Subject – Macroeconomics

Notes Unit 2 Part B

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The Circular Flow of Income: Meaning, Sectors and Importance –

1. Meaning:

The circular flow of income and expenditure refers to the process whereby the national income and expenditure of an economy flow in a circular manner continuously through time.

The various components of national income and expenditure such as saving, investment, taxation, government expenditure, exports, imports, etc. are shown on diagrams in the form of currents and cross-currents in such a manner that national income equals national expenditure.

1. Circular Flow in a Two Sector Economy:

We begin with a simple hypothetical economy where there are only two sectors, the household and business. The household sector owns all the factors of production, that is, land, labour and capital. This sector receives income by selling the services of these factors to the business sector.

The business sector consists of producers who produce products and sell them to the household sector or consumers. Thus the household sector buys the output of products of the business sector. The circular flow of income and expenditure in such an economy is shown in Figure 1 where the product market is shown in the upper portion and the factor market in the lower portion.

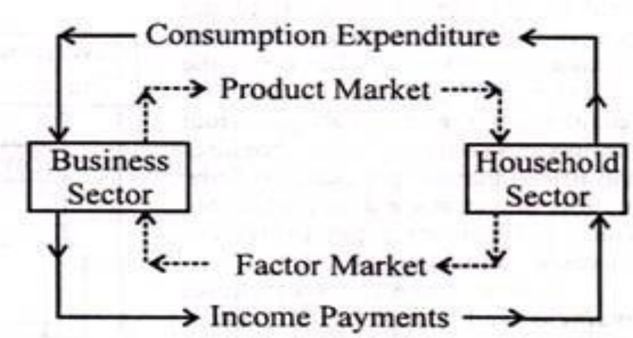

Fig. 1.

In the product market, the household sector purchases goods and services from the business sector while in the factor market the household sector receives income from the former for providing services. Thus the household sector purchases all goods and services provided by the business sector and makes payments to the latter in lieu of these.

The business sector, in turn, makes payments to the households for the services rendered by the latter to the business-wage payments for labour services, profit for capital supplied, etc. Thus payments go around in a circular manner from the business sector to the household sector and from the household sector to the business sector, as shown by arrows in the output portion of the figure.

There are also flows of goods and services in the opposite direction to the money payments flows. Goods flow from the business sector to the household sector in the product market, and services flow from the household sector to the business sector in the factor market, as shown in the inner portion of the figure. These two flows give GNP=GNI.

1. Circular Flow with Saving and Investment Added:

The actual economy is not as explained above. In an economy, "inflows" and "leakages" occur in the expenditure and income flows. Such leakages are saving, and inflows or injections are investment which equals each other.

Figure 2 shows how the circular flow of income and expenditure is altered by the inclusion of saving and investment.

Expenditure has now two alternative paths from household and product markets:

(i) Directly via consumption expenditure, and

(ii) indirectly via investment expenditure.

In Figure 2 there is a capital or credit market in between saving and investment flows from households to business firms. The capital market refers to a number of financial institutions such as commercial banks, savings banks, loan institutions, the stock and bond markets, etc. The capital market coordinates the saving and investment activities of the households and the business firms. The households supply saving to the capital market and the firms, in turn, obtain investment funds from the capital market.

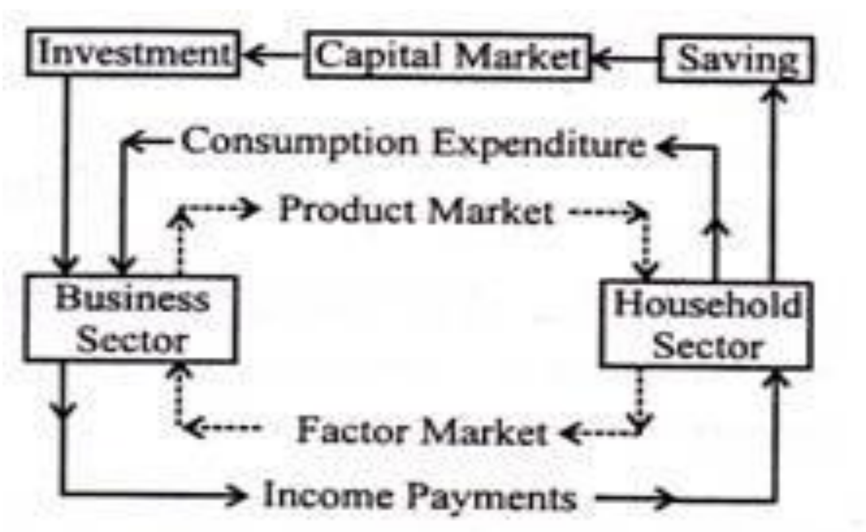

Fig. 2.

