is one of the very important subjects in Economics. This subject explains international trade which is a trade between residents of two countries; the residents may be persons, firms, nonprofit organization, or other form of association. And then the BOP, A country's balance of payments is commonly defined as the record of transactions between its residents and foreign residents over a specified period. There are three main components to the balance of payments accounts – the current account, the capital account, and the official statements balance. As a result of foreign trade transactions, the foreign exchange rate of the country may fluctuate. The foreign exchange market is the market in which individuals, firms, and banks buy and sell foreign currencies or foreign exchange.

Because of foreign trade we must discuss the internal and external equilibrium and the money market.

Cairo 5/8/2023

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CHAPTER ONE

INTERNATIONAL TRADE

AND THE BALANCE OF PAYMENTS

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INTERNATIONAL TRADE

AND THE BALANCE OF PAYMENTS

1-1 Introduction

Trade is simply the buying and selling of goods and services from one to the other.

Trade is an exchange of goods, assets, money, and services between one person or organization and another.

International trade is a trade between residents of two countries; the residents may be persons, firms, nonprofit organization, or other form of association.

Import is the purchase of goods and services from foreign countries leading to outflow of currency. Export is the sale of goods and services leading to an inflow of foreign currencies.

1-2 Why do countries trade?

Without trade, a country must be self-sufficient. It must produce everything its citizens want to consume.

With trade, countries can specialize in the production of goods that they can produce and satisfy other needs by trading.

Specialization and trade go hand in hand – there is no incentive to specialize unless you can also trade.

Trade could increase competition, expand the total demand, trade as an 'engine of growth', trade creates economic advantages.

There are two classic international trade theories explaining why countries trade, Adam Smith's theory of absolute advantage and Ricardo's Theory of comparative advantage which tried to explain the main causes and gains from international trade. When a country can produce goods with fewer resources than another country, we have ***Absolute Advantage (AA).*** When a country can produce goods at lower opportunity cost i.e., it sacrifices less.

resources in production we have ***Comparative Advantage (CA)***

1-2-1 Absolute advantage theory

Theory of absolute advantage demonstrates that international trade and specialization will be beneficial when one nation has an absolute cost advantage in one good and the other nation has an absolute cost advantage in the other good.

Each nation must have a good that it is more efficient in producing than its trading partner. A nation will import those goods in which it has an absolute cost disadvantage; it will export those goods in which it has an absolute cost advantage.

One country is said to have an absolute advantage in the production of a good when it can produce more of the good than another country, when they both use the same quantity of resources.

Assumptions:

(a) There are two countries in the world and each country produces two commodities.

(b) Labor is only one factor of production and is homogenous

(c) The cost or price of a good depends exclusively upon the amount of labor required to produce it,

(d) No transportation cost exists.

Example 1: Gains from Specialization with Absolute Advantage

Table 1 - A case of absolute advantage

(Each country is more efficient in the production of one good)

Nation	United Kingdom per Labor Hour		United States Output
Cars	10 units	<	20 units
Cloth	20 yards	>	15 yards

The Principle of Absolute Advantage is explained using an example given in Table 1.

Suppose workers in the United States can produce 10 units of cars or 20 yards of cloth in an hour's time, while workers in the United Kingdom can produce 20 units of cars or 15 yards of cloth in an hour's time. It can be seen clearly that the United States has an absolute advantage in cloth production, as its workers' productivity in cloth is higher than that of the United States. Similarly, the United Kingdom has an absolute advantage in cars production.

The principle of Absolute Advantage asserts that each nation benefits by specializing in the production of the good that it produces at a lower cost than the other nation, while importing the good that it produces at a higher cost. The underling reason is that the nation could produce more effectively by specializing in one good and distributing to the other nation through trade so that world outputs increase.

1-2-2 Comparative advantage theories:

The gains from specialization are clear when we have a situation of reciprocal AA. What if one country has an AA in the production of both goods?

If a country has an absolute advantage in both goods, the country should specialize in and export that good which is relatively more efficient. Similarly, even if a country has a disadvantage in the production of both goods, the country should specialize in and export, which it's relatively less inefficient .

The Assumptions

1. The world consists of two nations,
2. Labor is only factor of production and, which is homogenous in both countries,
3. Labor can move freely among industries within a country, but it is incapable of moving between nations,
4. No change in technology,
5. Constant return to scale exists,
6. Perfect competition prevails in both markets,
7. No government intervention exists,
8. Transportation costs are zero,
9. Firms attempt to maximize their profit while the consumers attempt to maximize their satisfactions ,
10. There is no money illusion and
11. Trade is balanced.

Example2: Gains from Specialization with Comparative Advantage

Table 2 - A Case of Comparative Advantage

(A country is more efficient in production of both goods)

Nation	United States		United Kingdom
	Output per Labor Hour		
Cars	30 units	>	10 units
Cloth	30 yards	>	5 yards

An example shown in Table 2 helps illustrate the principle of Comparative Advantage. The United States has absolute advantage in both goods while the United Kingdom has disadvantage in both goods. In particular, the United States is six times as efficient in cloth production but only thrice as efficient in cars production. Therefore, the United States has a greater absolute advantage in cloth then in cars, while the United Kingdom has a smaller absolute disadvantage in cars than cloth.

Each nation specializes in and exports that good in which it has a comparative advantage- the United States in cloth, the United Kingdom in cars.

To observe the gain from trade, the situations before trade and after trade can be compared.

The price ratio in terms of labor value can be described as follows:

United States: 30 Cars = 30 Cloth, or 1 Ca = 1 C (price ratio of US)

United Kingdom: 10 Cars = 5 Cloth, or 1 Ca = .5 C (price ratio of UK)

In US to produce 1Ca (one unit of cars), 1C must be given up, while in UK to produce 1Ca only .5C must be given up. Therefore, UK has a comparative advantage in cars as the US has a comparative advantage in cloth. According to the comparative advantage principle, the UK specializes in cars and exports it to US while US specializes in cloth and exports it to UK, in which the trade enables both countries to have gain from trade.

The gain from trade can be analyzed based on the international price ratio of the traded goods, which may lie between the price ratios of these two countries. If the international price ratio of the traded goods indicates, for example, 1Ca = 0.6C, both countries have gain from trade.

If both countries trade with each other at the international price ratio of the cars and cloth 1Ca = .6C, both countries have gain from trade. In the US to obtain 1Ca only 0.6C unit must be give up after trade, in contrast, to obtain 1Ca, 1C must be give up before trade. Thus, US have gain from trade. Similarly, if the UK gives up 1Ca, UK obtains 0.5C before trade; in contrast, UK obtains 0.6C for 1Ca after trade. Thus, both countries have gained from trade.

In the study of international trade, the principal source of information is the balance of-payments statement of the trading nations. These are summary statements of all the economic transactions between one country and all other countries over a period, usually one year.

The balance of payments is the popular measure of an economy's net trade with the rest of the world is the.

The balance of payments

1-3 The balance of payments

A country's balance of payments is commonly defined as the record of transactions between its residents and foreign residents over a specified period.

There are three main components to the balance of payments accounts – the current account, the capital account, and the official settlements balance.

1- **The Current Account (CA);** dealing with goods, services, and income. The current account is subdivided into four smaller accounts, the merchandise trade account (Exports or imports of goods.), the services account (Payments for legal assistance, tourists' expenditures, and shipping fees), the investment income account (International interest and dividend payments and the earnings of domestically owned firms operating abroad)., and the transfer payments account (unilateral current transfers (like gifts and foreign aids).

2- The Capital Account (KA); the current account does not include the purchase and sale of financial and non-financial assets. All such transactions are reflected in the capital account portion of the BOP accounts.

3- The official statements balance; (OSB) reports the net change in foreign exchange reserves and official government borrowing.

1-3-1: The Compositions of the Balance of Payments

The detailed decomposition of the balance-of-payments accounts is as follows:

1. Current Account:

It measures a country's net exports (i.e., the difference between exports and imports) of goods and services and net international income receipts.

(a) Trade Balance (or Balance on Goods and Services):

It represents the difference between exports and imports of goods and services.

i. Merchandise Trade Balance (or Balance on Goods): includes imports and exports of tangible goods such as cars, computers, clothes, televisions, etc. It equals exports minus imports of goods.

ii. Services Balance: Includes net receipts from items such as transportation, travel expenditures, and legal assistance, transportation, insurance, banking, tourism, etc.

(b) Income Balance:

i. Net investment income: Reflect domestic resident investment earnings from foreign stocks, bonds, real estate, etc., minus foreigners' investment earnings from domestic stocks, bonds, real estate, etc.

It is the difference between income receipts on country, owned assets abroad and income payments on foreign-owned assets in the country. It includes international interest and dividend payments and earnings of domestically owned firms operating abroad.

ii. Net international compensation to employees

(c) Net Unilateral Transfers:

It is the difference between gifts (that is, payments that do not correspond to purchases of any good, service, or asset) received from the rest of the world and gifts made by the country to foreign countries.

2- The capital account

It includes a variety of sub-accounts all dealing with purchases and sales of financial assets or real estate (stocks, bonds, land, buildings, businesses, etc.).

a)* Financial Account*:

Difference between sales of assets to foreigners and purchases of assets held abroad.

(1) Country's owned assets abroad consist of a country's official reserve assets, government assets, other than official reserve assets. Country's private assets (direct investment and foreign securities.)

(2) Foreign-owned assets held in the country consist of foreign official assets in the country securities, other foreign assets in the country.

b- Non-Financial Account.

These international asset movements differ from those recorded in the financial account.

For the most part they result from nonmarket activities, or represent the acquisition or disposal of non-produced, nonfinancial, and possibly intangible assets (such as copyrights and trademarks).

Examples:

- If government of Egypt forgives $1 billion in debt owed to it by Pakistan, Egypt wealth declines by $1 billion, or the $1 billion is recorded as debt in Egypt's capital account.
- If wealthy British citizen immigrates to U.S. and brings along $5billion in British asset, result would be a $5 billion credit in U.S. capital account.

c- Official Settlements Balance account

That is the record of the change in the country's official reserves. It consists of:

1- Central bank reserves

The institution responsible for managing the supply of money.

2- Official international reserves

Foreign assets held by central banks as a cushion against national economic misfortune.

3-Official foreign exchange intervention

Central banks often buy or sell international reserves in private asset markets to affect macroeconomic conditions in their economies.

1-3-2 How to record the transactions in the balance of payments?

Overall, any transaction resulting in a payment to foreigners is entered in the balance of payments accounts as a debit and is given a negative (—) sign. Contrary, any transaction resulting in a receipt from foreigners is entered as a **credit** and is given a positive (+) sign. Thus, this section shows how typical transactions in each of these major categories are recorded.

1-3-2-1 Recording in the current account (CA)

Merchandise trade account.

– Exports of goods are credits (+) to the current account

– Imports of goods are debits (-) to the current account

The difference between exports and imports of goods is called the merchandise trade balance. If a country imports more than it exports in this category, then it is said to have a trade deficit. While, if a country export more than it imports in this category, then it is said to have a trade surplus.

The services account.

Exports of services are credits to the current account (+)

Imports of services are debits to the current account (-).

This category consists of items such as tuition paid to universities by international students, money spent on travel by tourists, banking, insurance, consulting services etc.

The income account.

– Interest, dividends, and other income received on country; assets held abroad are credits (+)

– Interest, dividends, and payments made on foreign assets held in the country are debits (-).

The transfer payments account.

– Remittances by the country's citizens working abroad, unilateral aid to the country from other countries pensions paid by foreign countries to their citizens living in the country count as credits (+).

– Remittances by foreigners working in the country, unilateral aid from the country to other countries, pensions paid to U.S. citizens living abroad count as debits (-).

1-3-2-2: Recording in the capital account (KA):

Purchase and Sale of Assets.

– Purchases of. Country's assets by foreigners are credits to the capital account (+) of the country.

– Purchases of foreign assets by the residents of the country are debits to the capital account (-) of the country

What counts as an asset? Purchases of stocks or bonds (financial investment) or purchases of a part or whole of foreign based companies (direct investment)

– Sales of Country's assets by foreigners count as debits to the capital account (-)

– Sales of foreign assets by the residents of the country count as credits to the capital account (+)

Making and Repaying Loans

– Increases in loans of the country by foreigners counts as credits (+)

– Increases in loans to foreigners by the country's residents counts as debits (-)

Repayment of existing loans must be recorded in the exact opposite fashion to the making of a new loan.

– Decreases of loans to country (repayment) by foreigners are a debit (-)

– Decreases of loans to foreigners by a country (foreign repayment) are a credit (+)

Changes in Holdings of Currency

– Increases in local currency holdings by foreigners counts as a credit to the capital account (+)

– Increases in holdings of foreign currency by a country's residents counts as a debit (-)

Foreigners holding more local currency are treated just like foreigners holding more local assets; similarly, residents holding more foreign currency are treated just like residents holding more foreign assets. Accordingly decreases in the holding of foreign currency are treated like sales of assets.

– Decreases in dollar holdings by foreigners counts as a debit to the capital account (-)

– Decreases in holdings of foreign currency by the residents counts as a credit (+)

1-3-2-3: Recording in (OSB)

The easiest way to think of the OSB account is to treat it as being identical to the capital account except that the transactions involve an official government entity. So, we record inflows to the official government as credits to the OSB and outflows from the official government as debits to the OSB.

• For the most part, think of official currency reserves as being the primary entry of interest in the OSB account.

– Increases in dollar reserves held by foreign central banks count as credits to the OSB (+)

– Increases in holdings of foreign currency reserves by country's central banks count as debits (-)

– Decreases in dollar reserves held by foreign central banks count as debits to the OSB (-)

Decreases in holdings of foreign currency reserves by a country's central banks count as credits (+)

remaining, or capital, accounts (except, of course, for the statistical discrepancy). Thus, the current-account balance approximates the change in the net claims of country's residents on the rest of the world; it is a major component of the change in the country's net international investment position, or "net worth," vis-a vis the rest of the world.

