

Circular Flow of Income

The amount of income generated in a given economy within a period of time (national income) can be viewed from three perspectives. These are:

- Income,
- Product, and
- Expenditure.

The above assertion implies that we can view national income as either the total sum of all income received within a particular period (income); the total good and services produced within a particular period (product) or total expenditure on goods and services within a given period (expenditure). Whichever approach is used, the value we get is the same.

The circular flow of income and product is used to show diagrammatically, the equivalence between the income approach and the product approach in measuring gross national product (GNP).

In analysing the circular flow of income, there are three scenarios:

1. A simple and closed economy with no government and external transactions, i.e., two-sector economy;
2. A mixed and open economy with savings, investment and government activity, i.e., three-sector economy; and
3. A mixed and open economy with savings, investment, government activity and external trade, i.e., four-sector economy.

1. Circular Flow of Income in a Two-Sector Economy:

According to circular flow of income in a two-sector economy, there are only two sectors of the economy, i.e., household sector and business sector. Government does not exist at all, therefore, there is no public expenditure, no taxes, no subsidies, no social security contribution, etc. The economy is a closed one, having no international trade relations. Now we will discuss each of the two sectors:

- (i) Household Sector:** The household sector is the sole buyer of goods and services, and the sole supplier of factors of production, i.e., land, labour, capital and organisation. It spends its entire income on the purchase of goods and services produced by the business sector. Since the household sector spends the whole income on the purchase of goods and services, therefore, there are no savings and investments. The household sector receives income from business sector by providing the factors of production owned by it.

(ii) Business Sector: The business sector is the sole producer and supplier of goods and services. The business sector generates its revenue by selling goods and services to the household sector. It hires the factors of production, i.e., land, labour, capital and organisation, owned by the household sector. The business sector sells the entire output to households. Therefore, there is no existence of inventories. In a two-sector economy, production and sales are thus equal. So long as the household sector continues spending the entire income in purchasing the goods and services from the business sector, there will be a circular flow of income and production. The circular flow of income and production operates at the same level and tends to perpetuate itself. The basic identities of the two-sector economy are as under:

$$Y = C$$

Where Y is Income
C is Consumption

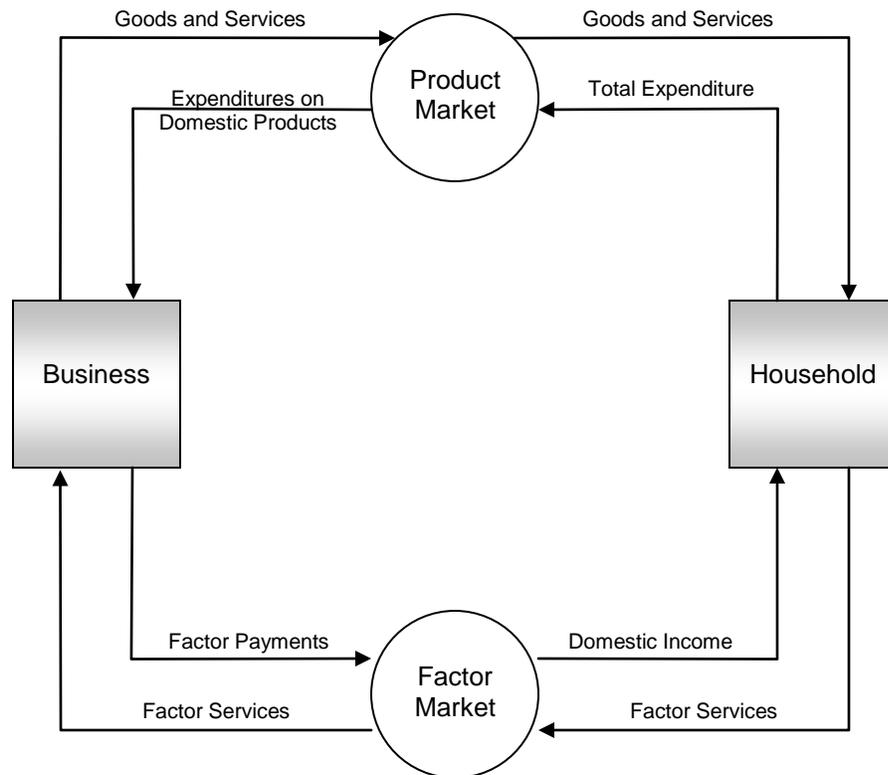


Figure 1 – Circular Flow of Income in a Two-Sector Economy

Circular Flow of Income in a Two-Sector Economy (Saving Economy):

