KV Institute of Management and Information Studies
BA5101- Economic Analysis for Business

UNIT IV

PERFORMANCE OF AN ECONOMY – MACRO ECONOMICS

Macro-economic aggregates – circular flow of macroeconomic activity – National income determination – Aggregate demand and supply – Macroeconomic equilibrium – Components of aggregate demand and national income – multiplier effect – Demand side management – Fiscal policy in theory.

Table of Contents

4.1 Macroeconomics

Macroeconomics is a branch of the economics field that studies how the aggregate economy behaves. In macroeconomics, a variety of economy-wide phenomena is thoroughly examined such as, inflation, price levels, rate of growth, national income, gross domestic product and changes in unemployment. It focuses on trends in the economy and how the economy moves as a whole.

Macroeconomics differs from microeconomics, which focuses on smaller factors that affect choices made by individuals and companies. Factors studied in both microeconomics and macroeconomics typically have an influence on one another. For example, the unemployment level in the economy as a whole has an effect on the supply of workers from which a company can hire. Macroeconomics, in its most basic sense, is the branch of economics that deals with the structure, performance, behavior and decision-making of the whole, or aggregate, economy, instead of focusing on individual markets.

The Study of Macroeconomics

Those working in the field of macroeconomics study aggregated indicators such as unemployment rates, GDP and price indices, and then analyze how different sectors of the economy relate to one another to understand how the economy functions. Macroeconomists develop models explaining relationships between a variety of factors such as consumption, inflation, savings, investments, international trade and finance, national income and output. Contrarily, microeconomics analyzes how individual agents act, namely consumers and corporations, and studies how these agents' behavior affects quantities and prices in certain markets. Such macroeconomic models, and what the models forecast, are used by government entities to aid in the construction and evaluation of economic policy.

4.1.1 Macroeconomic Aggregates and Policies

It deals with various macroeconomic factors which not only influence the economic condition of the country but also the working of financial services in the country.

Economic factors at the national level, influencing the economic condition of the country can be stated as macroeconomic aggregates. These are

1. Savings of the economy
2. Investment
3. Economic Growth
4. Capital formation
5. Capital output ratio
6. Population growth
7. Growth of foreign trade

8. Balance of payments

9. Foreign debt

10. Exchange rate stability

11. Employment level

12. Capital inflow

13. Per capita income as an indicator of economic development.

1. Savings of the economy

In most of the developed countries, savings of the people form a major part of investment in the country. Savings can be there only when the income level of the people is higher and the people are living above the poverty level. In India, savings are on an average only 9% of the total Gross Domestic Product. As against this, in developed countries, they are nearly 28 to 30% of GDP.

When there are low savings, there is little scope for investment and also whatever little savings are made, they do not reach the organized sector. They get fretted away in conspicuous consumption (for example, the purchase of jewels in the rural economy). Instead, if such savings are invested in corporate securities, they promote more investment. Hence, the financial services in our country are unable to play a major role due to poor savings.

2. Investment

The growth of the economy depends on the extent of investment made in the country. Investments must generate more production and they should promote a balanced growth of all the sectors in the economy. In some countries, investment may be made in those sectors which have favorable factors and they will create a thrust in the economy leading to the growth in other sectors. Thus, more production in agriculture will create conditions for growth in industrial sector and service sector. Investment can be done both by public and private sectors.

Investment as a percentage of GDP should be sufficient so that the desired growth is achieved in all the sectors of the economy.

3. Economic Growth

The increase in physical production in all the three sectors of the economy namely, agriculture, industry and service is referred as economic growth. An increase in economic growth need not bring an increase in economic development. Because, the increased production may be consumed by the increased population. Hence, the increase in production experienced in all the 3 sectors should be sufficient not only to cater to the needs of population but also provide some surplus for the economy to grow. The financial services have to play a supportive role in channelizing the savings and investment so that growth is achieved overall.

4. Capital Formation

When a company earns profits, it may plough back a part of its profits in the business which expands its capital. In this way, capital formation takes place. For capital formation, a reduction in consumption is very essential. If all the production is consumed, without allowing any savings for ploughing back, capital formation will become nil. Thus, capital formation is a kind of sacrifice the producer has to make by ploughing back his profit. But, this will be done when the prospects of earning more profits are bright. Financial services can play a major role by attracting the savings or the profit earned by the companies for a beneficial investment.

5. Capital-output ratio

The amount of capital required for an output is dealt in the capital-output ratio. The significance of this ratio is the quantum of capital needed for generating the required output. If lesser capital is generating more output, it reflects a healthy capital-output ratio. This is possible when the technological growth is at its peak in the country. With more technology, lesser capital is utilized and more output is obtained. With a higher amount of investment, the capital-output ratio is bound to bring in more benefits to the economy. The difference between an under developed and a developed country is this — a developed country consumes less capital but brings out more output, while an under developed country consumes more capital and turns out lesser output due to poor technology. We can very well experience this in our agriculture.

6. Population Growth

Increase in population may retard the economic growth of a country, if the increased population is not put to use for productive purposes. But unfortunately, the productive force in the increasing population is of lesser percentage, while the consumption force is of a higher percentage. There are countries which regard 'population' as a human resource, contributing for capital so that they are responsible for increasing the Gross Domestic Product of the country. China is an example wherein the productivity of human labor is very high.