The third measure measures the difference between the change in a country's official reserves and the change in foreign official claims on the country. A credit balance, such as that shown in the statement, indicates that foreign official claims on this country have risen more (or fallen less) than country's official reserve assets.

CHAPTER TWO

FOREIGN EXCHNGE MARKETS

AND EXCHANGE RATE

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2-1 Introduction

The foreign exchange market is the market in which individuals, firms, and banks buy and sell foreign currencies or foreign exchange. The foreign exchange market for any currency-say, the U.S. dollar-is composed of all the locations (such as London, Paris, Zurich, Frankfurt, Singapore, Hong Kong, Tokyo, and New York) where dollars are bought and sold for other currencies. These different monetary centers are connected by a telephone network and video screens and are in constant contact with one another, thus forming a single international foreign exchange market.

2-2 The Foreign Exchange Rates

In this section, we first define exchange rates and show how they are determined under a flexible exchange rate system. Then we explain how exchange rates between currencies are equalized by arbitrage among different monetary centers.

Finally, we show the relationship between the exchange rate and the nation's balance of payments.

2-2/1 Equilibrium Foreign Exchange Rates

Assume for simplicity that there are only two nations, the United States and Egypt, with the dollar **($)** as the foreign currency and the Egyptian pound (LE) as the domestic currency.

The **exchange rate** between the dollar and the Egyptian pound is equal to the number of pounds needed to purchase one dollar. **For example,** if 1$=6LE this means that four pounds are required to purchase one dollar.

Under a flexible exchange rate, the dollar price of the pound is determined, just like the price of any commodity, by the intersection of the market demand and supply curves for dollar. This is shown in Figure (2-1), where the vertical axis measures the dollar price of pounds, or the exchange rate, and the horizontal axis measures the equilibrium quantity of dollars.

The market demand and supply curves for dollars intersect at point *E,* defining the equilibrium exchange rate, (1$=6LE) at which the quantity of dollars demanded, and the quantity supplied are equal at LE80 million per day. At a higher rate, (1$=6LE) the quantity of dollars supplied exceeds the quantity demanded, and the rate will tend to decrease. At an exchange rate lower than, LE6, - say-(1$=5LE) the quantity of dollars demanded exceeds the quantity supplied, and the exchange rate will be bid up toward the equilibrium rate of (1$=6LE)

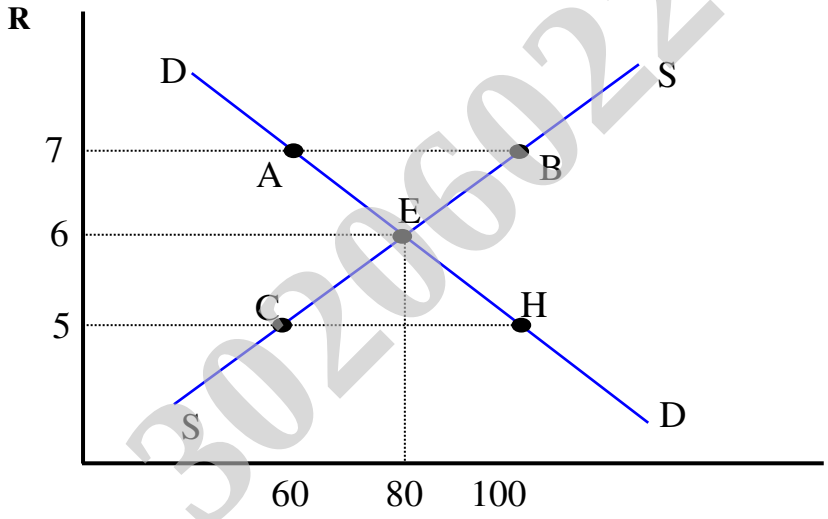


Fig. (2-1): Equilibrium Exchange Rate

The Egyptian demand for dollars is negatively inclined, indicating that the lower the exchange rate *(R),* the greater the quantity of dollars demanded.

On the other hand, the supply of dollars is usually positively inclined, indicating that the higher the exchange rate *(R),* the greater the quantity of dollars supplied.

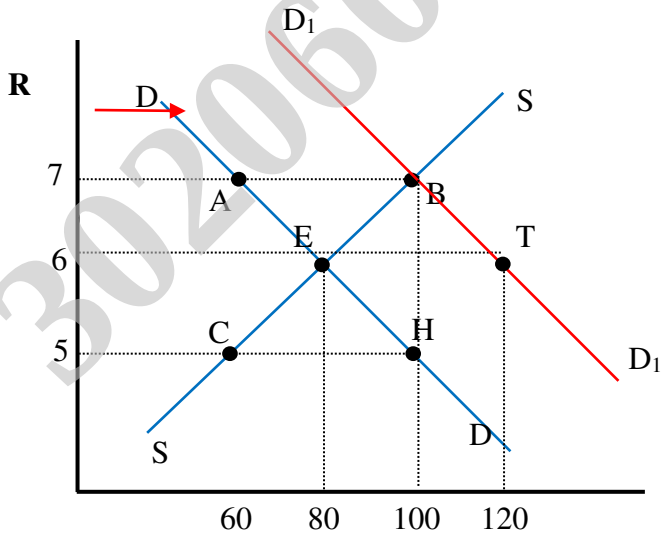
2-2/2 The Exchange Rate and the Balance of Payments

We can examine the relationship between the exchange rate and the nation's balance of payments with Figure 2-2, which is identical to Figure 2-1 except for the addition of the new demand curve for dollars labeled D_1D_1.

The demand for dollars arises from: the Egyptian demand for imports of goods and services, unilateral transfers abroad, and from investments in other countries. (a capital outflow from Egypt).

These are the autonomous debit transactions of the Egypt that involve payments to the other countries. On the other hand, the supply of dollars arises from Egyptian exports of goods and services to other countries, from unilateral transfers received, and the foreign investments in Egypt. (a capital inflow to the Egypt). These are the autonomous credit transactions of Egypt that involve payments from the other countries.

Fig. (2-2): The increase in demand for US$



With *DD* and SS, the equilibrium exchange rate is *E* ($1=LE6), at which LE80 million are demanded and supplied per day (exactly as in Figure (2-1). Now suppose that for whatever reasons (such as an increase in Egypt's tastes for U.S.A. products) the Egypt autonomous demand for dollars shifts up to D_1D_1. If the Egypt wanted to maintain the exchange rate fixed at ($1=LE6). Monetary authorities would have to satisfy the excess demand for dollars of *ET ($40* million per day in Figure 2-2) out of their official reserve holdings of dollars.

The purpose of this action is to prevent an appreciation of the dollar (a depreciation of the Egyptian pound).

- The exchange rate might be at B point ($1=LE7) if there is not enough official reserves of dollars. In either case, the Egypt official settlements balance would show a deficit of *$40* million.

If, on the other hand, Egypt operated under a freely flexible exchange rate system, the exchange rate would rise from *R* = 6 to *R* =7, at which the quantity of dollars demanded ($100 million per day) exactly equals the quantity supplied (point *B in* Figure 2-2).

In this case, Egypt would not lose any of its official dollars reserves. Indeed, international reserves would be entirely unnecessary under such a system. The tendency for an excess demand for dollars on autonomous transactions would be eliminated by a sufficient depreciation of the Egyptian pound with respect to the U.S. dollar.

2-2/3 Levels of Foreign Exchange Market Transactors

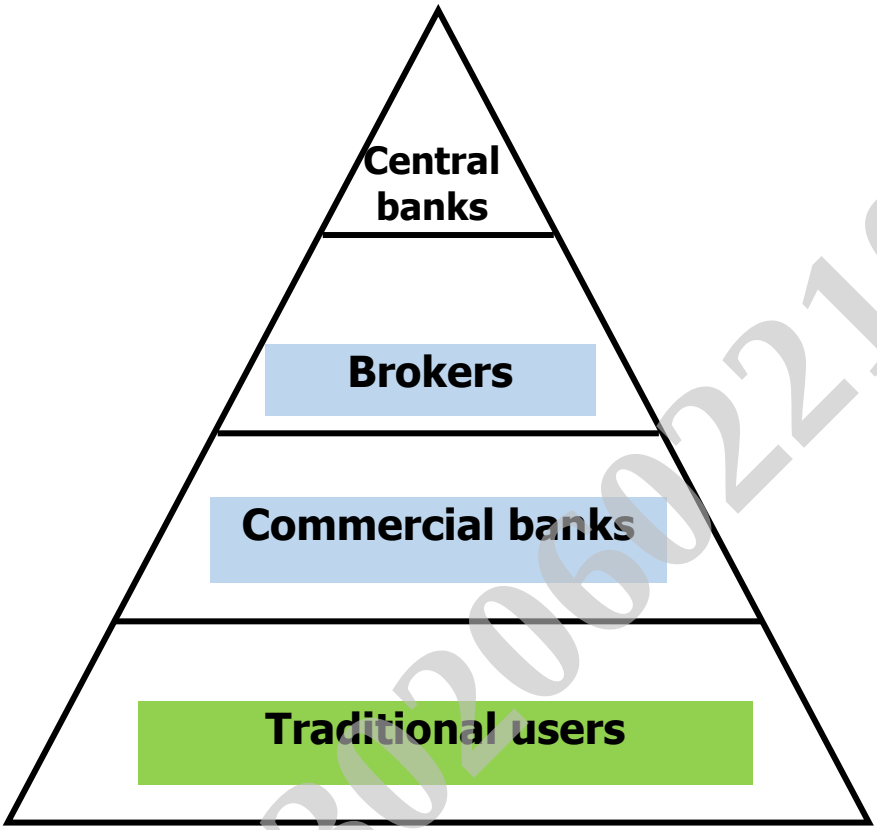
There are ***four levels*** of transactors or participants in the foreign exchange market.

At the bottom, or at the **first level**, are such traditional users as tourists, importers, exporters, investors, and so on. These are the immediate users and suppliers of foreign currencies.

At the next or **second level** are the commercial banks, which act as clearinghouses between users and earners of foreign exchange.

At the **third level** are foreign exchange brokers, through whom the nation's commercial banks even out their foreign exchange inflows and outflows among themselves, (***the so-called interbank or wholesale market).***

Finally, at the ***fourth*** and highest level is the nation's central bank, which acts as the seller or buyer of last resort when the nation's total foreign exchange earnings and expenditures are unequal. The central bank then either draws down its foreign exchange reserves or adds to them.



Levels of Foreign Exchange Market Transactors

2-3 The Function of foreign exchange markets

There are many functions of the foreign exchange market. These functions can be identified as follows:

2-3/1 Transfer of funds (Exchange)

The principal function of foreign exchange markets is the ***transfer of funds*** (***Exchange***) or purchasing power from one nation and currency to another. This is usually accomplished by a telegraphic transfer. With it, a domestic bank instructs its correspondent bank in a foreign monetary center to pay a specified amount of the local currency to a person, firm, or account.

With the recent introduction of direct-dialing telephone service anywhere in the world, the telex has become relatively less important.

But why do individuals, firms, and banks want to exchange one national currency for another?

The demand for foreign currencies ***arises*** when tourists visit another country and need to exchange their national currency for the currency of the country they are visiting, when a domestic firm wants to import from other nations, when an individual wants to invest abroad, and so on.

On the other hand, a nation's supply of foreign currencies arises from foreign tourist expenditures in the nation, from export earnings, from receiving foreign investments, and so on. For example, suppose a U.S. firm exporting to the United Kingdom is paid in pounds sterling (the U.K. currency). The U.S. exporter will exchange the pounds for dollars at a commercial bank. The commercial bank will then sell these pounds for dollars to a U.S. resident who is going to visit the United Kingdom, to a U.S. firm that wants to import from the United Kingdom and pay in pounds, or to a U.S. investor who wants to invest in the United Kingdom and needs the pounds to make the investment.

Thus, a nation's commercial banks operate as clearinghouses for the foreign exchange demanded and supplied during foreign transactions by the nation's residents.

In the absence of this function, a U.S. importer needing British pounds, for instance, would have to locate a U.S. exporter with pounds to sell. This would be very time-consuming and inefficient.

In the final analysis, then, a nation pays for its tourists' expenditures abroad, its imports, its investments abroad, and so on with its foreign exchange earnings from tourism, exports, and the receipt of foreign investments.

If the nation's total demand for foreign exchange in the course of its foreign transactions exceeds its total foreign exchange earnings (supply), the rate at which currencies exchange for one another will increase to equilibrate the total quantities demanded and supplied.

If such an adjustment in the exchange rates were not allowed, the nation's commercial banks would have to borrow from the nation's central bank. The nation's central bank would then act as the "lender of last resort" and draw down its foreign exchange reserves (a balance of payments deficit).

On the other hand, if the nation generated an excess supply of foreign exchange during its business transactions with other,

nations (and if adjustment in exchange rates were not allowed), this excess supply would be exchanged for the national currency at the nation's central bank, thus increasing the nation's foreign currency reserves (a balance of payments surplus).

2-3/2 Credits

Another function of foreign exchange markets is the credit function. ***Credit*** is usually needed when goods are in transit and to allow the buyer time to resell the goods and make the payment.

In general, exporters allow 90 days for the importer to pay. However, the exporter usually discounts the importer's obligation to pay at the foreign department of his or her commercial bank. As a result, the exporter receive payment, and the bank will eventually collect the payment from the importer when due.

2-3/3 Arbitrage and Speculation.

There is still **another function** of foreign exchange markets. This function is to provide the facilities for ***Arbitrage*** and **speculation**.

(Today, about 90 percent of foreign exchange trading reflects purely financial transactions and only about 10 percent trade financing.

