**Unit-1:Topic covered :** Nature and Scope of Macroeconomics, Circular Flow of Income, National Income- Alternative Concepts a Measures; Macroeconomics Equilibrium Aggregate Demand and Aggregate Supply; Analysis of Business Cycles: Kaldor and Goodwin’s Models of Business Cycles, Causes of Boom and Recession

**Introduction:** In it economic problems are studied on aggregate level like national income, national savings, aggregate (total) demand, aggregate supply, etc. it is also called **theory of income and employment.** It also helps the central problems of full employment resources in economy. it is concerned with determination of equilibrium of level of income and employment. Income is the major determinant of macroeconomic problems.

**Example :-** National income, national saving, general price level, aggregate demand, poverty, unemployment, agg. investment .

**Meaning** :- The term **‘macro’** in English language has its origin from Greek language from ‘makros’ which means ‘large’. Macroeconomic studies economic problems from the point of view of whole economy.

**Ex.** Aggregate consumption, aggregate income

**Definition** According to Shapiro, “macro economic deals with the functioning of economy as a whole.”

Features of macro economic

1. Study of aagregate
2. Lumping method
3. Useful for govt. policy
4. Income theory
5. Employment theory
6. Overall view of economy
7. General equilibrium analysis

**Nature of macro economics**

* Economic as a science or art.
* Positive or normative.
* Economic is both science & art.

Science :- it is a science because it shows cause and effect relationship. It has laws such as law of demand, law of diminishing utility which shows functional relationship between 2 variables. Also it is the branch of science which collect, classify and analyze the related factor of economy.

Example :-when income increases , there is an increase in demand(income and demand are 2 variables. Direct relationship or positive relationship exists between both.

**Nature of macroeconomics:**

Macroeconomics is basically known as theory of income. It is concerned with the problems of economic fluctuations, unemployment, inflation or deflation and economic growth. It deals with the aggregates of all quantities not with individual price levels or outputs but with national output.

Macroeconomics concerns itself with such variables −

* Aggregate volume of the output of an economy
* Extent to which resources are employed
* Size of the national income
* General price level

**Scope of economics**

1. **Theory of employment:** It studies the theory of employment and unemployment.

**Ex**. Keynesian theory of employment 1. Causes of unemployment

2.Possible remedies to combat it.

1. **Theory of money:** it studies creation of money (creation of credit) by commercial bank.

Role of regulating money supply-CRR, SLR

1. **Theory of general price level-** changes in general price level are also studied under macroeconomics. Problem of inflation (general rise in price level), problem of deflation (general fall in price level) are also studied.
2. **Role of govt.**:- it studies how govt. budget impacts the level of economic activity.
3. **Exchange rate & balance of payment:-** it studies the determination of exchange rate.

Example:1$= rs.69 & how it is managed.

**Importance of Macroeconomics**

The importance of macroeconomics can be summarized according to the following points:

1. Macroeconomics helps us understand the work of a complex modern economic system. It describes how the economy performs as a whole, and how the level of national income and employment is determined on the basis of aggregate demand and aggregate supply.
2. Macroeconomics helps to achieve the goal of economic growth, a high level of GDP, and a high level of employment. It analyzes the forces that determine the economic growth of the country and explains how to reach and maintain the highest state of economic growth.
3. Macroeconomics helps to stabilize the price level and analyze fluctuations in business activities. It proposes policy measures to control inflation and deflation.
4. Macroeconomics explains the factors that determine the balance of payments. At the same time, it identifies the causes of the balance of payments deficit and proposes remedial measures and solutions.
5. Macroeconomics helps to solve economic problems such as poverty, unemployment, inflation, deflation, etc., which can only be solved at the macro level.
6. The macroeconomic study is of paramount importance in obtaining an idea of ​​the functioning of the economic system. It is very important to have accurate knowledge of the behavioral pattern in the overall variables since the description of the large and complex economic system is impossible in terms of many individual elements.

**Macroeconomic analysis**is necessary for the correct understanding of the microeconomy. With detailed knowledge of macroeconomic action, it is possible to formulate sound economic policies as well as coordinate international economic policies.

**Limitation of macro economics:**

1. **Fallacy of Composition:**In Macro economic analysis the “fallacy of composition” is involved, i.e. aggregate economic behaviour is the sum total of the economy of individual activities. But what is true of individuals is not necessarily true to the fiscal entirely. For instance, savings are a private virtue but a public vice. If total savings in the economy increases, they may initiate a depression unless they are invested. Again, if an individual depositor withdraws his money from the bank, there is no risk. But if all depositors simultaneously do this, there will be a run on the banks and the banking system will be affected adversely.
2. **To Regard the Aggregates as Homogenous**:The main defect in macro analysis is that it regards the aggregates as homogenous without caring about their internal composition and structure. The average wage in a nation is the sum total of wages in all professions, i.e. wages of clerks, typists, teachers, nurses etc. But the volume of aggregate employment depends on the relative structure of wages rather than on the average wage. If, for instance, wages of nurses increase but of typist rises much aggregate employment would increase.
3. **Aggregate Variables may not be Important Necessarily:**The aggregate variables which form the economic system may not be of much significance. For instance, the national income of a country is the total of all individual income. A hike in national income does not mean that individual incomes have risen. The increase in national income might be the result of the increase in the incomes of a few rich people in the nation. Thus a rise in the national income of this type has little significance from the point of view of the community.
4. **Indiscriminate Use of Macro Economics Misleading**:An indiscriminate and uncritical use of macro economics in analysing the complexities of the real world can frequently be misleading. For instance, if the policy measures needed to achieve and maintain full employment in the economy are applied to structural redundancy in individual firms and industries, they become irrelevant. Likewise, measures aimed at controlling general prices cannot be applied with much advantage for controlling prices of individual products.
5. **Statistical and Conceptual Difficulties**:The measurement of macro economics concepts involves a number of statistical and conceptual complexities. These problems relate to the aggregation of micro economic variables. If individual units are almost similar, aggregation does not present much difficulty. But if micro economic variables relate to dissimilar individual units, their aggregation into one aggregation into one macro economic variable may be incorrect and hazardous.

**Conclusion**

            We may conclude that macro economics enriches our knowledge of the functioning of an economy by studying the behaviour of national income, productivity, investment, savings and consumption. Further more, it throws much light in solving the problems of redundancy, inflation, economic instability and economic growth. The concept of stock and flow are mainly used in the macro economics or in the theory of income, productivity and employment. Lastly, both the concepts of stock ad flow variables are very significant in modern theories of income, interest rate, business cycles etc.

|  |  |  |
| --- | --- | --- |
| **BASIS FOR COMPARISON** | **MICROECONOMICS** | **MACROECONOMICS** |
| 1. **Meaning** | The branch of economics that studies the behavior of an individual consumer, firm, family is known as Microeconomics. | The branch of economics that studies the behavior of the whole economy, (both national and international) is known as Macroeconomics. |
| 1. **Deals with** | Individual economic variables | Aggregate economic variables |
| 1. **Business Application** | Applied to operational or internal issues | Environment and external issues |
| 1. **Tools** | Demand and Supply | Aggregate Demand and Aggregate Supply |
| 1. **Assumption** | It assumes that all macro-economic variables are constant. | It assumes that all micro-economic variables are constant. |
| 1. **Concerned with** | Theory of Product Pricing, Theory of Factor Pricing, Theory of Economic Welfare. | Theory of National Income, Aggregate Consumption, Theory of General Price Level, Economic Growth. |
| 1. **Scope** | Covers various issues like demand, supply, product pricing, factor pricing, production, consumption, economic welfare, etc. | Covers various issues like, national income, general price level, distribution, employment, money etc. |
| 1. **Importance** | Helpful in determining the prices of a product along with the prices of factors of production (land, labor, capital, entrepreneur etc.) within the economy. | Maintains stability in the general price level and resolves the major problems of the economy like inflation, deflation, reflation, unemployment and poverty as a whole. |
| 1. **Limitations** | It is based on unrealistic assumptions, i.e. In microeconomics it is assumed that there is a full employment in the society which is not at all possible. | It has been analyzed that 'Fallacy of Composition' involves, which sometimes doesn't proves true because it is possible that what is true for aggregate may not be true for individuals too. |

**Circular flow of income**

**Meaning :** The circular flow income is called so because the movement of income and expenditure continues throughout the economy and repeats itself, forming the circular flow of income.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.

# REAL FLOWS AND NOMINAL (money) FLOWS

**Real flows** refer to the flow of real things such as goods and services or the factors of production, while **nominal flows** refer to the flow of money in the form of money income (wages and salaries, interest, rent and profits) and spending on goods and services.

In the factor market, the [real flow](https://econdev.co.za/lesson/circular-flow-model/real-flows-and-nominal-flows/#graph6) is the flow of the factors of production – the quantity of labour, capital, land and entrepreneurship – from households to firms.

The [monetary flow](https://econdev.co.za/lesson/circular-flow-model/real-flows-and-nominal-flows/#graph7) is the flow of income in terms of money from firms to households – in other words, the amount that is paid in wages and salaries, interest, rent and profits.

In the goods market, [the real flow](https://econdev.co.za/lesson/circular-flow-model/real-flows-and-nominal-flows/#graph8) is the flow of goods and services from firms to households.

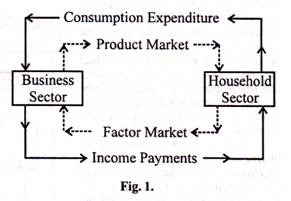
The [monetary flow](https://econdev.co.za/lesson/circular-flow-model/real-flows-and-nominal-flows/#graph9) is the flow of spending (payment) by households to firms for goods and services.

### 2. Circular Flow in a Two Sector Economy:

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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.

**[](http://cdn.yourarticlelibrary.com/wp-content/uploads/2014/03/clip_image002114.jpg)**

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.

#### 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.

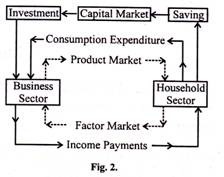
Figure 2 shows how the circular flow of income and expenditure is altered by the inclusion of saving and investment.

**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.

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

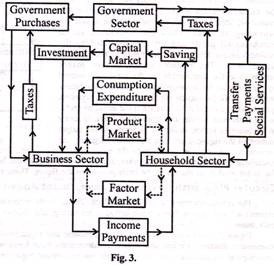
So far we have been working on the circular flow of a two-sector model of an economy. To this we add the government sector so as to make it a three-sector closed model of circular flow of income and expenditure. For this, we add taxation and government purchases (or expenditure) in our presentation.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

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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 this 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.

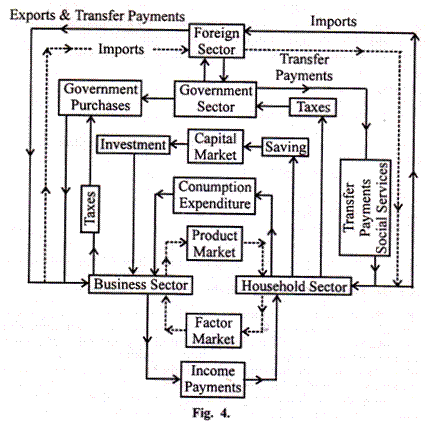
On the other hand, if net taxes exceed government purchases the government will have a budget surplus. In this case, the government reduces the public debt and supplies funds to the capital market which are received by firms.

#### 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.

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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 (If) and get

Id + IF + G = S + T

But If = X – M

Where X is exports and M is imports

Id + (X – M) + G = S + T

ld + (X – M) = S + (T – G)

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

### 4. 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.

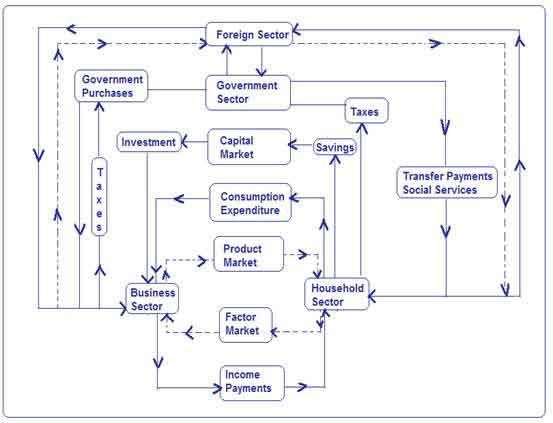
#### 9. Importance of Trade Policies:

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 are 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.



**National income**

The total net value of all goods and services produced within a nation over a specified period of time, representing the sum of wages, profits, rents, interest, and pension payments to residents of the nation.

## Measures of National Income

For the purpose of measurement and analysis, national income can be viewed as an aggregate of various component flows. The most comprehensive measure of aggregate income which is widely known is Gross National Product at market prices.

### Gross and Net Concept

Gross emphasizes that no allowance for capital consumption has been made or that depreciation has yet to be deducted. Net indicates that provision for capital consumption has already been made or that depreciation has already been deducted.

### National and Domestic Concepts

The term national denotes that the aggregate under consideration represents the total income which accrues to the normal residents of a country due to their participation in world production during the current year.

It is also possible to measure the value of the total output or income originating within the specified geographical boundary of a country known as domestic territory. The resulting measure is called "domestic product".

### Market Prices and Factor Costs

The valuation of the national product at market prices indicates the total amount actually paid by the final buyers while the valuation of national product at factor cost is a measure of the total amount earned by the factors of production for their contribution to the final output.

**GNP at market price = GNP at factor cost + indirect taxes - Subsidies.**

**NNP at market price = NNP at factor cost + indirect taxes - Subsidies**

### Gross National Product and Gross Domestic Product

For some purposes we need to find the total income generated from production within the territorial boundaries of an economy irrespective of whether it belongs to the inhabitants of that nation or not. Such an income is known as Gross Domestic Product (GDP) and found as −

**GDP = GNP - Nnet Factor Income From Abroad**

Net Factor Income from Abroad = Factor Income Received From Abroad - Factor Income Paid Abroad

### Net National Product

The NNP is an alternative and closely related measure of the national income. It differs from GNP in only one respect. GNP is the sum of final products. It includes consumption of goods, gross investment, government expenditures on goods and services, and net exports.

**GNP = NNP − Depreciation**

NNP includes net private investment while GNP includes gross private domestic investment.

### Personal Income

Personal income is calculated by subtracting from national income those types of incomes which are earned but not received and adding those types which are received but not currently earned.

Personal Income = NNP at Factor Cost − Undistributed Profits − Corporate Taxes + Transfer Payments

### Disposable Income

Disposable income is the total income that actually remains with individuals to dispose off as they wish. It differs from personal income by the amount of direct taxes paid by individuals.

**Disposable Income = Personal Income − Personal taxes**

### Value Added

The concept of value added is a useful device to find out the exact amount that is added at each stage of production to the value of the final product. Value added can be defined as the difference between the value of output produced by that firm and the total expenditure incurred by it on the materials and intermediate products purchased from other business firms.

**There are three different ways to measure GDP:**

Product Method, Income Method and Expenditure Method.

These three methods of calculating GDP yield the same result because National Product = National Income = National Expenditure.

**1. The Product Method:**

In this method, the value of all goods and services produced in different industries during the year is added up. This is also known as the value added method to GDP or GDP at factor cost by industry of origin. The following items are included in India in this: agriculture and allied services; mining; manufacturing, construction, electricity, gas and water supply; transport, communication and trade; banking and insurance, real estates and ownership of dwellings and business services; and public administration and defense and other services (or government services). In other words, it is the sum of gross value added.

**2. The Income Method:**

The people of a country who produce GDP during a year receive incomes from their work. Thus GDP by income method is the sum of all factor incomes: Wages and Salaries (compensation of employees) + Rent + Interest + Profit.

**3. Expenditure Method:**

This method focuses on goods and services produced within the country during one year.

**GDP by expenditure method includes:**

(1) Consumer expenditure on services and durable and non-durable goods (C),

(2) Investment in fixed capital such as residential and non-residential building, machinery, and inventories (I),

(3) Government expenditure on final goods and services (G),

(4) Export of goods and services produced by the people of country (X),

(5) Less imports (M). That part of consumption, investment and government expenditure which is spent on imports is subtracted from GDP. Similarly, any imported component, such as raw materials, which is used in the manufacture of export goods, is also excluded.

Thus GDP by expenditure method at market prices = C+ I + G + (X – M), where (X-M) is net export which can be positive or negative.

**1. Income Method to GNP:**

The income method to GNP consists of the remuneration paid in terms of money to the factors of production annually in a country.

**Thus GNP is the sum total of the following items:**

**(i) Wages and salaries:**

Under this head are included all forms of wages and salaries earned through productive activities by workers and entrepreneurs. It includes all sums received or deposited during a year by way of all types of contributions like overtime, commission, provident fund, insurance, etc.

**(ii) Rents:**

Total rent includes the rents of land, shop, house, factory, etc. and the estimated rents of all such assets as are used by the owners themselves.

**(iii) Interest:**

Under interest comes the income by way of interest received by the individual of a country from different sources. To this is added, the estimated interest on that private capital which is invested and not borrowed by the businessman in his personal business. But the interest received on governmental loans has to be excluded, because it is a mere transfer of national income.

**(iv) Dividends:**

Dividends earned by the shareholders from companies are included in the GNP.

**(v) Undistributed corporate profits:**

Profits which are not distributed by companies and are retained by them are included in the GNP.

**(vi) Mixed incomes:**

These include profits of unincorporated business, self-employed persons and partnerships. They form part of GNP.

**(vii) Direct taxes:**

Taxes levied on individuals, corporations and other businesses are included in the GNP.

**(viii) Indirect taxes:**

The government levies a number of indirect taxes, like excise duties and sales tax.

These taxes are included in the price of commodities. But revenue from these goes to the government treasury and not to the factors of production. Therefore, the income due to such taxes is added to the GNP.

**(ix) Depreciation:**

Every corporation makes allowance for expenditure on wearing out and depreciation of machines, plants and other capital equipment. Since this sum also is not a part of the income received by the factors of production, it is, therefore, also included in the GNP.

**(x) Net income earned from abroad:**

This is the difference between the value of exports of goods and services and the value of imports of goods and services. If this difference is positive, it is added to the GNP and if it is negative, it is deducted from the GNP.

Thus GNP according to the Income Method = Wages and Salaries + Rents + Interest + Dividends + Undistributed Corporate Profits + Mixed Income + Direct Taxes + Indirect Taxes + Depreciation + Net Income from abroad.

#### Problems in Income Method:

**The following problems arise in the computation of National Income by income method:**

**1. Owner-occupied Houses:**

A person who rents a house to another earns rental income, but if he occupies the house himself, will the services of the house-owner be included in national income. The services of the owner-occupied house are included in national income as if the owner sells to himself as a tenant its services.

For the purpose of national income accounts, the amount of imputed rent is estimated as the sum for which the owner-occupied house could have been rented. The imputed net rent is calculated as that portion of the amount that would have accrued to the house-owner after deducting all expenses.

**2. Self-employed Persons:**

Another problem arises with regard to the income of self-employed persons. In their case, it is very difficult to find out the different inputs provided by the owner himself. He might be contributing his capital, land, labour and his abilities in the business. But it is not possible to estimate the value of each factor input to production. So he gets a mixed income consisting of interest, rent, wage and profits for his factor services. This is included in national income.

**3. Goods meant for Self-consumption:**

In under-developed countries like India, farmers keep a large portion of food and other goods produced on the farm for self-consumption. The problem is whether that part of the produce which is not sold in the market can be included in national income or not. If the farmer were to sell his entire produce in the market, he will have to buy what he needs for self-consumption out of his money income. If, instead he keeps some produce for his self-consumption, it has money value which must be included in national income.

**4. Wages and Salaries paid in Kind:**

Another problem arises with regard to wages and salaries paid in kind to the employees in the form of free food, lodging, dress and other amenities. Payments in kind by employers are included in national income. This is because the employees would have received money income equal to the value of free food, lodging, etc. from the employer and spent the same in paying for food, lodging, etc.

**2. Expenditure Method to GNP:**

From the expenditure view point, GNP is the sum total of expenditure incurred on goods and services during one year in a country.

**It includes the following items:**

**(i) Private consumption expenditure:**

It includes all types of expenditure on personal consumption by the individuals of a country. It comprises expenses on durable goods like watch, bicycle, radio, etc., expenditure on single-used consumers’ goods like milk, bread, ghee, clothes, etc., as also the expenditure incurred on services of all kinds like fees for school, doctor, lawyer and transport. All these are taken as final goods.

**(ii) Gross domestic private investment:**

Under this comes the expenditure incurred by private enterprise on new investment and on replacement of old capital. It includes expenditure on house construction, factory- buildings, and all types of machinery, plants and capital equipment.

In particular, the increase or decrease in inventory is added to or subtracted from it. The inventory includes produced but unsold manufactured and semi-manufactured goods during the year and the stocks of raw materials, which have to be accounted for in GNP. It does not take into account the financial exchange of shares and stocks because their sale and purchase is not real investment. But depreciation is added.

**(iii) Net foreign investment:**

It means the difference between exports and imports or export surplus. Every country exports to or imports from certain foreign countries. The imported goods are not produced within the country and hence cannot be included in national income, but the exported goods are manufactured within the country. Therefore, the difference of value between exports (X) and imports (M), whether positive or negative, is included in the GNP.

**(iv) Government expenditure on goods and services:**

The expenditure incurred by the government on goods and services is a part of the GNP. Central, state or local governments spend a lot on their employees, police and army. To run the offices, the governments have also to spend on contingencies which include paper, pen, pencil and various types of stationery, cloth, furniture, cars, etc.

It also includes the expenditure on government enterprises. But expenditure on transfer payments is not added, because these payments are not made in exchange for goods and services produced during the current year.

Thus GNP according to the Expenditure Method=Private Consumption Expenditure (C) + Gross Domestic Private Investment (I) + Net Foreign Investment (X-M) + Government Expenditure on Goods and Services (G) = C+ I + (X-M) + G.

As already pointed out above, GNP estimated by either the income or the expenditure method would work out to be the same, if all the items are correctly calculated.

#### Problems in Product Method:

**The following problems arise in the computation of national income by product method:**

**1. Services of Housewives:**

The estimation of the unpaid services of the housewife in the national income presents a serious difficulty. A housewife renders a number of useful services like preparation of meals, serving, tailoring, mending, washing, cleaning, bringing up children, etc.

She is not paid for them and her services are not including in national income. Such services performed by paid servants are included in national income. The national income is, therefore, underestimated by excluding the services of a housewife.

The reason for the exclusion of her services from national income is that the love and affection of a housewife in performing her domestic work cannot be measured in monetary terms. That is why when the owner of a firm marries his lady secretary, her services are not included in national income when she stops working as a secretary and becomes a housewife.

When a teacher teaches his own children, his work is also not included in national income. Similarly, there are a number of goods and services which are difficult to be assessed in money terms for the reason stated above, such as painting, singing, dancing, etc. as hobbies.