Skill formation and creation of more skilled labor contribute more to the service sector. Of the 3 sectors in an economy, it is the service sector which contributes more to the economy and the development of human resources enables a country to earn more national income. Of late, the export of services is gaining ground and in this context, India has earned more than 15% of its export earnings in the IT industry by exporting software. Financial services require more human touch and it is here that a trained person in financial service contributes more to the economy.

7. Growth of Foreign Trade

Export forms a major part of any developed economy. Most of the countries which have developed rapidly have given due importance to foreign trade. The promotion of foreign trade requires the active support of financial services. Banks provide export finance. Factoring and forfaiting companies finance the exporter. Leasing companies provide equipment, while a merchant banker finances an exporter in foreign exchange to import capital equipment. In this way, every aspect of financial service promotes foreign trade which in turn plays a crucial role in the development of the economy.

8. Balance of Payments

The receipts and payments of a country from abroad are represented by the balance of payments statement. If the receipts are more and the payment is less, the country experiences a favorable balance of payments position. But sometimes, it may face a reverse situation, with more payments and less receipts, leading to unfavorable balance of payments. When a country borrows heavily and combines it with a heavy imports, it is bound to experience adverse balance of payments position. It can overcome the situation only by increasing its exports and repaying its foreign loans.

9. Foreign Debt

Financial services help the economy in mobilizing foreign debt. Such debts can be obtained in the global financial market at a competitive rate of interest. Normally, the credit rating of the country is taken into consideration before extending any foreign loan. The past performance of the country in the repayment of the foreign loan is yet another factor that decides the interest rate for the loan.

If the foreign debt is utilized for unproductive purposes or is not properly invested, then the chances of the country raising more loan in the foreign financial market will be dim. Hence, raising foreign debts at a competitive rate of interest and putting them for proper use is another important factor and the financial services ensure that the returns commensurate with the interest rate on the foreign debts.

10. Exchange rate stability

When a country continuously borrows in the foreign market, followed by heavy imports, then it will experience a decline in its currency value in relation to foreign currency. For example, if India has an exchange rate of 1 US Dollar = Rs. 68, after the imports and foreign debts, its exchange rate may slide to 1 US Dollar = Rs. 80. This slide will affect India, as we have to pay more for our debts which are now 25% more than what they were at the time of ow borrowing. Due to this, India's foreign debt burden will increase. The financial services can reduce this by two methods. First, they can find out methods to reduce our supply of currency in the Foreign exchange market, thereby push up the exchange rate in favor of India.

Secondly, the financial services themselves can export services (invisible trade) by way of Banking, Insurance, etc., and earn foreign exchange by which the debt burden can be reduced. This will also increase our currency value. If exchange rate stability is not maintained, it will affect our foreign trade prospects and thereby exchange earnings.

11. Employment Level

Another macroeconomic aggregate influenced by financial services is the level of employment. With more financial services such as leasing, hire purchase finance, housing finance, insurance, etc., the level of employment opportunity in the country is bound to increase. This will create more demand and other industries will also expand. Thus, the country can reach the level of full employment.

12. Capital Inflow

The capital market in the country can attract more capital from abroad, leading to capital inflow. This will take place only when the return on capital is much higher or the interest rate offered is higher than what is prevailing in the domestic country. Financial services play an active role in attracting capital by selling various products and services. India, by selling American Deposit Receipt (ADR) and Global Deposit Receipt (GDR) could attract more foreign funds. Similarly, SBI could mobilize more funds through India Resurgent Bonds and Millennium Deposit Receipts.

13. Per capita Income as an indicator of economic development

When the national income of the country increases, due to increased production and services, the benefit goes to the population in the form of per capita income which is an indicator of the economic development of the country. Financial services can increase the per capita income by providing various types of loans and encouraging self employment schemes. They can also help in the mobilization of the savings by providing various sources of investment.

The mobilization of savings and channelizing them in productive investment are bound to improve the economy and thereby the national income and per capita income. The financial services form a part of service sector and their activities will have a direct impact on the population and the economy.

4.1.2 Significant macroeconomic aggregates and their features of India are discussed below:

I) Real Sector Policies:

These policies are guided by the objective of boosting domestic investment demand by expanding the participation of private enterprise and by promoting foreign investment. **For example,** trade policies focus on an aggressive medium-term export strategy both product and market specific, within the overall goal of raising India's share in world exports. The process of removal of Quantitative Restrictions (QRs) and the reduction/rationalization of tariffs is carried forward. Foreign investment policy extends the liberalization of extant ceilings on Foreign Direct Investment (FDI) in various sectors. Liberalization is also effected in respect of the participation of FIls in Indian corporate entities. Norms for overseas issuances by Indian companies and Indian direct investment abroad are eased significantly along with procedural simplifications.

2) Fiscal Policies:

These policies renew commitment to the consolidation and rectitude alongside a six-pronged strategy to reinvigorate the economy and return to a growth path consistent with its potential. Monetary policy aims at ensuring adequate liquidity to meet credit demand, and pursues the objective of softening of interest rates consistent with a vigil on price stability. The refined channels of credit delivery, and the operational effectiveness of monetary policy are sought to be improved as an integral part of building the institutional infrastructure and augmented for an efficient and vibrant financial system. Banking and financial sector reforms are aimed at deregulating the policy environment so as to enhance the operational efficiency of financial intermediaries, thus strengthening these institutions by benchmarking prudential standards against international best practices, improving the regulatory and supervisory function, and enhanced transparency, accountability, and market discipline.