In a two-sector macro-economy, if there is saving by the household sector out of its income, the goods of the business sector will remain unsold by the amount of savings. Production will be reduced and so the income of the households will fall. In case the savings of the households is loaned to the business sector for capital expansion, then the

gap created in income flow will be filled by investment. Through investment, the equilibrium level between income and output is maintained at the original level. It is illustrated in the following figure:

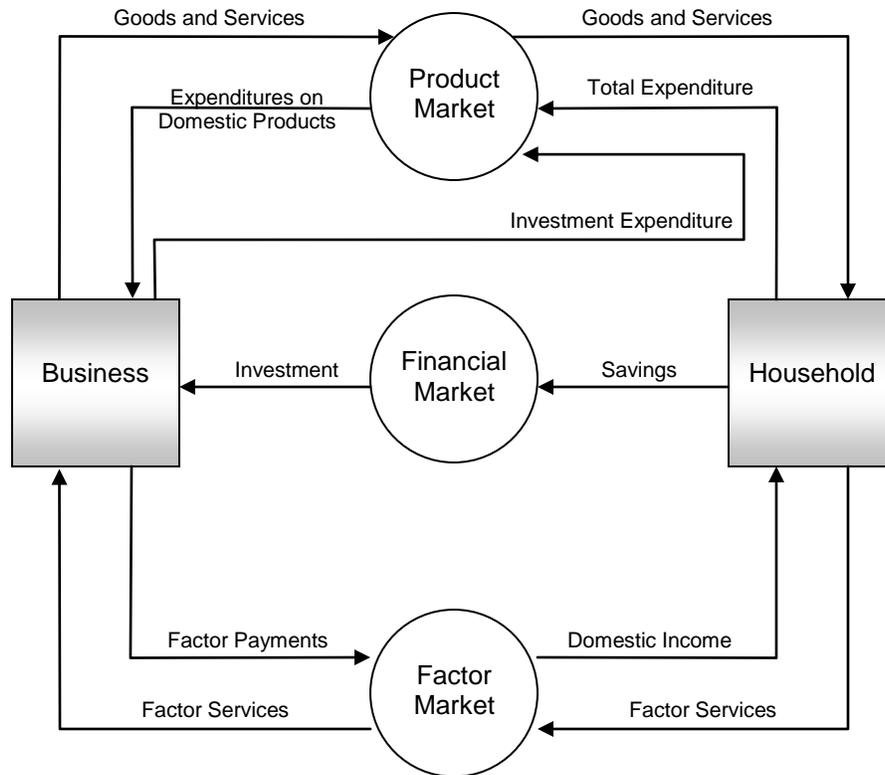


Figure 2 – Circular Flow of Income in a Two-Sector Economy (Saving)

The equilibrium condition for two-sector economy with saving is as follows:

$$Y = C + S \quad \text{or} \quad Y = C + I \quad \text{or} \quad C + S = C + I$$

or

$$S = I$$

Where Y is Income
 C is Consumption
 S is Saving
 I is Investment

When saving and investment are added to the circular flow, there are two paths by which funds can travel on their way from households to product markets. One path is direct, via consumption expenditures. The other is indirect, via saving, financial markets, and investment.

Savings: On the average, households spend less each year than they receive in income. The portion of household income that is not used to buy goods and services or to pay taxes is termed 'Saving'. Since there is no government in a two-sector economy, therefore, there are no taxes in this economy.

The most familiar form of saving is the use of part of a household's income to make deposits in bank accounts or to buy stocks, bonds, or other financial instruments, rather than to buy goods and services. However, economists take a broader view of saving. They also consider households to be saving when they repay debts. Debt repayments are a form of saving because they, too, are income that is not devoted to consumption or taxes.

Investment: Whereas households, on the average, spend less each year than they receive in income, business firms, on the average, spend more each year than they receive from the sale of their products. They do so because, in addition to paying for the productive resources they need to carry out production at its current level, they desire to undertake *investment*. Investment includes all spending that is directed toward increasing the economy's stock of capital.