**2. Intermediate and Final Goods:**

The greatest difficulty in estimating national income by product method is the failure to distinguish properly between intermediate and final goods. There is always the possibility of including a good or service more than once, whereas only final goods are included in national income estimates. This leads to the problem of double counting which leads to the overestimation of national income.

**3. Second-hand Goods and Assets:**

Another problem arises with regard to the sale and purchase of second-hand goods and assets. We find that old scooters, cars, houses, machinery, etc. are transacted daily in the country. But they are not included in national income because they were counted in the national product in the year they were manufactured.

If they are included every time they are bought and sold, national income would increase many times. Similarly, the sale and purchase of old stocks, shares, and bonds of companies are not included in national income because they were included in national income when the companies were started for the first time. Now they are simply financial transactions and represent claims.

But the commission or fees charged by the brokers in the repurchase and resale of old shares, bonds, houses, cars or scooters, etc. are included in national income. For these are the payments they receive for their productive services during the year.

**4. Illegal Activities:**

Income earned through illegal activities like gambling, smuggling, illicit extraction of wine, etc. is not included in national income. Such activities have value and satisfy the wants of the people but they are not considered productive from the point of view of society. But in countries like Nepal and Monaco where gambling is legalised, it is included in national income. Similarly, horse-racing is a legal activity in England and is included in national income.

**5. Consumers’ Service:**

There are a number of persons in society who render services to consumers but they do not produce anything tangible. They are the actors, dancers, doctors, singers, teachers, musicians, lawyers, barbers, etc. The problem arises about the inclusion of their services in national income since they do not produce tangible commodities. But as they satisfy human wants and receive payments for their services, their services are included as final goods in estimating national income.

**6. Capital Gains:**

The problem also arises with regard to capital gains. Capital gains arise when a capital asset such as a house, some other property, stocks or shares, etc. is sold at higher price than was paid for it at the time of purchase. Capital gains are excluded from national income because these do not arise from current economic activities. Similarly, capital losses are not taken into account while estimating national income.

**7. Inventory Changes:**

All inventory changes (or changes in stocks) whether positive or negative are included in national income. The procedure is to take changes in physical units of inventories for the year valued at average current prices paid for them.

The value of changes in inventories may be positive or negative which is added or subtracted from the current production of the firm. Remember, it is the change in inventories and not total inventories for the year that are taken into account in national income estimates.

**8. Depreciation:**

Depreciation is deducted from GNP in order to arrive at NNP. Thus depreciation lowers the national income. But the problem is of estimating the current depreciated value of, say, a machine, whose expected life is supposed to be thirty years. Firms calculate the depreciation value on the original cost of machines for their expected life. This does not solve the problem because the prices of machines change almost every year.

**9. Price Changes:**

National income by product method is measured by the value of final goods and services at current market prices. But prices do not remain stable. They rise or fall. When the price level rises, the national income also rises, though the national production might have fallen.

On the contrary, with the fall in the price level, the national income also falls, though the national production might have increased. So price changes do not adequately measure national income. To solve this problem, economists calculate the real national income at a constant price level by the consumer price index.

**3. Value Added Method to GNP:**

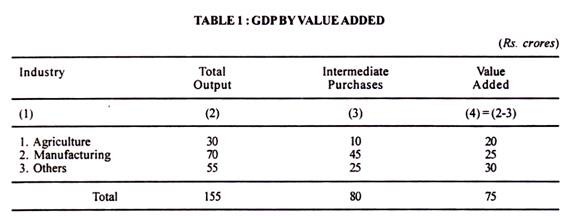
Another method of measuring GNP is by value added. In calculating GNP, the money value of final goods and services produced at current prices during a year is taken into account. This is one of the ways to avoid double counting. But it is difficult to distinguish properly between a final product and an intermediate product.

For instance, raw materials, semi-finished products, fuels and services, etc. are sold as inputs by one industry to the other. They may be final goods for one industry and intermediate for others. So, to avoid duplication, the value of intermediate products used in manufacturing final products must be subtracted from the value of total output of each industry in the economy.

Thus, the difference between the value of material outputs and inputs at each stage of production is called the value added. If all such differences are added up for all industries in the economy, we arrive at the GNP by value added. GNP by value added = Gross value added + net income from abroad. Its calculation is shown in Tables 1, 2 and 3.

Table 1 is constructed on the supposition that the entire economy for purposes of total production consists of three sectors. They are agriculture, manufacturing, and others, consisting of the tertiary sector.

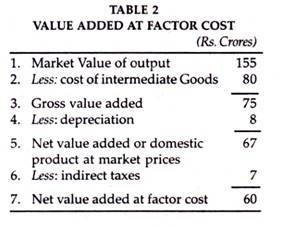
Out of the value of total output of each sector is deducted the value of its intermediate purchases (or primary inputs) to arrive at the value added for the entire economy. Thus the value of total output of the entire economy as per Table 1, is Rs. 155 crores and the value of its primary inputs comes to Rs. 80 crores. Thus the GDP by value added is Rs. 75 crores (Rs. 155 minus Rs. 80 crores).

**[](http://cdn.yourarticlelibrary.com/wp-content/uploads/2014/03/clip_image00519.jpg)**

The total value added equals the value of gross domestic product of the economy. Out of this value added, the major portion goes in the form wages and salaries, rent, interest and profits, a small portion goes to the government as indirect taxes and the remaining amount is meant for depreciation. This is shown in Table 3.

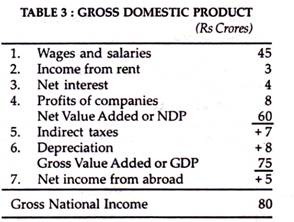
Thus we find that the total gross value added of an economy equals the value of its gross domestic product. If depreciation is deducted from the gross value added, we have net value added which comes to Rs. 67 crores (Rs. 75 minus Rs. 8 crores).

This is nothing but net domestic product at market prices. Again, if indirect taxes (Rs. 7 crores) are deducted from the net domestic product of Rs. 67 crores, we get Rs. 60 crores as the net value added at factor cost which is equivalent to net domestic product at factor cost. This is illustrated in Table 2.

**[](http://cdn.yourarticlelibrary.com/wp-content/uploads/2014/03/clip_image00623.jpg)**

Net value added at factor cost is equal to the net domestic product at factor cost, as given by the total of items 1 to 4 of Table 2 (Rs. 45+3+4+8 crores=Rs. 60 crores). By adding indirect taxes (Rs 7 crores) and depreciation (Rs 8 crores), we get gross value added or GDP which comes to Rs 75 crores.

If we add net income received from abroad to the gross value added, this gives -us, gross national income. Suppose net income from abroad is Rs. 5 crores. Then the gross national income is Rs. 80 crores (Rs. 75 crores + Rs. 5 crores) as shown in Table 3.

**[](http://cdn.yourarticlelibrary.com/wp-content/uploads/2014/03/clip_image00715.jpg)**

#### Problems in Expenditure Method:

**The following problems arise in the calculation of national income by expenditure method:**

**(1) Government Services:**

In calculating national income by, expenditure method, the problem of estimating government services arises. Government provides a number of services, such as police and military services, administrative and legal services. Should expenditure on government services be included in national income?

If they are final goods, then only they would be included in national income. On the other hand, if they are used as intermediate goods, meant for further production, they would not be included in national income. There are many divergent views on this issue.

One view is that if police, military, legal and administrative services protect the lives, property and liberty of the people, they are treated as final goods and hence form part of national income. If they help in the smooth functioning of the production process by maintaining peace and security, then they are like intermediate goods that do not enter into national income.

In reality, it is not possible to make a clear demarcation as to which service protects the people and which protects the productive process. Therefore, all such services are regarded as final goods and are included in national income.

**(2) Transfer Payments:**

There arises the problem of including transfer payments in national income. Government makes payments in the form of pensions, unemployment allowance, subsidies, interest on national debt, etc. These are government expenditures but they are not included in national income because they are paid without adding anything to the production process during the current year.

For instance, pensions and unemployment allowances are paid to individuals by the government without doing any productive work during the year. Subsidies tend to lower the market price of the commodities. Interest on national or public debt is also considered a transfer payment because it is paid by the government to individuals and firms on their past savings without any productive work.

**(3) Durable-use Consumers’ Goods:**

Durable-use consumers’ goods also pose a problem. Such durable-use consumers’ goods as scooters, cars, fans, TVs, furniture’s, etc. are bought in one year but they are used for a number of years. Should they be included under investment expenditure or consumption expenditure in national income estimates? The expenditure on them is regarded as final consumption expenditure because it is not possible to measure their used up value for the subsequent years.

But there is one exception. The expenditure on a new house is regarded as investment expenditure and not consumption expenditure. This is because the rental income or the imputed rent which the house-owner gets is for making investment on the new house. However, expenditure on a car by a household is consumption expenditure. But if he spends the amount for using it as a taxi, it is investment expenditure.

**(4) Public Expenditure:**

Government spends on police, military, administrative and legal services, parks, street lighting, irrigation, museums, education, public health, roads, canals, buildings, etc. The problem is to find out which expenditure is consumption expenditure and which investment expenditure is.

Expenses on education, museums, public health, police, parks, street lighting, civil and judicial administration are consumption expenditure. Expenses on roads, canals, buildings, etc. are investment expenditure. But expenses on defence equipment are treated as consumption expenditure because they are consumed during a war as they are destroyed or become obsolete. However, all such expenses including the salaries of armed personnel are included in national income.

#### Nominal and Real GDP:

When GDP is measured on the basis of current price, it is called GDP at current prices or nominal GDP. On the other hand, when GDP is calculated on the basis of fixed prices in some year, it is called GDP at constant prices or real GDP.

Nominal GDP is the value of goods and services produced in a year and measured in terms of rupees (money) at current (market) prices. In comparing one year with another, we are faced with the problem that the rupee is not a stable measure of purchasing power. GDP may rise a great deal in a year, not because the economy has been growing rapidly but because of rise in prices (or inflation).

On the contrary, GDP may increase as a result of fall in prices in a year but actually it may be less as compared to the last year. In both 5 cases, GDP does not show the real state of the economy. To rectify the underestimation and overestimation of GDP, we need a measure that adjusts for rising and falling prices.

This can be done by measuring GDP at constant prices which is called real GDP. To find out the real GDP, a base year is chosen when the general price level is normal, i.e., it is neither too high nor too low. The prices are set to 100 (or 1) in the base year.

**Now the general price level of the year for which real GDP is to be calculated is related to the base year on the basis of the following formula which is called the deflator index:**

**[Calculation of General Price Level ](http://cdn.yourarticlelibrary.com/wp-content/uploads/2014/03/clip_image002116.jpg)**

Suppose 1990-91 is the base year and GDP for 1999-2000 is Rs. 6, 00,000 crores and the price index for this year is 300.

Thus, Real GDP for 1999-2000 = Rs. 6, 00,000 x 100/300 = Rs. 2, 00,000 crores

#### G) GNP at Market Prices:

When we multiply the total output produced in one year by their market prices prevalent during that year in a country, we get the Gross National Product at market prices.

**GNP at Market Prices = GDP at Market Prices + Net Income from Abroad.**

#### (H) GNP at Factor Cost:

GNP at factor cost is the sum of the money value of the income produced by and accruing to the various factors of production in one year in a country.

in order to arrive at GNP at factor cost, subsidies are added to GNP at market prices.

GNP at Factor Cost = GNP at Market Prices – Indirect Taxes + Subsidies.

#### Net National Product (NNP):

NNP includes the value of total output of consumption goods and investment goods. But the process of production uses up a certain amount of fixed capital. Some fixed equipment wears out, its other components are damaged or destroyed, and still others are rendered obsolete through technological changes.

All this process is termed depreciation or capital consumption allowance. In order to arrive at NNP, we deduct depreciation from GNP. The word ‘net’ refers to the exclusion of that part of total output which represents depreciation. So NNP = GNP—Depreciation.

#### NNP at Market Prices:

Net National Product at market prices is the net value of final goods and services evaluated at market prices in the course of one year in a country. If we deduct depreciation from GNP at market prices, we get NNP at market prices. So NNP at Market Prices = GNP at Market Prices—Depreciation.

#### (K) NNP at Factor Cost:

Net National Product at factor cost is the net output evaluated at factor prices. It includes income earned by factors of production through participation in the production process such as wages and salaries, rents, profits, etc. It is also called National Income. This measure differs from NNP at market prices in that indirect taxes are deducted and subsidies are added to NNP at market prices in order to arrive at NNP at factor cost. Thus

NNP at Factor Cost = NNP at Market Prices – Indirect taxes+ Subsidies

= GNP at Market Prices – Depreciation – Indirect taxes + Subsidies.

= National Income.

Normally, NNP at market prices is higher than NNP at factor cost because indirect taxes exceed government subsidies. However, NNP at market prices can be less than NNP at factor cost when government subsidies exceed indirect taxes.

#### (L) Domestic Income:

Income generated (or earned) by factors of production within the country from its own resources is called domestic income or domestic product.

**Domestic income includes:**

(i) Wages and salaries, (ii) rents, including imputed house rents, (iii) interest, (iv) dividends, (v) undistributed corporate profits, including surpluses of public undertakings, (vi) mixed incomes consisting of profits of unincorporated firms, self- employed persons, partnerships, etc., and (vii) direct taxes.

Since domestic income does not include income earned from abroad, it can also be shown as: Domestic Income = National Income-Net income earned from abroad. Thus the difference between domestic income f and national income is the net income earned from abroad. If we add net income from abroad to domestic income, we get national income, i.e., National Income = Domestic Income + Net income earned from abroad.

But the net national income earned from abroad may be positive or negative. If exports exceed import, net income earned from abroad is positive. In this case, national income is greater than domestic income. On the other hand, when imports exceed exports, net income earned from abroad is negative and domestic income is greater than national income.

#### (M) Private Income:

Private income is income obtained by private individuals from any source, productive or otherwise, and the retained income of corporations. It can be arrived at from NNP at Factor Cost by making certain additions and deductions.

The additions include transfer payments such as pensions, unemployment allowances, sickness and other social security benefits, gifts and remittances from abroad, windfall gains from lotteries or from horse racing, and interest on public debt. The deductions include income from government departments as well as surpluses from public undertakings, and employees’ contribution to social security schemes like provident funds, life insurance, etc.

Thus Private Income = National Income (or NNP at Factor Cost) + Transfer Payments + Interest on Public Debt — Social Security — Profits and Surpluses of Public Undertakings.

#### (N) Personal Income:

Personal income is the total income received by the individuals of a country from all sources before payment of direct taxes in one year. Personal income is never equal to the national income, because the former includes the transfer payments whereas they are not included in national income.

Personal income is derived from national income by deducting undistributed corporate profits, profit taxes, and employees’ contributions to social security schemes. These three components are excluded from national income because they do reach individuals.

But business and government transfer payments, and transfer payments from abroad in the form of gifts and remittances, windfall gains, and interest on public debt which are a source of income for individuals are added to national income. Thus Personal Income = National Income – Undistributed Corporate Profits – Profit Taxes – Social Security Contribution + Transfer Payments + Interest on Public Debt.

Personal income differs from private income in that it is less than the latter because it excludes undistributed corporate profits.

Thus Personal Income = Private Income – Undistributed Corporate Profits – Profit Taxes.

#### (O) Disposable Income:

Disposable income or personal disposable income means the actual income which can be spent on consumption by individuals and families. The whole of the personal income cannot be spent on consumption, because it is the income that accrues before direct taxes have actually been paid. Therefore, in order to obtain disposable income, direct taxes are deducted from personal income. Thus Disposable Income=Personal Income – Direct Taxes.

But the whole of disposable income is not spent on consumption and a part of it is saved. Therefore, disposable income is divided into consumption expenditure and savings. Thus Disposable Income = Consumption Expenditure + Savings.

If disposable income is to be deduced from national income, we deduct indirect taxes plus subsidies, direct taxes on personal and on business, social security payments, undistributed corporate profits or business savings from it and add transfer payments and net income from abroad to it.

Thus Disposable Income = National Income – Business Savings – Indirect Taxes + Subsidies – Direct Taxes on Persons – Direct Taxes on Business – Social Security Payments + Transfer Payments + Net Income from abroad.

#### (P) Real Income:

Real income is national income expressed in terms of a general level of prices of a particular year taken as base. National income is the value of goods and services produced as expressed in terms of money at current prices. But it does not indicate the real state of the economy.

It is possible that the net national product of goods and services this year might have been less than that of the last year, but owing to an increase in prices, NNP might be higher this year. On the contrary, it is also possible that NNP might have increased but the price level might have fallen, as a result national income would appear to be less than that of the last year. In both the situations, the national income does not depict the real state of the country. To rectify such a mistake, the concept of real income has been evolved.

In order to find out the real income of a country, a particular year is taken as the base year when the general price level is neither too high nor too low and the price level for that year is assumed to be 100. Now the general level of prices of the given year for which the national income (real) is to be determined is assessed in accordance with the prices of the base year. For this purpose the following formula is employed.

Real NNP = NNP for the Current Year x Base Year Index (=100) / Current Year Index

Suppose 1990-91 is the base year and the national income for 1999-2000 is Rs. 20,000 crores and the index number for this year is 250. Hence, Real National Income for 1999-2000 will be = 20000 x 100/250 = Rs. 8000 crores. This is also known as national income at constant prices.

### . Importance of National Income Analysis:

**The national income data have the following importance:**

**1. For the Economy:**

National income data are of great importance for the economy of a country. These days the national income data are regarded as accounts of the economy, which are known as social accounts. These refer to net national income and net national expenditure, which ultimately equal each other.

Social accounts tell us how the aggregates of a nation’s income, output and product result from the income of different individuals, products of industries and transactions of international trade. Their main constituents are inter-related and each particular account can be used to verify the correctness of any other account.

**2. National Policies:**

National income data form the basis of national policies such as employment policy, because these figures enable us to know the direction in which the industrial output, investment and savings, etc. change, and proper measures can be adopted to bring the economy to the right path.

**3. Economic Planning:**

In the present age of planning, the national data are of great importance. For economic planning, it is essential that the data pertaining to a country’s gross income, output, saving and consumption from different sources should be available. Without these, planning is not possible.

**4. Economic Models:**

The economists propound short-run as well as long-run economic models or long-run investment models in which the national income data are very widely used.

**5. Research:**

The national income data are also made use of by the research scholars of economics. They make use of the various data of the country’s input, output, income, saving, consumption, investment, employment, etc., which are obtained from social accounts.

**6. Per Capita Income:**

National income data are significant for a country’s per capita income which reflects the economic welfare of the country. The higher the per capita income, the higher the economic welfare of the country.

**7. Distribution of Income:**

National income statistics enable us to know about the distribution of income in the country. From the data pertaining to wages, rent, interest and profits, we learn of the disparities in the incomes of different sections of the society. Similarly, the regional distribution of income is revealed.

It is only on the basis of these that the government can adopt measures to remove the inequalities in income distribution and to restore regional equilibrium. With a view to removing these personal and regional disequibria, the decisions to levy more taxes and increase public expenditure also rest on national income statistics.

**Aggregates of National Income to Measure the Value of Goods and Services!**

In an economy, various goods and services are produced by different productive units during a period of one year. Such goods and services cannot be added together in terms of quantity (as we cannot add 5,000 tonnes of wheat + 10,000 mobile phones + 7,000 machines and so on). Therefore, these are expressed in terms of money.

**Simple explanation of terms with logics**

There are many aggregates in national income to measure the value of goods and services in terms of money. Let us start with Gross Domestic Product at Market Price (GDPMP).

#### i. Gross Domestic Product at Market Price (GDPMP):

It refers to gross market value of all final goods and services produced within the domestic territory of a country during a period of one year.

1.’Gross’ in GDPMP signifies that no provision has been made for depreciation, i.e. it includes depreciation.

2.’Domestic’ in GDPMP signifies that it includes goods and services produced by all units located within the domestic territory (irrespective of fact whether produced by residents or non-residents).

3. ‘Market Price’ in GDPMF signifies that it includes amount of indirect taxes paid and excludes amount of subsidy received, i.e. it shows that net indirect taxes (NIT) have been included.

4.’Product’ in GDPMP signifies that only final goods and services have to be included.

By making adjustments in GDPMP, we can derive other aggregates.

#### ii. Gross Domestic Product at Factor Cost (GDPFC):

It refers to gross money value of all the final goods and services produced within the domestic territory of a country during a period of one year.

GDPFC = CDPMP – Net Indirect Taxes

#### iii. Net Domestic Product at Market Price (NDPMP):

It refers to net market value of all the final goods and services produced within the domestic territory of a country during a period of one year.

NDPMP = GDPMP – Depreciation

#### iv. Net Domestic Product at Factor Cost (NDPFC):

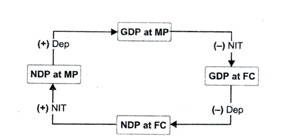
It refers to net money value of all the final goods and services produced within the domestic territory of a country during a period of one year.

NDPFC = GDPMP – Net Indirect Taxes – Depreciation

NDPFC is also known as Domestic Income or Domestic factor income.

**Relationship between Four Domestic Concepts:**

GDPMP, GDPFC, NDPMP and NDPFC are four Domestic concepts. The term ‘Domestic’ signifies that contribution of only those producers (whether resident or non-resident) is to be included who are within the domestic territory of the country.

**[](http://cdn.yourarticlelibrary.com/wp-content/uploads/2014/03/clip_image00284.jpg)**

#### v. Gross National Product at Market Price (GNPMP):

It refers to gross market value of all the final goods and services produced by the normal residents of a country during a period of one year.

GNPMP = GDPMP + Net factor income from abroad

It must be noted that GNPMP can be less than GDPMP when NFIA is negative. However, GNPMP will be more than GDPMP when NFIA is positive.

#### vi. Gross National Product at Factor Cost (GNPFC):

It refers to gross money value of all the final goods and services produced by the normal residents of a country during a period of one year.

GNPFC = GNPMP – Net Indirect Taxes

#### vii. Net National Product at Market Price (NNPMP):

It refers to net market value of all the final goods and services produced by the normal residents of a country during a period of one year. NNPMP = GNPMP – Depreciation

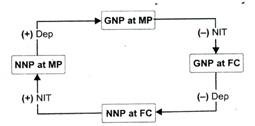
#### viii. Net National Product at Factor Cost (NNPFC):

It refers to net money value of all the final goods and services produced by the normal residents of a country during a period of one year.

NNPFC = GNPMP – Net Indirect Taxes – Depreciation

It must be noted that NNPFC is also known as National Income.