With a direct-dialing telephone service anywhere in the world, foreign exchange markets have become truly global in the sense that currency transactions now only require a simple telephone call and take place 24 hours per day.

(A) ARBITRAGE

The exchange rate between any two currencies is kept the same in different monetary centers by arbitrage. This refers to the purchase of a currency in the monetary center where it is cheaper, for immediate resale in the monetary center where it is more expensive, to make a profit.

For example, if the dollar price of pounds were LE2 in New York and LE2.5 in London, an arbitrageur (usually a foreign exchange dealer of a commercial bank) would purchase pounds at LE2.5 in London and immediately resell them in New York for LE2.5, thus realizing a profit of LE0.5 per dollar.

As arbitrage takes place, however, the exchange rate between the two currencies tends to be equalized in the two monetary centers.

Continuing our example, we see that arbitrage increases the demand for dollars in New York, thereby exerting an upward pressure on the dollar price of pounds in New York. Say it will be ($1=LE2.25) At the same time, the sale of dollars in London increases the supply of dollars there, thus exerting a downward pressure on the dollar price of pounds in London. Say- ($1=LE2.25).

This continues until the dollar price of pounds quickly becomes equal in New York and London (thus eliminating the profitability of further arbitrage.

2-3/4 Spot and Forward Rates

The most common type of foreign exchange transaction involves the payment and receipt of the foreign exchange within two business days after, the day the transaction is agreed upon. The two-day period gives adequate time for the parties to send instructions to debit and credit the appropriate bank accounts at home and abroad. This type of transaction is called a ***spot transaction***, and the exchange rate at which the transaction takes place is called the **spot rate.** The exchange rate $R = 4$ in Figure (4-1) is a spot rate.

Besides spot transactions, there are forward transactions. A forward transaction involves an agreement today to buy or sell a specified amount of a foreign currency at a specified future date at a rate agreed upon today (**the forward rate**).

For example, I could enter into an agreement today to purchase £100 three months from today at $2.02 = £1. Note that no currencies are paid out at the time the contract is signed (except for the usual 10 percent security margin).

After three months, I get the £100 for $202, regardless of what the spot rate is at that time. The typical forward contract is for one month, three months, or six months. Forward contracts for longer periods are not as common because of the great uncertainties involved. However, forward contracts can be renegotiated for one or more periods when they become due. In what follows, we will deal exclusively with three-month forward contracts and rates, but the procedure would be the same for forward contracts of different durations.

The equilibrium forward rate is determined at the intersection of the market demand and supply curves of foreign exchange ***for future delivery.***

The demand for and supply of forward foreign exchange rises while hedging, from foreign exchange speculation, and from covered interest arbitrage. These, as well as the close relationship between the spot rate and the forward rate.

All what needs to be said here is that, at any point in time, the forward rate can be equal to, above, or below the corresponding spot rate.

If the forward rate is below the present spot rate, the foreign currency is said to be at a **forward discount** compared to the domestic currency. On the other hand, if the forward rate is above the present spot rate, the foreign currency is said to be at a **forward premium.**

For example, if the spot rate is $2 = £1 and the three-month forward rate is $1.95= £1, we say that the pound is at a three-month forward **discount** of 5 cents or 2.5% (or at a 10 percent forward discount per year) with respect to the dollar. On the other hand, if the spot rate is still $2 = £1 but the three-month forward rate is instead $2.05 = £1, the pound is said to be at a forward **premium** of 5 cents or 2.5 percent for three months, or 10 percent per year.

Forward discounts or premiums are usually expressed as percentages per year from the corresponding spot rate and can be calculated formally with the following formula:

$$\text{FD or FP} = \frac{\textbf{FR-SR}}{\textbf{SR}} \times 4 \times 100$$

where *FR* is the forward rate and *SR* is the spot rate. The multiplication by 4 is to express the *FD (-)* or *FP (+)* on a yearly basis, and the multiplication by 100 is to express the FD or FP in percentages. Thus, when the spot rate of the pound is *SR* = $2.00 and the forward rate is *FR* = $1.95, we get:

$$\text{FD} = \frac{\textbf{\$1.95 - \$2}}{\textbf{\$2}} \times 4 \times 100 = -10\%$$

$$\text{FD} = ((1.95 - 2) / 2) \times 4 \times 100 = -10\ \%$$

The same as found earlier without the formula. Similarly, if *SR* = $2 and FR=$2.05, then FP will be:

$$FP = \frac{\$2.05-\$2}{\$2} \times 4 \times 100 = +10\%$$

FP = ((2.05 – 2) / 2) x 4 x 100 = + 10 %

(B) SPECULATION

Speculation is the opposite of hedging. Whereas a hedger seeks to cover a foreign exchange risk, a speculator accepts and even seeks out a foreign exchange risk, or an open position, in the hope of making a profit. If the speculator correctly anticipates future changes in spot rates, he or she makes a profit; otherwise, he or she incurs a loss. As in the case of hedging, speculation can take place in the spot, forward, futures, or options markets-most usually in the forward market. We begin by examining speculation in the spot market.

If a speculator believes that the spot rate of a particular foreign currency will rise, he or she could purchase the currency now and hold it on deposit in a bank for resale later.

If the speculator is correct and the spot rate does indeed rise, he or she earns a profit on each unit of the foreign currency equal to the spread between the previous lower spot rate at which he or she purchased the foreign currency and the higher subsequent spot rate at which he or she resells it.

If the speculator is wrong and the spot rate falls instead, he or she incurs a loss because the foreign currency must be resold at a price lower than the purchase price.

If, on the other hand, the speculator believes that the spot rate will fall, he or she borrows the foreign currency for three months, immediately exchanges it for the domestic currency at the prevailing spot rate and deposits the domestic currency in a bank to earn interest.

After three months, if the spot rate on the foreign currency is lower, as anticipated, the speculator earns a profit by purchasing the currency (to repay the foreign exchange loan) at the lower spot rate.

In the preceding examples, the speculator operated in the spot market and either had to tie up his or her own funds or had to borrow to speculate. It is to avoid this serious shortcoming that speculation, like hedging, usually takes place in the forward market.

For example, if the speculator believes that the spot rate of a certain foreign currency will be higher in three months than its present three-month forward rate, the speculator purchases a specified amount of the foreign currency forward for delivery (and payment) in three months.

After three months, if the speculator is correct, he or she receives delivery of the foreign currency at the lower agreed forward rate and immediately resells it at the higher spot rate, thus realizing a profit. Of course, if the speculator is wrong and the spot rate in three months is lower than the agreed forward rate, he or she incurs a loss.

In any event, no currency changes hands until the three months are over (except for the normal 10 percent security margin that the speculator is required to pay at the time he or she signs the forward contract).

Speculators are usually wealthy individuals or firms rather than banks. However, anyone who has to make a payment in a foreign currency in the future can speculate by speeding up payment if he or she expects the exchange rate to rise and delaying it if he or she expects the exchange rate to fall, while anyone who has to receive a future payment in a foreign currency can speculate by using the reverse tactics.

(C) FUTURES CONTRACTS

An individual, firm, or bank can also purchase or sell foreign exchange futures and options. Trading in foreign exchange futures was initiated in 1972 by the International Monetary Market (IMM) of the Chicago Mercantile Exchange (CME).

A **foreign exchange future** is a forward contract for standardized currency amounts and selected calendar dates traded on an organized market (exchange). The currencies traded on the IMM are:

- The Japanese yen.
- The Euro.
- The Canadian dollar.
- The British pound.
- The Australian dollar.
- The Mexican peso.

IMM trading is done in contracts of standard size. For example, the future contracts are:

- The Japanese yen contract. Y12,500,000
- The Euro contracts. M125,000
- The Canadian dollar contract. C$100,000
- The British pound contracts. P62,500
- The Australian dollar contracts. AD100,000
- The Mexican peso contracts. MP 500,000

Future contracts end only on four dates per year. These dates are:

- The third Wednesday in March.
- The third Wednesday in June.
- The third Wednesday in September.
- The third Wednesday in and December

The IMM imposes a daily limit on exchange rate fluctuations. Buyers and sellers pay a **brokerage** commission and are required to post a security deposit or margin (of about 4 percent of the value of the contract).

The **futures market** differs from a **forward market** in that in the futures market only a few currencies are traded; trades occur in standardized contracts only, for a few specific delivery dates, and are subject to daily limits on exchange rate fluctuations; and trading takes place only in a few geographical locations, such as Chicago, New York, London, and Singapore. Futures contracts are usually for smaller amounts than forward contracts and thus are more useful to small firms than to large ones but are somewhat more expensive.

Futures contracts can also be sold any time up until maturity on an organized futures market, while forward contracts cannot.

(D) OPTIONS CONTRACTS

A foreign exchange option is a contract giving the purchaser the right, but not the obligation, to buy (a *call option)* or to sell (a *put option)* a standard amount of a traded currency on a stated date (the *European option)* or at any time before a stated date (the *American option)* and at a stated price (the *strike* or *exercise price).*

Foreign exchange options are in standard sizes that are half those of futures contracts. The buyer of the option has the choice to purchase or forgo the purchase if it turns out to be unprofitable.

The seller of the option, however, **must** fulfill the contract if the buyer so desires.

The buyer pays the seller a premium (the option price) ranging from 1 to 5 percent of the contract's value for this privilege when he or she enters into the contract.

2-3/5 Foreign Exchange Risks

What do we mean by foreign exchange risks, and how they can be avoided or covered by individuals and firms? We will discuss how speculators attempt to earn a profit by trying to anticipate future foreign exchange rates, and how they can cover their position.

(A) FLUCTUATIONS AND THE RISKS

Through time, a nation's demand, and supply curves for foreign exchange shift, causing the spot (and the forward) rate to vary frequently. A nation's demand and supply curves for foreign exchange shift over time because of changes in tastes for domestic and foreign products in the nation and abroad, different growth and inflation rates in different nations, changes in relative rates of interest, and so on. This may lead to a rise or fall in the exchange rate. The frequent and relatively large fluctuations in exchange rates impose foreign exchange risks on all individuals, firms, and banks that must make or receive payments in the future denominated in a foreign currency.

For example, suppose an Egypt importer purchases LE400,000 worth of goods from U.S. and must pay in three months in dollars. If the present spot rate of the pound is SR = $1=LE4, the current dollar value of the payment that he or she must make in three months is $100,000. However, in three months the spot rate might change to SR = $1=LE5. Then the importer would have to pay LE500,000 or LE100,000 more, for the imports. Of course, in three months the spot rate might be SR = $1=LE3, in which case the importer would have to pay only LE300,000, or LE100,000 less than anticipated.

However, the importer has enough to worry about in the import business without also having to face this exchange risk. As a result, the importer will usually want to insure against an increase in the dollar price of the pound (i.e., an increase in the spot rate) in three months.

In general, businesspeople are risk averse and will want to avoid or insure themselves against their foreign exchange risk.

(Note that arbitrage does not involve any exchange risk since the currency is bought at the cheaper price in one monetary center to be resold immediately at the higher price in another monetary center.)

B) HEDGING

Hedging refers to the avoidance of a foreign exchange risk, or the covering of an open position. For example, the importer could borrow $100,000 at the present spot rate and leave this sum on deposit in a bank (to earn interest) for three months, when payment is due.

By so doing, the importer avoids the risk that the spot rate in three months will be higher than today's spot rate and that he or she would have to pay more than LE400,000 for the imports. The cost of insuring against the foreign exchange risk in this way is the positive difference between the interest rate the importer has to pay on the loan of $100,000 and the lower interest rate he or she earns on the deposit of $100,000.

Covering the foreign exchange risk in the spot market as indicated earlier has a very serious disadvantage, however. The businessman or investor must borrow or tie up his or her own funds for three months. To avoid this, hedging usually takes place in the forward market, where no borrowing or tying up of funds is required.

Thus, the importer could buy dollars forward for delivery (and payment) in three months at today's three-month forward rate. A foreign exchange risk can also be hedged, and an open position avoided in the futures or options markets.

In a world of foreign exchange uncertainty, the ability of traders and investors to hedge greatly facilitates the international flow of trade and investments. Without hedging there would be smaller international capital flows, less trade and specialization in production, and smaller benefits from trade. Note that a large firm, such as a multinational corporation, that must make and receive a large number of payments in the same foreign currency at the same time in the future need only hedge its net open position.

Similarly, a bank has an open position only in the amount of its net balance on contracted future payments and receipts in each foreign currency at each future date.

(B) INTEREST ARBITRAGE

Interest arbitrage refers to the international flow of short-term liquid capital to earn higher returns abroad. Interest arbitrage can be covered or uncovered. These are discussed in turn. We will then examine the covered interest parity theory.

(1) UNCOVERED INTEREST ARBITRAGE

Since the transfer of funds abroad to take advantage of higher interest rates in foreign monetary centers involves the conversion of the domestic to the foreign currency to make the investment, and the subsequent reconversion of the funds (plus the interest earned) from the foreign currency to the domestic currency at the time of maturity, a foreign exchange risk is involved due to the possible depreciation of the foreign currency.

Suppose that the interest rate on three-month treasury bills is 6 percent on an annual basis in New York and 8 percent in London.

It may then pay for a U.S. investor to exchange dollars for pounds at the current spot rate and purchase British treasury bills to earn the extra 2 percent interest at an annual basis. When the British treasury bills mature, the U.S. investor may want to exchange the pounds invested plus the interest earned back into dollars.

However, by that time, the pound may have depreciated so that the investor would get back fewer dollars per pound than he or she paid. If the pound depreciates by 1 percent at an annual basis during the three months of the investment, the U.S. investor nets only about 1 percent from this foreign investment (the extra 2 percent interest earned minus the 1 percent lost from the depreciation of the pound) at an annual basis. If the pound depreciates by 2 percent at an annual basis during the three months, the U.S. investor gains nothing, and if the pound depreciates by more than 2 percent, the U.S. investor loses. Of course, if the pound appreciates, the U.S. investor gains both from the extra interest earned and from the appreciation of the pound.