3) Agriculture Policy:

This policy aims at initiating measures for the development of the agriculture sector. A number of steps have been undertaken in this regard. **For example,** measures have been taken to reduce foodgrain stocks that are posing problems of storage and disposal. QRs on export of several food items including wheat and wheat products, coarse grains and pulses have been dismantled. The Central Issue Price (tIP) of wheat and rice was lowered for the Above Poverty Line (APL) consumers so as to increase the off-take under the Targeted Public Distribution System (TPDS). The policy of dividing the country into five zones for selling subsidized wheat in the open market was also removed. Each State is now treated as a separate zone and the actual freight cost incurred by the FCI in transporting wheat to that State is charged.

4) **Policy on Manufacturing, Infrastructure, and Services:**

Policy initiatives are continued to be taken under the gamut of 'economic liberalization', to support and promote manufacturing, infrastructure, and services sector. For example, FDI up to 100 per cent is permitted in a wide range of manufacturing activity and commerce, in Special Economic Zones (SEZs) and in telecommunications, airports, courier services, drugs and pharmaceuticals, and hotel and tourism sectors. The defense sector has been opened-up for private participation. The union government has put in place a tourism development package consisting of development of six tourism circuits to international standards and permission for Special Purpose Vehicles (SPVs) to raise resources from both public and private sectors for infrastructure development in these circuits. Steps are also taken to address infrastructural constraints through the implementation of the National Highway

5) **Trade Policies:**

The Medium- Term Export Strategy (MTES) sets-out a road map for the export sector, which is coterminus with the Tenth Five-Year Plan period. The MTES aims at increasing India's share in world trade. The MTES includes product (220 commodities) and market identification for exports and indicative sector-wise strategies for identified potential sectors. Export market diversification is also a major objective of the Export and Import (EX 1M) Policy with special focus on sub-Saharan Africa and the Commonwealth of Independent States (CIS).

6) **Export and Import (EXIM) Policy**:

The Five-Year EXIM policy for the period 2002-2007 includes, *inter alia,* removal of all QRs on exports (except a few sensitive items reserved for exports through State Trading Enterprises), a farm-to-port approach for exports of agricultural products, special focus on cottage sector and handicrafts, and Assistance to States for Infrastructural Development for Exports (ASIDE). 28 Agri Export Zones (AEZs) have been sanctioned to 14 states to promote the export of agro products and agro-based processed products.

…………………………………………………………………………………

4.2 Macroeconomics: Circular Flow of the Economy

Macroeconomics simplifies the complexities of the trading activities in an economy by distilling actions to primary participants and tracing the circular flow of activity between them.

Circular Flow of Economic Activity: Meaning and Models

Meaning of Circular Flow of Economic Activity:

It means continual circular movement of money and goods in the economy.

The concept the circular flow of income is a simplification which attempts to illustrate the flow of money and goods from households to business enterprise and back to households.

We know that the economic activities and money have a circular flow. Circular flow of money means that the money spent must not be hoarded and should continue to flow to maintain a certain Level of economic activity and income.

In order to obtain a clear idea of the relations between the numerous economic units in a country, it is best to reduce them to homogeneous groups.

For example, all households may be taken as one whole, because their activities are more or less 'of the same type. Enterprises and government agencies too can each be grouped also. Through economic activity (production, consumption, capital formation etc.), these groups are linked up not only with each other but also with other economic problems of the world by flow of goods and money. All those currents' make up the circular flow of economic activity.

We see the GNP, GNY and GNE are all identical in values and when depreciation is deducted, they become net—i.e., $NNP \equiv NNY \equiv NNE$, (the symbol $\equiv$ denotes identity). But the income, output and expenditure approach would not assume such a great importance if they were merely identical to each other; the fact of the matter is that income output and employment are equal to each other functionally also. Keynes was the first to note the fact of the circular flow of economic activity.

We know that in a closed economy with no government activity the income (Y) is divided between consumption expenditure (C) and investment expenditure (i) We also know that whatever part of income is not consumed is saved ($Y = C + S$). Since income (Y) = Expenditure (E), therefore, $C + S = C + I$, therefore, $S = I$. Herein lies the greatest importance of Keynesian approach. In the fundamental Keynesian equation $Y = C + I$, C depends for on Y, therefore, it is essential to understand clearly what Y stands for and what different concepts are that have come to lie associated with it. The definition of income presented good deal of difficulty to Keynes. Today, it has been refined and operationally made more significant.

Thus, one of the important conditions for the economy to be in equilibrium is that its circular flow of economic activities among the different sectors of the economy must be maintained, i.e., whatever is earned in the form of income (10 by the factors of production must be spent by them either on consumption (C) or on investment (I), so that in the ultimate .analysis, theoretically at least, $Y – C + I$ this is the income-expenditure approach, in which the balance between the two sides is maintained—when this is done, it is said that the circular How of economic activity has been maintained and the economy is in a state of macro equilibrium.

This circular flow of economic activity is maintained not only in two sector closed simple economy but also in three sector economy and four sector open economy in which we take into consideration the foreign trade sector transactions. In order to attain the circular How of economic activity necessary adjustments of transactions in the various sectors of the economy are made. Circular flow model highlights the circular flow of spending and income between business and household sectors of the economy built on the concept that spending creates income.

4.2.1 Two Sector Model:

In a two-sector model of a simple economy we consider Household Sector and Business Sector called Firms etc. Households own all economic resource or factors of production. These resources are either labour force (human resources) or capital stock (non-human resources) or both. Households are not only families, they may be single people and communal groups as well. Households are basically consumer units and their ultimate aim is to satisfy the wants of their members. They are also the controllers of the factors of production.