**Relationship between Four National Concepts:**

GNPMP, GNPFC, NNPMP and NNPFC are four National concepts. The term National’ signifies that production of only normal residents of the country is to be included even if they are outside the domestic territory of the country.**[](http://cdn.yourarticlelibrary.com/wp-content/uploads/2014/03/clip_image00435.jpg)**

**Aggregate demand –supply and macro economic equilibirium**

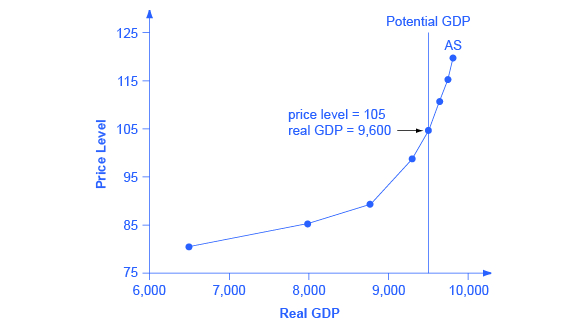
**aggregate demand/aggregate supply model:**

a model that shows what determines real GDP and the aggregate price level through the interaction between total spending on domestic goods and services (i.e aggregate demand) and total production by businesses (i.e. aggregate supply)

**Aggregate supply (AS)** refers to the total quantity of output (i.e. real GDP) firms will produce. The **aggregate supply (AS) curve** shows the total quantity of output firms will produce and sell (i.e, real GDP) at each aggregate price level, holding the price of inputs fixed.

Recall that the aggregate price level is an average of the prices of outputs in the economy. A decrease in the price level means that firms would like to reduce the wage rate they pay so they can maintain their profits. If wages are sticky downwards, labor becomes too expensive to keep fully employed, so firms layoff workers. (Economists would say that the real wage (W/P) is too high.) With fewer workers employed, firms produce less output and real GDP decreases. In short, when wages are sticky in response to changes in demand, then a lower aggregate price level corresponds to a lower level of real GDP. Similarly, an increase in the price level means that firms would like to raise wages, but it wages are sticky, labor becomes cheap so firms increase employment (or work hours) and real GDP increases.

Figure 1 shows an aggregate supply curve. In the following paragraphs, we will walk through the elements of the diagram one at a time: the horizontal and vertical axes, the aggregate supply curve itself, and the meaning of the potential GDP vertical line.



**Figure 1. The Aggregate Supply Curve.** Aggregate supply (AS) slopes up, because as the price level for outputs rises, with the price of inputs remaining fixed, firms have an incentive to produce more and to earn higher profits. The potential GDP line shows the maximum that the economy can produce with full employment of workers and physical capital.

The horizontal axis of the diagram shows real GDP—that is, the level of GDP adjusted for inflation. The vertical axis shows the aggregate price level.  As the price level rises, the aggregate quantity of goods and services produced rises as well. Why? The price level shown on the vertical axis represents the average price for final goods or outputs purchased in the economy, i.e. the GDP deflator.  It is not the price level for intermediate goods and services that are inputs to production.  Thus, the AS curve describes how suppliers will react to a higher price level for outputs of goods and services, while holding the prices of inputs like labor and energy constant. If firms across the economy face a situation where the price level of what they produce and sell is rising, but their costs of production are not rising, then the lure of higher profits will induce them to expand production.

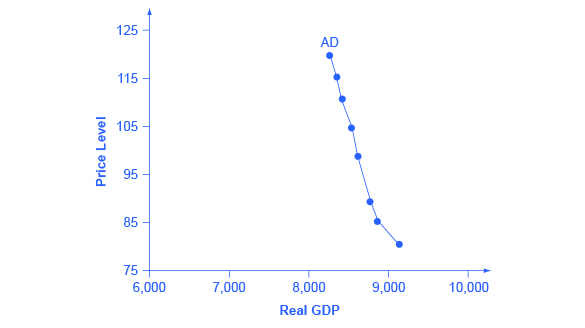
The slope of an AS curve changes from nearly flat at its far left to nearly vertical at its far right. At the far left of the aggregate supply curve, the level of output in the economy is far below **potential GDP,** which is defined as the quantity that an economy can produce by fully employing its resources of labor, physical capital, and technology, in the context of its existing market and legal institutions. At these relatively low levels of output, levels of unemployment are high, and many factories are running only part-time, or have closed their doors. In this situation, a relatively small increase in the prices of the outputs that businesses sell—while making the assumption of no rise in input prices—can encourage a considerable surge in real GDP because so many workers and factories are ready to swing into production.

As the quantity produced increases, however, certain firms and industries will start running into limits: perhaps nearly all of the expert workers in a certain industry will have jobs or factories in certain geographic areas or industries will be running at full speed. In the intermediate area of the AS curve, a higher price level for outputs continues to encourage a greater quantity of output—but as the increasingly steep upward slope of the aggregate supply curve shows, the increase in GDP in response to a given rise in the price level will not be quite as large.

## The Aggregate Demand Curve

**Aggregate demand (AD)** refers to total spending in an economy on domestic goods and services. (Strictly speaking, AD is what economists call total planned expenditure. You’ll learn about this in more detail in the Keynesian module.) It includes all four components of spending: consumption expenditure, investment expenditure, government expenditure, and net export expenditure (exports minus imports). This demand is determined by a number of factors, but one of them is the aggregate price level. The **aggregate demand (AD) curve** shows the total spending on domestic goods and services at each price level.

Figure 2 presents an aggregate demand (AD) curve. Just like the aggregate supply curve, the horizontal axis shows real GDP and the vertical axis shows the price level. The AD curve is downward sloping from left to right, which means that a decrease in the aggregate price level leads to an increase in the amount of total spending on domestic goods and services. Even though the AD curve looks like a microeconomic demand curve, it doesn’t operate the same way. Rather, the reasons behind this negative relationship are related to how changes in the price level affect the different components of aggregate demand. Recall that aggregate demand consists of consumption spending (C), investment spending (I), government spending (G), and spending on exports (X) minus imports (M): C + I + G + X – M.



**Figure 2.** **The Aggregate Demand Curve**. Aggregate demand (AD) slopes down, showing that, as the price level rises, the amount of total spending on domestic goods and services declines.

There are three specific reasons for why AD curves are downward sloping. These are the wealth effect, the interest rate effect and the foreign price effect. Each of them tends to affect a different component of aggregate demand.

The **wealth effect** holds that as the price level increases, the buying power of savings that people have stored up in bank accounts and other assets will diminish, eaten away to some extent by inflation. Because a rise in the price level reduces people’s wealth, consumption spending will fall as the price level rises.

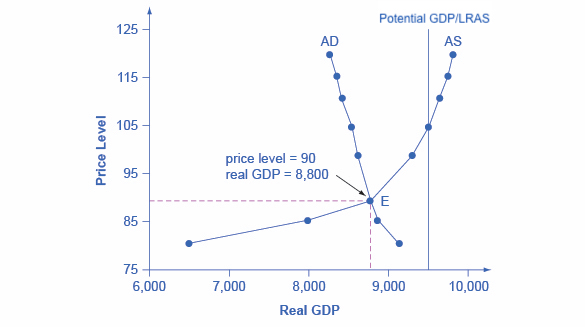
The **interest rate effect** is that as prices for outputs rise, the same purchases will take more money or credit to accomplish. This additional demand for money and credit will push interest rates higher. In turn, higher interest rates will reduce borrowing by businesses for investment purposes and reduce borrowing by households for homes and cars—thus reducing consumption and investment spending.

The **foreign price effect** points out that if prices rise in the United States while remaining fixed in other countries, then goods in the United States will be relatively more expensive compared to goods in the rest of the world. U.S. *exports*willbe relatively more expensive, and the quantity of exports sold will fall. U.S. *imports*from abroad will be relatively cheaper, so the quantity of imports will rise. Thus, a higher domestic price level, relative to price levels in other countries, will reduce net export expenditures.

Truth be told, among economists all three of these effects are controversial, in part because they do not seem to be very large. For this reason, the aggregate demand curve in Figure 2 slopes downward fairly steeply; the steep slope indicates that a higher price level for final outputs reduces aggregate demand for all three of these reasons, but that the change in the quantity of aggregate demand as a result of changes in price level is not very large.

## Equilibrium in the Aggregate Demand–Aggregate Supply Model

Figure 1 combines the AS curve and the AD curve from Figures 1 & 2 on the previous page and places them both on a single diagram. The intersection of the aggregate supply and aggregate demand curves shows the equilibrium level of real GDP and the equilibrium price level in the economy. In this example, the equilibrium point occurs at point E, at a price level of 90 and an output level of 8,800.



**Figure 1. Aggregate Supply and Aggregate Demand.** The equilibrium, where aggregate supply (AS) equals aggregate demand (AD), occurs at a price level of 90 and an output level of 8,800.

## What Is Full Employment GDP?

**Full employment GDP** is a term used to describe an economy that is operating at an ideal level of employment, where economic output is at its highest potential. It is a state of balance in which savings is equal to investment and the economy is neither expanding too rapidly nor falling into a recession. This level of economic output, as measured by real GDP, is neither too high to cause rising inflation nor too low to bring about falling prices.

In economics, equilibrium is that perfect state of balance, like two friends on a teeter-totter that weigh exactly the same. Absent any external force or change in weight, two friends that weigh the same will sit on a teeter-totter and it will rest completely horizontal. But, as soon as the weight of one side changes, the other side reacts. The two economic forces that must be in equilibrium to achieve full employment GDP are unemployment and inflation.

When unemployment goes down, inflation tends to go up, and when unemployment goes up, inflation tends to fall. All economies have a state of balance like this that we call the full employment level of gross domestic product, or full employment GDP for short.

## Illustrating Full Employment GDP

Here is how economists illustrate full employment GDP. The red upward-sloping curve is called the short-run aggregate supply curve, or SRAS for short. This curve represents the economy's total supply of goods and services. The blue downward-sloping curve is the aggregate demand curve, or AD for short. This curve represents the economy's total demand for goods and services. Finally, the black vertical line is called the long-run aggregate supply curve, or LRAS for short. It represents the economy's long-run potential output of goods and services.

|  |
| --- |
| GDP Full Employ |

When all three of these lines intersect, there is both a short-term and a long-term equilibrium. In other words, the teeter-totter is horizontal - everything is in perfect balance and everyone lives happily ever after.

## Full Employment GDP and Economic Growth

However, life is not always like that. The ups and downs of the economy - the expansions and contractions - in real GDP that we continue to experience over time will bring it above or below full employment.

For example, during a recession, additional unemployment is generated, which we call cyclical unemployment, or unemployment that is directly caused by an economic slowdown. As firms and employees adjust their expectations to the ups and the downs, cyclical unemployment dissipates and the economy generally moves back towards its potential output, or full employment.

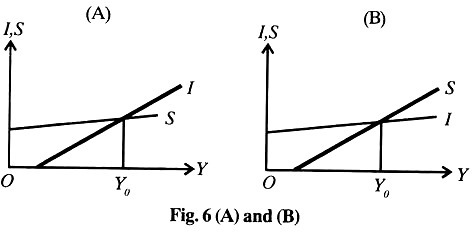
In the long run, economic output, as measured by GDP, returns to the full employment level, which classical economists refer to as potential output. **Potential output** is the highest level of real GDP that an economy can sustain over time.

### Kaldor’s Model of the Trade Cycle:

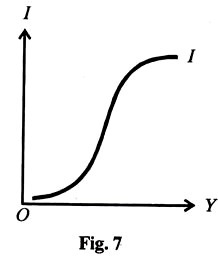
Nicholas Kaldor built a model of the trade cycle based on the Keynesian terminology of saving and investment. He showed that the cycle is the result of pressures that push the economy toward the equality of ex-ante (anticipated, expected or planned) saving and investment. In fact, it is the difference between ex-ante saving and investment that leads to a cycle.

Kaldor shows the stability and instability conditions in the form of linear diagrams, though the cycle is only possible when I and S are non-linear. Take Figure 6 (A) and (B) where I and S are equal at the equilibrium level of income Y0. But in each case there is a single equilibrium position. In Panel (A) of the figure where I>S there is an unstable equilibrium position beyond Y0 because such a situation will lead to limitless expansion, to full employment and hyper-inflation.

On the other hand, if S>I, it means a downward movement to the left of Y0 which will lead to zero output and employment and to collapse of the economy as shown in Panel (B) of the figure. Kaldor discards linear saving and investment functions because they fail to produce a cycle. Instead, be adopts non-linear saving and investment functions.

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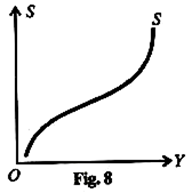
A non-linear investment function I is shown in Figure 7. As the economy moves into the expansion phase, shown by the movement from the left along the I curve, the curve is almost flat. It means that there is excess capacity at a low level of income and the net investment is zero. But “when expansion gets under way, the negative effect of accumulated capital is a more powerful influence for investment decisions than the higher levels of output and profit.

**[](http://www.microeconomicsnotes.com/wp-content/uploads/2016/06/clip_image014_thumb5.jpg)**

In the opposite case of a high level of income when the economy moves into the contraction phase, the I curve is again flat and the net investment is small “because rising costs of construction, increasing costs and increasing difficulty of borrowing will dissuade entrepreneurs from expanding still faster.”

This slows down the rate of increase in output. It means that the existing capital stock and the capacity are more than the current output. This leads to decline in further investment. Thus income falls and the cumulative effect is that the economy moves into the contraction phase.

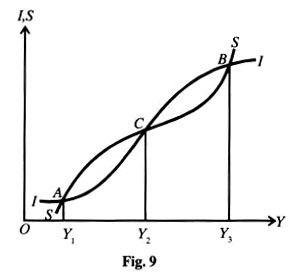
Similarly, a non-linear saving function is shown in Figure 8. At very low levels of income, saving is much reduced and may even be negative. So during the expansion phase, the MPS is large. At normal levels of income, saving will increase at a smaller rate. This is shown by the middle range of the S curve. But at very high income levels, saving will be absolutely large and people will save a large proportion of their income.

**[](http://www.microeconomicsnotes.com/wp-content/uploads/2016/06/image-1.png)**

The cycle is visible when the non-Linear saving and investment curves are brought together, as in Figure 14. The figure shows multiple equilibria at positions A, B and C. Of these, A and B are stable positions and C an unstable position. Between positions C and B and below position A, I is greater than S. This will lead to the rise in income level. Between positions A and C and above B position, S is greater than I. This will lead to the fall in income.

But A and B are stable positions only in the short run. It is only in the long run that they become unstable and the path of the cycle is visible. For this, Kaldor introduces the capital stock as another variable that affects the relationship between saving and investment.

He takes both saving and investment as functions of income and capital stock so that S = f (Y, K) I = f (Y, K) and ds/dY> 0, ds/dK >0dI/dY> 0,dI/dK<0 and dI/dY> dS/dY, that is MPI is greater than MPS over the expansion or contraction phase of the cycle.

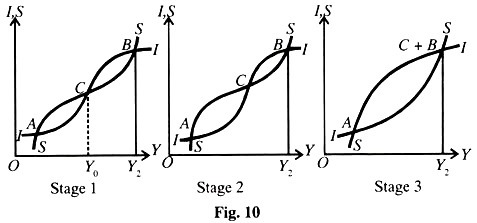
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The above relationships show that both S and I vary positively with Y; while S varies directly with K, and I varies inversely with K. The relationship MPI > MPS shows the instability of the economy which will move it either toward expansion or contraction.

In terms of Figure 9, positions A and B are “switch points” in the long run. They are the points at which the economy alters its direction either toward expansion or contraction. Point C is unstable in both directions. It is only when points C and B come closer, the expansion phase of the cycle starts. When they are joined, expansion stops and contraction begins. On the contrary, when C and A come closer contraction starts. When they are joined, contraction stops and expansion begins.

#### Expansion Phase:

Kaldor shows the expansion phase of his trade cycle in three stages, as shown in Figure 10. Starting from position Y0 in figure stage 1 (which is the same as Figure 8), suppose the economy is in equilibrium at point C. But this is the point of unstable equilibrium. An upward displacement shows that I>S which leads to the economy towards the expansion path.

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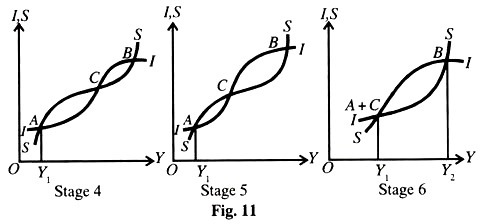
As the rate of investment is high, the economy’s capital stock increases at a rapid rate. But as the capital stock increases, the MEC declines and investment curve shifts downward At the same time as the economy’s capital stock increases, it raises the income of the economy thereby raising its saving. Thus the saving curve shifts upward. So a downward shift of the investment curve I and upward shift of the saving curve S bring the point C nearer to B, as shown in figure stage 2.

This process of the downward shifting of the I curve and upward shifting of the S curve continues till the two curves are tangential and points C and B coincide, as shown in figure stage 3. But at this position S>I in both directions. So this is an unstable equilibrium position in the downward direction. This leads to the downward movement of the economy till point A is reached in stage 3.

#### Contraction Phase:

The contraction of the trade cycle is also shown in three stages, as in Figure 16. We start from position Y1 corresponding to point A in stage 4 of the figure. It is the point of short-run stable equilibrium but at a very low income level. But over the long run at such a low level of income, the capital stock decreases due to excess capacity and the investment curve I shifts upward. Simultaneously, saving falls which shifts the saving curve downward.

Thus the shifting of the I curve upward and of the S curve downward bring positions A and C nearer, as shown in stage 5. This process will continue gradually till I and S curves arc tangential and positions A and C coincide, as in stage 6 figure. But this A+C position at Y, income level is unstable in the upward direction because I>S. This will lead to an expansionary process till the economy reaches the higher level of income Y2 at point B. From B, the I and S curves gradually reach the positions shown in stage 1 of Figure 11, and again the cyclical process starts. Thus Kaldor’s cyclical process is self-generating.

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According to Kaldor, the forces which bring about the lower turning point are not so certain at the higher level. “A boom left to itself, is certain to come to an end; but the depression might get into a position of stationariness, and remain there until external changes (the discovery of new inventions or of the opening up of new markets) come to the rescue.”

Further, cycles in the Kaldor model are not necessarily of the same length and duration. Neither are expansions and contractions necessarily symmetrical. In fact, these depend upon the slopes of the I and S curves and the rate at which they shift in each phase of the cycle.

Kaldor neither uses the acceleration principle nor the monetary factors in explaining his theory of the trade cycle. At the same time, he demonstrates how a cycle could exist in the absence of any growth factor.

The Goodwin model is a macro-economic [theory](https://www.wisegeek.com/what-is-a-theory.htm) developed by the US economist Richard Goodwin. He developed the model in 1967 while teaching at the University of Cambridge in the UK, and it predicts cycles of economic activity based on the input values of employment rates, and productivity levels for labor and [capital investment](https://www.wisegeek.com/what-is-a-capital-investment.htm). The model has derivations from Marxist class struggle theories, as well as predator-prey behavior in nature, and deals with cycles that occur in economies as employment and wage factors fluctuate.

Principles behind the Goodwin model are based on a zero-sum, non-linear approach to growth. Basically, this states that, for whatever gains one aspect of an economy or other element of a system makes, an equal value loss will offset it elsewhere to prevent instability and growth or decline of the system overall. This is a principle upon which Marxian [economics](https://www.wisegeek.com/what-is-economics.htm) is founded, where, as the value and influence of labor increases, the value and influence of the capitalists that fund it decreases, and vice versa. Goodwin proposed that simple trade-offs like this existed as a natural course of economic cycles. The lower the level of [unemployment](https://www.wisegeek.com/what-is-unemployment.htm), for example, the more workers would have influence in demanding higher wages, which would, in turn, reduce the profit and control of capitalists over labor and lower the incentive to expand business.

These trade-offs in [business cycle](https://www.wisegeek.com/what-is-a-business-cycle.htm) theory are also reflected in the Phillips curve that the Goodwin model uses for its calculations, proposed by the New Zealand economist William Phillips in 1958. The Phillips curve states that there is a direct relationship between unemployment rates and inflation, and that, as one rises, the other tends to fall. Like the Goodwin model itself, the business cycle principles proposed by the Phillips curve tend to have more validity in the short term than they do in the long term, and are more valid in theory than in practice.

Goodwin's theory of [economic growth](https://www.wisegeek.com/what-is-economic-growth.htm) also drew upon the Harrod-Domar model as a method to get beyond these balancing forces in the cycle. Sir Roy F. Harrod and Evsey Domar proposed in 1946 that growing economies are not inherently balanced, but increase in quantity and quality of output as external capital investment is applied to disrupt normal behavior. Most economic cycles that are seen as idealistically balanced and stable are in fact a cause for locking many nations into perpetual states of poverty, where savings, capital investment, and technological innovation are low.

The weakness of the Goodwin model approach to system behavior is in the fact that it clearly delineates opposing elements of a system as inherently antagonistic. Goodwin's class struggle model, like Marxian economics or predator-prey relationships, assumes that two primary elements of a system struggle against each other in a predictable environment free of other complex influences. Wage-earning workers are pitted against capitalist investors, or predators against prey. While these theories have some validity in terms of how complex systems interact, they tend to break down when mitigating factors or unseen influences change the behavior of the primary elements in the system.

One good example where the Goodwin model and others like it have failed to predict economic trends is in the recent worldwide [economic downturn](https://www.wisegeek.com/what-is-an-economic-downturn.htm) that took place as of 2008 due to speculation in the housing market and for other reasons. This economic downturn has resulted in widespread increases in the [unemployment rate](https://www.wisegeek.com/what-is-the-unemployment-rate.htm) in many industrialized nations, making labor cheaper and plentiful for capitalist interests to expand business. Despite this opportunity, as of 2011, capitalists have not responded by increasing hiring and have instead restricted capital investment at a time that would seem ideal for growth from a labor pool perspective.

**Unit-2 Topic covered :** Classical and Keynesian Theory of Income and Employment; Determination of National Income; Consumption Function; IS-LM Curve Model: Derivation of IS Curve and Shift, Derivation of LM Curve and Shift, Equilibrium of Goods and Money Market; Multiplier Analysis.

#### Introduction to Keynesian Theory:

Keynes was the first to develop a systematic theory of employment in his book. The General Theory of Employment, Interest and Money (1936). The classical and the neoclassical economists almost neglected the problem of unemployment.

They regarded unemployment as a temporary phenomenon and assumed that there is always a tendency towards full employment. It was Keynes who led a vigorous and systematic attack on the traditional theory of employment and replaced it with a more general and more realistic theory.

**Keynes’ main criticism of the classical theory was on the following two grounds:**

(a) The classical prediction that full- employment equilibrium will be achieved in the long-run was not acceptable to Keynes, who wanted to solve the short run problem of unemployment. According to Keynes, in the long-run there is no problem; in the long-run, we are all dead.