3. Circular Flow in a Three- Sector Closed Economy:

So far we have been working on the circular flow of a two-sector model of an economy. To this we add the government sector so as to make it a three-sector closed model of circular flow of income and expenditure. For this, we add taxation and government purchases (or expenditure) in our presentation. Taxation is a leakage from the circular flow and government purchases are injections into the circular flow.

First, take the circular flow between the household sector and the government sector. Taxes in the form of personal income tax and commodity taxes paid by the household sector are outflows or leakages from the circular flow.

But the government purchases the services of the households, makes transfer payments in the form of old age pensions, unemployment relief, sickness benefit, etc., and also spends on them to provide certain social services like education, health, housing, water, parks and other facilities. All such expenditures by the government are injections into the circular flow.

Next take the circular flow between the business sector and the government sector. All types of taxes paid by the business sector to the government are leakages from the circular flow. On the other hand, the government purchases all its requirements of goods of all types from the business sector, gives subsidies and makes transfer payments to firms in order to encourage their production. These government expenditures are injections into the circular flow.

Now we take the household, business and government sectors together to show their inflows and outflows in the circular flow. As already noted, taxation is a leakage from the circular flow. It tends to reduce consumption and saving of the household sector. Reduced consumption, in turn, reduces the sales and incomes of the firms. On the other hand, taxes on business firms tend to reduce their investment and production.

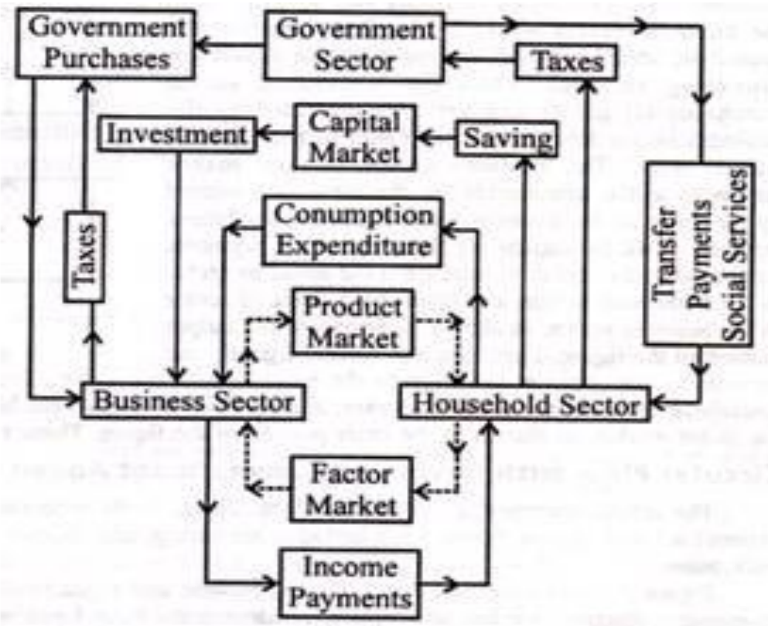

Fig. 3.

The government offsets these leakages by making purchases from the business sector and buying services of the household sector equal to the amount of taxes. Thus total sales again equal production of firms. In this way, the circular flows of income and expenditure remain in equilibrium.

Figure 3 shows that taxes flow out of the household and business sectors and go to the government. Now the government makes investment and for these purchases goods from firms and also factors of production from households. Thus government purchases of goods and services are an injection in the circular flow of income and taxes are leakages.

If government purchases exceed net taxes, then the government will incur a deficit equal to the difference between the two, i.e., government expenditure and taxes. The government finances its deficit by borrowing from the capital market which receives funds from households in the form of saving.