On the other hand, business sector employs the factors of production or resources (inputs) and produces the final output for sale. Business or firms take economic resources from households and in turn provide them with goods and services. These basic exchanges are known as real flows.

Business sector pays for factor services and incur—what are called 'factor costs' and receives income in return. Thus, flows of goods and services in one direction are always matched by the flows of money in the opposite direction. The model given below shows how circular flow of the two sectors in a simple closed economy is maintained.
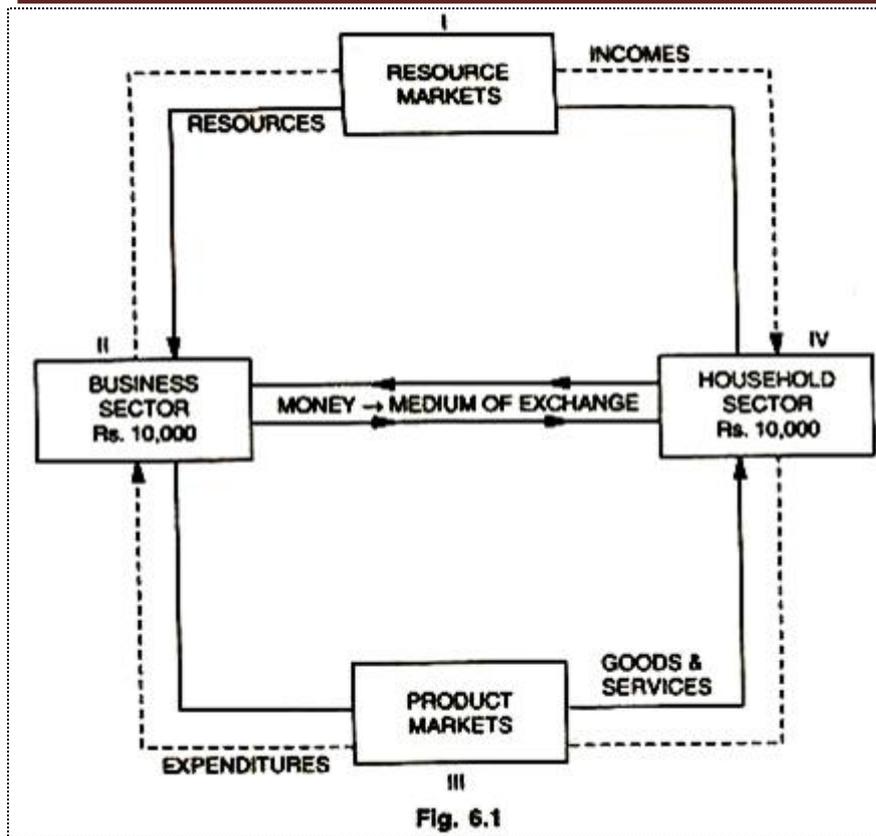
Circular flow of the two sectors

In this model we see that business and household sectors are the principals in the circular flow of real items and money—that takes place in the resource and product markets. In other words, business sector do not buy all the economic resources directly from the households; nor do the households buy goods and services directly from business sector. Both types of transactions are carried through the markets (the resource market and the product market). Starting from the resource market (Box I) household sector supplies economic resources to satisfy the demand of business sector (Box II).

Business sector makes use of these resources (inputs) in the production and in the process supplies final goods and services through product market (Box III) to households (Box IV) for the satisfaction of their wants—through money, being the chief medium of exchange. The size of these flows depends on the amount demanded by the household sector and supplied by the business sector and on the prices of the final output. However, on account of the scarcity of resources and limitation of supplies these flows are finite in nature.

The model depicts circular flow in two-sector simple economy, where household sector earns Rs. 10,000 from the sale of 'factor services' to business sector and this business sector makes use of these inputs to produce an output in the economy exactly equal to Rs. 10,000.

Accordingly, the economic agents in the business sector are called 'producers' and economic agents in the household sector are called 'consumers'. As such there are mainly two broad types of transactions that take place between 'producers' and 'consumers'.

From the viewpoint of producers these transactions take the form of:

a) Purchase of the factor services from the household sector,

b) Sale of final output to household sector.

From the 'consumers' viewpoint, these transactions take the form of:

a) Sale of factor services to business sector,

b) Purchase of final output from business sector.

The circular how of economic activity in the two sector simple economy is, however, based on the following assumptions:

Assumptions:

a. The economy is a closed economy (no foreign trade sector),

b. Production takes place only in business sector,

c. Producers sell all that they produce. In other words, there is no inventory accumulation in the business sector,

d. Consumers spend all their income on consumption. In other words, there is no saving in the household sector,

e. There are no transactions involved like government expenditure on goods and services or taxes etc.

Given the above assumptions, it follows that production should equal sales and income should equal expenditure—the circular flow then is complete. In the real world it is not possible to uphold these assumptions and at times these have to be dropped—in such circumstances the maintenance of circular flow in the economy becomes a bit more complicated. While basic circular flow of spending and income prevails, the real working of the economy adds complications in our simple two sector theoretical structure or model of the economy described above.

These complications are caused by injections and leakages. Injections are factors which increase spending flow; while leakages are factors which tend to reduce spending. The basic mechanism of circular flow remains the same though some adjustments in transactions will have to be made.