(b) Keynes criticised the classical assumption of self-regulating economy. The great depression of 1930s led Keynes to believe that full employment equilibrium in the economy was not be automatically achieved in the short period; and that government intervention was necessary to tackle the problem of the economy.

Keynes’ theory of employment is called the effective demand theory of employment. According to this theory, unemployment arises due to the deficiency to effective demand and the method of remove unemployment is to raise effective demand.

#### Features of Keynesian Theory of Employment:

**The following are the main features of the Keynesian theory of employment which determine its basic nature:**

(i) It is general theory in the sense that- (a) it deals with all levels of employment, whether it is full employment, widespread unemployment or some intermediate level; (b) it explains inflation as readily as it does unemployment, because basically both situations are a matter of volume of employment, and (c) it relates to changes in the employment and output in the economic system as a whole.

(ii) Keynesian theory of employment is a short-run theory which attempts to analyse the short-run phenomenon of unemployment. He assumed constant all those strategic variables which remain stable and change very little in the short-run.

(iii) Keynesian theory is based on empirical foundations and has important policy implications.

(iv) Keynes did not have much faith in the policy of laissez faire and automatic adjustment of the economic system. On the contrary, he advocated government intervention to reform the capitalist system.

(v) In this theory, Keynes gave money specially an important role in the determination of employment and output in the economic system as a whole.

#### Assumptions of the Theory:

**Keynesian theory of employment is based on the following assumptions:**

(i) Keynes confines his analysis to the short-period.

(ii) He assumes that there is perfect competition in the market.

(iii) He carries out his analysis in the closed economy, ignoring the effect of foreign trade.

(iv) His analysis is a macro-economic analysis, i.e., it deals with aggregates.

(v) He assumes the operation of the law of diminishing returns or increasing costs.

(vi) The government is assumed to have no part play either as taxer or a spender, i.e., the fiscal operations of the government is not explicitly recognised.

(vii) He assumes that labour has money illusion. It means that a worker feels better when his wages double even when prices also double, thus leaving his real wage unchanged.

**The Keynesian Theory of Income, Output and Employment!**

In the Keynesian theory, employment depends upon effective demand. Effective demand results in output. Output creates income. Income provides employment. Since Keynes assumes all these four quantities, viz., effective demand (ED), output (Q), income (Y) and employment (N) equal to each other, he regards employment as a function of income.

Effective demand is determined by two factors, the aggregate supply function and the aggregate demand function. The aggregate supply function depends on physical or technical conditions of production which do not change in the short-run.

Since Keynes assumes the aggregate supply function to be stable, he concentrates his entire attention upon the aggregate demand function to fight depression and unemployment. Thus employment depends on aggregate demand which in turn is determined by consumption demand and investment demand.

According to Keynes, employment can be increased by increasing consumption and/or investment. Consumption depends on income C(Y) and when income rises, consumption also rises but not as much as income. In other words, as income rises, saving rises.

Consumption can be increased by raising the propensity to consume in order to increase income and employment. But the propensity to consume depends upon the psychology of the people, their tastes, habits, wants and the social structure which determine the distribution of income.

All these elements remain constant during the short-run. Therefore, the propensity to consume is stable. Employment thus depends on investment and it varies in the same direction as the volume of investment.

Investment, in turn, depends on the rate of interest and the marginal efficiency of capital (MEC). Investment can be increased by a fall in the rate of interest and/or a rise in the MEC. The MEC depends on the supply price of capital assets and their prospective yield.

It can be raised when the supply price of capital assets falls or their prospective yield increases. Since the supply price of capital assets is stable in the short- run, it is difficult to lower it. The second determinant of MEC is the prospective yield of capital assets which depends on the expectations of yields on the part of businessmen. It is again a psychological factor which cannot be depended upon to increase the MEC to raise investment. Thus there is little scope for increasing investment by raising the MEC.

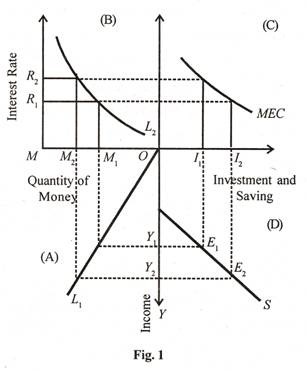
The other determinant of investment is the rate of interest. Investment and employment can be increased by lowering the rate of interest. The rate of interest is determined by the demand for money and the supply of money. On the demand side is the liquidity preference (LP) schedule.

The higher the liquidity preference, the higher is the rate of interest that will have to be paid to cash holders to induce them to part with their liquid assets, and vice versa. People hold money (M) in cash for three motives: transactions, precautionary and speculative.

The transactions and precautionary motives (M) are income elastic. Thus the amount held under these two motives (M1) is a function (L1) of the level of income (Y), i.e. M=L (Y). But the money held for speculative motive (M2) is a function of the rate of interest (r), i.e. M=L2 (r). The higher the rate of interest, the lower the demand for money, and vice versa.

Since LP depends on the psychological attitude to liquidity on the part of speculators with regard to future interest rates, it is not possible to lower the liquidity preference in order to bring down the rate of interest. The other determinant of interest rate is the supply of money which is assumed to be fixed by the monetary authority during the short-run.

The relation between interest rate, MEC and investment is shown in Figure 1, where in Panels (A) and (B) the total demand for money is measured along the horizontal axis from M onward. The transactions (and precautionary) demand is given by the L1 curve at OY1 and OY2 levels of income in Panel (A) of the figure.

**[](http://cdn.yourarticlelibrary.com/wp-content/uploads/2014/03/clip_image002130.jpg)**

Thus at OY1 income level, the transactions demand is given by OM1 and at OY2 level of income it is OM2. In Panel (B), the L2 curve represents the speculative demand for money as a function of the rate of interest.

When the rate of interest is R2, the speculative demand for money is MM2. With the fall in the rate of interest to R1, the speculative demand for money increases to MM1. Panel (C) shows investment as a function of the rate of interest and the MEC. Given the MEC, when the rate of interest is R2, the level of investment is OI1. But when the rate of interest falls to R1, investment increases to OI2.

“In the Keynesian analysis, the equilibrium level of employment and income is determined at the point of equality between saving and investment. Saving is a function of income, i.e. S=f (Y). It is defined as the excess of income over consumption, S=Y-C and income is equal to consumption plus investment.

Thus Y = C + I

Or Y-C = I

Y-C = S

I = S

So the equilibrium level of income is established where saving equals investment. This is shown in Panel (D) of Figure 1 where the horizontal axis from O toward the right represents investment and saving, and OY axis represents income. S is the saving curve.

The line I1E1 is the investment curve (imagine that it can be extended beyond E as in an S and I diagram) which touches the S curve at E1. Thus OY1 is the equilibrium level of employment and income. This is the level of underemployment equilibrium, according to Keynes. If OY2 is assumed to be the full employment level of income then the equality between saving and investment will take place at E2 where I2E2investment equals Y2E2 saving.

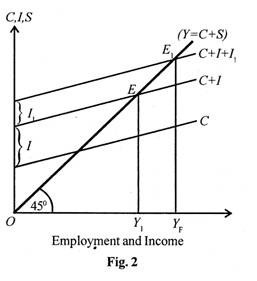
The Keynesian theory of employment and income is also explained in terms of the equality of aggregate supply (C+S) and aggregate demand (C+I). Since unemployment results from the deficiency of aggregate demand, employment and income can be increased by increasing aggregate demand.

Assuming the propensity to consume to be stable during the short-run, aggregate demand can be increased by increasing investment. Once investment increases, employment and income increase. Increased income leads to a rise in the demand for consumption goods which leads to further increase in employment and income.

Once set in motion, employment and income tend to rise in a cumulative manner through the multiplier process till they reach the equilibrium level. According to Keynes, the equilibrium level of employment will be one of under-employment equilibrium because when income increases consumption also increases but by less than the increase in income.

This behaviour of the consumption function widens the gap between income and consumption which ordinarily cannot by filled up due to the lack of required investment. The full employment income level can only be established if the volume of investment is increased to fill the income-consumption gap corresponding to full employment.

The Keynesian cross model of under-employment equilibrium is explained in Figure 2 where income and employment are taken on the horizontal axis and consumption and investment on the vertical axis. Autonomous investment is taken as a first approximation. C+I is the aggregate demand curve plotted by adding to consumption function C an equal amount of investment at all levels of income.

**[](http://cdn.yourarticlelibrary.com/wp-content/uploads/2014/03/clip_image00457.jpg)**

The 45° line is the aggregate supply curve. The economy is in equilibrium at point E where the aggregate demand curves C+I intersects the 45° line. This is the point of effective demand where the equilibrium level of income and employment OY1 is determined.

This is the level of under­employment equilibrium and not of full employment. There are no automatic forces that can make the two curves cross at a full employment income level. If it happens to be a full employment level, it will be accidental. Keynes regarded the under-employment equilibrium level as a normal case and the full employment income level as a special case.

Suppose OYF is the full employment income level. To reach this level, autonomous investment is increased by I1 so that the C+I curve shifts upward as C+I+I1, curve. This is the new aggregate demand curve which intersects the 45° line (the aggregate supply curve) at E1, the higher point of effective demand corresponding to the full employment income level OYF.

This also reveals that to get a desired increase in employment and income of Y1YF, it is the multiplier effect of an increase in investment by I1 (=I2 in Panel C of Figure 1) which leads to an increase in employment and income by Y1YF through successive rounds of investment.

#### Summary of Keynesian Theory of Employment:

Keynesian theory of employment, as developed in the General Theory is outlined in Chart-1.

**The main propositions of the theory are given below:**

(i) Total employment = total output = total income. As employment increases, output and income also increase proportionately.

(ii) Volume of employment depends upon effective demand.

(iii) Effective demand, in turn, is determined by aggregate supply function (representing costs of entrepreneurs) and aggregate demand function (representing receipts of entrepreneurs). It is determined at the point where aggregate demand and aggregate supply are equal.

(iv) Keynes assumed aggregate supply function as given in the short period and regarded aggregate demand as the most important element in his theory.

(v) Aggregate demand function is governed by consumption expenditure and investment expenditure.

(vi) Consumption expenditure depends upon the size of income and the propensity of consume. Consumption expenditure is fairly stable in the short-period because propensity to consume does not change quickly.

(vii) Investment expenditure is governed by marginal efficiency of capital (i.e., profitability of capital) and the rate of interest. Unlike consumption expenditure, investment expenditure is highly unstable.

(viii) The marginal efficiency of capital is determined by the supply price of capital assets on the one hand and the prospective yield on the other. Prospective yield, in turn, depends upon future expectations. This explains why the marginal efficiency of capital and hence investment expenditure fluctuates.

(ix) Rate of interest is a monetary phenomenon and is determined by the demand for money (liquidity preference) and the quantity of money. Liquidity preference depends upon three motives- transaction motive, precautionary motive, and speculative motive. Quantity of money is regulated by the monetary authority.

(x) The essence of the whole theory of employment is that employment (= output = income) depends upon effective demand. Effective demand expresses itself in the whole of total spending of the community, i.e., consumption expenditure and investment expenditure.

A fundamental principle is that as income of the community increases, consumption will increase, but by less than the increase in income. Thus, in order to increase the level of employment, investment must be increased. Investment must be high enough to fill the gap between income and consumption.

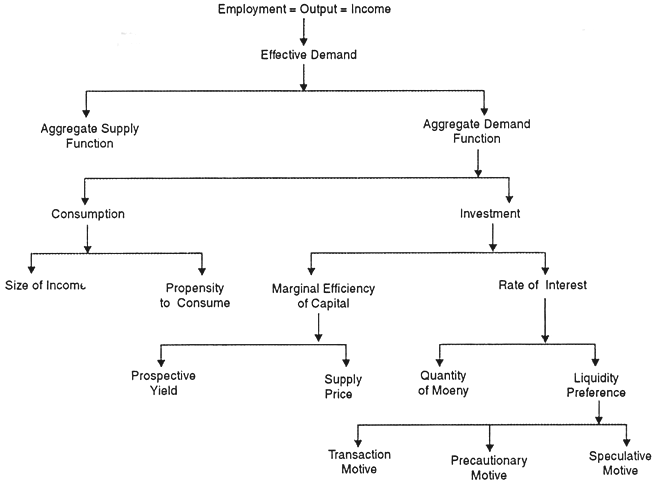
(xi) Original Keynesian analysis considers private consumption and private investment expenditure only and does not take into account government expenditure. But, in modem times, government expenditure is also a significant determinant of effective demand. Government expenditure is considered the most effective weapon to fight unemployment.

#### Determination of Equilibrium Level of Employment:

The central problem of the General Theory is- What determines the level of employment? Keynes’ answer is- effective demand. Effective demand is the logical starting point of Keynes’ theory of employment. Effective demand means desire plus ability and willingness to buy, i.e., actual expenditure. Effective demand depends upon aggregate demand function and aggregate supply function.

Aggregate demand function represents different amounts of money which the entrepreneurs expect to get from the sale of output at varying levels of employment. Or, to put it differently, aggregate demand function reveals planned or intended expenditure at different levels of income.

Aggregate demand schedule (AD curve in Figure – 7) slopes upward to the right, indicating that as the expected sale proceeds increase, greater number of workers will be employed. The AD curve flattens at the later stages of employment because marginal propensity to consume declines as income increases.

**[](http://www.microeconomicsnotes.com/wp-content/uploads/2018/09/clip_image018_thumb1.png)**

Aggregate supply function represents different amounts of money which the entrepreneurs must get from the sale of output at varying levels of employment. Or stated in a different way, aggregate supply function represents different levels of income (and thus output and employment) which the entrepreneurs will supply at different levels of expenditures.

Aggregate supply schedule (AS curve in Figure-7) also slopes upwards to the right, indicating that at higher levels of employment expected minimum sale proceeds increase. After the full employment level is reached (i.e., after point F), AS curve becomes perfectly inelastic (a vertical straight line) which shows that employment cannot increase further even if minimum expected sale proceeds increase.

#### Criticisms of Keynesian Theory:

**Though Keynes has revolutionised the modern economic thinking, his analysis has some inherent weakness:**

(i) Keynesian theory is not a complete theory of employment in the sense that it does not provide a comprehensive treatment of unemployment, (a) It deals only with cyclical unemployment and ignores other forms of unemployment, such as, frictional unemployment, technological unemployment, etc. (b) It does not tell us how to secure full and fair employment.

(ii) There exists no direct and determinable relationship between effective demand and volume of employment. It all depends upon the relationship between wage rate, prices and money supply. Moreover, in modern times, most countries are facing the problem of stagflation (i.e., unemployment with inflation).

(iii) Keynesian theory assumes perfect competition which is not a very realistic assumption. He completely ignored the problems of monopoly.

(iv) Keynesian theory deals with short-run phenomenon. It pays no attention in the long-run problems of the dynamic economy.

(v) Keynesian economics is static in nature. It ignores the time lags in the behaviour of economic variables. However, the post-Keynesians have filled this gap by providing truly dynamic analysis.

(vi) Keynesian theory is purely macro-economic theory which deals with aggregates. Micro-economic problems have been completely ignored.

(vii) Keynes assumes a closed economy. In this way, his analysis does not take into account the impact of international trade on the growth of employment and income of the economy.

(viii) Keynesian economics is, by and large, a depression economics. It is the product of Great Depression of 1930s and attempts to suggest measures to solve the problems of unemployment. It pays little attention to deal with the inflationary situation.

(ix) It is basically a capitalistic theory. It examines the determinants of employment in a free enterprise economy. Though Keynes has suggested government intervention and controlled capitalism, his theory fails to deal socialist economic system.

(x) Keynesian theory is not applicable in underdeveloped countries. Keynes deals with the problem of cyclical unemployment, whereas the underdeveloped countries face the problems of chronic unemployment and disguised unemployment.

As a remedial measure, Keynes suggested expansion of aggregate demand and discouragement to saving, while the underdeveloped countries need curbs on spending, and increases in saving for capital formation and for large-scale investment to break the vicious circle of poverty.

**Conclusion:**

In short, the Keynesian theory is not general; it is not applicable in all places and at all times. As Harris has remarked- “Those who seek universal truths, applicable in all places at all times had better not waste their time on the General Theory.”

**The Goods Market and Money Market: Links between Them:**

The Keynes in his analysis of national income explains that national income is determined at the level where aggregate demand (i.e., aggregate expenditure) for consumption and investment goods (C +1) equals aggregate output.

In other words, in Keynes’ simple model the level of national income is shown to be determined by the goods market equilibrium. In this simple analysis of equilibrium in the goods market Keynes considers investment to be determined by the rate of interest along with the marginal efficiency of capital and is shown to be independent of the level of national income.

The rate of interest, according to Keynes, is determined by money market equilibrium by the demand for and supply of money. In this Keynes’ model, changes in rate of interest either due to change in money supply or change in demand for money will affect the determination of national income and output in the goods market through causing changes in the level of investment.

In this way changes in money market equilibrium influence the determination of national income and output in the goods market. However, there is apparently one flaw in the Keynesian analysis which has been pointed out by some economists and has been a subject of a good deal of controversy.

It has been asserted that in the Keynesian model whereas the changes in rate of interest in the money market affect investment and therefore the level of income and output in the goods market, there is seemingly no inverse influence of changes in goods market i.e., (investment and income) on the money market equilibrium.

It has been shown by J.R. Hicks and others that with greater insights into the Keynesian theory one finds that the changes in income caused by changes in investment or propensity to consume in the goods market also influence the determination of interest in the money market.

According to him, the level of income which depends on the investment and consumption demand determines the transac­tions demand for money which affects the rate of interest. Hicks, Hansen, Lerner and Johnson have put forward a complete and integrated model based on the Keynesian framework wherein the vari­ables such as investment, national income, rate of interest, demand for and supply of money are inter­related and mutually interdependent and can be represented by the two curves called the IS and LM curves.

This extended Keynesian model is therefore known as IS-LM curve model. In this model they have shown how the level of national income and rate of interest are jointly determined by the simul­taneous equilibrium in the two interdependent goods and money markets. Now, this IS-LM curve model has become a standard tool of macroeconomics and the effects of monetary and fiscal policies are discussed using this IS and LM curves model.

**Goods Market Equilibrium: The Derivation of the is Curve:**

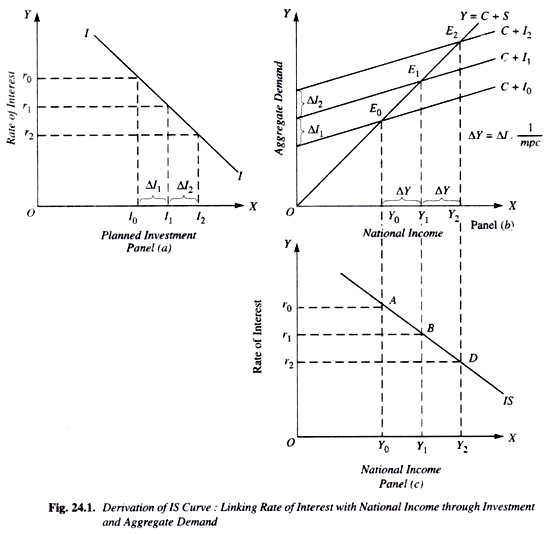
The IS-LM curve model emphasises the interaction between the goods and money markets. The goods market is in equilibrium when aggregate demand is equal to income. The aggregate demand is determined by consumption demand and investment demand.

In the Keynesian model of goods mar­ket equilibrium we also now introduce the rate of interest as an important determinant of investment. With this introduction of interest as a determinant of investment, the latter now becomes an endogenous variable in the model.

When the rate of interest falls the level of investment increases and vice versa. Thus, changes in the rate of interest affect aggregate demand or aggregate expenditure by causing changes in the investment demand. When the rate of interest falls, it lowers the cost c’ investment projects and thereby raises the profitability of investment.

The businessmen will there­fore undertake greater investment at a lower rate of interest. The increase in investment demand will bring about increase in aggregate demand which in turn will raise the equilibrium level of income. In the derivation of the IS Curve we seek to find out the equilibrium level of national income as deter­mined by the equilibrium in goods market by a level of investment determined by a given rate of interest.

Thus IS curve relates different equilibrium levels of national income with various rates of interest. As explained above, with a fall in the rate of interest, the planned investment will increase which will cause an upward shift in aggregate demand function (C + 7) resulting in goods market equilibrium at a higher level of national income.

**[](http://cdn.yourarticlelibrary.com/wp-content/uploads/2014/04/clip_image002565.jpg)**

The lower the rate of interest, the higher will be the equilibrium level of national income. Thus, the IS curve is the locus of those combinations of rate of interest and the level of national income at which goods market is in equilibrium.

How the IS curve is derived is illustrated in Fig. 24.1. In panel (a) of Fig. 24.1 the relationship between rate of interest and planned investment is depicted by the investment demand curve II. It will be seen from panel (a) that at rate of interest Or0 the planned investment is equal to OI0. With OI0 as the amount of planned investment, the aggregate demand curve is C + I0 which, as will be seen in panel (b) of Fig. 24.1 equals aggregate output at OY1 level of national income.

Therefore, in the panel (c) at the bottom of the Fig. 24.1, against rate of interest Or2, level of income equal to OY0 has been plotted. Now, if the rate of interest falls to Or2 the planned investment by businessmen increases from OI0 to OI1 [see panel (a)]. With this increase in planned investment, the aggregate demand curve shifts upward to the new position C + 11 in panel (b), and the goods market is in equilibrium at OY1 level of national income. Thus, in panel (c) at the bottom of Fig. 24.1 the level of national income OY1 is plotted against the rate of interest, Or1.

With further lowering of the rate of interest to Or2, the planned investment increases to OI2 (see panel a). With this further rise in planned investment the aggregate demand curve in panel (b) shifts upward to the new position C + I2 corresponding to which goods market is in equilibrium at OY2 level of income. Therefore, in panel (c) the equilibrium income OY2 is shown against the interest rate Or2.

By joining points A, B, D representing various interest-income combinations at which goods market is in equilibrium we obtain the IS Curve. It will be observed from Fig. 24.1 that the IS Curve is downward sloping (i.e., has a negative slope) which implies that when rate of interest declines, the equilibrium level of national income increases.

**Why does IS Curve Slope Downward?**

What accounts for the downward-sloping nature of the IS curve. As seen above, the decline in the rate of interest brings about an increase in the planned investment expenditure. The increase in in­vestment spending causes the aggregate demand curve to shift upward and therefore leads to the increase in the equilibrium level of national income. Thus, a lower rate of interest is associated with a higher level of national income and vice-versa. This makes the IS curve, which relates the level of income with the rate of interest, to slope downward.

Steepness of the IS curve depends on (1) the elasticity of the investment demand curve, and (2) the size of the multiplier. The elasticity of investment demand signifies the degree of responsiveness of investment spending to the changes in the rate of interest.