Financial Market: As we have seen, households tend to spend less each year than they receive in income, whereas firms tend to spend more than they receive from the sale of their products. The economy contains a special set of institutions whose function is to channel the flow of funds from households, as savers, to firms, as borrowers. These are known as 'financial markets'. Financial markets are pictured in the centre of the circular-flow diagram in the above figure.

Banks are among the most familiar and important institutions found in financial markets. Banks, together with insurance companies, pension funds, mutual funds, and certain other institutions, are termed 'financial intermediaries', because their role is to gather funds from savers and channel them to borrowers in the form of loans.

2. Circular Flow of Income in a Three-Sector Economy:

We have so far discussed the two-sector economy consisting of household sector and business sectors. Under three-sector economy, the additional sector is the government. Two-sector economy is a hypothetical economy, whereas the three-sector economy is much more realistic. The inclusion of the government sector is very essential in measuring national income. The government levies taxes on households and on business sector, purchases goods and services from business sector, and attain factors of production from household sector. The following figure illustrates three-sector economy:

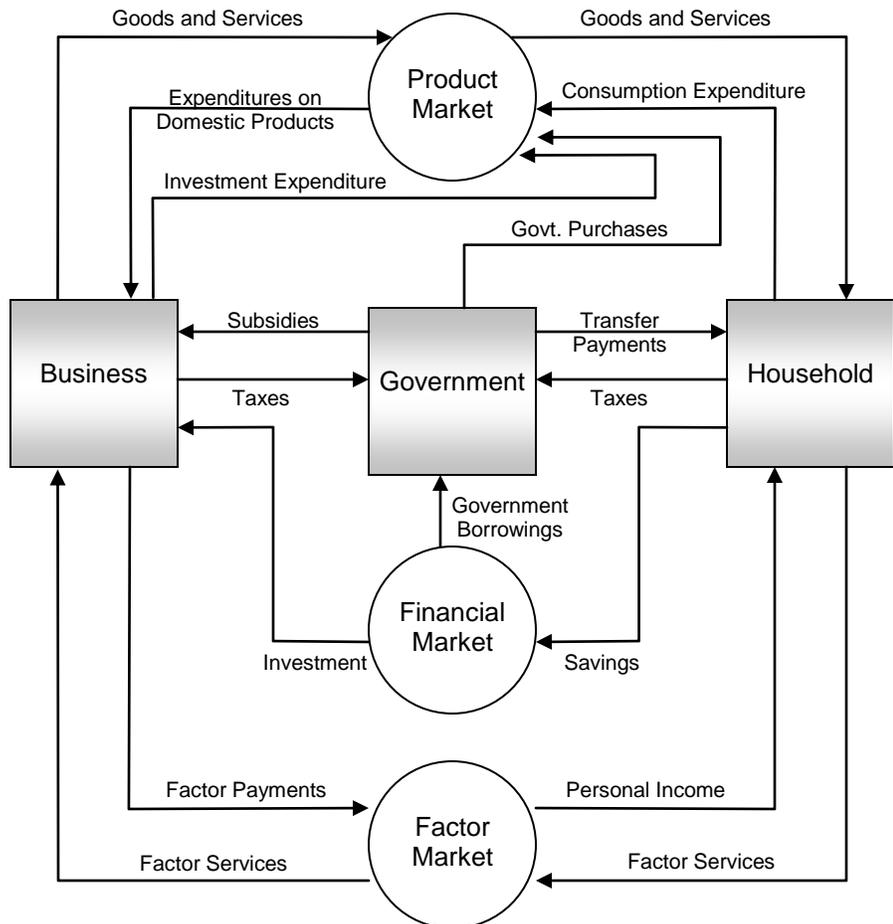


Figure 3 – Circular Flow of Income in a Three-Sector Economy

In the above diagram, in one direction, the household sector is supplying factors of production to the factor market. Business sector demands the factors of production from factor market. Inputs are used by the business sector, which produces goods and services that are purchased back by the households and the government. Personal income after tax or disposable income that is received by households from business sector and government sector is used to purchase goods and services and makes up consumption expenditure (or C). The money spent in the product market is the market value of final goods and services (or GDP). That money goes to business sector that pays it back in the form of wages, rent, profits and interests.

Total spending on goods and services is known as *'aggregate demand'*. The total market value of output produced and sold is also known as *'aggregate supply'*. To measure aggregate demand in a closed economy, we simply add consumption spending (C), investment spending (I) and government spending (G). Therefore:

$$Y = C + I + G$$

Where Y is Income,
C is Consumption,
I is Investment, and
G is Government Spending.