(2) COVERED INTEREST ARBITRAGE

Investors with short-term funds abroad generally want to avoid the foreign exchange risk; therefore, interest arbitrage is usually covered. To do this, the investor exchanges the domestic for the foreign currency at the current spot rate in order to purchase the foreign treasury bills, and at the same time the investor sells forward the amount of the foreign currency he or she is investing plus the interest he or she will earn so as to coincide with the maturity of the foreign investment.

Thus**, covered interest arbitrage** refers to the spot purchase of the foreign currency to make the investment and the offsetting simultaneous forward sale (swap) of the foreign currency to cover the foreign exchange risk. When the treasury bills mature, the investor can then get the domestic currency equivalent of the foreign investment plus the interest earned without a foreign exchange risk.

Since the currency with the higher interest rate is usually at a forward discount, the net return on the investment is roughly equal to the interest differential in favor of the foreign monetary center minus the forward discount on the foreign currency.

This reduction in earnings can be viewed as the cost of insurance against the foreign exchange risk.

As an illustration, let us continue the previous example where the interest rate on three-month treasury bills is 6 percent per year in New York and 8 percent in London, and assume that the pound is at a forward discount of 1 percent per year. To engage in covered interest arbitrage, the U.S. investor exchanges dollars for pounds at the current exchange rate (to purchase the British treasury bills) and at the same time sells forward a quantity of pounds equal to the amount invested plus the interest he or she will earn at the prevailing forward rate.

Since the pound is at a forward discount of 1 percent per year, the U.S. investor loses 1 percent on an annual basis on the foreign exchange transaction to cover the foreign exchange risk. The net gain is thus the extra 2 percent interest earned minus the 1 percent lost on the foreign exchange transaction.

However, as covered interest arbitrage continues, the possibility of gains diminishes until it is completely wiped out. This occurs for two reasons.

First, as funds are transferred from New York to London, the interest rate rises in New York (since the supply of funds in New York diminishes) and falls in London (since the supply of funds in London increases).

As a result, the interest differential in favor of London diminishes. Second, the purchase of pounds in the spot market increases the spot rate, and the sale of pounds in the forward market reduces the forward rate. Thus, the forward discount on the pound (i.e., the difference between the spot rate and the forward rate) rises.

With the interest differential in favor of London diminishing and the forward discount on the pound rising, the net gain falls for both reasons until it becomes zero. Then the pound is said to be **at covered interest arbitrage parity (CIAP).**

Here, the interest differential in favor of the foreign monetary center is equal to the forward discount on the foreign currency (both expressed on an annual basis).

(3) COVERED INTEREST ARBITRAGE PARITY

Figure (2-3) illustrates in a more general and the relationship, through covered interest arbitrage, between the interest rate differentials between two nations and the forward discount or premium on the foreign currency.

The vertical axis of the figure measures interest rate in the nation's monetary center (i_d) minus the interest rate in foreign monetary center (i_f), or (i_d-i_f) in percentages per year.

Negative values for (i_d-i_f) indicate that the interest rate is higher abroad than in the nation, while positive values indicate that the interest rate is higher in the nation than abroad.

The horizontal axis in fig. (2-3) measures the forward discount (-) or premium **(+)** on the foreign currency also expressed in percentages per year.

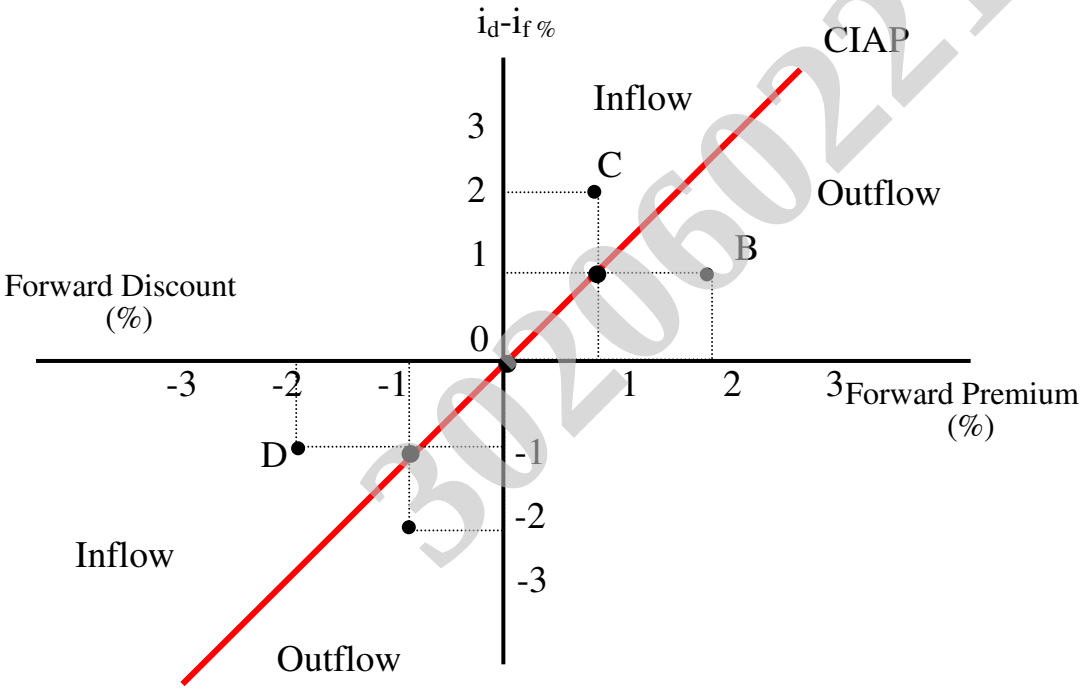
The solid diagonal line indicates all points of *covered interest arbitrage parity (CIAP).*

Thus, when (i_d-i_f) equals -1, the foreign currency is a forward discount of 1 percent per year.

A positive interest differential of 1 is associated with a forward premium of 1 percent. When the interest differential is zero, the foreign currency is neither at a forward discount nor at a forward premium.

Fig. (2-3)

Covered interest arbitrage.



Below the CIAP line, either the negative interest differential (in favor of the foreign monetary center) exceeds the forward discount on the foreign currency, or the forward premium exceeds the positive interest differential (see the figure).

In either case, there will be a net gain from a covered interest arbitrage (CIA) outflow. For example, at point A, the negative interest differential is 2 percentage points per year in favor of the foreign monetary center, while the foreign currency is at a forward discount of 1 percent per year. Thus, there is a covered interest arbitrage margin of 1 percent per year in favor of the foreign nation, leading to a capital outflow.

Similarly, point *B* involves a forward premium of 2 percent on the foreign currency and a positive interest differential of only 1 percent in favor of the domestic monetary center.

Thus, investors have an incentive to invest abroad because they would gain 2 percent on the exchange transaction and lose only 1 percent in interest in investing abroad. The net gain would then be 1 percent per year.

As the arbitrage outflow continues, the net gain diminishes and tends to disappear. Specifically, starting from point A, the transfer of funds abroad reduces the interest differential in favor of the foreign monetary center (say, from -2 to -1.5) and increases the forward discount on the foreign currency (say, from 1 to 1.5), as explained in the previous section, to reach the ClAP line (see the figure).

Above the interest parity line, either the positive interest differential exceeds the forward premium on the foreign currency (point C in the figure) or the negative interest differential is smaller than the forward discount on the foreign currency (point D.

In either case, it pays for foreigners to invest in our country, and there will be an arbitrage inflow.

However, as the arbitrage inflow continues, the net gain diminishes and then disappears.

CHAPTER THREE

INTERNAL AND EXTERNAL BALANCE

CHAPTER THREE
INTERNAL AND EXTERNAL BALANCE

3-1 INTRODUCTION

In this chapter, we examine the adjustment policies that are used to achieve full employment with price stability and equilibrium in the balance of payments.

The most important economic goals or objectives of nations are:

(1) Internal balance.
(2) External balance.
(3) A reasonable rate of growth.
(4) An equitable distribution of income.

Internal balance refers to full employment or a rate of unemployment of no more than, say, 5 percent per year (the so-called frictional unemployment arising in the process of changing jobs) and a rate of inflation of no more than 2 or 3 percent per year.

External balance refers to equilibrium in the balance of payments (or a desired temporary disequilibrium such as a surplus that a nation may want in order to replenish its depleted international reserves). In general, nations place priority on internal over external balance, but they are sometimes forced to switch their priority when faced with large and persistent external imbalances.

To achieve these objectives, nations have the following policy instruments at their disposal:

(1) Expenditure-changing, or demand, policies.

(2) Expenditure-switching policies.

(3) Direct controls.

Expenditure-changing policies include both fiscal and monetary policies. **Fiscal policy** refers to changes in government expenditures, taxes, or both. Fiscal policy is expansionary if government expenditures are increased and/or taxes reduced.

These actions lead to an expansion of domestic production and income through a multiplier process (just as in the case of an increase in domestic investment or exports) and induce a rise in imports '(depending on the marginal propensity to import of the nation).

Concretionary fiscal policy refers to a reduction in government expenditures and/or an increase in taxes, both of which reduce domestic production and income and induce a fall in imports.

The introduction of the government sector means that the equilibrium condition must be extended to become:

$$I+X+G = S+M+T$$

Where:

I = Total investment

X = Exports.

G =Government expenditure.

S = Savings

M = Imports.

T = Taxes.

Government expenditures (G), just like investments (I) and exports (X), are injections into the system, while taxes (T), just like savings (S) and imports (M), are leakages from the system. The previous equation can also be rearranged as:

$$(G-T) = (S-I) + (M-X)$$

Which postulates that a government budget deficit (G>T) must be financed by excess of S over I and/or an excess of M over X.

Expansionary fiscal policy refers an increase in (G-T) and this can be accomplished with an increase in G, a reduction in T or both. Contractionary fiscal policy refers to the opposite.

Monetary policy involves a change in the nation's money supply that affects domestic interest rates.

Monetary policy is **easy** if the money supply is increased, and interest rates fall. This induces an increase in the level of investment and income the nation (through the multiplier process) and induces imports to rise. At the same time, the reduction in the interest rate induces a short-term capital outflow or reduced inflow.

On the other hand, **tight** monetary policy refers to a reduction in the nation's money supply and a rise in the interest rate. This discourages investment, income, and imports, and also leads to a short-term capital inflow or reduced outflow.

Expenditure-switching policies refer to changes in the exchange rate (i.e., a devaluation or revaluation).

Devaluation switches expenditures from foreign to domestic commodities and can be used to correct a deficit in the nation's balance payments. But it also increases domestic production, and this induces a rise in i ports, which neutralizes a part of the original improvement in the trade balance.

Revaluation switches expenditures from domestic to foreign products and can be used to correct a surplus in the nation's balance of payments. This also reduces domestic production and, consequently, induces a decline in imports, which neutralizes a part of the effect of the revaluation.

Direct controls consist of tariffs, quotas, and other restrictions on the flow of international trade and capital.

These are also expenditure-switching policies, but they can be aimed at specific balance-of-payments items (as opposed to a devaluation or revaluation, which is a general policy and applies to all items at the same time).

Direct controls in the form of price and wage controls can also be used to stem domestic inflation when other policies fail.

Faced with multiple objectives and with several policy instruments at its disposal, the nation must decide which policy to utilize to achieve each of its objectives.

The nation usually needs as many effective policy instruments as the number of independent objectives it has. If the nation has two objectives, it usually needs two policy instruments to achieve the two objectives completely; if it has three objectives; it requires three instruments, and so on. Sometimes a policy instrument directed at a particular objective also helps the nation move closer to another objective.

At other times, it pushes the nation even farther away from the second objective.

For example, expansionary fiscal policy to eliminate domestic unemployment will also reduce a balance-of-payments surplus, but it will increase the deficit.

Since each policy affects both the internal and external balance of the nation, we will analyze the use of expenditure-changing and expenditure-switching policies to achieve both internal and external balance. This section introduces new tools of analysis to define equilibrium in the goods market, in the money market, and in the balance of payments. These new analytical tools are then used to examine ways to reach internal and external balance with fixed and flexible exchanges rate.

3-2 INTERNAL AND EXTERNAL BALANCE POLICIES

In this section, we examine how a nation can simultaneously attain internal and external balance with expenditure-changing and expenditure-switching policies. For simplicity we assume a zero international capital flow (so that the balance of payments is equal to the nation's trade balance).

We also assume that prices remain constant until aggregate demand begins to exceed the full-employment level of output.

In Figure (3-1), the vertical axis measures the exchange rate (R). An increase in R refers to devaluation and a decrease in R to a revaluation. The horizontal axis measures real domestic expenditures, or absorption (D). Besides domestic consumption and investments, D also includes government expenditures (which can be manipulated in the pursuit of fiscal policy).