Even in two sector model based on simple assumptions mentioned above there may be leakages from the income stream in the form of savings by the household sector. They may save a fraction of income say, Rs. 1,000 out of Rs. 10,000 (in the above example) and decide not to spend—as a result consumption expenditure will fall to Rs. 9,000. But as the business sector is producing output worth Rs. 10,000—there will be unintended accumulation of goods worth Rs. 1,000 called unwanted inventories.

This will interrupt the circular flow because business sector is still producing worth Rs. 10,000 and all that can be sold is worth Rs. 9,000—so production levels will have to be cut back in the second round, reducing, in turn, the flow of income to household sector. It shows that leakages in any form would reduce the production and income level and would also interfere with the smooth flow of circular activity.

However, should the business sector decide to buy the leftover output worth Rs. 1,000 for any reason (because it wishes to add to its stock of inventories) total expenditure can still remain equal to output despite the saving leakage. Thus, if intended or desired business investment equals saving—equilibrium, flow can still be maintained at the original level of income and output.

This is shown in the model given below:

The model shows that the household sector saves Rs. 1,000 and spends Rs. 9,000 on consumption— business sector purchases goods and services worth Rs. 1,000 for its own use, thereby helping the economy lo maintain the circular (low. But the model shows that there is a capital market also between S and I flow. Just as factor services or resources flow through resource market and the final output through product market S and I flow through capital market.

According to classical capital market is always acted in a manner that will make saving equal lo investments automatically through the mechanism of the rate of interest. But modern economists believe that there is no automatic capital market mechanism making S = I. Some outside force or action or mechanism must be geared into action to make S = I. This outside action, force or mechanism is monetary policy, which can stimulate or retard investment spending. The model shows that monetary policy helps the capital market to bring savings (Rs. 1,000) equal to investments (Rs. 1,000).
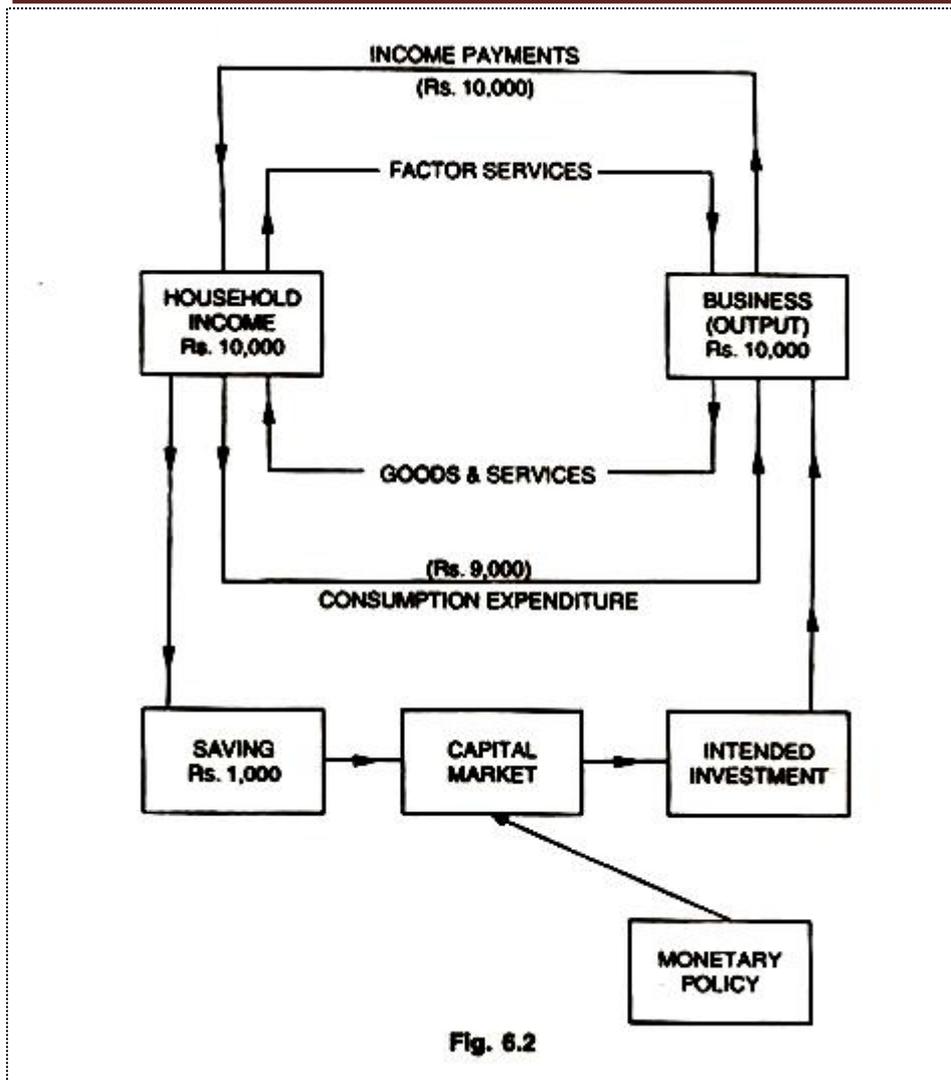
Fig. 6.2

Income Payments

4.2.2 Three Sector Model:

The three sector model of a simple economy shows the circular flow of economic activity involving government transactions. Government incurs expenditure on goods and services and gets receipts in the form of taxes. Taxes which are levied by the government constitute an important source of leakage apart from savings; whereas government expenditure on the purchase of goods and services constitutes an important source of injection.