On the other hand, if net taxes exceed government purchases the government will have a budget surplus. In this case, the government reduces the public debt and supplies funds to the capital market which are received by firms.

3. Adding Foreign Sector: Circular Flow in a Four-sector Open Economy:

So far, the circular flow of income and expenditure has been shown in the case of a closed economy. But the actual economy is an open one where foreign trade plays an important role. Exports are an injection or inflows into the economy.

They create incomes for the domestic firms. When foreigners buy goods and services produced by domestic firms, they are exports in the circular flow of income. On the other hand, imports are leakages from the circular flow. They are expenditures incurred by the household sector to purchase goods from foreign countries. These exports and imports in the circular flow are shown in Figure 4.

Take the inflows and outflows of the household, business and government sectors in relation to the foreign sector. The household sector buys goods imported from abroad and makes payment for them which is a leakage from the circular flow. The households may receive transfer payments from the foreign sector for the services rendered by them in foreign countries.

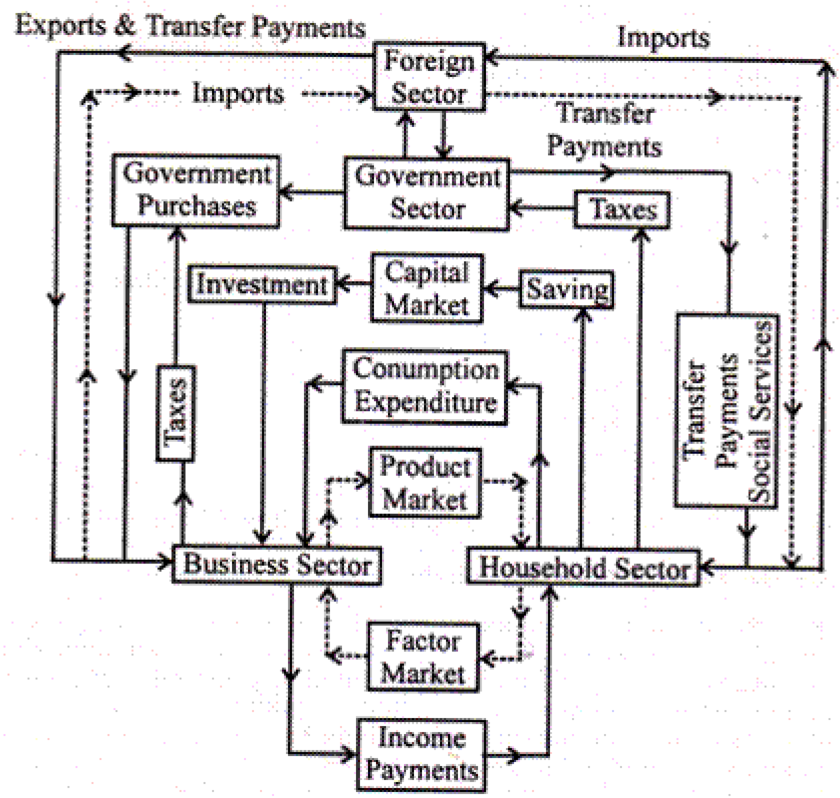

Fig. 4.

On the other hand, the business sector exports goods to foreign countries and its receipts are an injection in the circular flow. Similarly, there are many services rendered by business firms to foreign countries such as shipping, insurance, banking, etc. for which they receive payments from abroad.

They also receive royalties, interests, dividends, profits, etc. for investments made in foreign countries. On the other hand, the business sector makes payments to the foreign sector for imports of capital goods, machinery, raw materials, consumer goods, and services from abroad. These are the leakages from the circular flow.

Like the business sector, modern governments also export and import goods and services, and lend to and borrow from foreign countries. For all exports of goods, the government receives payments from abroad.

Similarly, the government receives payments from foreigners when they visit the country as tourists and for receiving education, etc. and also when the government provides shipping, insurance and banking services to foreigners through the state-owned agencies.

It also receives royalties, interest, dividends etc. for investments made abroad. These are injections into the circular flow. On other hand, the leakages are payments made for the purchase of goods and services to foreigners.

Figure 4 shows the circular flow of the four-sector open economy with saving, taxes and imports shown as leakages from the circular flow on the right-hand side of the figure, and investment, government purchases and exports as injections into the circular flow on the left side of the figure.