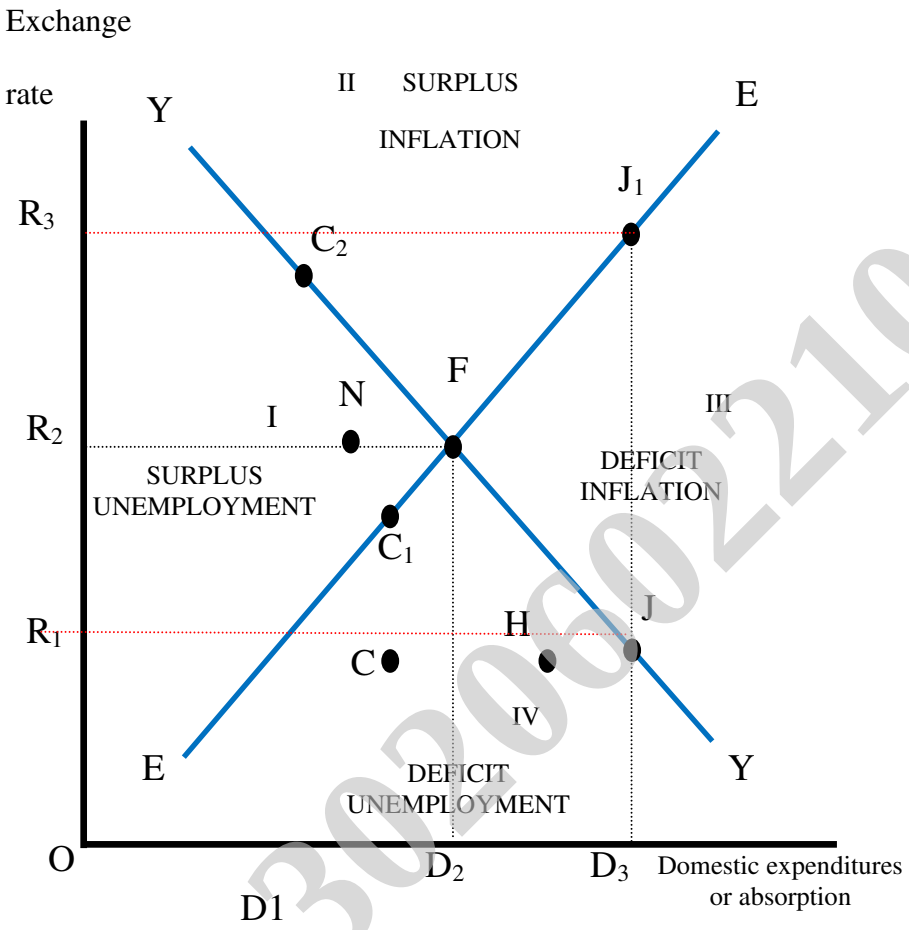


Figure (3-1) Swan Diagram

The EE curve shows the various combinations of exchange rates and real domestic expenditures, or absorption that result in external balance. The EE curve is positively inclined because a higher R (due to a devaluation) improves the nation's trade balance (if the Marshall-Lerner condition is satisfied) and must be matched by an increase in real domestic absorption (D) to induce imports to rise sufficiently to keep the trade balance in equilibrium and maintain external balance. For example, starting from point F on EE, an increase in R from R_2 to R_3 must be accompanied by an increase in D from D_2 to D_3 for the nation to maintain external balance (point J_1 on EE). A smaller increase in D will lead to a balance-of-trade surplus, while a larger increase in D will lead to a balance-of-trade deficit.

On the other hand, the YY curve shows the various combinations of exchange rates (R) and domestic absorption (D) that result in internal balance (i.e., full employment with price stability).

The YY curve is negatively inclined because a lower R (due to a revaluation) worsens the- trade balance and must be matched with larger domestic absorption (D) for the nation to remain in internal balance.

For example, starting from point F on YY a reduction in R from R_2 to R_1 must be accompanied by an increase in D from D_2 to D_3 to maintain internal balance (point J on YY). A smaller increase in D will lead to unemployment, while a larger increase in D will lead to excess aggregate demand and (demand-pull) inflation.

In Figure 3-1, we see that only at point F (i.e., at R_2 and D_2 defined as where the EE and YY curves intersect, will the nation be simultaneously in external and internal balance. With points above the EE curve referring to external surpluses and points below referring to deficits, and with points below the YY curve referring to unemployment and points above referring to inflation, we can define the following four zones of external and internal imbalance (see the figure):

Zone I External surplus and internal unemployment

Zone II External surplus and internal inflation

Zone III External deficit and internal inflation

Zone IV External deficit and internal unemployment.

From the figure we can now determine the combination, of expenditure-changing and expenditure-switching policies required to reach point F For example, starting from point C (deficit and unemployment), both the exchange rate (R) and domestic absorption (D) must be increased to reach point F By-increasing R only, the nation can reach either external balance (point C1 on the EE curve) or, with a larger increase in R, internal balance (point C2 on the YY curve), but it cannot reach both simultaneously.

Similarly, by increasing domestic absorption only, the nation can reach internal balance (point J on the YY curve), but this leaves an external deficit because the nation will be below the EE curve.

Note that although both point C and point H are in zone IV, point C requires an increase in domestic absorption while point H requires a decrease in domestic absorption to reach point F.

Even if the nation were already in internal balance, say, at point J on Y1 a devaluation alone could get the nation to point J' on FE, but then the nation would face inflation.

Thus, two policies are usually required to achieve two goals simultaneously. Only if the nation happens to be directly across from or directly above or below point F will the nation be able to reach point F with a single policy instrument.

For example, from point N the nation will be able to reach point F simply by increasing domestic absorption from D_1 to D_2. The reason is that this increase in domestic absorption induces imports to rise by the precise amount required to eliminate the original surplus without any change in the exchange rate. But this is unusual. The precise combination of expenditure-changing and expenditure-switching policies for each of the four zones.

Under the fixed exchange rate system that prevailed from the end of World War II until 1971, industrial nations were generally unwilling to devalue or revalue their currency even when they were in fundamental disequilibrium. Surplus nations enjoyed the prestige of the surplus and the accumulation of reserves.

Deficit nations regarded devaluation as a sign of weakness and feared it might lead to destabilizing international capital movements. As a result, nations were left with only expenditure-changing policies to achieve internal and external balance.

This presented a serious theoretical problem until Mundell showed how to use fiscal policy to achieve internal balance and monetary policy to achieve external balance. Thus, even without an expenditure-switching policy, nations could theoretically achieve both internal and external balance simultaneously.

CHAPTER FOUR
MONEY AND BANKING

CHAPTER FOUR
MONEY AND BANKING

4-1 Introduction

Money is defined as anything that is generally accepted in payment for goods or services or in the repayment of debts. There has always been some form of confusion when someone uses the word "money". He/she can use the word "money" to represent different thing depending on the scenario:

1. Currency: "Do you have enough money for lunch?"
2. Income: "How much money do you make a month?"
3. Wealth: "Is she from a family with a lot of money?"

From the above example, we know that money can represent different things. The most common scenario associated with money is currency (or cash). As we will discuss later, money can take on many forms, hence it is more important for us to look at money in terms of what it does rather than what it is physically.

4-2 What was before money?

The meaning of payment before invention money was being **BARTER**. It is the exchange of one good or service for another good or service.

Problems with barter:

Barter requires the "double coincidence of wants; a situation in which the good or services that one trader desires to obtain is the same as that which another desires to give up and an item that the second trader wishes to acquire is the same as that which the first trader desires to surrender.

You must find somebody who wants to trade the item that you want to get AND who also wants the item that you have that you want to trade.

With barter there will be less specialization because of the difficulty of overcoming the coincidence of wants. If you can't find someone to trade with, you will have to produce it yourself. Less specialization means less output and MORE SCARCITY

4-3 The functions of money

Generally, the functions of money classified into three categories:

(i) Medium of exchange

As a medium of exchange, it facilitates the exchange of goods and services between individuals. Prior to the invention of money, goods and services were exchanged in the form of barter. In other words, you trade with an individual who has what you want and wants what you have. As a result, bartering requires a double coincidence of wants.

It is very difficult to find another individual who has what you want and wants what you have. In this case, the cost of transaction is very high for bartering. With the invention of money, you no longer need to find another individual who has what you want and wants what you have. All you need to do is find someone who has what you want, and you buy it from him/her with "money". With the invention of money, it reduces the cost of transaction (because it facilitates the exchange of goods and services).

In addition, the invention of money also improves the productivity of the economy. How is that so? That is because with the invention of money, it allows an individual to specialize in what he/she does the best (rather than being a jack of all trade in a bartering system). As a result, money is fundamental to the development of an economic system since specialization will lead to an increase in productivity.

(ii) Store of value

With money playing a role as the medium of exchange in the economy, it also provides the function of a store of value (or purchasing power) at the same time. In a bartering system, an individual's sale of goods and services must occur simultaneously with the purchase of goods and services. For example, Farmer Bob went to the market with some of his corn to trade for some fish with Fisherman John. In this situation, the "sale" of Farmer Bob's corn must occur at the same time as his "purchase" of fish from Fisherman John.

With the existence of money in the economy, it allows individuals to separate their sales of goods and services from the purchases of goods and services because money allows them to store their value or purchasing power. Returning to our previous example, Farmer Bob can sell his corn to Rancher Jane (to feed her cattle) for some units of money. Farmer Bob can then turn around to buy fish from Fisherman John today or some other day. In this example, we see that money allows the separation of sales and purchases of goods and services over time.

It is important to note that money can be used to store two types of purchasing power: temporary and permanent purchasing power.

1. Temporary purchasing power: This is the type of purchasing power we have discussed earlier in our Farmer Bob example. Temporary purchasing power represents a transaction that we intend to conduct in the very near future. For example, carrying cash in your wallet or purse when you go to the store.

2. Permanent purchasing power: This represents the store of value for the very distant future.

It is important to know that cash is not the only asset available for storing value on a permanent basis. There are other assets that also serve the function of storing value. Some examples are stocks, bonds, real estate, collectibles, etc. Money (or cash) has one disadvantage relative to those other assets: cash does not earn a return. As a result, there is an opportunity cost in holding cash. In addition, cash as a store of value is vulnerable to inflation, i.e., inflation will erode the purchasing power of cash.

On the other hand, cash has one advantage over the other assets as a store of value: liquidity. You can use cash to buy anything you want, but you cannot simply use a share of stock to buy anything. Hence, cash will still be used to store a portion of an individual's permanent purchasing power because of the convenience it provides.

(iii) Unit of account

Money as a unit of account, "money" becomes the yardstick for measuring the values and prices of goods and services.

Before the invention of money (i.e., in the stage of bartering), prices were expressed in relation to the goods traded.

For example, John traded 2 cows for 20 bushels of wheat with Mary. In this case, 1 cow is worth 10 bushels of wheat. If John has traded 3 cows for 6 sheep with Steve, each cow is worth 2 sheep. What is the price of sheep if Mary and Steve trade with each other?

With the invention of money, a yardstick has been chosen to measure the prices of goods and services. This makes comparing the prices among goods and services easier. For example, the cow is worth 50 units of "money", the sheep 25 units, and a bushel of wheat 5 units.

4-4 Characteristics of money

Money has taken many forms throughout the history of mankind, and it is continuing to evolve as of today. Many different types of commodities or species have been used to represent money (or currency) in our society. They include wampum, tobacco, gold, silver, cows, coffee, paper money etc.

The forms that money has taken on depend heavily on how well it performs the three roles we have discussed earlier: (especially) medium of exchange, store of value, and unit of account. The following are some of the characteristics a commodity or specie needs to possess to perform the three roles of money efficiently:

(1) Nonperishable

(2) Divisible

(3) Widely accepted (in payment of goods and services and for settling other business obligations)

(4) Easily standardized (i.e. homogenous), (easy to ascertain value, inherent value)

(5) Portable or transportable

(6) Limited in supply

(7) Supply is relatively stable.

(8) High in value (i.e., its physical size is small relative to its value)

(9) Not easily counterfeited.

(10) must not deteriorate quickly.

4-5 Evolution of Payments System

The payments system has been evolving over centuries and with it the form of money. At one-point, precious metals such as gold were used as the principal means of payment and were the main form of money. Later, Paper assets such as checks, and currency began to be used in the payments system and viewed as money. Where the payments system is heading has an important bearing on how money will be defined in the future.

To obtain a perspective on where the payments system is heading, it is worth exploring how it has evolved. For any object to function as money it must be universally acceptable; everyone must be willing to take it in payment for goods and services.

An object that clearly has value to everyone is a likely candidate to serve as money, and a natural choice is a precious metal such as gold or silver.

Money made up of precious metals or another valuable commodity is called **commodity money,** and from ancient times until several hundred years ago, commodity money functioned as the medium of exchange in all but the most primitive societies. The problem with a payments system based exclusively on precious metals is that such a form of money is very heavy and is hard to transport from one place to another.

Imagine the holes you'd wear in your pockets if you had to buy things only with coins! Indeed, for large purchases such as a house, you'd have to rent a truck to transport the money payment. The next development in the payments system was **paper currency** (pieces of paper that function as a medium of exchange). Initially, paper currency carried a guarantee that it was convertible into coins or into a quantity of precious metal. However, currency has evolved into fiat money, paper currency decreed by governments as legal tender (meaning that legally it must be accepted as payment for debts) but not convertible into coins or precious metal.

Paper currency has the advantage of being much lighter than coins or precious metal, but it can be accepted as a medium of exchange only if there is some trust in the authorities who issue it and if printing has reached a sufficiently advanced stage that counterfeiting is extremely difficult.

Because paper currency has evolved into a legal arrangement, countries can change the currency that they use at will. Indeed, this is currently a hot topic of debate in Europe, which has adopted a unified currency. Major drawbacks of paper currency and coins are that they are easily stolen and can be expensive to transport in large amounts because of their bulk. To combat this problem, another step in the evolution of the payments system occurred with the development of modern banking: the invention of **checks**.

A check is an instruction from you to your bank to transfer money from your account to someone else's account when she deposits the check. Checks allow transactions to take place without the need to carry around large amounts of currency. The introduction of checks was a major innovation that improved the efficiency of the payments system.