When we give money to governments (Central, State, Local) in the form of taxes, our ability to spend is reduced but the government can offset the effect of this leakage through taxes by spending more on the purchase of goods and services called injection. This act on the part of the government to levy taxes and to spend more is called fiscal action. The working of the three sector model involving government transactions, taxes and expenditure is shown in the model given in Fig. 6.3.
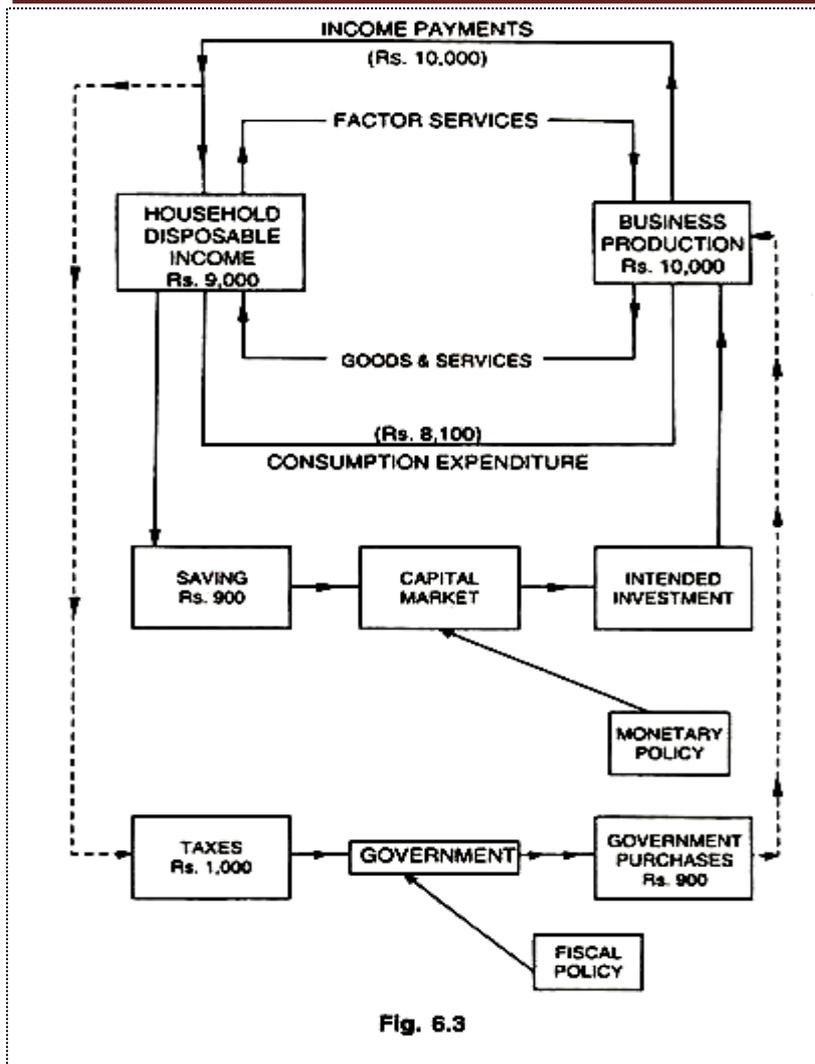
Fig. 6.3

The model shows that the government collects Rs. 1,000 of the household income in the form to taxes. This will reduce the household consumption as well as saving, which in turn, will reduce business sales. But if there is a new source of injection in the form of government purchase and expenditure on goods and services, it will offset the affects of the tax leakage.

If the government purchases (expenditure) from the business sector are equal to the amount by which the taxes reduce consumption, total business sales will again equal production and the circular flow of the economy involving three sectors will be Maintained. In the model the total output is worth Rs. 10,000 before taxes.

The government levies taxes worth Rs. 1,000 reducing the disposable income of the household sector to Rs. 9,000. This causes the households to reduce consumption by Rs. 900 and saving by Rs. 100, as such the new level of saving is Rs. 900 and the level of consumption expenditure is Rs. 8,100. If intended investment remains as before (Rs. 1,000) total expenditure on C and I will be Rs. 9,100.

Therefore, the government must purchase and spend on goods and services Rs. 900 to make the total demand equal to the total value of the output i.e., Rs. 10,000. What is important is that total expenditure must equal total output—which is equivalent to saying that total leakages must equal total injections.

We see in the model that government expenditure is not equal to taxes and savings are no longer equal to intended investments but the macroeconomic equilibrium or the circular flow of the economy obtains nevertheless because total expenditure is equal to the value of total output. In the model taxes and savings (leakages) have reduced consumption to Rs. 8,100—what is therefore, required is some source of demand (injections) worth Rs. 1,900 to obtain the equality between income and expenditure.

4.2.3 Four Sector Model:

The two sector or three sector models given above of a simple closed economy can be extended to four sector open economy by waiving the assumption of closed economy. The four sector model includes foreign trade and transactions taking place in foreign trade sector. When the household sector purchases goods abroad and imports them into the economy—the expenditure represents a leakage from the circular flow. This leakage (import expenditure) has to be offset—offsetting this are the expenditures incurred by foreigners on domestic goods and services (exports) and give rise to injections (export expenditure) into the domestic circular flow.