Suppose the investment demand is highly elastic or responsive to the changes in the rate of interest, then a given fall in the rate of interest will cause a large increase in investment demand which in turn will produce a large upward shift in the aggregate demand curve.

A large upward shift in the aggregate demand curve will bring about a large expansion in the level of national income. Thus when investment demand is more elastic to the changes in the rate of interest, the investment demand curve will be relatively flat (or less steep). Similarly, when investment demand is not very sensitive or elastic to the changes in the rate of interest, the IS curve will be relatively more steep.

The steepness of the IS curve also depends on the magnitude of the multiplier. The value of multiplier depends on the marginal propensity to con­sume (mpc). It may be noted that the higher the marginal propensity to consume, the aggregate de­mand curve (C + I) will be more steep and the magnitude of multiplier will be large.

In case of a higher marginal propensity to consume (mpc) and therefore a higher value of multiplier, a given increment in investment demand caused by a given fall in the rate of interest will help to bring about a greater increase in equilibrium level of income.

Thus, the higher the value of multiplier, the greater will be the rise in equilibrium income produced by a given fall in the rate of interest and this makes the IS curve flatter. On the other hand, the smaller the value of multiplier due to lower marginal propensity to consume, the smaller will be the increase in equilibrium level of income following a given increment in investment caused by a given fall in the rate of interest. Thus, in case of smaller size of multiplier the IS curve will be more steep.

**Shift in IS Curve:**

It is important to understand what determines the position of the IS curve and what causes shifts in it. It is the level of autonomous expenditure which determines the position of the IS curve and changes in the autonomous expenditure cause a shift in it. By autonomous expenditure we mean the expenditure, be it investment expenditure, the Government spending or consumption expenditure which does not depend on the level of income and the rate of interest.

The government expenditure is an important type of autonomous expenditure. Note that the Government expenditure which is deter­mined by several factors as well as by the policies of the Government does not depend on the level of income and the rate of interest.

Similarly, some consumption expenditure has to be made if individu­als have to survive even by borrowing from others or by spending their savings made in the past year. Such consumption expenditure is a sort of autonomous expenditure and changes in it do not depend on the changes in income and rate of interest. Further, autonomous changes in investment can also occur.

In the goods market equilibrium of the simple Keynesian model the investment expenditure is treated as autonomous or independent of the level of income and therefore does not vary as the level of income increases. However, in the complete Keynesian model, the investment spending is thought to be determined by the rate of interest along with marginal efficiency of investment.

Following this complete Keynesian model, in the derivation of the IS curve we consider the level of investment and changes in it as determined by the rate of interest along with marginal efficiency of capital. However, there can be changes in investment spending autonomous or independent of the changes in rate of interest and the level of income.

For instance, growing population requires more investment in house construction, school buildings, roads, etc., which does not depend on changes in level of income or rate of interest. Further, autonomous changes in investment spending can also take place when new innovations come about, that is, when there is progress in technology and new machines, equipment, tools etc., have to be built embodying the new technology.

Besides, Government expenditure is also of autonomous type as it does not depend on income and rate of interest in the economy. As is well- known government increases its expenditure for the purpose of promoting social welfare and acceler­ating economic growth. Increase in Government expenditure will cause a rightward shift in the IS curve.

**Money Market Equilibrium: Derivation of LM Curve:**

**Derivation of the LM Curve:**

The LM curve can be derived from the Keynesian theory from its analysis of money market equilibrium. According to Keynes, demand for money to hold depends upon transactions motive and speculative motive.

It is the money held for transactions motive which is a function of income. The greater the level of income, the greater the amount of money held for transactions motive and there­fore higher the level of money demand curve.

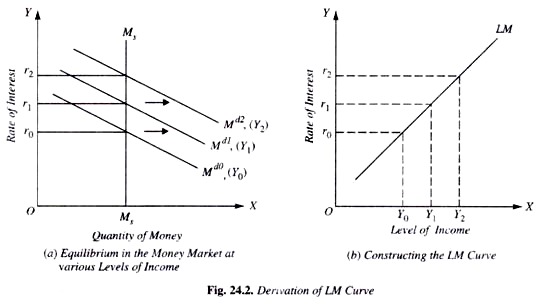
The demand for money depends on the level of income because they have to finance their expen­diture, that is, their transactions of buying goods and services. The demand for money also depends on the rate of interest which is the cost of holding money. This is because by holding money rather than lending it and buying other financial assets, one has to forgo interest.

**Thus demand for money (Md) can be expressed as:**

Md – L(Y, r)

Where Md stands for demand for money, Y for real income and r for rate of interest. Thus, we can draw a family of money demand curves at various levels of income. Now, the intersection of these various money demand curves corresponding to different income levels with the supply curve of money fixed by the monetary authority would gives us the LM curve.

The LM curve relates the level of income with the rate of interest which is determined by money-market equilibrium corresponding to different levels of demand for money. The LM curve tells what the various rates of interest will be (given the quantity of money and the family of demand curves for money) at different levels of income.

But the money demand curve or what Keynes calls the liquidity preference curve alone cannot tell us what exactly the rate of interest will be. In Fig. 24.2 (a) and (b) we have derived the LM curve from a family of demand curves for money.**[](http://cdn.yourarticlelibrary.com/wp-content/uploads/2014/04/clip_image004281.jpg)**As income increases, money demand curve shifts outward and therefore the rate of interest which equates supply of money, with demand for money rises. In Fig. 24.2 (b) we measure income on the X-axis and plot the income level corresponding to the various interest rates determined at those income levels through money market equilibrium by the equality of demand for and the supply of money in Fig. 24.2 (a).

**Slope of LM Curve:**

It will be noticed from Fig. 24.2 (b) that the LM curve slopes upward to the right. This is because with higher levels of income, demand curve for money (Md) is higher and consequently the money- market equilibrium, that is, the equality of the given money supply with money demand curve occurs at a higher rate of interest. This implies that rate of interest varies directly with income.

It is important to know the factors on which the slope of the LM curve depends. There are two factors on which the slope of the LM curve depends. First, the responsiveness of demand for money (i.e., liquidity prefer­ence) to the changes in income. As the income increases, say from Y0 to Y1 the demand curve for money shifts from Md0 to Md1 that is, with an increase in income, demand for money would increase for being held for transactions motive, Mdor L1 =f(Y).

This extra demand for money would disturb the money market equilibrium and for the equilibrium to be restored the rate of interest will rise to the level where the given money supply curve intersects the new demand curve corresponding to the higher income level.

It is worth noting that in the new equilibrium position, with the given stock of money supply, money held under the transactions motive will increase whereas the money held for speculative motive will decline.

The greater the extent to which demand for money for transactions motive increases with the increase in income, the greater the decline in the supply of money available for speculative motive and, given the demand for money for speculative motive, the higher the rise in tie rate of interest and consequently the steeper the LM curve, r = f (M2 L2) where r is the rate of interest, M2 is the stock of money available for speculative motive and L2 is the money demand or liquidity preference for speculative motive.

The second factor which determines the slope of the LM curve is the elasticity or responsiveness of demand for money (i.e., liquidity preference for speculative motive) to the changes in rate of interest. The lower the elasticity of liquidity preference for speculative motive with respect to the changes in the rate of interest, the steeper will be the LM curve. On the other hand, if the elasticity of liquidity preference (money demand-function) to the changes in the rate of interest is high, the LM curve will be flatter or less steep.

**Shifts in the LM Curve:**

Another important thing to know about the IS-LM curve model is that what brings about shifts in the LM curve or, in other words, what determines the position of the LM curve. As seen above, a LM curve is drawn by keeping the stock or money supply fixed.

Therefore, when the money supply increases, given the money demand function, it will lower the rate of interest at the given level of income. This is because with income fixed, the rate of interest must fall so that demands for money for speculative and transactions motive rises to become equal to the greater money supply. This will cause the LM curve to shift outward to the right.

The other factor which causes a shift in the LM curve is the change in liquidity preference (money demand function) for a given level of income. If the liquidity preference function for a given level of income shifts upward, this, given the stock of money, will lead to the rise in the rate of interest for a given level of income. This will bring about a shift in the LM curve to the left.

It therefore follows from above that increase in the money demand function causes the LM curve to shift to the left. Similarly, on the contrary, if the money demand function for a given level of income declines, it will lower the rate of interest for a given level of income and will therefore shift the LM curve to the right.

**The LM Curve: The Essential Features:**

**From our analysis of the LM curve, we arrive at its following essential features:**

1. The LM curve is a schedule that describes the combinations of rate of interest and level of income at which money market is in equilibrium.

2. The LM curve slopes upward to the right.

3. The LM curve is flatter if the interest elasticity of demand for money is high. On the con­trary, the LM curve is steep if the interest elasticity demand for money is low.

4. The LM curve shifts to the right when the stock of money supply is increased and it shifts to the left if the stock of money supply is reduced.

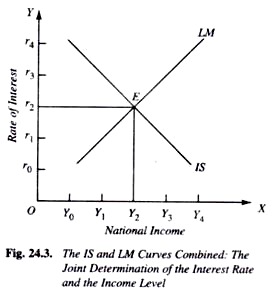
5. The LM curve shifts to the left if there is an increase in the money demand function which raises the quantity of money demanded at the given interest rate and income level. On the other hand, the LM curve shifts to the right if there is a decrease in the money demand function which lowers the amount of money demanded at given levels of interest rate and income.

**Simultaneous Equilibrium of the Goods Market and Money Market:**

**The IS and the LM curves relate the two variables:**

(a) Income and

(b) The rate of interest.

Income and the rate of interest are therefore determined together at the point of intersection of these two curves, i.e., E in Fig. 24.3. The equilibrium rate of interest thus determined is Or2 and the level of income determined is OY2. At this point income and the rate of interest stand in relation to each other such that (1) the goods market is in equilibrium, that is, the aggregate demand equals the level of aggregate output, and (2) the demand for money is in equilibrium with the supply of money (i.e., the desired amount of money is equal to the actual supply of money). It should be noted that LM cur/e has been drawn by keeping the supply of money fixed.**[](http://cdn.yourarticlelibrary.com/wp-content/uploads/2014/04/clip_image006137.jpg)Thus, the IS-LM curve model is based on:**

(1) The investment-demand function,

(2) The consump­tion function,

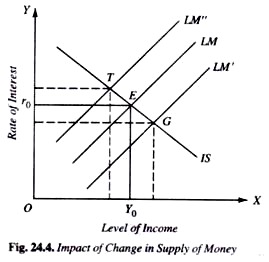
(3) The money demand function, and

(4) The quantity of money.

We see, therefore, that according to the IS-LM curve model both the real factors, namely, saving and investment, productiv­ity of capital and propensity to consume and save, and the monetary factors, that is, the demand for money (liquidity preference) and supply of money play a part in the joint determination of the rate of interest and the level of income. Any change in these factors will cause a shift in IS or LM curve and will therefore change the equilibrium levels of the rate of interest and income.

The IS-LM curve model explained above has succeeded in integrating the theory of money with the theory of income determina­tion. And by doing so, as we shall see below, it has succeeded in synthesising the monetary and fiscal policies. Further, with the IS-LM curve analysis, we are better able to explain the effect of changes in certain important eco­nomic variables such as desire to save, the supply of money, investment, demand for money on the rate of interest and level of in­come.

**Effect of Changes in Supply of Money on the Rate of Interest and Income Level:**

Let us first consider what will happen if the supply of money is increased by the action of the Central Bank. Given the liquidity preference schedule, with the increase in the supply of money, more money will be available for speculative motive at a given level of income which will cause the interest rate to fall. As a result, the LM curve will shift to the right.**[](http://cdn.yourarticlelibrary.com/wp-content/uploads/2014/04/clip_image00880.jpg)**With this rightward shift in the LM curve, in the new equilibrium position, rate of interest will be lower and the level of income greater than before. This is shown in Fig. 24.4 where with a given supply of money, LM and IS curves intersect at point E.

With the increase in the supply of money, LM curve shifts to the right to the position LM’, and with IS schedule remaining unchanged, new equilibrium is at point G corresponding to which rate of interest is lower and level of income greater than at E. Now, suppose that instead of increasing the supply of money, Central Bank of the country takes steps to reduce the supply of money.

With the reduction in the supply of money, less money will be available for speculative motive at each level of income and, as a result, the LM curve will shift to the left of E, and the IS curve remaining un-changed, in the new equilibrium position (as shown by point T in Fig. 24.4) the rate of interest will be higher and the level of income smaller than before.

**Multiplier**

#### Algebraic Derivation of Multiplier:

**The multiplier can be derived algebraically as follows:**

Writing the equation for the equilibrium level of income we have

Y = C + I

As in the multiplier analysis we are concerned with changes in income induced by changes in investment, rewriting the equation (1) in terms of changes in the variables we have

ΔY = ΔC + ΔI

In the simple Keynesian model of income determination, change in investment is considered to be autonomous or independent of changes in income while changes in consumption are function of changes in income. In the consumption function,

C = a + bY:

where a is a constant term, b is marginal propensity to consume which is also assumed to remain constant. Therefore, change in consumption can occur only if there is change in income. Thus

Theory of Multiplier

ΔC = bΔY

Substituting (3) into (2) we have:

ΔY = bΔY + ΔI

ΔY – bΔY = ΔI

ΔY (1 – b) = ΔI

Or

ΔY =1/1-b ΔI

ΔY/ΔI = 1/1 -b

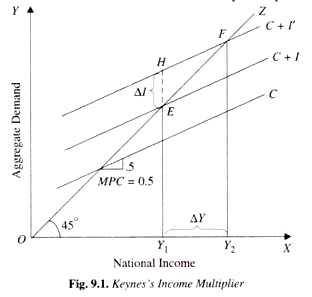
As b stands for marginal propensity to consume

ΔY/ΔI = 1/1 – MPC = 1/MPS

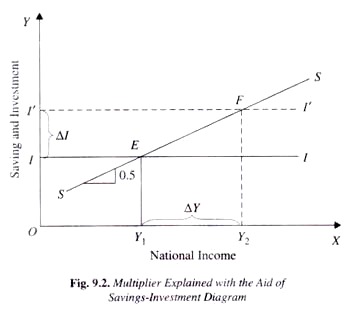
This is the same formula of multiplier as obtained earlier. Note that the value of multiplier ΔY/ΔI will remain constant as long as marginal propensity to consume remains the same.

#### Diagrammatic Representation of Multiplier:

We have already explained that the level of national income is determined by the equilib­rium between aggregate demand and aggregate supply. In other words, the level of national income is fixed at the level where C + I curve intersects the 45° income curve. With such a diagram we can explain the multiplier. The mul­tiplier is illustrated in Fig. 9.1. In this figure C represents marginal propensity to consume. Marginal propensity to consume has been here assumed to be equal to 1/2 i.e., 0.5. Therefore, the slope

of the curve C of marginal propensity to consume curve C has been taken to be equal to 0.5. C + I represents ag­gregate demand curve. It will be seen from Fig. 91 that the aggregate demand curve C + I which intersects the 45° line at point E so that the level of income equal to OY1 is determined.**[](http://cdn.yourarticlelibrary.com/wp-content/uploads/2014/04/clip_image002548.jpg)**If investment increases by the amount EH we can then find out how much increment in income will occur as a result of this. As a consequence of increase in investment by EH, the aggregate demand curve shifts upward to the new position C + I’. This new aggregate demand curve C + I’ intersects the 45° income line at point F so that the equilibrium level of income increases to OY2.

Hence as a result of net increase in investment equal to EH, the income has increased by Y1Y2. It will be seen from the figure that Y1Y2 is greater than EH. On measuring, it will be found that Y1Y2 is twice the length of EH. This is as it is expected because the marginal propensity to consume is here equal to 1/2 and therefore the size of multiplier will be equal to 2.

The multiplier can be illus­trated through saving-investment diagram also. In a previous chap­ter we explained the determination of national income also through saving the investment. Therefore, the multiplier can also be ex­plained with the help of saving- investment diagram, as has been shown in Fig. 9.2. In this figure SS is the saving curve indicating that as the level of income in­creases, the community plans to save more. II is the investment curve showing the level of investment planned to be undertaken by the investors in the community.**[](http://cdn.yourarticlelibrary.com/wp-content/uploads/2014/04/clip_image00357.jpg)**The investment has been taken to be a constant amount and autonomous of changes in income. This investment level 01 has been determined by marginal efficiency of capital and the rate of interest. Investment being autonomous of income means that it does not change with the level of income.

Keynes treated investment as autonomous of income and we will here follow him. It will be seen from Fig. 9.2 that saving and investment curves intersect at point E, that is, planned saving and planned investment are in equilib­rium at the level of income OY1.

Thus, with the given saving and investment curves level of income equal to OY1 is determined. Now suppose that there is an increase in investment by the amount II’. With this increase in investment, the investment curve shifts to the new dotted position I’I’.

This new investment curves I’I’ intersects the saving curve at point F and a new equilibrium as reached at the level of income OY2. A glance at the Fig. 9.2 will reveal that the increase in income Y1 Y2 is twice the increase in investment by II’. Thus multiplier is here equal to [K=1/0.5=2].

**Following 1 is a Previous year question**

**If the marginal propensity to consume of a community is equal to 2/3, we can find out the size of multiplier as under:**

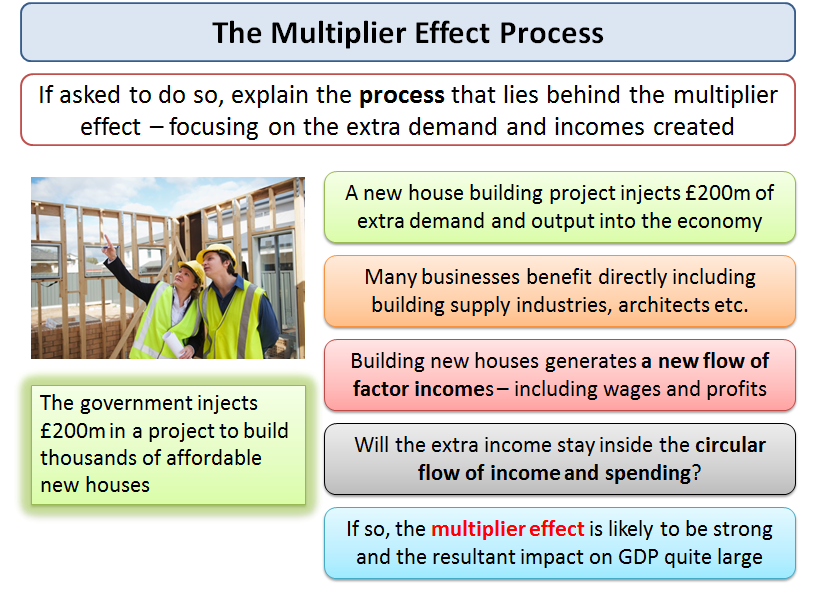
Multiplier, k = 1/1-MPC

1/1-2/3 = 1/1/2 = 3

Likewise, if the marginal propensity to consume is equal to ½ or 0.5, then the multiplier:

1/1-1/2 = 1/1/2 = 2

* The multiplier effect comes about because injections of new demand for goods and services into the circular flow of income stimulate further rounds of spending – in other words “one person’s spending is another’s income”
* This can lead to a bigger eventual final effect on output and employment
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**Unit -3 Topic covered:** Fiscal Policy: Nature, Objective and Mobilization of Resources; Public Expenditure: Concept of Public Expenditure, Types of Public Expenditure, Effects of Public Expenditure on Production and Distribution; Taxation: Classification, Characteristics of Good Taxation System; Government Borrowings: Introduction, Budget Deficits, Debt Financing of Budget Deficit.

# Fiscal Policy

**Definition:**The **Fiscal Policy**implies the decisions taken by the government with respect to its **revenue collection** (through taxation), **expenditure and other financial operations** to accomplish certain national goals.

The government uses its expenditure and taxation programmes to generate the desirable effects or eliminate the undesirable effects on the **production, employment and national income of the economy**. The Fiscal Policy aims at ensuring a long-run stability of the economy, could be achieved only by controlling the short-run economic fluctuations.

The fiscal policy strives to achieve the following **objectives:**

* **Promotion of employment**, i.e. maintaining and achieving the full employment.
* Maintaining or stabilizing the **growth rate** of the economy.
* Maintaining or stabilizing the **price levels** in the market.
* Promoting the **economic development** of underdeveloped countries.
* Achieving the equilibrium in the **Balance of Payments.**
* Economic **justice and equity.**

## FISCAL POLICY TOOLS

A government has two tools at its disposal under the fiscal policy –

taxation and

public spending.

Taxation includes taxes on income, property, sales, and investments. On the one hand, more taxes means more income for the government, but it also results in less income in the hand of the people.

Public spending includes subsidies, transfer payments, like salaries to a govt. employee, welfare programs, and public works projects. Those who get the funds have more money to spend.

**Fiscal policy and economic development**

**1. To Mobilize Resources:**

The foremost aim of fiscal policy in underdeveloped countries is to mobilize resources in the private and public sectors. Generally, the national income and per capita income is very low due to low rate of savings. Therefore, the governments of such countries through forced savings pushes the rate of investment and capital formation which in turn accelerates the rate of economic development.

It also undertakes the policy of planned investment in the public sector. Private investments have the favourable effect of increasing investment, the curtailment of conspicuous consumption and investment in unproductive channels can help to check the inflationary trend in the economy. Moreover, these countries face the problem of foreign capital. Thus the remedy lies in increasing the incremental saving ratio, the marginal propensity to save through public finance, taxation and forced loans.

To some extent, progressive taxation, heavy duty on luxury imports, ban on the manufacture of luxury and semi-luxury goods are other measures which help to mobilize the resources, Therefore, progressive taxation on windfall gains, on unearned incomes on capital gains, on expenditure and real estates etc. can go a long way in equitable distribution of wealth.

**2. To Accelerate the Rate of Growth:**

Fiscal policy helps to accelerate the rate of economic growth by raising the rate of investment in public as well as private sectors. Therefore, various tools of fiscal policy as taxation, public borrowing, deficit financing and surpluses of public enterprises should be used in a combined manner so that they may not adversely affect the consumption, production and distribution of wealth.

In order to achieve balanced growth in different sectors of the economy, according to Prof. J. Chelliah, the most fruitful line of advance lies along the path of a balanced development of agriculture and industry. In short, investment in basic and capital goods industries and in social overheads is the pillars of economic development in an underdeveloped economy. Thus, top priority to such investment should be given to accelerate the all round growth of an economy.

**3. To Encourage Socially Optimal Investment:**

In underdeveloped countries, fiscal policy encourages the investment into those productive channels which are considered socially and economically desirable. This means optimal investment which promotes economic development and avoids wasteful and unproductive investment.

