**Circular Flow of Income**

**B.A. 2nd Sem (Honours)**

**This chapter is to understand:**

1. How households and firms are linked by incomes and expenditures.

2. How income is related to money.

3. How the concepts of supply and demand can be applied to the economy as a whole.

4. How the various sectors of the economy—households, firms, government, and financial markets—fit

together.

5. How the an economy is linked to the rest of the world.

**CIRCULAR FLOW IN A SIMPLE ECONOMY**

The model around which this chapter is built is the **circular flow of income and product**—that is, the flow of goods and services between households and firms, balanced by the flow of payments made in exchange for them.

To see the circular flow in its simplest form, we will begin with an economy in which there is no government, no financial markets, and no imports or exports. To make things even simpler, imagine that the households in this economy live entirely from hand to mouth, spending all their income on consumer goods as soon as they receive it, and that the firms sell all their output directly to consumers as soon as they produce it.

**The Basic Circular Flow**

Figure 5.1 shows the circular flow of income and product for this ultra simple economy. Real

goods and services are shown flowing in a clockwise direction. Two sets of markets link

households and firms. *Product markets,* which appear at the top of the diagram, are those in

which households buy the goods and services that firms produce. *Factor markets,* which appear

at the bottom, are those in which firms obtain the factors of production they need—labor

services, capital, and natural resources—from households.

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**Figure 5.1 The Basic Circular Flow**

In this simple economy, households spend all their income on consumer goods as soon as they receive it and firms

sell all their output to households as soon as they produce it. Goods and services flow clockwise, and the

corresponding payments flow counterclockwise.

The clockwise flows of goods and services through these markets are balanced by counterclockwise flows of payments. Households make payments for the things they buy in product markets. Firms make *factor payments*—wages, interest payments, rents, royalties, and so

on—in exchange for the labor services and other resources they buy.

By convention, when firms use factors of production that they themselves own, they are counted as “buying” them from the households that are the proprietors, partners, or stockholders who own the firms. All production costs therefore can be viewed as payments for factors of production purchased from households. If a firm has something left over after meeting all its costs, it earns a profit. Profits too are counted as flowing directly to the households that own the

firms, even though a firm may retain some profit to increase its owners’ equity rather than paying it out as dividends. For the purposes of the circular flow, then, profit is lumped together

with factor payments.

**Stocks and Flows**

We refer to all the amounts shown as arrows in Figure 5. 1 as **flows** because they are continuously occurring processes. Flows are measured in units per time period—rupees per year,

litres per minute, or tons per month. Measurements of flows are measurements of rates at

which things are happening whereas **Stocks** are quantities that exist at a given point in time. Stocks are measured in terms of rupees, gallons, tons, and so on at a given point in time.

***Domestic Income and Product***

Look again at Figure 5.1. Two of the flows shown there deserve special attention. The first is

labeled “domestic product.” **Domestic product** is the total value of all goods and services

produced annually in a given country. Expenditures on domestic product constitute the money

flow to firms that balances the flow of products from firms to product markets; an example would be the payments for clothing that manufacturers receive in return for the shirts and blouses

that consumers acquire. The second important flow is labeled “domestic income.” **Domestic income** is the total income of all types, including wages, rents, interest payments, and profits,received in return for supplying the factors of production used in producing domestic product.

Domestic income and domestic product are, by definition, equal in this simple economy.

This can be verified in two ways.

**First,** consider household expenditures as a link between domestic income and domestic product. Households are assumed to spend all their income on consumer goods as soon as they receive it, and firms are assumed to sell all their output directly to households. The payments

made by buyers must equal the payments received by sellers; thus, viewed from this side of the

circular flow, domestic product must equal domestic income.

**Second,** consider payments for labor and other factors as a link between domestic income and domestic product. When firms receive money for the goods and services they sell, they use part of it to pay workers, owners of natural resources, and suppliers of capital. Anything left over is profit. Thus, factor payments, including profits, account for all the money earned by households, and total factor payments are equal to domestic income. From this it follows that domestic income and domestic product are equal when viewed from this side of the circular flow, too.