When these flows are added in our four sector model we treat imports as leakages and exports as injections. These flows pass through a sector called 'balance of payments' sector—which is influenced by various types of foreign trade policies (say, like free trade or protection). The equilibrium condition for maintaining the circular flow would still be that total leakage must equal total injections. However, in the four sector open model leakage would consist of imports besides savings and taxes and injections would consist of exports besides investment and government expenditure.

In the symbolic form the four sector model of circular flow can be shown as follows:

Let us put NNP = Y, consumption expenditure including imports = C, intended investment = I, government purchase of goods and services = G, exports = X, and imports = Z. The supply of output available to an economy consists of its domestic production NNP or Y plus the level of imports (Z). In macroeconomic equilibrium condition when circular flow is maintained this Supply must exactly equal the sum of demands of the household, business, government and foreign trade sectors for exports (denoted by X).

As such we may rewrite the condition:

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

or

$$Y = C + I + G + (X – Z)$$

Where $X – Z$ represents the net trade balance (the difference between exports and imports).

Denoting savings by S and taxes by T and net disposable income of households by Yd—we rewrite the above equation as follows:

Equation for Four Sector Model of Circular Flow

It shows that injections must equal leakages to maintain the circular flow of economic activities in the four sector open economy. As we move from two sector simple model of a closed economy to three sector or four sector model of an open economy the adjustments become necessary. The mechanism of the circular flow for the maintenance of macroeconomic equilibrium remains the same—only the nature of transactions and their adjustments undergo a change as is shown by a generalized picture of a model is given below.

Generalized Picture of Four Sector Model
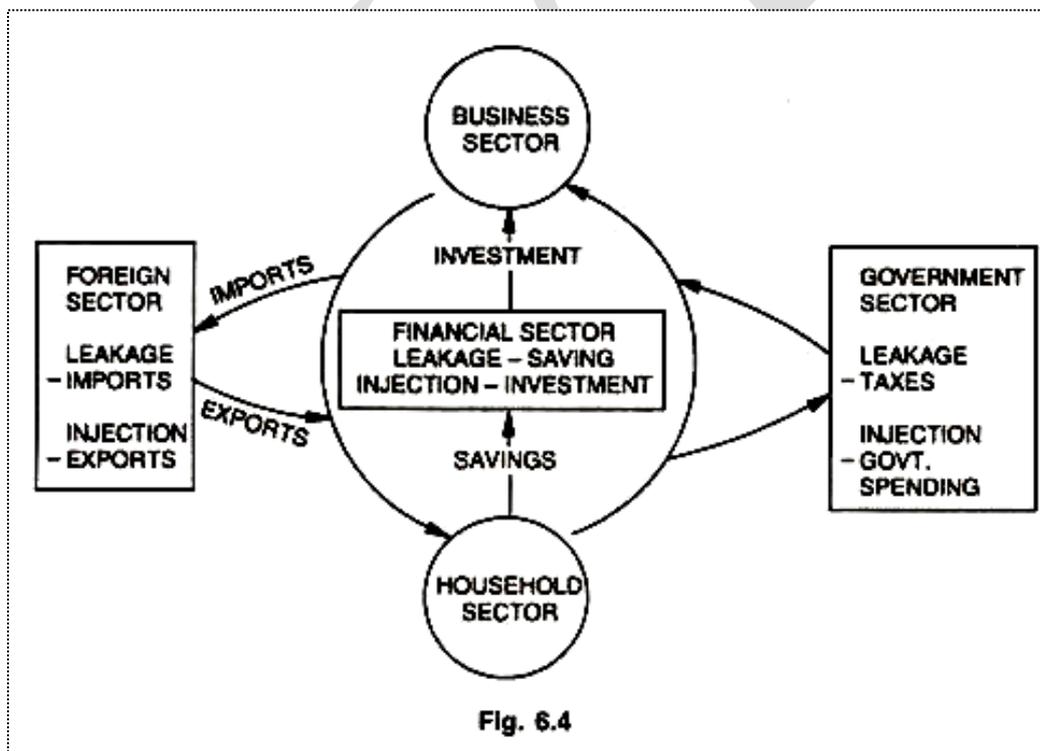
Fig. 6.4

The model shows the various kinds of transactions which originate and take place in different sectors of the economy and cause complications but once the necessary adjustments between leakages and injections like saving and investment in two sector model—taxes and government expenditure in three sector model and imports and exports in four sector model are made—the circular How of economic activity of the macroeconomic; static equilibrium is obtained irrespective of the fact whether these minor constituents (activities) are equal to each other or not what is required at the macro level is that the circular flow of activities must be so adjusted that the aggregate income generated must equal the aggregate value of the final output.