Frequently, payments made back and forth cancel each other; without checks, this would involve the movement of a lot of currency. With checks, payments that cancel each other can be settled by canceling the checks, and no currency need be moved. The use of checks thus reduces the transportation costs associated with the payments system and improves economic efficiency. Another advantage of checks is that they can be written for any amount up to the balance in the account, making transactions for large amounts much easier. Checks are also advantageous in that loss from theft is greatly reduced, and because they provide convenient receipts for purchases. There are, however, two problems with a payments system based on checks. First, it takes time to get checks from one place to another, a particularly serious problem if you are paying someone in a different location who needs to be paid quickly. In addition, if you have a checking account, you know that it usually takes several business days before a bank will allow you to make use of the funds from a check you have deposited. If your need for cash is urgent, this feature of paying by check can be frustrating.

Second, all the paper shuffling required to process checks is costly; it is estimated that it currently costs over $10 billion per year to process all the checks written.

The development of inexpensive computers and the spread of the Internet now make it cheap to pay bills electronically. In the past, you had to pay your bills by mailing a check, but now banks provide a web site in which you just log on, make a few clicks, and thereby transmit your payment electronically. Not only do you save the cost of the stamp, but paying bills becomes (almost) a pleasure, requiring little effort.

Electronic payment systems provided by banks now even spare you the step of logging on to pay the bill. Instead, recurring bills can be automatically deducted from your bank account. Estimated cost savings when a bill is paid electronically rather than by a check exceed one dollar. Electronic payment is thus becoming far more common in the United States, but Americans lag considerably behind Europeans, particularly Scandinavians, in their use of electronic payments.

Electronic payments technology can not only substitute for checks, but can substitute for cash, as well, in the form of **electronic money (or e-money),** money that exists only in electronic form.

The first form of e- money was the debit card. Debit cards, which look like credit cards, enable consumers to purchase goods and services by electronically transferring funds directly from their bank accounts to a merchant's account.

Debit cards are used in many of the same places that accept credit cards and are now often becoming faster to use than cash. At most supermarkets, for example, you can swipe your debit card through the card reader at the checkout station, press a button, and the amount of your purchases is deducted from your bank account.

Most banks and companies such as Visa and MasterCard issue debit cards, and your ATM card typically can function as a debit card. A more advanced form of e-money is the stored-value card. The more sophisticated stored-value card is known as a smart card.

It contains a computer chip that allows it to be loaded with digital cash from the owner's bank account whenever needed. Smart cards can be loaded from ATM machines, personal computers with a smart card reader, or specially equipped telephones. A third form of electronic money is often referred to as e-cash, which is used on the Internet to purchase goods or services.

4-6 Different measurements of money

In our earlier discussions, we equated money with cash. However, in the eye of economists and the federal government there is a broader measure of what money is in the U.S. There are 3 general measures of money used by the U.S. government (or more specifically the Federal Reserve System): Mo, M1, M2 and M3.

(1) M0: currency (notes and coins) in circulation and in bank vaults, as well as cash (reserves) owned by banks that is held at the central bank. M0 is usually called the monetary base--the base from which other forms of money (like checking deposits, listed below) are created--and is traditionally the most liquid measure of the money supply.

(2) M1

M1 is the narrowest measure of money. It is the most liquid definition of the money supply: they are directly and immediately usable as a medium of exchange.

It includes the following items:

$$M1 = M0(currency \text{ in circulation (notes and coins)}$$
$$+ \text{traveler's checks of nonbank issues (eg. AMEX)}$$
$$+ \text{non - interest bearing checking accounts (ie. demand deposit)}$$
$$+ \text{interest bearing checking accounts (ie. other checkable deposits)}$$

Note: 1. Traveler's checks issued by banks are grouped under demand deposits.

2. Some examples of interest-bearing checking accounts are NOW (negotiable order of withdrawal), ATS (automatic transfer from savings), and credit union share drafts.

The following are NOT part of M1:

Currency in banks

Currency and checkable deposits owned by the government.

Currency and checkable deposits owned by the Federal Reserve Banks

M1 is considered by the Federal Reserve as transaction balances. In other words, they are perfectly liquid assets, i.e. pure medium of exchange.

(3) M2

M2 is a broader measure of money than M1. It includes items that are contained in M1 and a few other items. M2 is a little less liquid than M1

$M2 = M1$

+ *savings* deposits and money market deposit accounts
+ small time deposits (CDs)
+ money market mutual funds shares (non - institutio nal)
+ overnight repurchase agreement
+ overnight Eurodollar
+ consolidation adjustment

The components of M2 (other than M1) are considered as nontrans action balances. In other words, the assets emphasize the function of money as a store of value. However, they can also be used as a medium of exchange (with some delay).

(4) M3

M3 is the broadest measure for money and it includes some of the "longer-term" money market instruments. It includes M2 and large certificates of deposit (time accounts) of $100,000 or more.

$$M3 = M2 + large\ time\ deposits (more\ than\ \$100{,}000) + term\ repurchase\ agreements (longer\ than\ overnight) + term\ Eurodollar\ deposits (longer\ than\ overnight) + money\ market\ mutual\ funds\ shares (institutions)$$

The components of M3 (other than M2) are assets of mostly large businesses and institutions. They are very non-liquid assets, and hence not used as a medium of exchange.

(5) L

Data on M1, M2 and M3 are collected and distributed by the Federal Reserve System (i.e., the Fed), and they are known as the monetary aggregates. In addition, the Fed also collects information on a broader concept of liquidity known as L.

The components of L (other than M3) are highly liquid assets (i.e., short-term money market instruments).

$$L = M3$$
$$+ short\ term\ Treasury\ securities$$
$$+ commercial\ papers$$
$$+ savings\ bonds\ issued\ by\ the\ U.S.\ government$$
$$+ banker's\ acceptance$$

4-7 The demand and the supply of money

I. Money supply

(Or stock) = amount of money available in the economy. The Federal Reserve Bank (Fed) ultimately controls the supply of money in the economy through:

(i) (Open market operations); Buying and selling of government securities. Buying bonds increases the money supply, but selling bonds decreases the money supply.

(ii) Required reserve ratio

Affects both the number of excess reserves and the money multiplier.

Required reserves = reserve ratio x DDA

Money multiplier = 1/required reserve ratio

Increasing the ratio decreases the money supply by decreasing the number of excess reserves and by decreasing the money multiplier.

Decreasing the ratio increases the money supply by increasing the number of excess reserves and by increasing the money multiplier.

(iii) Discount Rate

Rate charged by the Fed for loans to banks.

Decreasing the discount rate will make loans more attractive to banks, then increases excess reserves which increases the amounts of loans made by a bank which then increases money supply.

Increasing the discount rate will make loans less attractive to banks, so the excess reserves in banks decline, which decreases the amounts of loans made by a bank which then decreases money supply.

II. Money Demand:

A. Demand for money as an asset (speculative demand)

The amount of money people hold in their asset portfolio depends on:

1. The expected return on money relative to other assets

2. Risk of return on money relative to other assets

3. Liquidity of money relative to other assets

4. Wealth

Asset demand and interest rates are inversely related.

If interest rates are high, people will keep less in their pockets and more in their savings accounts (and as other interest earning assets). If interest rates are low, people will keep more money in their pockets, because they are not losing much, and it is more convenient.

*B. Demand for money as a medium of exchange (*transactions demand)

The amounts of money people hold to carry out transactions depend on:

1. The price level (P)

2. The volume of transactions, measured by the size of real income (Y)

3. Transactions demand and interest rates we'll assume that they are unrelated

C. Money Demand Function:

The demand for nominal money balances takes the following form:

$$\mathbf{M^d = P \cdot L^d (Y, i)} \qquad (1)$$

Recall that i = r + p^e, where r denotes the real return on non-money assets and p^e, denotes expected inflation

- M^d = demand for nominal money balances (demand for M1)
- L^d = demand for liquidity function
- P = aggregate price level (CPI or GDP deflator)
- Y = real income (real GDP)
- i = nominal interest rate on non-money assets

- Nominal money demand is proportional to the price level. For example, if prices go up by 10% then individuals need 10% more money for transactions.

- As Y increases, desired consumption increases and so individuals need more money for the increased number of desired transactions. This is the liquidity demand for money.

- As the nominal interest rate on non-money assets (bonds), i, increases the opportunity cost of holding money increases and so the demand for nominal money balances decreases.

- Since i = r + pe, we can decompose the effects on an increase in i into real interest rate increases (holding expected inflation fixed) and expected inflation increases (holding the real interest rate fixed).

Since the demand for nominal balances is proportional to the aggregate price level, we can divide both sides of the nominal money demand equation by P. This gives the liquidity demand function or the demand for real balances function:

$$MD = M^d/P = L^d(Y, i) \qquad (2)$$

The left-hand-side of the above equation is the demand for nominal balances divided by the aggregate price level or the demand for real balances (the real purchasing power of money). The right-hand side is the liquidity demand function. The demand for real balances is decomposed into a transactions demand for money (captured by Y) and a portfolio demand for money (captured by i).

Summary of factors that affect money demand:

1. Wealth

2. Risk of return on money relative to other assets

3. Liquidity of money relative to other assets

4. Expected rate of return on money relative to other assets

5. Real income

6. The price level

7. Real interest rate

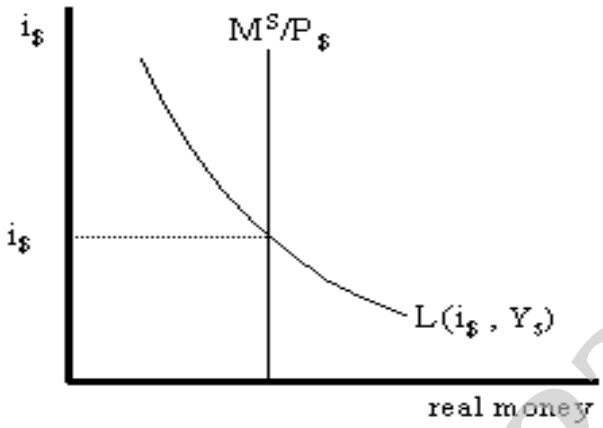
8. Expected inflation

III. Money market Equilibrium

A. Quantity of Real Money Supplied = quantity of real money demanded

Real money demand is graphed holding fixed real income and expected inflation.

The real money supply $\frac{M^s_s}{P_s}$, is equal to the nominal amount of M1 divided by the fixed aggregate price level, P0. It is assumed that the Fed does not alter the money supply based on the value of the real interest rate. Therefore, the real money supply function is a vertical line in the graph with the real interest rate on the vertical axis and real money balances on the horizontal axis.



Real money demand, i.e., the liquidity function L (y, i) is a downward sloping line in i reflecting a negative relationship presumed to prevail between the interest rate and real money demand.

Notice that real money demand and real money supply intersect when the real interest rate is $i_\$$.

This is the value of the real interest that equates money demand with the money supply and establishes equilibrium in the money market.

4-7: The Banking Sector

It is a financial Intermediaries Institutions (such as commercial and investment banks, insurance companies, pension funds, mutual funds, and finance companies) that borrow funds from people who saved and lend them to people or other institutions that need to make an investment.

4-7-1: The role of banking sector

What is the most important function of banks and other financial institutions?

- A channel to move funds from people who save to people who have productive investment opportunities; they accept deposits from individuals and use the funds to make loans to other individuals and companies.

- As a result, banks channel money from one source to another source.

- In the process of channeling money from savers to borrowers, banks can also create more money than initially deposited with the banks.

- As a result, banks are targets of monetary policies in terms of controlling the money supply in the economy.

- In addition, banks have been very innovative in creating new products to circumvent existing banking regulations. Such innovations have helped the banking industry to be stronger. Some examples of these innovations are securitization of mortgages, NOW accounts, et.

4-2: The Bank Balance Sheet

To understand how banking works, first we need to examine the bank balance sheet, and a list of the bank's assets and liabilities.

As the name implies, this list balances; that is, it has the characteristic that: total assets total liabilities ——————————— capital Furthermore, a bank's balance sheet lists sources of bank funds (liabilities) and uses to which they are put (assets). Banks obtain funds by borrowing and by issuing other liabilities such as deposits. They then use these funds to acquire assets such as securities and loans. Banks make profits by charging an interest rate on their holdings of securities and loans that is higher than the expenses on their liabilities.

Liabilities

A bank acquires funds by issuing (selling) liabilities, which are consequently also referred to as sources of funds. The funds obtained from issuing liabilities are used to purchase income-earning assets.

1. Checkable Deposits: Checkable deposits are bank accounts that allow the owner of the account to write checks to third parties.

Checkable deposits include all accounts on which checks can be drawn non-interest-bearing checking accounts (demand deposits), interest-bearing NOW (negotiable order of withdrawal) accounts, and money market deposit accounts (MMDAs).

2. Nontrans action Deposits: nontrans action deposits are the primary source of bank funds (Owners cannot write checks on nontrans action deposits, but the interest rates are usually higher than those on checkable deposits. There are two basic types of nontrans action deposits: savings accounts and time deposits (also called certificates of deposit or CDs).

Borrowings: Banks obtain funds by borrowing from the Central Bank (CB), the Central Bank Home Loan banks, other banks, and corporations. Borrowings from the CB are called discount loans (also known as advances). Banks also borrow reserves overnight in the federal (fed) funds market from other Country's banks and financial institutions. Banks borrow funds overnight to have enough deposits at the CB to meet the amount required by the CB.

(The CB funds designation is somewhat confusing, because these loans are not made by the federal government or by the CB, but rather by banks to other banks.) Other sources of borrowed funds are loans made to banks by their parent companies (bank holding companies), loan arrangements with corporations (such as repurchase agreements. Borrowings have become a more important source of bank funds over time.

3. Bank Capital. The final category on the liabilities side of the balance sheet is bank capital, the bank's net worth, which equals the difference between total assets and liabilities. The funds are raised by selling new equity (stock) or from retained earnings.

Assets: A bank uses the funds that it has acquired by issuing liabilities to purchase income earning assets. Bank assets are thus naturally referred to as uses of funds, and the interest payments earned on them are what enable banks to make profits.