***Saving, Investment, and Financial Markets***

The circular flow shown in Figure 5.1 is only a first step in laying out the linkages between

households and firms. The next step is to add a second set of linkages that involve saving,

investment, and financial markets. These linkages are shown in Figure 5.2. To simplify this and

the following circular flow diagrams, the clockwise flows of goods and services are omitted.

SAVING 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**. (There are no taxes in this economy yet, but they will soon be added.)

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**Figure 5.2: Circular Flow with Saving and 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. The clockwise flows of goods and services have been omitted from this

diagram; only flows of funds are shown.

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.

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 MARKETS 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 center of the circular-flow diagram in Figure 5.2.

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.

**AGGREGATE SUPPLY AND DEMAND**

Adding saving and investment to the circular flow raises a new issue. There are now two

pathways along which funds flow from households to product markets: a direct path, through

consumption expenditures, and an indirect path, through saving and financial markets to investment expenditures.

First, we define **aggregate supply** as the value of all goods and services produced in the economy. We already have another term for the same thing: *domestic product.* Next, we define

**aggregate demand** as the value of all the purchases of newly produced goods and services that

buyers plan to make. Thus, we can compare aggregate supply and aggregate demand to see whether, for the economy as a whole, buyers’ plans match with sellers’ plans in the same way that we compare supply and demand in the case of a single market.

**ADDING GOVERNMENT TO THE CIRCULAR FLOW**

The next step in our analysis of the circular flow is to add the public sector. Government is linked to the rest of the economy through taxes, expenditures, and government borrowing. These three links are added to the circular flow in Figure 5.4.

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**Figure 5.4: Circular Flow with Government Included**

This circular-flow diagram shows three links between government and the rest of the economy. The first is net taxes

(taxes minus transfer payments), which flow from households to government. The second is government purchases,

which flow from government to product markets. If government purchases exceed net taxes (a budget deficit), the

government must borrow from financial markets.

First, consider taxes. For purposes of macroeconomic theory, we need to measure the flow of

funds withdrawn from the household sector by government. Clearly, taxes—including income,

payroll, and property taxes—are withdrawals. However, this flow of funds from the household

sector is partly offset by a flow of funds returned to households in the form of transfer payments,

such as social security benefits and unemployment compensation. Therefore, to get a proper

measure of the net flow of funds from households to government, we must subtract transfer

payments from total taxes. The difference between taxes and transfers is called **net taxes** and is

indicated in Figure 5.4 by the arrow linking households and government.

Next, consider the link between government and product markets. We have already accounted for transfers in calculating net taxes. The remainder of government spending consists of purchases of goods and services, including those bought from private firms and the wages and

salaries of government employees. For purposes of the circular flow, government employees’

wages and salaries are treated as if they passed through product markets on their way to households.

Finally, consider the link between government and financial markets. Governments do not

always balance their budgets. The public sector as a whole, taking federal, state, and local

governments together, tends to spend more than it takes in as taxes.

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. In Figure 5.4 the arrow from financial markets to government represents

government borrowing.

**Leakages and Injections (very important)**

Take a moment to compare the circular flow shown in Figure 5.4 with the simpler version shown

in Figure 5.1. In Figure 5.1, all of domestic income flows directly from households to product

markets in the form of consumption spending. Nothing is withdrawn from the stream of income

and consumption spending, and nothing is added to it. In Figure 5.4, however, additional flows

have been added.

**First**, there are two uses for income that do not result directly in purchases of goods and

services. These are net taxes, which flow to government rather than to product markets, and

saving, which flows to financial markets rather than to product markets. These two uses of funds

are termed **leakages** from the circular flow. Because saving is defined as whatever income is left

over after households buy goods and services and pay net taxes, consumption plus the two leakages always add up to domestic income.

**Second**, there are two kinds of expenditures, namely investment and government purchases,

that do not come directly from households. These are termed **injections** into the circular flow.

Because investment includes unplanned inventory investment, total realized expenditures—

consumption plus injections—always equal domestic income.

