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THE GOODS MARKET IN THE OPEN ECONOMY

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1.1 THE OPEN ECONOMY

An open economy is one that interacts freely with other economies around the world. Openness has three specific aspects:

- (i) **Openness in the goods markets:** that is, the economy buys and sells goods and services in world product markets. Consumers and firms can choose between domestic goods and foreign goods.
- (ii) **Openness in financial markets:** that is, the economy buys and sells capital assets such as stocks and bonds in world financial markets. Financial investors can choose between domestic assets and foreign assets.

- (iii) **Openness in factor markets:** that is, the ability of firms to choose where to locate production, and of workers to choose where to work. In what follows we focus on the first two dimensions of openness.

1.2 OPENNESS IN GOODS MARKETS : THE FLOW OF GOODS

Exports are goods and services that are produced domestically and sold abroad. *Imports* are goods and services that are produced abroad and sold domestically. When Boeing, an American aircraft manufacturer, builds a plane and sells it to Air India, sale is an export for the United States and an import for India. When Tata, the Indian car manufacturer, makes a car and sells it to a U.S. resident, the sale is an import for the United States and an export for India.

Net exports of any country are the difference between the value of its exports and the value of its imports.

Net exports = Value of a country's exports - Value of a country's imports ... (1)

The net exports of a country are also known as the country's *trade balance*.

Net exports tell us whether a country is, in total, a seller or a buyer in world markets for goods and services. This is why net exports are also called the trade balance. The trade balance is the value of a country's exports minus the value of its imports (i.e., net exports).

If net exports are positive, exports are greater than imports. This means that the country sells more goods and services abroad than it buys from other countries. In this case, the country is said to run a *trade surplus*.

If net exports are negative, exports are less than imports. This means that the country sells fewer goods and services abroad than it buys from other countries. In this case the country is said to run a *trade deficit*.

If net exports are zero, the country's exports and imports are exactly equal, and the country is said to have *balance trade*.

There are several factors which explain an economy's trade balance. These include:

- (i) The tastes of consumers for domestic and foreign goods.
- (ii) The prices of goods at home and abroad.
- (iii) The exchange rates at which people can use domestic currency to buy foreign currencies.
- (iv) The incomes of consumers at home and abroad.
- (v) The cost of transporting goods from country to country.
- (vi) Government policies towards international trade.

Changes in any/all of these can influence the amount of foreign trade.

1.3 OPENNESS IN GOODS MARKETS : THE FLOW OF FINANCIAL RESOURCES - NET CAPITAL OUTFLOW

Net capital outflow refers to the difference between the purchase of foreign assets by domestic residents and the purchase of domestic assets by foreigners.

Net capital outflow = Purchase of foreign assets by domestic residents - Purchase of domestic assets by foreigners ... (2)

When an American buys stock in the Sony corporation, a Japanese MNC, the purchase increases the first term in the right side of Equation (2), and therefore increases U.S. net capital outflow. When a Japanese resident buys a bond issued by the U. S. government, the purchase increases the second term on the right side of Equation (2), and therefore decreases U.S. net capital outflows.

The flow of capital abroad takes two forms. If McDonald's opens a fast food outlet in India, that is an example of foreign direct investment. On the other hand, if an American resident buys stock in an Indian corporation, that is an example of foreign portfolio investment. In the first case, an American owner is actively managing the investment. In the second case, the American owner has a passive role. But in both cases U.S. residents are buying assets located in another country, so both purchases increase U.S. net capital outflow.

Net capital outflow or net foreign investment can be either positive or negative.

When the net capital outflow is positive, it means domestic residents are buying more foreign assets than foreigners are buying domestic assets. Capital is said to be flowing out of the country.

When the net capital outflow is negative, it means domestic residents are buying less foreign assets than foreigners are buying domestic assets. Capital is said to be flowing into the country; i.e., the country is experiencing a capital inflow.

The important factors that influence net capital outflow are:

- (i) The real interest rates paid on foreign assets.
- (ii) The real interest rates paid on domestic assets.
- (iii) The perceived economic and political risks of holding assets abroad.
- (iv) The government policies that affect foreign ownership of domestic assets.

1.4 TRADE BALANCE AND GDP CALCULATIONS

We have thus seen that an open economy interacts with the rest of the world in two ways - in world markets for goods and services, and world financial markets.

Net exports and net capital outflows each measure a type of imbalance in these markets. Net exports measure an imbalance between a country's exports and its imports. Net capital outflow measures an imbalance between the amount of foreign assets bought by domestic residents and the amount of domestic assets bought by foreigners.

An important fact of accounting states that, for an economy as a whole, these variables must always be the same. That is, net capital outflow (NCO) equals net exports (NX).

$$\text{NCO} = \text{NX} \quad \dots (3)$$

Equation (3) holds because every transaction that affects one side of this equation affects the other side by exactly the same amount.

This equation is an identity - an equation that must hold because of the way the variables in the equation are defined and measured. To see that the international flow of goods and services and the international flow of capital are two sides of the same coin consider the following :

- (1) When a nation is running a trade surplus; ($\text{NX} > 0$, i.e., net exports are positive), it is selling more goods and services to foreigners than it is buying from them. What is it doing with the foreign currency it receives from the net sale of goods and services abroad? It must be using it to buy foreign assets. Thus, capital is flowing out of the country; ($\text{NCO} > 0$).
- (2) When a nation is running a trade deficit; ($\text{NX} < 0$, i.e., net exports are negative), it is buying more goods and services from foreigners than it is selling to them. How is it financing the net purchase of these goods and services in world markets? It must be selling assets abroad. Capital is flowing into the country ($\text{NCO} < 0$).