- **Reserves**. All banks hold some of the funds they acquire as deposits in an account at the CB. Reserves are these deposits plus currency that is physically held by banks. Banks hold them for two reasons.

- First, some reserves, called required reserves, are held because of reserve requirements, the regulation that for every dollar of checkable deposits at a bank, a certain fraction (10 cents, for example) must be kept as reserves. This fraction (10 percent in the example) is called the required reserve ratio. Banks hold additional reserves, called excess reserves, because they are the most liquid of all bank assets and can be used by a bank to meet its obligations when funds are withdrawn, either directly by a depositor or indirectly when a check is written on an account.

2. Cash Items in Process of Collection; the check is classified as a cash item in process of collection, and it is an asset for your bank because it is a claim on another bank for funds that will be paid within a few days.

3. Deposits at Other Banks. Many small banks hold deposits in larger banks in exchange for a variety of services, including check collection, foreign exchange transactions, and help with securities purchases.

4. Securities. A bank's holdings of securities are an important income-earning asset: Securities made up entirely of debt instruments for commercial banks, they

Provide commercial banks with about 10% of their revenue. These securities can be classified into three categories: government and agency securities, state and local government securities, and other securities.

5. Loans. Banks make their profits primarily by issuing loans. Now 64% of bank assets are in the form of loans, and in recent years they have generally produced more than half of bank revenues. A loan is a liability for the individual or corporation receiving it, but an asset for a bank, because it provides income to the bank.

Loans are typically less liquid than other assets because they cannot be turned into cash until the loan matures.

6. Other Assets. The physical capital (bank buildings, computers, and other equipment) owned by the banks is included in this category.

4-9 The Central Bank

Among the most important players in financial markets throughout the world are central banks, the government authorities in charge of monetary policy.

Central banks' actions affect interest rates, the amount of credit, and the money supply, all of which have direct impacts not only on financial markets, but also on aggregate output and inflation.

4-9-1 the role that Central Banks (CB) play in financial markets:

The CB System has several important administrative functions such as auditing of banks, but we will not talk about these.

The main policy function that interests us is its ability to control the money supply. It does so through three techniques:

The CB System sets Reserve Requirements, which each member bank must meet, either by holding cash at the bank or deposits at the Federal Reserve System. The reserve requirements are set as a percentage of total customer deposits at the member banks, must be met each week, and do not pay interest.

The CB System sets the Discount Rate, the rate at which banks can borrow from the Federal Reserve when they need liquidity either to meet their obligations to other member banks or to meet the Federal Reserve System's reserve requirements.

By far the most important power of the Reserve System is one we have already discussed: it can print money.

When it buys government bonds from the public- an Open Market Operation - it pays for them with newly created money. Similarly, when it sells bonds to the public, it destroys the money it receives in payment for the bonds. (The colorful images of "printing, creating and destroying" money is, alas, only illustrative. Most of this money consists of bookkeeping entries of "deposits" at the Central Bank's Reserve System.)

Now the CB provides other important functions:

- Clear checks
- Issue new currency
- Withdraw damaged currency from circulation.
- Administer and make discount loans to banks in their districts.
- Evaluate proposed mergers and applications for banks to expand their activities.
- Act as liaisons between the business community and the Federal Reserve System
- Examine bank holding companies and state-chartered member banks.
- Collect data on local business conditions.

- Use their staff of professional economists to research topics related to the conduct of monetary policy.

LIST OF TERMNOLOGIES

LIST OF TERMNOLOGY

A Balance of payments. ميزان المدفوعات

A summary statement of all the transactions of a nation with the rest of the world during a year. It includes the current, capital, and official reserve accounts.

A balance of payments deficit عجز ميزان المدفوعات

The difference between the nation's exports of goods and services and the nation's imports of goods and services. (e.g., exports are less than imports)

A balance of payments surplus **فائض ميزان المدفوعات**

The difference between the nation's exports of goods and services and the nation's imports of goods and services. (e.g., exports are more than imports)

Ad-valorem tariff **تعريفة جمركية قيمية**

A fixed percentage of the value of the imported goods

Agreement **اتفاقية**

Amendments **تعديلات**

An equitable distribution of income **توزيع عادل للدخل**

Arbitrage **عملية مراجحة**

Article **بند أو مادة**

At his disposal **تحت تصرفه**

Autonomous transactions **معاملات مستقلة**

Aggregate demand**.** الطلب الكلي

A schedule or curve which depicts the total quantity of output that is demanded at various price levels.

Aggregate supply. العرض الكلي

A schedule or curve which depicts the total quantity of output that is supplied at various price levels.

Appreciation. رفع قيمة العملة المحلية

An increase in the value of the domestic currency relative to the unit of a currency of another nation.

Appreciation of the U.S. dollar رفع قيمة الدولار

An increase in the value of the dollar relative to the unit currency of another nation; one U.S. dollar then buys more units of a foreign currency.

Asset **أصل**

Something which is owned by an individual, business, or government.

Autonomous consumption. الاستهلاك المستقل

Consumer spending which is unrelated to the receipt of income.

Average cost (AC). **التكلفة المتوسطة**

Total costs divided by output, or average fixed cost-plus average variable cost.

Average fixed cost (AFC). التكلفة المتوسطة الثابتة

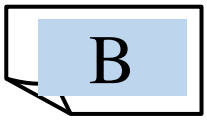
Total fixed costs divided by output.

Average propensity to import (APM). الميل الحدي للاستيراد

The ratio of imports to income at a given level of income. (APM = M/Y)

Average propensity to save (APS). **الميل الحدي للادخار**

The ratio of saving to disposable income at a given level of income. (APS = S/Yd)



back-to-back letter of credit خطاب اعتماد مستندي مقابل

Beforehand مسبقا أو مقدما

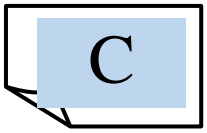
Bills of lading سندات الشحن

BOP Curve منحنى التوازن الخارجي

Brokerage commission عمولة سمسرة

Business cycles. الدورات التجارية

Fluctuations in real GDP which last for periods of two years or more.



Capital inflow تدفقات رؤوس الأموال للداخل.

Capital outflow **تدفقات رؤوس الأموال للخارج.**

Capital account. حساب رأس المال في ميزان المدفوعات

The balance-of-payments section that flows of investments and loans between the nation and the rest of the world.

Capital. رأس المال أو سلع رأسمالية

Goods such as tools, machines, factories, and transportation networks which are used in and/or facilitate the production of goods and services that satisfy human wants.

Capital-output ratio. نسبة أو معامل رأس المال الناتج

The ratio of the economy's stock of capital to total output.

Ceteris paribus. بقاء العوامل الأخرى على ماهي عليه

A Latin phrase meaning "other things being equal." This assumption is used in modeling to indicate that the value of other independent variables is held constant.

Circular flow of economic activity. التدفق الدائري للنشاط الاقتصادي

The flow of resources from households to firms and goods and services from firms to households.

Circular flow. **دائرة تدفق الدخل**

The flow of money income from businesses to individuals for the services of economic resources and from individuals to businesses for the purchase of the goods and services which were produced.

Closed economy. الاقتصاد المغلق

An economy which has no trade or financial relationships with, and is completely isolated from the rest of the world.

Comparative advantage. **الميزة النسبية**

The ability of a nation to produce a commodity at a relatively lower cost or at a lower opportunity cost than another nation.

Complete specialization. التخصص التام

The situation in which a nation produces only one of the two commodities with trade. This generally occurs under constant costs.

Constant opportunity costs. **ثبات تكاليف الفرصة البديلة**

The constant amounts of a commodity must be given up to release just enough resources to produce each additional unit of a second commodity.

Constant returns to scale. **ثبات الغلة بالنسبة للحجم**

The long-run situation when increasing all inputs by a given

proportion results in an increase in output in the same proportion.

Consumer's equilibrium. **توازن المستهلك**

The point at which the consumer maximizes the total utility or satisfaction from spending his or her income.

Consumer's surplus. فائض المستهلك

The difference between what the consumer would be willing to pay for a given amount of a commodity and what he or she pays.

Consumption function. **دالة الاستهلاك**

The relationship between consumption and disposable income.

Credit (+). **دائن**

A **transaction** that results from a payment from foreigners. This includes exports of goods and services, and capital inflows (i.e., investments and loans received from abroad).

Crowding out. **عملية إزاحة**

Occurs when increased government spending and/or decreased taxes causes output and the rate of interest to rise, which reduces (crowds out) interest-sensitive investment spending.

Current account. **الحساب الجاري**

A balance-of-payments section that includes the flow of goods,

services, and government grants between the nation and the rest of the world.

Damage	**تلف**
Depreciation	**تخفيض قيمة العملة**
Destination	**مكان الوصول**
Different applications	**استخدامات مختلفة**
Direct control	**رقابة مباشرة**
Dispute	**نزاع**
Documentary credit	**اعتماد مستندي**
Documents	**مستندات**

Domestic absorption **الاستيعاب المحلي**

Domicile **يتوطن أو يسكن بصفة دائمة في مكان ما**

Duration **أجل أو دوام أو سريان**

Debit (-). **مدين**

A transaction that results in a payment to foreigners. This includes imports of goods and services, government grants to foreigners, and capital outflows (i.e., investments and loans made abroad).

Decreasing returns to scale. **تناقص الغلة بالنسبة للحجم**

The long-run situation is when output increases proportionately less than inputs.

Deflation. **انكماش**

The annual rate of decrease in the price level.

Demand-pull inflation. التضخم الناتج عن الطلب

Inflation occurs because of the increases in aggregate demand.

Dependent variable. **المتغير التابع**

A variable whose value depends upon another economic event. For example, spending by an individual is dependent upon the receipt of income.

Depository Institutions. **مؤسسات تلقي الودائع**

An institution which borrows (accepts as deposit) money and promises to repay the sum borrowed plus interest upon demand or at a specified future date. Examples include commercial banks. savings banks, saving and loan associations, and credit unions.

Diminishing marginal utility. **تناقص المنفعة الحدية**

A concept stating that as an individual consumes more units of a commodity per unit of time, the total utility he or she receives increases, but the extra or marginal utility decreases.

Discount rate. **معدل الخصم**

The rate of interest charged by the central banks on loans to banks.

E

Electronic data interchange (EDI)	**النقل الالكتروني للبيانات**
Exchange market	**أسواق الصرف**
Exchange rate	سعر الصرف
Exchange rate fluctuations	تقلبات سعر الصرف
Expansionary fiscal policy	سياسة مالية توسعية
Expenditure	انفاق
Expenditure-changing policy	سياسات تغيير الانفاق
Expenditure-switching policy	سياسات تحويل الانفاق
Export licenses	ترخيص تصدير
Exporter	المصدر
External balance	التوازن الخارجي
Economic efficiency.	الكفاءة الاقتصادية

A state in which it is impossible to produce additional output of a particular good or service without decreasing the output of other

goods or services.

Economic growth. **النمو الاقتصادي**

An increase in the economy's productive capabilities due to an increase in the quantity or quality of economic resources and/or a change in technology. It also means an increase in GDP or in per capita output over time.

Economic problem. **المشكلة الاقتصادية**

Because of limited productive capabilities, there is a need to make decisions about what to produce, how to produce, and the distribution of output.

Economics. **علم الاقتصاد**

A social science that studies how individuals and organizations in society engage in the production, distribution, and consumption of goods and services.

Elasticity of demand (ED). **مرونة الطلب**

The measurement of the (average) percentage change in the quantity demanded of a commodity because of a given (average) percentage change in its price, expressed as a positive pure number. Demand is said to be elastic, unitary elastic, or inelastic

if ED > 1, ED = 1, or ED < 1, respectively.

Elasticity of supply (Es). **مرونة العرض**

The measurement of the (average) percentage change in the quantity supplied of a commodity because of a given (average) percentage change in its price, expressed as a positive pure number. Supply is elastic, unitary elastic, or inelastic if Es > 1, Ex = 1, or Ex < 1, respectively.

Equilibrium level of output. **المستوى التوازني للدخل**

The output level is determined by the equating of aggregate demand and aggregate supply.

Equilibrium. **التوازن**

The market condition where the quantity of a commodity that consumers are willing and able to purchase equals the quantity producers are willing to supply. Geometrically, equilibrium occurs at the intersection of the market demand and supply curves of the commodity. The price and quantity at which equilibrium exists are known, respectively, as the equilibrium price and the equilibrium quantity.

Financial centers	**مراكز مالية**
Fiscal policy	**سياسة مالية**
Fixed exchange rate	**سعر صرف ثابت**
Flexible exchange rate	**سعر صرف مرن**
Foreign exchange brokers	**سماسرة العملات الأجنبية**
Foreign exchange reserves	**احتياطيات الصرف الأجنبي**
Foreign exchange risks	**مخاطر الصرف الأجنبي**
Foreign exchange swaps	**مبادلات الصرف الأجنبي**
Foreign investments	**الاستثمارات الأجنبية**
Foreign trade policy	**سياسات التجارة الخارجية**
Forward Discount	**الخصم الآجل**

Forward exchange rate **سعر الصرف الآجل**

Forward Premium **العلاوة الآجلة**

Forward transactions **المعاملات الآجلة**

Forwarder **وكيل الشحن**

Fulfilled **يستكمل**

Full-employment **التوظف الكامل**

Futures market **سوق المستقبليات**

Factors of production. **عوامل الانتاج**

The input-land, labor, and capital-necessary to produce goods and services. The terms factors of production and economic resources are interchangeable.

Fixed-exchange-rate system. **نظام سعر الصرف الثابت**

The system in which the rates of exchange between the domestic and foreign currencies are fixed.