Further, imports, exports and transfer payments have been shown to arise from the three domestic sectors—the household, the business and the government. These outflows and inflows pass through the foreign sector which is also called the "Balance of Payments Sector."

If exports exceed imports, the economy has a surplus in the balance of payments. And if imports exceed exports, it has a deficit in the balance of payments. But in the long run, exports of an economy must balance its imports. This is achieved by the foreign trade policies adopted by the economy.

The whole analysis can be shown in simple equations:

$Y = C + I + G$ … (1)

Where Y represents the production of goods and services, C for consumption expenditure, I investment level in the economy and G for government expenditure respectively.

Now we introduce taxation in the model to equate the government expenditure.

Therefore, $Y = C + S + T$ … (2)

Where S is saving T is taxation.

By equating (1) and (2), we get

$C + I + G = C + S + T$

$I + G = S + T$

With the introduction of the foreign sector, we divide investment into domestic investment (Id) and foreign investment (I_f) and get

$I_d + I_F + G = S + T$

But $I_f = X – M$

Where X is exports and M is imports

$I_d + (X – M) + G = S + T$

$l_d + (X – M) = S + (T – G)$

The equation shows the equilibrium condition in the circular flow of income and expenditure.

Importance of the Circular Flow:

The concept of the circular flow gives a clear-cut picture of the economy. We can know whether the economy is working efficiently or whether there is any disturbance in its smooth functioning. As such, the circular flow is of immense significance for studying the functioning of the economy and for helping the government in formulating policy measures.

1. Study of Problems of Disequilibrium:

It is with the help of circular flow that the problems of disequilibrium and the restoration of equilibrium can be studied.

2. Effects of Leakages and Inflows:

The role of leakages enables us to study their effects on the national economy. For example, imports are a leakage out of the circular flow of income because they are payments made to a foreign country. To stop this leakage, government should adopt appropriate measures so as to increase exports and decrease imports.

3. Link between Producers and Consumers:

The circular flow establishes a link between producers and consumers. It is through income that producers buy the services of the factors of production with which the latter, in turn, purchase goods from the producers.

4. Creates a Network of Markets:

As a corollary to the above point, the linking of producers and consumers through the circular flow of income and expenditure has created a network of markets for different goods and services where problems relating to their sale and purchase are automatically solved.

5. Inflationary and Deflationary Tendencies:

Leakages or injections in the circular flow disturb the smooth functioning of the economy. For example, saving is a leakage out of the expenditure stream. If saving increases, this depresses the circular flow of income. This tends to reduce employment, income and prices, thereby leading to a deflationary process in the economy. On the other hand, consumption tends to increase employment, income, output and prices that lead to inflationary tendencies.

6. Basis of the Multiplier:

Again, if leakages exceed injections in the circular flow, the total income becomes less than the total output. This leads to a cumulative decline in employment, income, output, and prices over time. On the other hand, if injections into the circular flow exceed leakages, the income is increased in the economy. This leads to a cumulative rise in employment, income, output, and prices over a period of time. In fact, the basis of the Keynesian multiplier is the cumulative movements in the circular flow of income.

7. Importance of Monetary Policy:

The study of circular flow also highlights the importance of monetary policy to bring about the equality of saving and investment in the economy. Figure 2 shows that the equality between saving and investment comes about through the credit or capital market.

The credit market itself is controlled by the government through monetary policy. When saving exceeds investment or investment exceeds saving, money and credit policies help to stimulate or retard investment spending. This is how a fall or rise in prices is also controlled.

8. Importance of Fiscal Policy:

The circular flow of income and expenditure points toward the importance of fiscal policy. For national income to be in equilibrium desired saving plus taxes (S+T) must equal desired investment plus government spending (I + G). S+ T represents leakages from the spending stream which must be offset by injections of I + G into the income stream. If S + T exceed I + G, government should adopt such fiscal measures as reduction in taxes and spending more itself. On the contrary.

If I + G exceed S+T, the government should adjust its revenue and expenditure by encouraging saving and tax revenue. Thus, the circular flow of income and expenditure tells us about the importance of compensatory fiscal policy.