In short, aim of the fiscal policy should be to make investment on social and economic overheads such as transportation, communication, technical training, education, health and soil conservation. They tend to raise productivity and widen the market to enjoy external economies. At the same time, unproductive investment is checked and diverted towards productive and socially desirable channels.

**4. Inducement to Investment and Capital Formation:**

Fiscal policy plays crucial role in underdeveloped countries by making investment in strategic industries and services of public utility on one side and induces investment in private sector by giving assistance to new industries and introduces modern techniques of production. Thus, investment on social and economic overheads are helpful in increasing the social marginal productivity and thereby raising the marginal productivity of private investment and capital formation. Here, optimum pattern of investment can also go a long way to yield fruitful results of economic development.

Economic development is a most dynamic process which involves changes in the size and quality of population, tastes, knowledge and social institutions. Keeping all factors in mind, if social marginal productivity in socially desirable projects is low, fiscal policy should be framed to raise social marginal productivity and to divert resources to that productive channels where the social marginal productivity is the highest.

**5. To Provide more Employment Opportunities:**

Since in less developed countries, population grows at a very fast rate, the aim of fiscal policy in such countries is to make high doses of expenditures which are helpful to raise employment opportunities. Generally under developed economies suffer from unemployment.

* **Promotion of Economic Stability:**
* Still another role played by the fiscal policy in developing countries is of maintaining reasonable internal and external economic stability. Generally, a developing country is prone to the efforts of international cyclical fluctuations. Such countries mainly export primary products and import manufactured and capital goods. However, in order to minimize the effects of international cyclical fluctuations, fiscal policy should be viewed from a longer perspective.
* It must aim at the diversification of all sectors of the economy. For bringing balanced growth and reducing the effects of cyclical fluctuations, a contra-cyclical fiscal policy of deficit budgeting in depression and surplus budgeting in inflation are most suitable measures.
* In a recession, public works programme through deficit financing brings fruitful results. No doubt, injection of additional purchasing power would tend to inflationary pressures which can be controlled with preventive measures. On the contrary, such a policy should be supplemented by appropriate monetary measures.
* **To Check Inflationary Tendencies:**
* Inflationary tendencies is one of the main problems of developing countries as these countries make heavy doses of investment for their development activities. Thus, there is always an imbalance between the demand for and the supply of real resources.
* With additional injection of purchasing power, the demand rises and supply remains inelastic on account of its structural rigidities, market imperfections and other bottlenecks which in turn lead to inflationary pressures on the economy. Aggregate demand as a result of rise in the income of the people exceeds the aggregate supply. Capital goods and consumption goods fail to keep pace with the rising income.
* **Fiscal policy, therefore, can take several steps to control inflationary forces in the economy. They are:**
  + Reducing the purchasing power of the people through Compulsory Deposit Scheme
  + Mobilizing resources through public debt
  + Levying of Expenditure Tax
  + Imposing more taxes on rentier class
  + Raising the rate of Capital Gains Tax
  + Encouraging the habit of saving among the people
  + Raising the percentage deduction of provident fund
  + Making of public investment in such production projects as have short gestation period,
  + Encouraging more production
  + Mobilizing more resources by way of public borrowing and using the same in production projects.
* **National Income and Proper Distribution:**
* The importance of increasing national income and removing inequalities of income and wealth can hardly be exaggerated. According to Prof… Raja J. Chelliah, a mere increase in per capita income does not necessarily lead to an increase in the welfare of all sections of the people, unless an equitable distribution is usually taken to mean a reduction in the existing inequalities of income and wealth.
* The existence of extreme inequalities in income and wealth create social cleavages, lead to economic and political instability and the biggest hindrance in the way of economic development of an economy. As a result, few rich roll in wealth and misuse their income on conspicuous consumption and inventories, real estate, gold and speculation, while poor masses grow under poverty and misery.
* **Reallocation of Resources:**
* Allocation of resources are not proper in the underdeveloped countries. Much of the resources in private sector are directed to the production of those goods which meet the need of richer sections of society and yield higher profit. It is very important that the fiscal tools are employed in such a way as to divert resources from less useful production to more useful channels. This can be done by various tax incentive measures and government subsidy programmes.
* **12. Balanced Growth:**
* Most of the underdeveloped countries suffer acutely from regional imbalance in the matter of economic development. Private sector in these countries normally concentrates its production on those luxury goods which are consumed mostly by richer sections who live in the urban areas. Hence, backward areas will not be developed unless government interferes into the decision making relating to industrial location. By providing fiscal incentives to the private sector and by setting up industries in the public sector in these geographical areas, the government can achieve balanced development of the country.
* **13. Reduction of Inequality:**
* Since inequality of income and wealth is vast in the underdeveloped countries, fiscal policy has an important role to play in reducing inequality. Taxation of income and property at progressive rates, imposition of heavy taxes on goods consumed by the rich and exemption from tax or tax concession granted to commodities of mass consumption, government expenditure on relief programmes, supply of inputs for small industries and agricultural farms, provision of essential commodities to the poor at subsidized prices, etc. are the fiscal measures directed to the reduction of the gap between poverty and prosperity. Hence, the role of fiscal policy becomes significant to frame such policy to remove these inequalities of income and direct these misused resources into productive channels for economic development.
* To conclude, the main objective of fiscal policy in underdeveloped countries should be promoting capital formation, raising national income, reducing disparities of income and wealth, proper allocation of resources, controlling inflation and achieving of full employment.

**Fiscal Deficit**

**Definition:** **Fiscal Deficit** refers to the financial situation wherein the government’s**total budget exceeds the total receipts excluding borrowings** made during the fiscal year. Thus, it can be expressed as:

**Fiscal Deficit = Total Expenditure – Total Receipts Excluding Borrowings**

**Types of fiscal policies**

## Expansionary Fiscal Policy

There are two types of fiscal policy. The most widely-used is [expansionary](https://www.thebalance.com/expansionary-fiscal-policy-purpose-examples-how-it-works-3305792), which stimulates economic growth. Congress uses it to end the [contraction phase](https://www.thebalance.com/economic-contraction-4067683) of the business cycle when voters are clamoring for relief from a [recession](https://www.thebalance.com/what-is-a-recession-3306019). The government either spends more, [cuts taxes](https://www.thebalance.com/tax-cuts-definition-types-and-how-they-work-3306328), or both. The idea is to put more money into consumers' hands, so they spend more. The increased demand forces businesses to add jobs to increase supply.1﻿

Politicians debate about which works better. Advocates of [supply-side economics](https://www.thebalance.com/supply-side-economics-does-it-work-3305786) prefer tax cuts because they say it frees up businesses to hire more workers to pursue business ventures. Advocates of demand-side economics say additional spending is more effective than tax cuts.4﻿ Examples include public works projects, [unemployment benefits](https://www.thebalance.com/unemployment-benefits-extensions-3306210), and food stamps. The money goes into the pockets of consumers, who go right out and buy the things businesses produce.

An expansionary [fiscal policy](https://www.thebalance.com/contractionary-fiscal-policy-definition-purpose-examples-3305791) is impossible for state and local governments because they are mandated to keep a balanced budget. If they haven't created a surplus during the boom times, they must cut spending to match lower tax revenue during a recession.5﻿ That makes the contraction worse. Fortunately, the federal government has no such constraints; it's free to use expansionary policy whenever it's needed. Unfortunately, it also means Congress created [budget deficits](https://www.thebalance.com/budget-deficit-definition-and-how-it-affects-the-economy-3305820) even during [economic booms](https://www.thebalance.com/economic-boom-4067682)—despite a national [debt ceiling](https://www.thebalance.com/u-s-debt-ceiling-why-it-matters-past-crises-3305868).6﻿﻿7﻿ As a result, the critical [debt-to-gross domestic product ratio](https://www.thebalance.com/debt-to-gdp-ratio-how-to-calculate-and-use-it-3305832) has exceeded 100%.8﻿

## Contractionary Fiscal Policy

The second type of fiscal policy is [**contractionary fiscal policy**](https://www.thebalance.com/contractionary-fiscal-policy-definition-purpose-examples-3305791), which is rarely used. Its goal is to slow economic growth and stamp out [inflation](https://www.thebalance.com/what-is-inflation-how-it-s-measured-and-managed-3306170). The long-term impact of inflation can damage the [standard of living](https://www.thebalance.com/standard-of-living-3305758) as much as a recession. The tools of contractionary fiscal policy are used in reverse. Taxes are increased, and spending is cut. You can imagine how wildly unpopular this is among voters.1﻿ Only [lame duck](https://www.thebalance.com/lame-duck-definition-session-how-it-got-its-name-3306307) politicians could afford to implement contractionary policy.

**Public expenditure**

### ****Meaning of Public Expenditure:****

Expenses incurred by the public authorities—central, state and local self- governments—are called public expenditure. Such expenditures are made for the maintenance of the governments as well as for the benefit of the society as whole.

#### Types of Public Expenditure:

Public expenditure may be classified into developmental and non-developmental expenditures. Former includes the expenditure incurred on social and community services, economic services, etc. Non-developmental expenditure includes expenditures made for administrative service, defence service, debt servicing, subsidies, etc.

Public expenditure is classified into revenue expenditure and capital expenditure. Revenue expenditure includes civil expenditure (e.g., general services, social and community services and economic services), defence expenditure, etc. On the other hand, capital expenditure comprises expenditures incurred on social and community develop­ment, economic development, defence, general services, etc.

Public expenditure may also be classified as

plan expenditure and

non-plan expen­diture.

**Non-plan expenditure** falls under two broad heads, viz., revenue expenditure and capital expenditure. The former comprises interest payments, defence expenditures, subsidies, pensions, other general services (like health, education), economic services (like agriculture, energy, industry, transport and communication, science, technology and environment, etc.)

Expenditures on agriculture, rural development, irrigation and flood control, energy, industry and mineral resources, etc., are included in **plan expenditure.**

#### The public expenditure greatly affects the economic activity of the country. It influences the level of production, distribution of national income, the allocation of national resources and the level of employment. The impact of these expenditure may be discussed under following heads:

**Effects of Public Expenditure on Production Activities**

Dalton has discussed the effects of public expenditure on production under the following three sub-heads effect on-

(a) People’s ability to work and to save,

(b) People’s will to work and to save, and

(c) Redistribution of economic resources as between different uses and different regions.

(a) **Effect of Ability to Work and Save:** These expenditure affects the people’s ability to work in a number of ways. For example-

(i) The government spends on providing various facilities to the people like food, medical facilities, sanitation etc. that increase their efficiency. The increased efficiency leads to increase in production.

(ii) Public expenditure on social security scheme like old, pension, unemployment allowance, sickness benefits etc. increases the ability of the people to work which again increases the level of production.

(iii) Public expenditure when takes the form of investment, the people get additional purchasing power which increases their standard of living ;which go directly to increase their efficiency and consequently their efficiency increases.

(iv) Public expenditure increases the growth in GDP by deploying more money in the market and more development activities in the country.

 Public expenditure also leads to an increase in the ability to save. With the increase in expenditure, more purchasing power comes into the hands of the public which leads to more savings. Consequently, the investment in productive activities also goes up. Thus public expenditure increases the production.

 (b) **Effect on will to work and save:** The public expenditure produces the unfavorable effect on the will to work and save. The people are provided assistance under various social security schemes like old age pension, accident and sickness relief or unemployment allowance, they become indifferent towards their work and their will to work is affected unfavorably. Moreover their Will to save is seriously affected because when people are provided social security for the odd times why should they think of saving for future. They invariably become indifferent towards their future and start saving less than what they would have done otherwise. Thus, public expenditure, though favorably affect the ability of the people to work and to save, tends to adversely affect their will to work and to save.

(c) [**Redistribution of economic resources as between different uses and different regions:**](http://www.knowledgiate.com/effects-of-public-expenditure-on-distribution-of-resources/)

**Expenditure on Public Sector:** A large amount of public expenditure is spent on the expansion of public sector and its proper functioning. Many strategic and essential industries like railway, road-transport, telephone, post and telegraphs and many other industries of vital importance from national point of view, have been owned and run by the government in almost all the countries of the world. The operations of these Industries and many others in the public sector have tended to increase production. Effects of public expenditure on distribution and production will be discussed in future in detail.

**(ii) Inducement to Private Sector:** Other effects of public expenditure on distribution is Public expenditure also increases the production in to the private sector. The government spends major part of its expenditure on creating basic infrastructure like building up of roads, dams. Railways, providing electricity, water etc; or on subsidies to private industries or for the supply of basic raw materials, equipment and other technical services at moderate rates. This, definitely gives an incentive to private entrepreneurs to Produce more If the government wishes to attract productive resources to a particular industry, it starts giving financial assistance to such an industry from its own funds.

**(iii) Effective Demand:** Through public expenditure, government induces the buyer to buy more of goods. Deficiency of demand is great hurdle in the industrial development of the country. The government gives assistance to those who wish to spend in order to increase the effective demand of the goods in the market which would in turn, increases the production.

**(iv) Effects Public Expenditure on Distribution of Resources under Regions ( Regional Distribution) :** The public, expenditure also helps in the redistribution of national resources from one region to another or from one industry to another. When government wants to develop the backward region or a particular industry, it provides or offers special facilities in the form of tax concessions, grants in aid, accommodation, concessional supply of raw materials and basic infrastructure etc for the establishment of new industrial units in that particular region or industry.

The resources are thus, transferred from less profitable area to more profitable area. As a result new industrial units came into being and the resources available in that area are used more intensively, leading to increase in production. Thus, with the help of public expenditure, Industrial development in less industrially developed areas is possible and regional imbalances are mitigated.

 From the above [discussion](https://en.wikipedia.org/wiki/Public_expenditure)on Effects of Public expenditure on Distribution of Resources; it follows that public expenditure generally leads to Increases in production but, if carefully planned. If planning and its execution are defective, a great deal of public expenditure will go waste. In such cases, production will be below expectation.

**Taxation**

A tax is a compulsory payment levied on the persons or companies to meet the expenditure incurred on conferring common benefits upon the people of a country.

**Two aspects of taxes follow from this definition:**

(1) A tax is a compulsory payment and no one can refuse to-pay it.

(2) Proceeds from taxes are used for common benefits or general purposes of the State. In other words, there is no direct quid pro quo involved in the payment of a tax.

Economists have classified taxes from different angles. The various taxes may be classified under the following major heads:

**Classification of taxation**

1. Direct and Indirect Taxes

2. Proportional, Progressive and Regressive Taxes

3. Specific and Ad Valorem Taxes

4. Single and Multiple Taxes

5. Value-Added Tax (VAT) Direct and Indirect Taxes

A **direct tax** is paid by the person on whom it is legally imposed, while an indirect tax is imposed on one person, but paid partly or wholly by another, owing to a consequential change in the terms of some contract or bargain between them.

An income tax, an inheritance tax and so are other taxes on property generally regarded as direct taxes. On the other hand, taxes on commodities and transactions are generally regarded as indirect. A sales tax, a customs duty or an excise duty would be **indirect taxes.**

According to A.R. Prest, “the distinction between direct and indirect taxes is more commonly drawn by reference to the basis of assessment rather than the point of assessment. Those taxes which are based on the receipt of income are termed direct whereas those levied on expenditure are termed indirect”.

**Classification of taxation:**

The classification of direct and indirect taxes based on the criterion of shifting of the incidence of tax is relatively scientific and thought worthy. Thus, a direct tax is that tax whose burden is borne by the person on whom it is levied.

He cannot transfer the burden of the tax to some other person. In other words, in the case of a direct tax both the impact and incidence of a tax fall on the same person. For example, income tax is a direct tax as its burden falls on the person who pays it to the government.

On the other hand, an indirect tax is that tax which is initially paid by one individual but the burden of which is ultimately borne by another individual. In the case of indirect tax, the impact and incidence of tax fall on different persons. For example, an excise duty is levied on the manufacturer; he passes it on to the ultimate consumers by raising the price of the commodity.

#### Specific and Ad-Valorem Taxes:

Indirect taxes can be either specific or ad-valorem. A specific tax on a commodity is a tax per unit of the commodity, whatever its price. Thus the amount of total specific tax will vary in accordance with the changes in total output or sales of the commodity and not with the total value of output or sales.

On the other hand, an ad-valorem type of an indirect tax is levied according to the value of the commodity. For instance, sales tax in India is an ad-valorem tax as the rate of sales tax in case of several commodities is 10 per cent of the value of sales of the commodities. Ad-valorem taxes are progressive in their burden on consumers whereas specific taxes are regressive.

#### Progressive, Proportional and Regressive Taxes:

According to another classification, taxes can be progressive, proportional or regressive. In case of proportional tax, the same rate of the tax is charged, whatever be the magnitude of the base on which it is levied. For instance, if rate of income tax is 25 per cent whatever the size of income of a person, it will then be a proportional income tax. Likewise, if rate of wealth tax is 5 per cent, it will be proportional wealth tax.

Thus, in case of **proportional tax** it is the rate which is fixed and not the absolute amount of the tax. Thus with the rate of 25 per cent proportional income tax, a person with income of Rs. 25,000 will pay Rs. 6,250 as the tax, and a person with income of 50,000 will pay Rs. 12,500 as the tax. Thus, even under proportional income tax, a richer person has to pay greater amount of tax though rate of the tax is the same.

On the other hand, in case of a **progressive tax,** rate of the tax increases as the amount of the tax base (income, wealth or any other object) increases. The principle underlying a progressive tax is that greater the tax base, the higher the tax rate. In India income tax, an important direct tax levied by the Central Government, is progressive.

Its rate at present (1998-99) varies from 10 per cent in the slab of Rs. 40,000 to 60,000 to 30 per cent in the slab of income above Rs. 1,50,000. Under progressive income tax, the richer person pays not only absolutely more tax but also a higher rate of the tax. Thus, the burden of progressive tax falls more heavily on the richer persons as compared to proportional income tax.

A**regressive tax**is the opposite of a progressive tax. In case of a regressive income tax, the rate is lowered as the income rises. Thus, under regressive tax system, the burden of the tax is relatively more on the poor than on the rich. A regressive tax is therefore inequitable and no civilised Government in the world today will levy such a tax.

**A single tax**occurs in a system in which the tax is levied on one subject. There is only one tax which constitutes the sources of public revenue. One simple form of a single tax is the poll tax, or the head tax which is imposed on a person irrespective of his income, or wealth or profession, etc.

The other examples can be a single tax on income, or a tax on land rent.

**Multiple Taxes:**

A single tax system presented many difficulties. It proved inefficient in solving the real purpose behind a good tax system. Consequently, economists now widely acclaim multiple tax system.

A multiple tax refers to the tax system in which taxes are levied on various items or bases. A modern economy is not one objective economy. It tries to forge ahead simultaneously along the paths of growth, equitable distribution of income and wealth, economic stabilisation, and soon.

And since no single tax can be expected to help the economy on all fronts, a choice for a multiple tax system becomes inevitable. Different taxes contribute to the attainment of different objectives.

Thus, some taxes would help the economy in the direction of regional balanced growth. Still others may be needed so as to provide adequate revenue for the government treasury, and so on.

The other advantages of multiple tax system are that it is efficient in checking the tendencies of frequent tax evasion. It increases the tax revenue of the government. It is more flexible than the single tax system.

Income in a modern economy originates from many sources, justice and equity would demand that state should tax all the important sources of income in an equitable manner. One kind of taxation can remove the weaknesses of the other kind of taxation.

However, a multiplicity of taxes is undesirable and should be avoided. A large number of taxes would involve a high cost of collection. It is therefore best to rely on a few substantial taxes for achieving the major portions of the tax revenue.

**Government borrowings**

[Money](http://www.investorwords.com/3100/money.html) borrowed by the [government](http://www.investorwords.com/16458/government.html) through issuance of [securities](http://www.investorwords.com/5954/securities.html), [bonds](http://www.investorwords.com/521/bond.html) and [bills](http://www.investorwords.com/475/Bill.html). The government [borrows](http://www.investorwords.com/552/borrow.html) money to [make up](http://www.investorwords.com/10259/make_up.html) the difference between [revenues](http://www.investorwords.com/4254/revenue.html) and [expenditures](http://www.investorwords.com/1841/expenditure.html). The money comes from [lenders](http://www.investorwords.com/2767/lender.html) within the country and from [foreign](http://www.investorwords.com/9750/foreign.html) lenders.

A budget deficit occurs when expenses exceed [revenue](https://www.investopedia.com/terms/r/revenue.asp) and indicate the financial health of a country. The government generally uses the term budget deficit when referring to spending rather than businesses or individuals. Accrued deficits form national debt.

There are only two ways to reduce a budget deficit. You must either increase revenue or decrease spending. On a personal level, you can increase revenue by getting a raise, finding a better job, or working two jobs. You can also start a business on the side, draw down investment income, or rent out real estate.

Decreasing spending is easier in the short-term. Many experts recommend cutting out non-essentials, like Starbucks coffees and cable subscriptions. It also works for someone with a spending addiction, if they get help. But increasing revenue is more sustainable in the long run. Constantly evaluate and improve your skills to maximize your revenue from the job market.

Governments can only increase revenue by raising taxes or increasing economic growth. Tax increases are tricky. If they are too excessive, they will slow growth. Politically, they often end a politician's career. Increasing growth can only be done moderately. If growth is faster than the ideal range of 2-3 percent, it will create a boom, which leads to a bust.

Cutting spending also has pitfalls. Government spending is a [component of GDP](https://www.thebalance.com/components-of-gdp-explanation-formula-and-chart-3306015). If the government cuts spending too much, economic growth will slow. That leads to lower revenues and potentially a larger deficit. The best solution is to cut spending on areas that do not create many jobs.

## Financing Deficits

Most governments prefer to finance their deficits instead of balancing the budget. Government bonds finance the deficit. Most creditors think that the government is highly likely to repay its creditors. That makes government bonds more attractive than riskier [corporate bonds](https://www.thebalance.com/what-are-corporate-bonds-3305604). As a result, government interest rates remain relatively low. That allows governments to keep running deficits for years.

The United States finances its deficit with [Treasury bills, notes, and bonds](https://www.thebalance.com/what-are-treasury-bills-notes-and-bonds-3305609). That's the government's way of printing money. It is creating more credit denominated in that country's currency. Over time, it lowers the value of that country's currency. As bonds flood the market, the supply outweighs the [demand](https://www.thebalance.com/what-is-demand-definition-explanation-effect-3305708).

Many countries, including the United States, are able to print their own currency. As bills come due, they simply create more credit and pay it off. That lowers the value of the currency as the [money supply](https://www.thebalance.com/what-is-money-supply-3306128) increases. If the deficit is moderate, it doesn't hurt the economy. Instead, it boosts economic growth.

The United States benefits from its unique position. The [U.S. dollar](https://www.thebalance.com/the-u-s-dollar-3305729) functions as a [global currency](https://www.thebalance.com/world-currency-3305931). It's used for most international transactions. For example, almost all [oil contracts are priced in dollars](https://www.thebalance.com/what-makes-oil-prices-so-high-3305654). As a result, the United States can safely run a larger debt than any other country.