Note that government spending (G) includes its buying of labour from factor market, buying of goods and services from product market, and transfer payments to the household sector. Transfer payments are payments the government makes in return for no service, for example, welfare payments, unemployment compensation, pension, etc. The government collects its money in the form of tax, which makes up most of the government revenue. But the government does not always balance their budgets. The government always tends to spend more than it takes in as taxes. The federal government almost always runs a deficit. The government deficit must be financed by borrowing in financial markets. Usually this borrowing takes the form of sales of government bonds and other securities to the public or to financial intermediaries. Over time, repeated government borrowing adds to the domestic debt. The '*debt*' is a stock that reflects the accumulation of annual '*deficits*', which are flows. When the public sector as a whole runs a budget surplus, the direction of the arrow is reversed. Governments pay off old borrowing at a faster rate than the rate at which new borrowing occurs, thereby creating a net flow of funds into financial markets.

3. Circular Flow of Income in a Four-Sector Economy:

Two-sector economy and three-sector economy are briefly discussed in previous sections. These are hypothetical economies. In real life, only four-sector economy exists. The four-sector economy is composed of following sectors, i.e.:

- (i) Household sector,
- (ii) Business sector,
- (iii) The government, and
- (iv) Transaction with '*rest of the world*' or foreign sector or external sector.

The household sector, business sector and the government sector have already been defined in the previous sections. The foreign sector includes everyone and everything (households, businesses, and governments) beyond the boundaries of the domestic economy. It buys exports produced by the domestic economy and produces imports purchased by the domestic economy, which are commonly combined into net exports (exports minus imports). The inclusion of fourth sector, i.e., foreign sector or transaction with '*rest of the world*' makes the national income accounting more purposeful and realistic. With the inclusion of this sector, the economy becomes an open economy. The transaction with '*rest of the world*' involves import and export of goods and services, and new foreign investment. It is illustrated in the following figure.