9. Importance of Trade Policies:

Similarly, imports are leakages in the circular flow of money because they are payments made to a foreign country. To stop it, the government adopts such measures as to increase exports and decrease imports. Thus the circular flow points toward the importance of adopting export promotion and import control policies.

10. Basis of Flow of Funds Accounts:

The circular flow helps in calculating national income on the basis of the flow of funds accounts. The flow of funds accounts is concerned with all transactions in the economy that are accomplished by money transfers.

They show the financial transactions among different sectors of the economy, and the link between saving and investment, and lending and borrowing by them. To conclude, the circular flow of income possesses much theoretical and practical significance in an economy.

Inflation –

Inflation reduces the purchasing power of each unit of currency, which leads to an increase in the prices of goods and services over time. It's an economics term that means you have to spend more to fill your gas tank, buy a gallon of milk, or get a haircut. It increases your cost of living.

The Inflation Rate -

The inflation rate is the percentage increase or decrease in prices during a specified period, usually a month or a year. The percentage tells you how quickly prices rose during that period. Gas prices will be 2% higher next year if the inflation rate for a gallon of gas is 2% per year. That means a gallon of gas that costs $2.00 this year will cost $2.04 next year.

The inflation rate is a critical component of the misery index, which is an economic indicator that helps to determine an average citizen's financial health. The other component is the unemployment rate. People are either suffering from a recession, struggling with inflation, or both when the misery index is higher than 7%.

Inflation measurement in India -

There are two main set of inflation indices for measuring price level changes in India – the Wholesale Price Index (WPI) and the Consumer Price Index (CPI). The WPI, where prices are quoted from wholesalers, is constructed by Office of Economic Affairs, Ministry of Commerce and Industries. In the case of CPI (prices quoted from retailers), there are several indices to measure it: CPI for industrial labourers (CPI-IL), agricultural labourers (CPI-AL) and rural labourers (CPI-RL) besides an all India CPI.

In addition, Gross Domestic Product (GDP) deflator and Private Final Consumption Expenditure (PFCE) deflator from the National Accounts Statistics (NAS) provide an implicit economy-wide inflation estimate.

1. **Consumer Price Index**

Two Ministries – Ministry of Statistics and Programme Implementation (MOSPI) and Ministry of Labour and Employment (MOLE) are engaged in the construction of different CPIs for different groups/sectors. CPI inflation is also called as retail inflation as the prices are quoted from retailers. Following are the various CPIs.

(a) CPI for all India or CPI combined.

(b) CPI for Agricultural Labourers (AL)

(c) CPI for Rural Labourers (RL); and

(d) CPI for Industrial Workers (IW)

(i) CPI by MOSPI (CSO)

The CSO, which comes under MOSPI, is constructing the rural, urban and the combined CPIs. They are published from 2011 onwards. Of these, the CPI combined is the most important of all the CPIs as it is relevant for all categories of people.

In April 2014, the RBI has selected the all India CPI (of CSO) as the inflation index to target inflation under its new inflation targeting monetary policy framework. RBI’s decision has made the CPI as the prime inflation index.

(ii) CPIs by MOLE (Labour Bureau)

The Labour Bureau, Ministry of Labour and Employment (MOLE) is preparing different indices for various categories of people. These were CPI for Rural Laborares

(CPI-RL), CPI for Agricultural Laborares (CPI-AL) and CPI for Industrial Workers (CPI-IW). There was a CPI For Urban Non-Manual Employees (CPI-UME), but it was discontinued from April 2010.

Since these CPIs were for specific categories of workers, it lacked the quality of an all India index.

On the other hand, the first three indices are for specific occupational categories. The CPI compiled and released at national level by MOLE reflect fluctuations in retail prices relating to specific segments of population in the country like industrial Workers (CPI-IW), agricultural laborers (CPI-AL) and rural labourers (CPI-RL).

2. The Wholesale Price Index (WPI)

The WPI is published by the Office of Economic Adviser, Ministry of Commerce and Industry. It is in use since 1942 and is being published from 1947 regularly. It has a long history for serving as the nationwide inflation indicator till the emergence of the combined CPI in 2011. An important feature of the WPI which separate it from the CPI is that prices are collected from wholesalers.

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