The consequences aren't immediate. Creditors are satisfied because they know they will get paid. Elected officials keep promising constituents more benefits, services, and [tax cuts](https://www.thebalance.com/tax-cuts-definition-types-and-how-they-work-3306328). Telling them they will get less from the government would be political suicide. As a result, most [presidents increased the budget deficit](https://www.thebalance.com/deficit-by-president-what-budget-deficits-hide-3306151).

It becomes a self-defeating loop, as countries take on new debt to repay their old debt. Interest rates on the new debt skyrockets. It becomes ever more expensive for countries to roll over debt. If it continues long enough, a country may [default on its debt](https://www.thebalance.com/u-s-debt-default-3306295). That's what caused the [Greek debt crisis](https://www.thebalance.com/what-is-the-greece-debt-crisis-3305525) in 2009.

## Budget Deficit History

For most of its history, the [U.S. budget deficit](https://www.thebalance.com/current-u-s-federal-budget-deficit-3305783) remained below 3 percent of GDP. It exceeded that ratio to finance wars and during recessions. Once the wars and recessions ended, the deficit-to-GDP ratio returned to typical levels.

An examination of the [deficit by year](https://www.thebalance.com/us-deficit-by-year-3306306) reveals the deficit-to-GDP ratio tripled during the financial crisis. Part of the reason was slower economic growth. But part was increased spending to get growth back on track. Military spending also doubled to pay for the wars in Iraq and Afghanistan.

Also during the [2008 financial crisis](https://www.thebalance.com/2008-financial-crisis-3305679), the [dollar's value](https://www.thebalance.com/value-of-us-dollar-3306268) strengthened by 22 percent when compared to the euro. Investors consider the dollar to be a safe haven investment. The dollar rose again in 2010 as a result of the [eurozone debt crisis](https://www.thebalance.com/eurozone-debt-crisis-causes-cures-and-consequences-3305524).

As the dollar's value rises, interest rates fall. That's why U.S. legislators didn't have to worry about rising [Treasury note yields](https://www.thebalance.com/treasury-yields-3305741), even as the debt doubled.

In 2016, interest rates began rising. That will make the interest on the national debt double by 2020. The debt will increase the deficit to the point where investors will question whether the United States can pay it off. That will send interest rates even higher. At that point, Congress will be forced to reduce its budget deficit.

**Unit-4 Topic covered** :Monetary Policy: Objectives, Types, Role in Promoting Economic Growth, and Instrument of Monetary Policy, Functions of Central Bank; Money Supply: Theory and Concepts of Money Supply, Money Multiplier and its Derivation; Credit Creation.

**Monetary policy refers to that policythrough which the governmenment or the central bank of country contrpls:**

* 1. **The supply of money**
  2. **Availability of money and**
  3. **Cost of money or rate of interest**

**In order to maintain a set of objectives oriented towards the growth and stability of economy.**

Dr.D.C. Rowan remarked, “The monetary policy is defined as discretionary action undertaken by the authorities designed to influence:

(a) The supply of money,

(b) Cost of Money or rate of interest and

(c) The availability of money.”

**Objectives of Monetary Policy:**

#### 1. Exchange Stability:

* Exchange stability was the traditional objective of monetary authority. This was the main objective under Gold Standard among different countries. When there was disequilibrium in the balance of payments of the country, it was automatically corrected by movements. It was popularly known, “Expand Currency and Credit when gold is coming in; contract currency and credit when gold is going out.” This system will correct the disequilibrium in the balance of payments and exchange stability will be maintained.
* It must be noted that if there is instability in the exchange rates, it would result in outflow or inflow of gold resulting in unfavorable balance of payments. Therefore, stable exchange rates play a key role in international trade. Thus, it is clear from this fact that: the main objective of monetary policy is to maintain stability in the external equilibrium of the country. In other words, they should try to eliminate those adverse forces which tend to bring instability in exchange rates.
  + It leads to violent fluctuations resulting in encouragement to speculative activities in the market.
  + Heavy fluctuations lead to loss of confidence on the part of domestic and foreign capitalists resulting in adverse impact in capital outflow which may also result in capital formation and growth.
  + Fluctuations in exchange rates bring repercussions in the internal price level.

#### 2. Price Stability:

* The objective of price stability has been highlighted during the twenties and thirties of the present century. In fact, economists like Crustar Cassels and Keynes suggested price stabilization as a main objective of monetary policy. Price stability is considered the most genuine objective of monetary policy. Stable prices repose public confidence because cyclical fluctuations are totally eliminated.
* It promotes business activity and ensures equitable distribution of income and wealth. As a consequence, there is general wave of prosperity and welfare in the community. Price stability also impedes economic progress as there is no incentive left with the business community to increase production of qualitative goods.
* It discourages exports and encourages imports. But it is admitted that price stability does not mean ‘price rigidity’ or price stagnation’. A mild increase in the price level provides a tonic for economic growth. It keeps all virtues of a stable price.

#### 3. Full Employment:

* During world depression, the problem of unemployment had increased rapidly. It was regarded as socially dangerous, economically wasteful and morally deplorable. Thus, full employment assumed as the main goal of monetary policy. In recent times, it is argued that the achievement of full employment automatically includes prices and exchange stability.

#### 4. Economic Growth:

In recent years, economic growth is the basic issue to be discussed among economists and statesmen throughout the world. Prof. Meier defined “Economic growth as the process whereby the real per capita income of a country increases over a long period of time.” It implies an increase in the total physical or real output, production of goods for the satisfaction of human wants.

In other words, it means utilization of all the productive natural, human and capital resources in such a manner as to ensure a sustained increase in national and per capita income over time.

Therefore, monetary policy promotes sustained and continuous economic growth by maintaining equilibrium between the total demand for money and total production capacity and further creating favourable conditions for saving and investment. For bringing equality between demand and supply, flexible monetary policy is the best course.

In other words, monetary authority should follow an easy or tight monetary policy to suit the requirements of growth. Again, monetary policy in a growing economy, has to satisfy the growing demand for money. Thus, it is the responsibility of the monetary authority to circulate the proper quantity and quality of money.

#### 5. Equilibrium in the Balance of Payments:

Equilibrium in the balance of payments is another objective of monetary policy which emerged significant in the post war years. This is simply due to the problem of international liquidity on account of the growth of world trade at a more faster speed than the world liquidity.

It was felt that increasing of deficit in the balance of payments reduces, the ability of an economy to achieve other objectives. As a result, many less developed countries have to curtail their imports which adversely effects development activities. Therefore, monetary authority makes efforts that equilibrium should be maintained in the balance of payments.

## Types of Monetary Policy

Central banks use contractionary monetary policy to reduce inflation. They reduce the money supply by restricting the volume of money banks can lend. The banks charge a higher interest rate, making loans more expensive. Fewer businesses and individuals borrow, slowing growth.

Central banks use expansionary monetary policy to lower unemployment and avoid recession. They increase liquidity by giving banks more money to lend. Banks lower interest rates, making loans cheaper. Businesses borrow more to buy equipment, hire employees, and expand their operations. Individuals borrow more to buy more homes, cars, and appliances. That increases demand and spurs economic growth.

**Tools of Monetary Policy:**

There are four major tools or instruments of monetary policy which can be used to achieve economic and price stability by influencing aggregate demand or spending in the economy.

**They are:**

**1. Open market operations;**

**2. Changing the bank rate;**

**3. Changing the cash reserve ratio; and**

**4. Undertaking selective credit controls.**

How these three tools of monetary policy work to influence aggregate spending and eco­nomic activity. We shall explain how these various tools can be used for formulating a proper monetary policy to influence levels of aggregate output, employment and prices in the economy.

In times of recession or depression, expansionary monetary policy or what is also called easy money policy is adopted which raises aggregate demand and thus stimulates the economy. On the other hand, in times of inflation and excessive expansion, contractionary monetary policy or what is also called tight money policy is adopted to control inflation and achieve price stability through reducing aggregate demand in the econ­omy. We discuss below both these policies.

**Expansionary Monetary Policy to Cure Recession or Depression:**

When the economy is faced with recession or involuntary cyclical unemployment, which comes about due to fall in aggregate demand, the central bank intervenes to cure such a situation. Central bank takes steps to expand the money supply in the economy and/or lower the rate of interest with a view to increase the aggregate demand which will help in stimulating the econ­omy.

**The following three monetary policy measures are adopted as a part of an expansionary monetary policy to cure recession and to establish the equilibrium of national income at full employment level of output:**

1. The central bank undertakes open market operations and buys securities in the open market. Buying of securities by the central bank, from the public, chiefly from commercial banks will lead to the increase in reserves of the banks or amount of currency with the general public.

With greater reserves, commercial banks can issue more credit to the investors and businessmen for undertaking more investment. More private investment will cause aggregate demand curve to shift upward. Thus buying of securities will have an expansionary effect.

2. The Central Bank may lower the bank rate or what is also called discount rate, which is the rate of interest charged by the central bank of a country on its loans to commercial banks. At a lower bank rate, the commercial banks will be induced to borrow more from the central bank and will be able to issue more credit at the lower rate of interest to businessmen and investors.

This will not only make credit cheaper but also increase the availability of credit or money supply in the economy. The expansion in credit or money supply will increase the investment demand which will tend to raise aggregate output and income.

3. Thirdly, the central bank may reduce the Cash Reserve Ratio (CRR) to be kept by the commercial banks. In countries like India, this is a more effective and direct way of expanding credit and increasing money supply in the economy by the central bank.

With lower reserve requirements, a large amount of funds is released for providing loans to businessmen and in­vestors. As a result, credit expands and investment increases in the economy which has an expansionary effect on output and employment.

**Tight Monetary Policy to Control Inflation:**

When aggregate demand rises sharply due to large consumption and investment expenditure or, more importantly, due to the large increase in Government expenditure relative to its revenue resulting in huge budget deficits, a demand-pull inflation occurs in the economy.

Besides, when there is too much creation of money for one reason or the other, it generates infla­tionary pressures in the economy. To check the demand-pull inflation which has been a major problem in India and several other countries in recent years the adoption of contrac­tionary monetary policy which is popularly called tight monetary policy is called for. Note that tight or restrictive money policy is one which reduces the availability of credit and also raises its cost.

**The following monetary measures which constitute tight money policy are generally adopted to control inflation:**

1. The Central Bank sells the Government securities to the banks, other depository insti­tutions and the general public through open market operations. This action will reduce the reserves with the banks and liquid funds with the general public. With less reserve with the banks, their lending capacity will be reduced. Therefore, they will have to reduce their demand deposits by refraining from giving new loans as old loans are paid back. As a result, money supply in the economy will shrink.

2. The bank rate may also be raised which will discourage the banks to take loans from the central bank. This will tend to reduce their liquidity and also induce them to raise their own lending rates. Thus this will reduce the availability of credit and also raise its cost. This will lead to the reduction in investment spending and help in reducing inflationary pressures.

3. The most important anti-inflationary measure is the raising of statutory Cash Reserve Ratio (CRR). To meet the new higher reserve requirements, banks will reduce their lendings. This will have a direct effect on the contraction of money supply in the economy and help in controlling demand-pull inflation. Besides Cash Reserve Ratio (CRR), the Statutory Li­quidity Ratio (SLR) can also be increased through which excess reserves of the banks are mopped up resulting in contraction in credit.

4. Qualitative or selective credit control: An important anti-inflationary measure is the use of qualitative credit con­trol, namely, raising of minimum margins for obtaining loans from banks against the stocks of sensitive commodities such as food-grains, oilseeds, cotton, sugar, vegetable oil. As a result of this measure, businessmen themselves will have to finance to a greater extent the holding of inventories of goods and will be able to get less credit from banks. This selective credit control has been extensively used in India to control inflationary pressures.

### Limitations of Monetary Policy:

Through its credit control instruments like CRR, OMOs, bank rate, etc., a central bank-aims to control the broad monetary base and broad liquidity. But sometimes serious problems arise. This makes monetary policy an ineffective weapon.

Usually, commercial banks hold cash in excess of the CRR. Faced with an excess cash reserve, banks need not reduce the volume of credit; they can simply reduce their cash ratios towards the minimum.

Further, massive growth of uncontrolled institutions has also greatly reduced the efficacy of monetary policy. Usually, uncontrolled non-banking financial insti­tutions are not subject to cash reserve requirement imposed by the central bank.

These institutions now provide huge lendable resources in the economy. Because of restrictive monetary policy applied by the central bank, some sort of disintermediation—switching off business away from the banks which are subject to control—takes place.

Banks often induce customers to take loan in a foreign currency from one of their overseas branches and then convert the currency into rupees. In the absence of foreign exchange control, this practice is followed by banks. Anyway, lending continues in the midst of restrictive monetary policy. These problems, therefore, seriously restrict the efficacy of monetary policy.

Monetary policy is less effective in controlling cost-push variety of inflation. Today, an administered price-wage system conduces cost-push inflation. Price hike of, say, petroleum products, and salary revision of government employees are considered to be the most important sources of inflation in India.

Such administered wage-price system is not subject to central bank’s credit control instruments. Again, black money is another source of inflation. Monetary policy, in fact, cannot combat black money. However, for this the central bank must not be blamed.

In government-run industries, govern­ment is the supplier of lendable resources. These industries may not be handicapped by the shortage of money. Thus, contractionary monetary policy pursued by the central bank loses much of its effectiveness when government provides funds for its industries.

In view of this, it is said that a government committed to a sustained reduction in the growth of money supply will find this very difficult unless it restricts the size of the public sector deficit.

But it is difficult to control the volume of deficit since the government is rather hesitant in raising tax rates and in cutting government expenditure. Consequently, demand for money and supply of money increase—thereby frustrating the effectiveness of monetary policy.

**Because of this problem, an expert argues in the following way:**

**“And as fiscal consolidation is a prerequisite for the operation of monetary policy, its success does not solely depend on its design and use. Monetary policy is, however, going through a process of ‘trial and error’ and there is a long way to go before an efficient policy can be designed.”**

One of the important problems of monetary policy is that it does not produce immediate effects, but operates only after some time lag. In policy making, one observes decision lags and implementation lags. Decision lags arise because of bureaucracy. Further, policy­makers are rather cautious in changing policy.

Implementation lags arise because policy changes take time to impact on economic behaviour. Lipsey and Chrystal argue that the long and unpredictably variable implemen­tation lag **“makes monetary fine-tuning difficult and possibly destabilising. This is because the impact of the policy is felt much later than the time the policy decision is made, and circumstances may have changed in the meantime.”**

### Conclusion to Monetary Policy:

In order to stabilize the economy, the government can use either monetary policy or fiscal policy. But neither monetary policy nor fiscal policy should be considered as a precise means of controlling aggregate demand.

Each policy has its own strengths and weaknesses. In view of this, both monetary and fiscal policies are simul­taneously employed in every economy. However Samuelson and Nordhaus have argued that the USA now **‘relies almost completely upon monetary policy’.**

**Functions of central bank**

The main function of a central bank is to act as governor of the machinery of credit in order to secure stability of prices.

It regulates the volume of credit and currency, pumping in more money when market is dry of cash, and pumping out money when there is excess of credit.

In India RBI have two departments, namely. Issue department and Banking department.

#### 1. Issue of Currency:

The central bank is given the sole monopoly of issuing currency in order to secure control over volume of currency and credit. These notes circulate throughout the country as legal tender money. It has to keep a reserve in the form of gold and foreign securities as per statutory rules against the notes issued by it.

It may be noted that RBI issues all currency notes in India except one rupee note. Again, it is under the directions of RBI that one rupee notes and small coins are issued by government mints. Remember, the central government of a country is usually authorised to borrow money from the central bank.

When the central government expenditure exceeds government revenue and the government is unable to reduce its expenditure, then it borrows from the RBI. This is done by selling security bills to RBI which creates new currency notes for the purpose. This is called monetisation of budget deficit or deficit financing. The government spends new currency and puts it into circulation to meet its expenditure.

#### 2. Banker to Government:

Central bank functions as a banker to the government—both central and state governments. It carries out all banking business of the government. Government keeps their cash balances in the current account with the central bank. Similarly, central bank accepts receipts and makes payment on behalf of the governments.

Also, central bank carries out exchange, remittance and other banking operations on behalf of the government. Central bank gives loans and advances to governments for temporary periods, as and when necessary and it also manages the public debt of the country. Remember, the central government can borrow any amount of money from RBI by selling its rupees securities to the latter.

#### 3. Banker’s Bank and Supervisor:

There are usually hundreds of banks in a country. There should be some agency to regulate and supervise their proper functioning. This duty is discharged by the central bank.

**Central bank acts as banker’s bank in three capacities:**

ADVERTISEMENTS:

(i) It is the custodian of their cash reserves. Banks of the country are required to keep a certain percentage of their deposits with the central bank; and in this way the central bank is the ultimate holder of the cash reserves of commercial banks, (ii) Central bank is lender of last resort. Whenever banks are short of funds, they can take loans from the central bank and get their trade bills discounted. The central bank is a source of great strength to the banking system, (iii) It acts as a bank of central clearance, settlements and transfers. Its moral persuasion is usually very effective so far as commercial banks are concerned.

#### 4. Controller of Credit and Money Supply:

Central bank controls credit and money supply through its monetary policy which consists of two parts—currency and credit. Central bank has monopoly of issuing notes (except one-rupee notes, one-rupee coins and the small coins issued by the government) and thereby can control the volume of currency.

The main objective of credit control function of central bank is price stability along with full employment (level of output). It controls credit and money supply by adopting quantitative and qualitative measures as discussed in Section 8.25. Following three quantitative measures of credit control by RBI are recalled for ready reference.

#### 5.Lender of Last Resort:

When commercial banks have exhausted all resources to supplement their funds at times of liquidity crisis, they approach central bank as a last resort. As lender of last resort, central bank guarantees solvency and provides financial accommodation to commercial banks (i) by rediscounting their eligible securities and bills of exchange and (ii) by providing loans against their securities. This saves banks from possible failure and banking system from a possible breakdown. On the other hand, central bank, by providing temporary financial accommodation, saves the financial structure of the country from collapse.

#### 6. Custodian of Foreign Exchange or Balances:

It has been mentioned above that a central bank is the custodian of foreign exchange reserves and nation’s gold. It keeps a close watch on external value of its currency and undertakes exchange management control. All the foreign currency received by the citizens has to be deposited with the central bank; and if citizens want to make payment in foreign currency, they have to apply to the central bank. Central bank also keeps gold and bullion reserves.

#### 7. Clearing House Function:

Banks receive cheques drawn on the other banks from their customers which they have to realise from drawee banks. Similarly, cheques on a particular bank are drawn and passed into the hands of other banks which have to realise them from the drawee banks. Independent and separate realisation to each cheque would take a lot of time and, therefore, central bank provides clearing facilities, i.e., facilities for banks to come together every day and set off their chequing claims.

#### 8. Collection and Publication of Data:

It has also been entrusted with the task of collection and compilation of statistical information relating to banking and other financial sectors of the economy.

### Concept of Money Supply

Money supply we mean the total stock of monetary media of exchange available to a society for use in connection with the economic activity of the country.

**According to the standard concept of money supply, it is composed of the following two elements:**

1. Currency with the public,

2. Demand deposits with the public.

Before explaining these two components of money supply two things must be noted with regard to the money supply in the economy. First, the money supply refers to the total sum of money available to the public in the economy at a point of time. That is, money supply is a stock concept in sharp contrast to the national income which is a flow representing the value of goods and services produced per unit of time, usually taken as a year.

Secondly, money supply always refers to the amount of money held by the public. In the term public are included households, firms and institutions other than banks and the government. The rationale behind considering money supply as held by the public is to separate the producers of money from those who use money to fulfill their various types of demand for money.

Since the Government and the banks produce or create money for the use by the public, the money (cash reserves) held by them are not used for transaction and speculative purposes and are excluded from the standard measures of money supply. This separation of producers of money from the users of money is important from the viewpoint of both monetary theory and policy.

**Let us explain the two components of money supply at some length:**

#### Currency with the Public:

**In order to arrive at the total currency with the public in India we add the following items:**

1. Currency notes in circulation issued by the Reserve Bank of India.

2. The number of rupee notes and coins in circulation.

3. Small coins in circulation.

It is worth noting that cash reserves with the banks has to be deducted from the value of the above three items of currency in order to arrive at the total currency with the public. This is because cash reserves with the banks must remain with them and cannot therefore be used for making payments for goods or by any commercial bank’s transactions.

It may further be noted that these days paper currency issued by Reserve Bank of India (RBI) are not fully backed by the reserves of gold and silver, nor it is considered necessary to do so. Full backing of paper currency by reserves of gold prevailed in the past when gold standard or silver standard type of monetary system existed.

According to the modern economic thinking the magnitude of currency issued should be determined by the monetary needs of the economy and not by the available reserves of gold and silver. In other developed countries, since 1957 Reserve Bank of India follows Minimum Reserve System of issuing currency.

Under this system, minimum reserves of Rs. 200 crores of gold and other approved securities (such as dollars, pound sterling, etc.) have to be kept and against this any amount of currency can be issued depending on the monetary requirements of the economy.

RBI is not bound to convert notes into equal value of gold or silver. In the present times currency is inconvertible. The word written on the note, say 100 rupee notes and signed by the governor of RBI that ‘I promise to pay the bearer a sum of 100 rupees’ is only a legacy of the past and does not imply its convertibility into gold or silver.

Another important thing to note is that paper currency or coins are fiat money, which means that currency notes and metallic coins serve as money on the bases of the fiat (i.e. order) of the Government. In other words, on the authority of the Government no one can refuse to accept them in payment for the transaction made. That is why they are called legal tender.

#### Demand Deposits with the Public:

The other important component of money supply are demand deposits of the public with the banks. These demand deposits held by the public are also called bank money or deposit money. Deposits with the banks are broadly divided into two types: demand deposits and time deposits. Demand deposits in the banks are those deposits which can be withdrawn by drawing cheques on them.

Through cheques these deposits can be transferred to others for making payments from whom goods and services have been purchased. Thus, cheques make these demand deposits as a medium of exchange and therefore make them to serve as money. It may be noted that demand deposits are fiduciary money proper.

Fiduciary money is one which functions as money on the basis of trust of the persons who make payment rather than on the basis of the authority of Government. Thus, despite the fact that demand deposits and cheques through which they are operated are not legal tender, they function as money on the basis of the trust commanded by those who draw cheques on them. They are money as they are generally acceptable as medium of payment.

Bank deposits are created when people deposit currency with them. But far more important is that banks themselves create deposits when they give advances to businessmen and others. On the basis of small cash reserves of currency, they are able to create a much larger amount of demand deposits through a system called fractional reserve system which will be explained later in detail.