1.5 TRADE BALANCE IMPLICATIONS FOR SAVINGS, INVESTMENT AND GDP

A country's saving and investment are important to its long run economic growth. In a closed economy saving and investment are equal. In an open economy matters are not so simple. We have to consider how saving and investment are related to the international flows of goods and capital as measured by net exports and net capital outflow.

A country's gross domestic product, (Y), is defined in terms of consumption, (C), investment, (I), government purchases (G), and net exports, (NX). We write this relationship as:

$$Y = C + I + G + NX \quad \dots (4)$$

Total expenditure on the economy's output of goods and services is the sum of expenditure on consumption, investment, government purchases, and net exports. Consumption depends positively on disposable income, ($Y - T$). Investment depends positively on production, (Y), and negatively on the real interest rate, (r). Government spending (G) is given. Net exports (NX) depends on imports and exports. (The import and export functions are discussed at the end of the chapter).

Since each rupee of expenditure is placed into one of these four components, this equation is an accounting identity: it must be true because of the way the variables are defined and measured.

National saving is the income of the nation that is left after paying for current consumption and government purchases. National saving (S) thus equals $Y - C - G$. If we rearrange Equation (4) to reflect this fact, we obtain;

$$Y - C - G = I - NX$$

$$\text{i.e., } S = I + NX$$

... (5)

... (6)

However, because net exports (NX) also equals net capital outflow (NCO) as shown in Equation (3), we can rewrite Equation (6) as;

$$S = I + NCO \quad \dots (7)$$

Equation (7) shows that the country's saving must equal its domestic investment plus its net capital outflow. In other words, when Indian citizens save a rupee of their income for their future, that rupee can be used to finance accumulation of domestic capital or it can be used to finance the purchase of capital abroad.

In a closed economy, net capital outflow is zero, therefore saving equals investment. An open economy has two uses for its saving; domestic investment and net capital outflow. Thus, saving, investment and international capital flows are inseparably linked.

When a country's saving exceeds its domestic investment, its net capital outflow is positive. This means that the nation is using some of its saving to buy assets abroad. When a country's domestic investment exceeds its saving, its net capital outflow is negative. This means that foreigners are financing some of this investment by purchasing domestic assets.

The following table sums up the implications of international flows of goods and services for GDP calculations:

Table 1 : Summary of Trade Balance Outcomes for Gross Domestic Product (GDP)

S.N.	Trade Deficit	Balanced Trade	Trade Surplus
1.	Exports < Imports	Exports = Imports	Exports > Imports
2.	Net exports < 0	Net exports = 0	Net exports > 0
3.	$Y < C + I + G$	$Y = C + I + G$	$Y > C + I + G$
4.	Saving < Investment	Saving = Investment	Saving > Investment
5.	Net Capital Outflow < 0	Net Capital Outflow = 0	Net Capital Outflow > 0

1.6 DETERMINANTS OF IMPORTS - IMPORT FUNCTION

Imports are that part of domestic demand that is for foreign goods. The demand for foreign goods depends on *domestic income*. Higher domestic income leads to higher demand for all goods, both domestic and foreign. So, a higher domestic income leads to higher imports.

Imports also clearly depend on the *real exchange rate* (the price of domestic goods in terms of foreign goods - details in next chapter). The more expensive domestic goods are relative to foreign goods (or the cheaper foreign goods are relatively to domestic goods), the higher is the domestic demand for foreign goods. So, a higher exchange rate leads to higher imports.

It follows that the import function may be written as :

$$M = M(Y, \epsilon) \quad \dots (8)$$

(+, +)

The import function in Equation (8) tells us:

- (i) An increase in domestic income or an increase in domestic output, (Y), leads to an increase in imports, (M). This positive effect of income on imports is shown by the positive sign, under Y in the equation.
- (ii) An increase in the real exchange rate, (ϵ) leads to an increase in imports, (M). This positive effect of the real exchange rate on imports is captured by the positive sign under ϵ in the equation.

1.7 DETERMINANTS OF EXPORTS - EXPORT FUNCTION

Exports are that part of foreign demand that is for domestic goods. The demand for domestic goods depends on *foreign income*. Higher foreign income means higher foreign demand for all goods, both

foreign and domestic. So higher foreign income leads to higher exports.

They depend also on the *real exchange rate*. The higher the price of domestic goods in terms of foreign goods, the lower the foreign demand for domestic goods. In other words, the higher the real exchange rate, the lower are exports.

Let Y^* denote foreign income (or foreign output). We can accordingly write the export function as:

$$X = X(Y^*, \epsilon) \quad \dots (9)$$

(+, -)

The export function in Equation (9) tells us :

- (i) An increase in foreign income, (Y^*), leads to an increase in exports. This positive effect is captured by the positive sign below Y^* in the equation.
- (ii) An increase in the real exchange rate, (ϵ), leads to a decrease in exports. This effect is captured by the negative sign below ϵ in the equation.

REVIEW QUESTIONS

1. Explain the concept of an open economy in terms of openness in goods markets.
2. Explain the concept of trade balance in the context of openness in goods markets.
3. Explain how the trade balance impacts GDP calculations.
4. What are the implications of trade balance for savings, investment and GDP?
5. Write a note on net exports.
6. Write a note on net capital outflows.
7. Write a note on export and import functions.