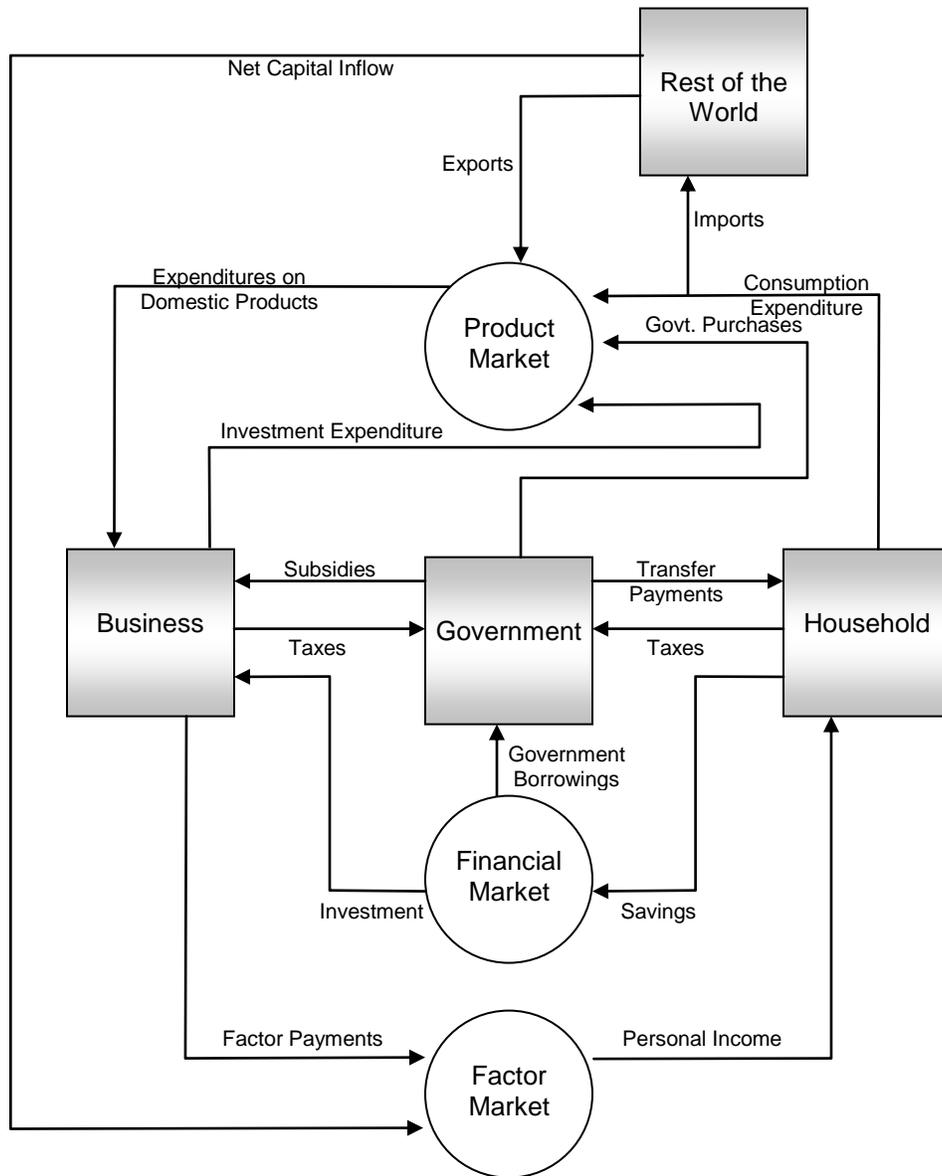


Figure 4 – Circular Flow of Income in a Four-Sector Economy

In four-sector economy, goods and services available for the economy's purchase include those that are produced domestically (Y) and those that are imported (M). Thus, goods and services available for domestic purchase is Y+M. Expenditure for the entire economy include domestic expenditure (C+I+G) and foreign made goods (Export) = X. Thus:

$$Y + M = C + I + G + X$$

$$Y = C + I + G + (X - M)$$

Where, C = Consumption expenditure
 I = Investment spending
 G = Government spending

$$\begin{aligned}
X &= \text{Total Exports} \\
M &= \text{Total Imports} \\
X - M &= \text{Net Exports}
\end{aligned}$$

Economy Leakages and Injections:

Leakages: When households engage in savings and purchase of goods and services from abroad, we experience temporary withdrawal of funds from circulation. Therefore, leakages in the circular flow are savings, taxes and imports

Injection: On the other hand, when we sell abroad (export) we receive income. More so when foreigners invest in our country the level of income will also increase. These two activities are injection into the income stream. Therefore, injections are investment, government spending and exports.

$$\begin{aligned}
\text{Total Leakages} &= \text{Total Injections} \\
C + I + G + (X-M) &= C + S + \text{Net Taxes} \\
S + \text{Net Taxes} + \text{Imports} &= I + G + \text{Exports} \\
S &= I + (G - \text{NT}) + (X - M)
\end{aligned}$$

One way of thinking about the circular flow of income is to imagine a water tank. Investment, government spending and spending by foreigners is injected into the tank, and savings, taxes and spending on imports leak out. The injections and the withdrawals are equal to each other so the level in the tank is stable, or as economists like to say in equilibrium.

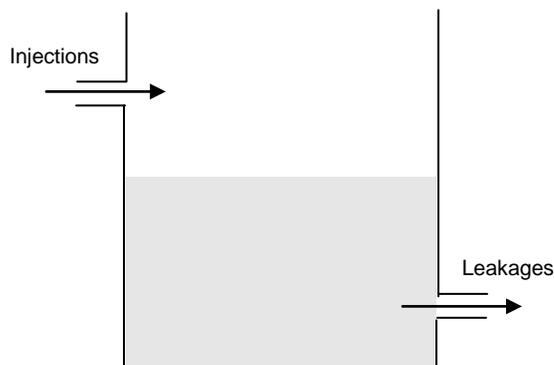


Figure 5 – Injections and Leakages

If injections are greater than withdrawals or leakages then the level in the tank will rise. If withdrawals are greater than injections then the level in the tank falls. If planned $(I+G)$ is equal to planned $(S+T)$, so that injections is equal to leakages and total spending is equal to total income and total demand is equal to total supply. Then we have a ‘stable economy’. If leakages are higher than injections i.e., planned savings plus taxes are greater than planned investment plus government spending $(S+T > I+G)$, economy contracts resulting in inventory accumulation, too little spending and drop in prices. If injections are higher than leakages, i.e., planned investment plus government spending

are greater than planned saving plus taxes ($I+G > S+T$), economy expands resulting in more goods and services produced, and higher prices.