In the developed countries such as USA and Great Britain deposit money accounted for over 80 per cent of the total money supply, currency being a relatively small part of it. This is because banking system has greatly developed there and also people have developed banking habits.

On the other hand, in the developing countries banking has not developed sufficiently and also people have not acquired banking habits and they prefer to make transactions in currency. However in India after 50 years of independence and economic development the proportion of bank deposits in the money supply has risen to about 50 per cent.

### Four Measures of Money Supply:

Several definitions of money supply have been given and therefore various measures of money supply based on them have been estimated. First, different components of money supply have been distinguished on the basis of the different functions that money performs. For example, demand deposits, credit card and currency are used by the people primarily as a medium of exchange for buying goods and services and making other transactions.

Obviously, they are money because they are used as a medium of exchange and are generally referred to as M1. Another measure of money supply is M 3 which includes both M1 and time deposits held by the public in the banks. Time deposits are money that people hold as store of value.

The main reason why money supply is classified into various measures on the basis of its functions is that effective predictions can be made about the likely effects on the economy of changes in the different components of money supply. For example, if M1 is increasing firstly it can be reasonably expected that people are planning to make a large number of transactions.

On the other hand, if time-deposits component of money supply measure M3 which serves as a store of value is increasing rapidly, it can be validly concluded that people are planning to save more and accordingly consume less.

Therefore, it is believed that for monetary analysis and policy formulation, a single measure of money supply is not only inadequate but may be misleading too. Hence various measures of money supply are prepared to meet the needs of monetary analysis and policy formulation.

Recently in India as well as in some developed countries, four concepts of money supply have been distinguished. The definition of money supply given above represents a narrow measure of money supply and is generally described as M1.

From April 1977, the Reserve Bank of India has adopted four concepts of money supply in its analysis of the quantum of and variations in money supply. These four concepts of measures of money supply are explained below.

#### Money Supply M1 or Narrow Money:

**This is the narrow measure of money supply and is composed of the following items:**

Ml = C + DD + OD

Where, C = Currency with the public

DD = Demand deposits with the public in the commercial and cooperative banks.

OD = Other deposits held by the public with Reserve Bank of India.

The money supply is the most liquid measure of money supply as the money included in it can be easily used as a medium of exchange, that is, as a means of making payments for transactions.

**Currency with the public (C) in the above measure of money supply consists of the following:**

(i) Notes in circulation.

(ii) Circulation of rupee coins as well as small coins

(iii) Cash reserves on hand with all banks.

Note that in measuring demand deposits with the public in the banks (i.e., DD), inter-bank deposits, that is, deposits held by a bank in other banks, are excluded from this measure.

In the other deposits with Reserve Bank of India (i.e., OD) deposits held by the Central and State Governments and a few others such as RBI Employees Pension and Provident Funds are excluded.

**However, these other deposits of Reserve Bank of India include the following items:**

(i) Deposits of Institutions such as UTI, IDBI, IFCI, NABARD etc.

(ii) Demand deposits of foreign Central Banks and Foreign Governments.

(iii) Demand deposits of IMF and World Bank.

It may be noted that other deposits of Reserve Bank of India constitute a very small proportion (less than one per cent).

#### Money Supply M2:

M2 is a broader concept of money supply in India than M1. In addition to the three items of M1, the concept of money supply M2 includes savings deposits with the post office savings banks. Thus,

M2 = M1 + Savings deposits with the post office savings banks.

The reason why money supply M2 has been distinguished from M1 is that saving deposits with post office savings banks are not as liquid as demand deposits with commercial and cooperative banks as they are not chequable accounts. However, saving deposits with post offices are more liquid than time deposits with the banks.

#### Money Supply M3 or Broad Money:

M3 is a broad concept of money supply. In addition to the items of money supply included in measure M1, in money supply M3 time deposits with the banks are also included. Thus

M3= M1+ Time Deposits with the banks.

It is generally thought that time deposits serve as store of value and represent savings of the people and are not liquid as they cannot be withdrawn through drawing cheque on them. However, since loans from the banks can be easily obtained against these time deposits, they can be used if found necessary for transaction purposes in this way. Further, they can be withdrawn at any time by forgoing some interest earned on them.

It may be noted that recently M3 has become a popular measure of money supply. The working group on monetary reforms under the chairmanship of late Prof. Sukhamoy Chakravarty recommended its use for monetary planning of the economy and setting target of the growth of money supply in terms of M3.

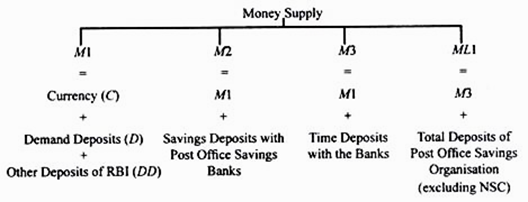
Therefore, recently RBI in its analysis of growth of money supply and its effects on the economy has shifted to the use of M3 measure of money supply. In the terminology of money supply employed by the Reserve Bank of India till April 1977, this M3 was called Aggregate Monetary Resources (AMR).

#### Money Supply M4:

The measure M4 of money supply includes not only all the items of M3 described above but also the total deposits with the post office savings organisation. However, this excludes contributions made by the public to the national saving certificates. Thus,

M4 = M3 + Total Deposits with Post Office Savings Organisation.

**Let us summaries the four concepts of money supply as used by Reserve Bank of India in the following tabular form:**

**[](http://cdn.economicsdiscussion.net/wp-content/uploads/2015/08/image213.png)**

#### 1. High-Powered Money (H):

The high-powered money which we denote by H consists of the currency (notes and coins) issued by the Government and the Reserve Bank of India. A part of the currency issued is held by the public, which we designate as Cp and a part is held by the banks as reserves which we designate as R.

A part of these currency reserves of the banks is held by them in their own cash vaults and a part is deposited in the Reserve Bank of India in the Reserve Accounts which banks hold with RBI. Accordingly, the high-powered money can be obtained as sum of currency held by the public and the part held by the banks as reserves. Thus

H = Cp+ R …(2)

Where, H = the amount of high-powered money

Cp = Currency held by the public

R = Cash Reserves of currency with the banks.

It is worth noting that Reserve Bank of India and Government are producers of the high-powered money and the commercial banks do not have any role in producing this high-powered money (H). However, commercial banks are producers of demand deposits which are also used as money like currency.

But for producing demand deposits or credit, banks have to keep with themselves cash reserves of currency which have been denoted by R in equation (2) above. Since these cash reserves with the banks serve as a basis for the multiple creation of demand deposits which constitute an important part of total money supply in the economy, it provides high-powered-ness to the currency issued by Reserve Bank and Government.

A glance at equations (1) and (2) above will reveal that the difference in the two equations, one describing the total money supply and the other high-powered money, is that whereas in the former, demand deposits (D) are added to the currency held by the public, in the latter it is cash reserves (R) of the banks that are added to the currency held by the public.

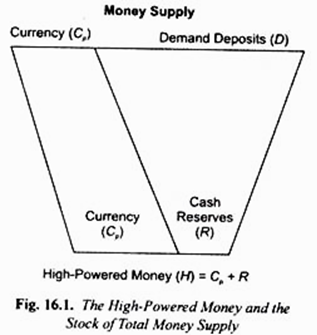
In fact, it is against these cash reserves (R) that banks are able to create a multiple expansion of credit or demand deposits due to which there is large expansion in money supply in the economy. The theory of determination of money supply is based on the supply of and demand for high- powered money.

Some economists therefore call it ‘The H Theory of Money Supply’. However, it is more popularly called ‘Money-multiplier Theory of Money Supply’ because it explains the determination of money supply as a certain multiple of the high- powered money. How the high-powered money (H) is related to the total money supply is graphically depicted in Fig. 16.1.

The base of this figure shows the supply of high-powered money (H), while the top of the figure shows the total stock of money supply. It will be seen that the total stock of money supply (that is, the top) is determined by a multiple of the high-powered money (H). It will be further seen that whereas currency held by the public (Cp) uses the same amount of high-powered money, that is, there is one-to-one relationship between currency held by the public and the money supply.

In sharp contrast to this, bank deposits (D) are a multiple of the cash reserves (R) of the banks which are part of the supply of high-powered money. That is, one rupee of high- powered money kept as bank reserves gives rise to much more amount of demand deposits. Thus, the relationship between money supply and the high-powered money is determined by the money multiplier.

The money multiplier which we denote by m is the ratio of total money supply (M) to the stock of high-powered money, that is, m = M/H . The size of money multiplier depends on the preference of the public to hold currency relative to deposits, (that is, ratio of currency to deposits which we denote by K) and banks’ desired cash reserves ratio to deposits which we call r. We explain below the precise multiplier relationship between high-powered money and the total stock of money supply.

**[](http://cdn.economicsdiscussion.net/wp-content/uploads/2015/08/image214.png)**

It follows from above that if there is increase in currency held by the public which is a part of the high-powered money with demand deposits remaining unchanged, there will be a direct increase in the money supply in the economy because this constitutes a part of the money supply.

If instead currency reserves held by the banks increase, this will not change the money supply immediately but will set in motion a process of multiple creation of demand deposits of the public in the banks. Although banks use these currency reserves held by the public which constitutes a part of the high- powered money to give more loans to the businessmen and thus create demand deposits, they do not affect either the amount of currency or the composition of high-powered money. The amount of high-powered money is fixed by RBI by its past actions. Thus, changes in high-powered money are the result of decisions of Reserve Bank of India or the Government which owns and controls it.

#### 2. Money Multiplier:

Money multiplier is the degree to which money supply is expanded as a result of the increase in high-powered money. Thus

m = M/H

Rearranging we have, M = H.m …(3)

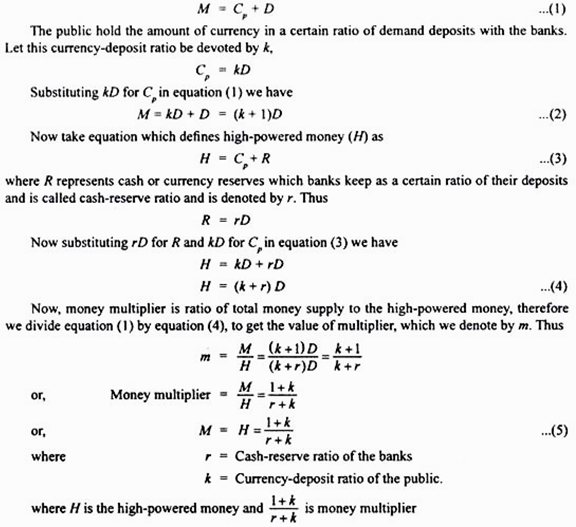
Thus money supply is determined by the size of money multiplier (m) and the amount of high- powered money (H). If we know the value of money multiplier we can predict how much money will change when there is a change in the amount of high-powered money.

Change in the high-powered money is decided and controlled by Reserve Bank of India, the money multiplier determines the extent to which decision by RBI regarding the change in high-powered money will bring about change in the total money supply in the economy.

**Size of Money Multiplier:**

Now, an important question is what determines the size of money multiplier. It is the cash or currency reserve ratio r of the banks (which determines deposit multiplier) and currency-deposit ratio of the public (which we denote by k) which together determines size of money multiplier. We derive below the expression for the size of multiplier.

From equation (1) above, we know that total money supply (M) consists of currency with the public (Cp) and demand deposits with the banks. Thus

**[](http://cdn.economicsdiscussion.net/wp-content/uploads/2015/08/image215.png)**

**From above it follows that money supply in the economy is determined by the following:**

1. H, that is, the amount of high-powered money, which is also called reserve money

2. r, that is, cash reserve ratio of banks (i. e., ratio of currency reserves to deposits of the banks)

This cash reserve ratio of banks determines the magnitude of deposit multiplier.

3. k, that is, currency-deposit ratio of the public.

**From the equation (4) expressing the determinants of money supply, it follows that money supply will increase:**

1. When the supply of high-powered money (i.e., reserve money) H increases;

2. When the currency-deposit ratio (k)’ of the public decreases; and

3. When the cash or currency reserves-deposit ratio of the banks (r) falls.

**Cash Reserve Ratio of the Banks and the Deposit Multiplier:**

Because of fractional reserve system, with a small increase in cash reserves with the banks, they are able to create a multiple increase in total demand deposits which are an important part of money supply. The ratio of change in total deposits to a change in reserves is called the deposit multiplier which depends on cash reserve ratio.

The value of deposit multiplier is the reciprocal of cash reserve ratio, (dm = 1/r) where dm stands for deposit multiplier. If cash reserve ratio is 10 per cent of deposits, then dm = 1/0.10 = 10. Thus deposit multiplier of 10 shows that for every Rs. 100 increase in cash reserves with the banks, there will be expansion in demand deposits of the banks by Rs. 1000 assuming that no leakage of cash to the public occurs during the process of deposit expansion by the banks.

**Currency-Deposit Ratio of the Public and Money Multiplier:**

However, in the real world, with the increase in reserves of the banks, demand deposits and money supply do not increase to the full extent of deposit multiplier. This is for two reasons. First, the public does not hold all its money balances in the form of demand deposits with the banks.

When as a result of increase in cash reserves, banks start increasing demand deposits, the people may also like to have some more currency with them as money balances. This means during the process of creation of demand deposits by banks, some currency is leaked out from the banks to the people.

This drainage of currency to the people in the real world reduces the magnitude of expansion of demand deposit and therefore the size of money multiplier. Suppose the cash reserve ratio is 10 per cent and cash or currency of Rs. 100 is deposited in bank A. The bank A will lend out Rs. 90 and therefore create demand deposits of Rs. 90 and so the process will continue as the borrowers use these deposits for payment through cheques to others who deposit them in another bank B.

However, if borrower of bank A withdraws Rs. 10 in cash from the bank and issues cheques of the remaining borrowed amount of Rs. 80, then bank B will have only Rs. 80 as new deposits instead of Rs. 90 which it would have if cash of Rs. 10 was not withdrawn by the borrower. With these new deposits of Rs. 80, bank B will create demand deposits of Rs. 72, that is, it will lend out Rs. 72 and keep Rs. 8 as reserves with it (80x 10/100 = 8).

The drainage of currency may occur during all the subsequent stages of deposit expansion in the banking system. The greater the leakage of currency, the lower will be the money multiplier. We thus see that the currency-deposit ratio, which we denote by k, is an important determinant of the actual value of money multiplier.

It is important to note that deposit multiplier works both ways, positively when cash reserves with banks increase, and negatively when the cash reserves with the banks decline. That is, when there is a decrease in currency reserves with the banks, there will be multiple contraction in demand deposits with the banks.

**Excess Reserves:**

In the explanation of the expansion of demand deposits or deposit multiplier we have assumed that banks do not keep currency reserves in excess of the required cash reserve ratio. The ratio r in the deposit multiplier is the required cash reserve ratio fixed by Reserve Bank of India.

However, banks may like to keep with themselves some excess reserves, the amount of which depends on the extent of liquidity (i.e. availability of cash with them) and profitability of making investment and rate of interest on loans advanced to business firms. Therefore, the desired reserve ratio is greater than the statutory minimum required reserve ratio. Obviously, the holding of excess reserves by the banks also reduces the value of deposit multiplier.

#### Conclusion:

Theory of determination of money supply explains how a given supply of high-powered money (which is also called monetary base or reserve money) leads to multiple expansion in money supply through the working of money multiplier. We have seen above how a small increase in reserves of currency with the banks leads to a multiple expansion in demand deposits by the banks through the process of deposit multiplier and thus causes growth of money supply in the economy.

Deposit multiplier measures how much increase in demand deposits (or money supply) occurs as a result of a given increase in cash or currency, reserves with the banks depending on the required cash reserve ratio (r) if there are no cash drainage from the banking system. But in the real world drainage of currency does take place which reduces the extent of expansion of money supply following the increase in cash reserves with the banks.

Therefore, the deposit multiplier exaggerates the actual increase in money supply from a given increase in cash reserves with the banks. In contrast, money multiplier takes into account these leakages of currency from the banking system and therefore measures actual increase in money supply when the cash reserves with the banks increase.

The money multiplier can be defined as increase in money supply for every rupee increase in cash reserves (or high-powered money), drainage of currency having been taken into account. Therefore, money multiplier is less than the deposit multiplier.

It is worth noting that rapid growth in money supply in India has been due to the increase in high-powered money H, or what is also called Reserve Money (Lastly Reserve Bank of India, the money multiplier remaining almost constant.

**Money or Credit creation**

Creation of credit is one of the most outstanding functions of a modern bank.

A bank has sometimes been called a factory for the manufacture of credit.

Commercial bank create credit on the basis of their deposits.

## Basic Concepts of Credit Creation

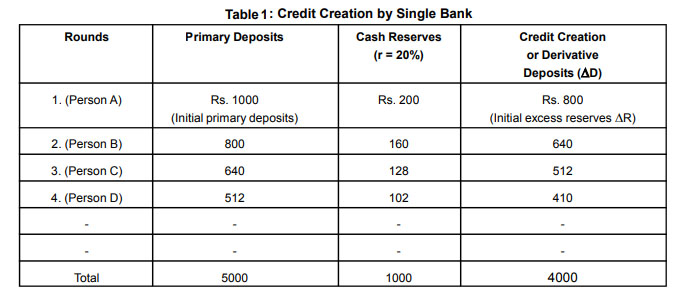
* **Bank as a business institution** – Bank is a [business](https://www.toppr.com/guides/business-studies/business-environment/introduction-meaning-importance-of-business-environment/) institution which tries to maximize profits through loans and advances from the deposits.
* **Bank Deposits** – Bank deposits form the basis for credit creation and are of two types:
  + **Primary Deposits** – A bank accepts cash from the customer and opens a deposit in his name. This is a primary deposit. This does not mean credit creation. These deposits simply convert currency money into deposit money. However, these deposits form the basis for the creation of credit.
  + **Secondary or Derivative Deposits** – A bank grants loans and advances and instead of giving cash to the borrower, opens a deposit [account](https://www.toppr.com/guides/fundamentals-of-accounting/accounting-process/types-of-accounts/) in his name. This is the secondary or derivative deposit. Every loan crates a deposit. The creation of a derivative deposit means the creation of credit.
* **Cash Reserve Ratio (CRR)** – Banks know that all depositors will not withdraw all deposits at the same time. Therefore, they keep a fraction of the total deposits for meeting the cash demand of the depositors and lend the remaining excess deposits. CRR is the [percentage](https://www.toppr.com/guides/quantitative-aptitude/percentages/) of total deposits which the banks must hold in cash reserves for meeting the depositors’ demand for cash.
* **Excess Reserves** – The reserves over and above the cash reserves are the excess reserves. These reserves are used for loans and credit creation.
* **Credit Multiplier** – Given a certain amount of cash, a bank can create multiple times credit. In the process of multiple credit creation, the total amount of derivative deposits that a bank creates is a multiple of the initial cash reserves.

### Credit creation by a single bank

There are two ways of analyzing the credit creation process:

1. Credit creation by a single bank
2. Credit creation by the banking system as a whole

In a single bank system, one bank operates all the cash deposits and cheques. The process of creating credit is explained with the hypothetical example below:



Let’s assume that the bank requires to maintain a CRR of 20 percent.

* If a person (person A) deposits 1,000 rupees with the bank, then the bank keeps only 200 rupees in the cash reserve and lends the remaining 800 to another person (person B). They open a credit account in the borrower’s name for the same.
* Similarly, the bank keeps 20 percent of Rs. 800 (i.e. Rs. 160) and advances the remaining Rs. 640 to person C.
* Further, the bank keeps 20 percent of Rs. 640 (i.e. Rs. 128) and advances the remaining Rs. 512 to person D.

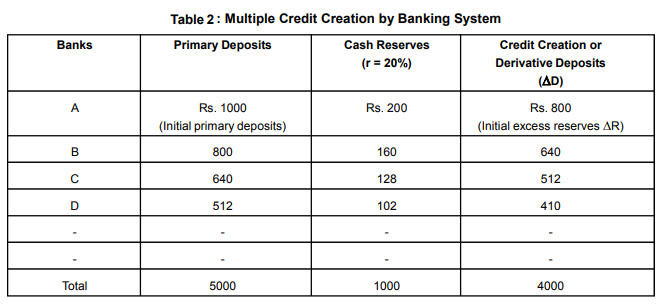
This process continues until the initial primary deposit of Rs. 1,000 and the initial additional reserves of Rs. 800 lead to additional or derivative deposits of Rs. 4,000 (800+640+512+….).

Adding the initial deposits, we get total deposits of Rs. 5,000. In this case, the credit multiplier is 5 (reciprocal of the CRR) and the credit creation is five times the initial excess reserves of Rs. 800.

### Multiple Credit Creation by the Banking System

The [banking](https://www.toppr.com/guides/general-awareness/banking/types-of-banking/) system has many banks in it and it cannot grant loans in excess of the cash it creates. When a bank creates a derivative deposit, it loses cash to other banks.

The loss of deposit of one bank is the gain of deposit for some other bank. This transfer of cash within the banking system creates primary deposits and increases the possibility for further creation of derivative deposits. Here is an illustration to explain this process better:



As explained above, the initial deposit of Rs. 1,000 with bank A leads to a creation of total deposits of Rs. 5,000.

## Limitations of Credit Creation

While banks would prefer an unlimited capacity for creating credit to increase profits, there are many limitations. These limitations make the process of creating credit non-profitable. Therefore, a bank continues to create additional credit as long as:

* There is a negligible chance of the loans turning into bad debts
* The interest rate that banks charge on loans and advances is greater than the interest that the bank gives to depositors for the money deposited in the bank.

Hence, we can say that the limitations of credit creation operate through shifts in the balance between liquidity and profitability. The factors that affect the creation of credit are:

* The capacity of banks to create credit.
* The willingness of the banks to create credit
* Also, the demand for credit in the market.

Capacity to **create credit** is a matter of:

* The availability of cash deposits with banks
* The factors which determine their cash deposit ratio

As regards the **demand for credit:**

* The demand must exist in the market
* Creditworthy borrowers (to avoid bad debts)
* The amount of loan granted should not exceed the paying capacity of the borrower

**Leakages**

* If the banks are unwilling to utilize their surplus funds for granting loans, then the economy is headed towards recession
* If the public withdraws cash and holds it with themselves, then it reduces the bank’s power to create credit

**Banking habits of people:** habit of the people regarding regarding the use of cash. If people are in the habit of using cash and not cheques, as in India, then as soon as credit is granted by the bank to a borrower, he will draw the cheque and gel cash. When the bank’s cash reserve is thus reduced, its power to create credit is correspondingly reduced.

**Credit policy of central bank:** , it may be said that credit can be created on the basis of cash. The larger the cash (i.e.. legal tender money), the larger the amount 0f credit that can- be created. But the amount of cash that a bank may have is such to the control of the Central Bank.