Flexible-exchange-rate system. **نظام سعر الصرف المرن**

A system in which the rate of exchange floats freely to find its equilibrium level at the intersection of the market demand and supply curves of the foreign currency.

Frictional unemployment. بطالة احتكاكية

Temporary unemployment of members of the labor force who are unemployed because of temporary layoffs or because they quit previous jobs and are looking for new ones.

G

Gains from trade. المكاسب من التجارة

The increases in the consumption of both commodities result from specialization in production and trade.

Gross exports. **إجمالي الصادرات**

The value of domestic production that is sold to other countries.

Gross imports. **إجمالي الواردات**

The value of foreign production that is purchased by the domestic

economy.

Gross investment. **إجمالي الاستثمار**

The sum of residential construction, nonresidential construction, the purchase of producers' durable equipment by businesses, and the net change in business inventories.

Hedging **عملية تغطية لمخاطر التعامل في الصرف الأجنبي**

His own expense على حسابه الخاص

Import function **دالة الاستيراد.**

Importer **المستورد**

In conformity with **المتفق أو المتعارف عليه**

INCOTERMS	**اختصار لعقود التجارة الدولية**
Inflation	**تضخم**
Inland waterway	**ممرات أو طرق مائية**
Inspection of goods	**فحص البضاعة**
Interbank transactions	**معاملات مابين البنوك**
Interest arbitrage	**عمليات المراجحة في سعر الفائدة**
Interest rate differentials	**فروق أسعار الفائدة**
Intermediary	**وسيط**
Internal balance	**التوازن الداخلي**
International chamber of commerce	**غرفة التجارة الدولية**
International transactions	**معاملات دولية**

Into the charge of the carrier **تحت رعاية الناقل**

Investment **استثمار**

Invoice **فاتورة**

Irrevocable **غير قابل للإلغاء**

IS Curve **منحنى التوازن في سوق السلع**

Import quota. حصص الاستيراد

A restriction on the quantity of goods that is allowed to be imported into a nation during a year.

Import tariff. التعريفة الجمركية

A tax imposed on imported goods.

Income effect. **أثر الدخل**

The increase in the quantity purchased of a commodity with a given money income when the commodity price falls.

Income tax. **ضريبة الدخل**

A tax imposed upon the amount of income received.

Increasing opportunity costs. **تزايد تكلفة الفرصة البديلة**

The increasing amounts of a commodity must be given up releasing just enough resources to produce each additional unit of a second commodity.

Independent variable. **المتغير المستقل**

A variable whose value determines the value of another (dependent) variable. For example, an individual's income largely determines the amount that an individual can spend.

Infant-industry argument for protection.

حجة حماية الصناعات الوليدة

The claim that a newly established industry requires protection until it can grow and achieve efficiency and be able to face foreign competition.

Inflation. **تضخم**

The annual rate of increase in a price index.

Inflationary gap. **الفجوة التضخمية**

The amount by which aggregate spending exceeds the full-employment level of output.

Injections. **حقن أو إضافات**

The addition of investment spending and gross exports to aggregate spending and therefore to the circular flow.

Investment demand curve. **منحنى الطلب الاستثماري**

A curve that shows the relationship between gross investment and the rate of interest, holding constant other variables that affect investment spending.

legal position **موقف أو وضع قانوني**

Lender of last resort **المقرض الأخير**

Letter of credit **خطاب اعتماد**

Liabilities **التزامات**

Lighter **الصنادل (مراكب مسطحة لتحميل وتفريغ السفن)**

LM Curve **منحنى التوازن في سوق النقود**

Leakages **التسربات**

A withdrawal of aggregate spending from the circular flow when people (1) save or (2) purchase imported rather than domestically produced goods.

Long run. الأجل الطويل

The period when all factors of production are variable.

Mandatory rules قواعد إجبارية

Monetary policy السياسة النقدية

Money market سوق النقد

multimodal transports النقل متعدد الوسائط

Macroeconomics. الاقتصاد الكلي

The study of aggregate economic activity, such as the economy's level of output, level of national income, level of employment, and general price level.

Marginal cost (MC). التكلفة الحدية

The change in total costs or total variable costs per unit change in output.

Marginal product (MP). **الناتج الحدي**

The change in total product that results from employing one additional unit of a variable resource together with other fixed resources.

Marginal propensity to consume (MPC).

الميل الحدي للاستهلاك

The ratio of the change in consumption to the change in disposable income. (MPC = $\Delta C/\Delta Yc$)

Marginal propensity to save (MPS).

الميل الحدي للادخار

The ratio of the change in savings to the change in disposable income. (MPS=$\Delta S/\Delta Yd$)

Marginal revenue (MR). الايراد الحدي

The change in total revenue for a unit change in the quantity sold. With perfect competition, price (p) is constant, and MR=P.

Market economy. **اقتصاد السوق**

An economy in which individuals and businesses freely decide where to employ economic resources, freely decide which goods and services to produce, and freely distribute the resulting output.

Microeconomics. الاقتصاد الجزئي

The study of economic behavior of individual decision-making units, such as consumers, resource owners, and business firms in a free-enterprise economy.

Monetarist. **النقديون**

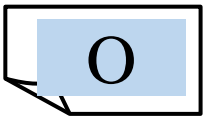
An economist who contends that money supply changes have a more predictable effect on aggregate spending than do changes in government spending or taxes.

Multiplier. **المضاعف**

The ratio of the change in the equilibrium level of output to an initial change in aggregate spending.

National income (NI). **الدخل القومي**

Income earned by the factors of production.



Obligations **التزامات**

Official authorization **السلطات الرسمية**

Options market **سوق الخيار**

Original credit **الاعتماد الأصلي**

Official reserves account. **حساب الاحتياطيات الرسمية**

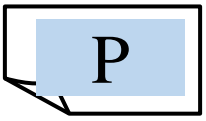
The balance-of-payments section that shows the change in the nation's official (i.e., government) reserves and liabilities required to balance its current and capital accounts.

The Open economy. الاقتصاد المفتوح

An economy which relates to the rest of the world through trade and financial relationships.

Open-market operations. **عمليات السوق المفتوحة**

The purchase of sale of government securities by the Federal Reserve to increase or decrease bank reserves and therefore the money supply.



Packaging **التغليف**

Placed at his disposal **يضع شئ ما تحت تصرفه.**

Preamble **تمهيد أو مقدمة**

Premise **مبنى المصنع والأراضي والمخازن التابعة له**

Prime parties **الأطراف الرئيسية**

Procure **يجهز**

Prohibition **حظر أو منع (قانون يحظر)**

Proof **اثبات**

Provisions **شرط معين في اتفاق أو عقد**

Purchasing power **قوة شرائية**

Precision **دقة**

Precautionary demand for money.الطلب على النقود للاحتياط

The demand for money is needed to make unforeseen payments. It varies directly with national income.

Price discrimination. **التمييز السعري**

The practice of charging different prices for a commodity (1) for different quantities purchased, (2) to different classes of consumers, or (3) in different markets.

Production surplus. فائض انتاج

Exists when aggregate spending is less than output.

Production-possibilities or transformation curve.

منحنى امكانيات الانتاج (منحنى التحويل)

The graphic representation of the various alternative combinations of two commodities that a society con produce by fully utilizing all its resources and the best available technology.

Profits. الأرباح

The excess of total revenue over total explicit and implicit costs.

Public debt. الدين العام

The amount owed by the federal government; that is, the sum of interest-bearing debt obligations issued by the federal government.

Quay **رصيف الميناء لتحميل وتفريغ السفن**

Quantity theory of money. نظرية كمية النقود

An economic theory which contends that there is a close relationship between the quantity of money and the nominal value

of gross domestic product.

Rail transport	**النقل بالسكك الحديدية**
Rate of effective protection	**معدل الحماية الفعال**
Rate of growth	**معدل النمو**
red clause credit	**اعتماد الخط الأحمر (الدفع المقدم)**
Replenish	**يتجدد**
Resident	**مقيم**
Revocable	**قابل للإلغاء**
revolving letter of credit	**اعتماد دائري**

Road transport **النقل بالطرق البرية**

Recession. انحسار النشاط

Rent. ريع

Replacement investment. **استثمار احلالي**

The amount of capital needed to replace capital that depreciated (was used up) in producing current GDP.

Risk. **خطر**

The probability of incurring an extra cost (such as the breakdown of a machine) or a loss (such as from fire or theft) against which the firm can insure itself .

Speculative demand for money. الطلب على النقود للمضاربة

The demand for money in the expectation of higher interest rates in the future. It is inversely related to the rate of interest.

Stagflation. **كساد تضخمي**

A situation in which there is increasing inflation and unemployment simultaneously.

Substitution effect. **أثر الإحلال**

The increase in the quantity purchased of a commodity when its price falls (because of switching from the purchase of other similar commodities).

Terms of trade. **معدل** التبادل التجاري

The trade exchange ratio or the rate at which the commodity is exchanged for another.

Transaction demand for money. الطلب على النقود للمعاملات

The demand for money is needed to make everyday payments. It depends on the level of national income.

Uncovered Interest arbitrage **المراجحة غير المغطاة لسعر الفائدة**

Unilateral transfers **التحويلات من جانب واحد**

Selected Questions in
Foreign Trade Economics

True or False Questions: Put (T) or (F) and verify:

1- Export is the purchase of goods and services from foreign countries leading to outflow of currency.

2- Imports are the sale of goods and services leading to an inflow of foreign currencies.

3- Trade could increase competition, expand the total demand.

4- Trade acts as an 'engine of growth' that creates economic advantages.

5- Absolute advantage states that each nation must have a good that it is more efficient in producing than its trading partner.

6- Adm smith assumed that there are four countries in the world and each country produces two commodities.

7- Absolute advantage theory assumes that the cost or price of a good depends exclusively upon the amount of capital required to produce it.

8- If workers in the United States can produce 20 units of cars or 30 yards of cloth in an hour's time, while workers in the United Kingdom can produce 30 units of cars or 20 yards of cloth in an hour's time. It can be seen clearly that the United States has an absolute advantage in cloth production.

9- Depending on question 8, the United Kingdom has an absolute advantage in cloth production.

10- Depending on question 8, the United States has an absolute advantage in cloth production, as its workers' productivity in cloth is higher than that of the United States.

11- Nation could produce more effectively by specializing in one good and distributing to the other nation through trade so that world outputs increase overall.

12- If a country has a disadvantage in production of both goods, the country should specialize in and export, which is relatively less inefficient.

13- According to comparative advantage theory, no government intervention exists.

14- According to comparative advantage theory, firms attempt to maximize their profit while the consumers attempt to maximize their satisfactions.

15- The official settlement balance in the balance of payment (BOP) includes the purchase and sale of financial and nonfinancial assets.

16- The current Account measures a country's net exports of goods and services and net international income receipts.

17- Service Balance includes imports and exports of tangible goods such as cars, computers, clothes, televisions, etc. It equals exports minus imports of goods.

18- The capital account in the BOP includes international interest and dividend payments and earnings of domestically owned firms operating abroad.

19- The difference between income receipts on country, owned assets abroad and income payments on foreign-owned assets in the country is recorded in the current account.

20- The difference between gifts received from the rest of the world and gifts made by the country to foreign countries is recorded in the capital account.

21- Purchases of foreign assets by the residents of the country are recorded as credit to the capital account of the country.

22- The financial account is the difference between sales of assets to foreigners and purchases of assets held abroad.

23- Foreign-owned assets held in the country that consist of foreign official assets in the country securities, and other foreign assets are recorded in the capital account.

24- The official settlement balance account includes central bank reserves.

25- Imports of goods are credits (+) to the current account.

26- The difference between exports and imports of goods is called the merchandise trade balance.

27- If a country imports more than it exports in this category, then it is said to have a trade surplus.

28- Exports of services are credits to the current account.

29- Tuition fees paid to universities by international students in Egypt is recorded as credit in the current account.

30- Purchases of country's assets by foreigners are credits to the capital account of the country.

The Multiple-Choice Questions (MCQ):

1- Increases in loans of the country by foreigners counts as:

a- Is recorded as credit in the current account.

b- Is recorded as debit in the current account.

c- Is recorded as credit in the capital account.

d- Is recorded as debit in the capital account.

2- Increases in loans to foreigners by the country's residents counts as

a- Is recorded as credit in the current account.

b- Is recorded as debit in the current account.

c- Is recorded as credit in the capital account.

d- Is recorded as debit in the capital account.

3- Increases in local currency holdings by foreigners counts as a:

a- Is recorded as credit in the current account.

b- Is recorded as debit in the current account.

c- Is recorded as credit in the capital account.

d- Is recorded as debit in the capital account.

4- Increases in holdings of foreign currency by a country's residents counts as:

a- Is recorded as credit in current account.

b- Is recorded as debit in current account.

c- Is recorded as credit in capital account.

d- Is recorded as debit in capital account.

5- Decreases in holdings of foreign currency by the residents counts as:

a- Is recorded as credit in current account.

b- Is recorded as debit in current account.

c- Is recorded as credit in capital account.

d- Is recorded as debit in capital account.

6- Increases in dollar reserves held by foreign domestic central banks count as:

a- Is recorded as credit in current account.

b- Is recorded as debit in current account.

c- Is recorded as credit in OSB account.

d- Is recorded as debit in OSB account.

7- Increases in holdings of foreign currency reserves by country's central banks count as:

a- Is recorded as credit in current account.

b- Is recorded as debit in current account.

c- Is recorded as credit in OSB account.

d- Is recorded as debit in OSB account.

8- Decreases in holdings of foreign currency reserves by a country's central banks count as:

a- Is recorded as credit in current account.

b- Is recorded as debit in current account.

c- Is recorded as credit in OSB account.

d- Is recorded as debit in OSB account.

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بسم الله الرحمن الرحيم

بيان السيرة ذاتية

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