**ADDING THE FOREIGN SECTOR TO THE CIRCULAR FLOW**

Up to this point we have developed the circular-flow model only for a **closed economy**—that is, one that has no links to the rest of the world. Indian economy is not closed to the rest of the world, however; it is an **open economy**

Figure 5.6 shows that the foreign sector, like the government, is linked to the rest of the

economy in three ways. Imports of goods and services provide the first link. Recall that all the

components of the circular flow represents flows of money payments, not flows of goods.

Payments for imports are shown by an arrow leading away from the economy to the rest of the

world. Households, firms, and government all buy some imported goods and services.

Exports provide the second link between the domestic economy and the rest of the world.

Funds received in payment for goods and services sold abroad flow into product markets, where

they join funds received from sales of goods and services to domestic households, government,

and firms. Receipts from the sale of exports are shown as an arrow leading into product markets.

The value of exports minus the value of imports is referred to as **net exports**. If the value of

imports exceeds that of exports, we can say that there are ***negative net exports***or, more simply,

***net imports.***

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**Figure 5.6: Circular Flow with the Foreign Sector Included**

This circular-flow diagram shows three links between the domestic economy and the rest of the world. Imports are the

first link. Payments for imports are shown as an arrow from households to foreign economies. Exports are the second

link. Payments by foreign buyers of exports are shown as an arrow leading to domestic product markets. If too few

goods and services are exported to pay for all the imports, the remaining imports must be paid for by borrowing from

foreign sources or by selling real or financial assets to foreign buyers. Such transactions, known as net capital

inflows, are shown as a flow into domestic financial markets. Exports might also exceed imports, in which case the

arrow would be reversed to show *net capital outflows.*

The third link between the domestic economy and the rest of the world consists of international financial transactions. These include international borrowing and lending and international purchases and sales of assets. Like imports and exports of goods and services,

international financial transactions give rise to flows of rupee payments into or out of the

economy.

**SUMMARY**

1. **How are households and firms linked by incomes and expenditures?** The *circular flow of*

*income and product* is the flow of goods and services between households and firms, balanced by the flow of payments made in exchange for goods and services. In the simplest case, households spend all their money on consumer goods produced by firms and firms use all the proceeds of their sales to pay wages, rent, interest, and profits to households. *Domestic* *product* is the value of all goods and services produced in the economy.

*Domestic income is* the total income earned by households, including wages, rents, interest payments, and profits. The two are always equal.

2. **How is income related to money?** In economics, the term *flow* refers to any process that

occurs continuously through time, while a *stock* is the total amount of something that exists

at a given point in time. The distinction between stocks and flows is useful for understanding

the role of money. The *stock* of money consists of the coins, paper currency, and bank account balances used for transactions and saving. As money is spent it moves through the economy, creating various *flows,* such as income, saving, investment, and government

purchases.

3. **How can the concepts of supply and demand be applied to the economy as a whole?**

*Aggregate supply* is the value of all goods and services produced in the economy; it means

the same thing as domestic product. *Aggregate demand* is the value of all planned expenditures in the economy. The circular flow is said to be in equilibrium when aggregate supply and aggregate demand are equal. Firms will tend to react by increasing output, raising prices, or some of both. The circular flow will then expand. If aggregate supply exceeds aggregate demand, there will be unplanned increases in inventories. Firms’ reactions will cause the circular flow to shrink.

4. **How do the various sectors of the economy—households, firms, government, and**

**financial markets—fit together?** Firms are linked to households through product markets

(expenditures on domestic product) and factor markets (domestic income). Both are linked to

*financial markets,* through which household saving flows to firms, which use the funds to

make investments. The government sector is connected to the circular flow in three ways.

First, households pay *net taxes* (taxes minus transfer payments) to the government. Second,

the government buys goods and services in product markets. Third, the government borrows

from financial markets to finance a deficit, or supplies funds to financial markets when it

runs a surplus.

5. **How is the economy linked to the rest of the world?** The foreign sector, like the government sector, is connected to the circular flow in three ways: First, households pay foreign sellers for imported goods. Second, foreign buyers make payments to domestic firms for exported goods. Third, the foreign sector supplies funds to our financial markets

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