Circular Flow of Economic Activity
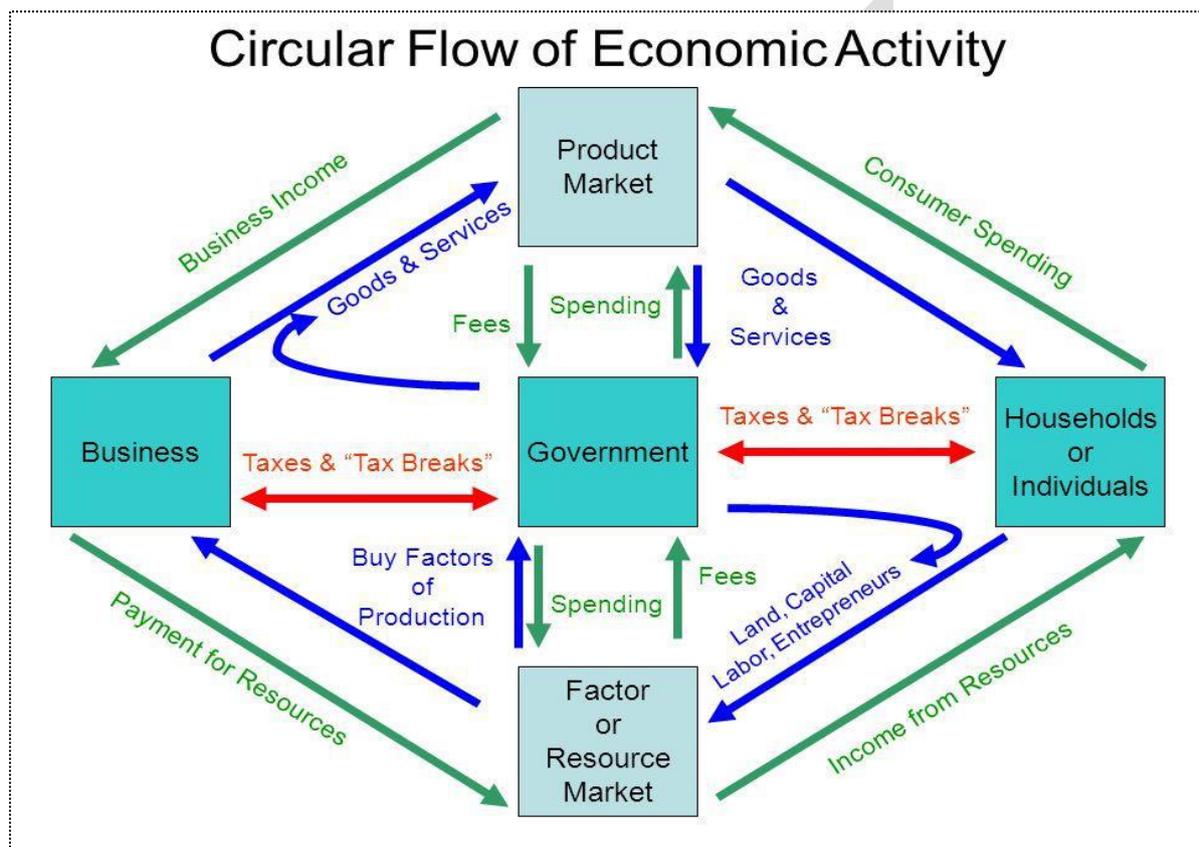
4.3 Determination of National Income

According to Keynes there are two major factors that determine the national income of an economy

Aggregate Supply

Aggregate supply comprises of consumer goods as well as producer goods. It is defined as total value of goods and services produced and supplied at a particular point of time. When goods and services produced at a particular point of time is multiplied by the respective prices of goods and services, it helps us in getting the total value of the national output. The formula for determining the aggregate national income is follows

Aggregate Income = Consumption(C) + Saving (S)

Few factor prices such as wages, rents are rigid in the short run. When demand in an economy increases, firms also tend to increase production to some extent. However, along with the production, some factor prices and the amount of inputs needed to increase production also increase.

Aggregate Demand

Aggregate demand is the effective aggregate expenditure of an economy in a particular time period. It is the effective demand which is equal to the actual expenditure. Aggregate demand involves concepts namely aggregate demand for consumer goods and aggregate demand for capital goods. Aggregate demand can be represented by the following formula −

AD = C + I

As per Keynes theory of nation income, investment (I) remains constant throughout, while consumption (C) keeps changing, and thus consumption is the major determinant of income.

The Determination of National Income: Keynes's Basic Two Sector Model

Keynes's Income-Expenditure Approach:

It is worth noting here that the Keynesian theory is relevant in the context of the short run only since the stock of capital, techniques of production, efficiency of labour, the size of population, forms of business organisation have been assumed to remain constant in this theory.

Further in his model of income determination Keynes assumed that price level in the economy remains unchanged. Therefore, in the Keynesian theory which deals with the short run, the level of income of the country will change as a result of changes in the level of labour employment.

Thus, in free market economy in the short run, when capital stock and technology remain unchanged, income is a function of labour employment. In fact, both income and employment go together. The higher the level of employment, the higher the level of income.

As level of employment is deter-mined by aggregate demand and aggregate supply, the level of income is also determined by aggre-gate demand and aggregate supply. In this article, we shall explain how the equilibrium level of national income is determined through Keynes's income-expenditure analysis.

This analysis ex-plains determination of national income by relating income (output) to aggregate expenditure on goods and services. The, aggregate expenditure shows aggregate demand for goods and services. Keynesian theory of income determination can be explained by assuming two sectors in the economy, namely, households and business firms. Keynes focused on this simple two sector model of deter-mination of national income and derived conclusions regarding policy formulation from this basic model.

Analysis of determination of national income can be extended to incorporate Government and foreign trade. We start with the analysis of determination of national income by taking a simple two-sector economy with a fixed price level.

Aggregate Expenditure (with a Fixed Price Level):

Aggregate expenditure is the total expenditure which at given fixed prices all households and business firms want to make on goods and services in a period at various levels of national income. Though J.M. Keynes used the term aggregate demand, in modern macroeconomics, the term aggre-gate expenditure is generally used.

The terms of aggregate demand and aggregate supply are now generally used in the model with variable price level. In this article however we use the term aggregate demand and aggregate expenditure interchangeably but assume that price level remains constant.

In a two-sector closed economy, aggregate expenditure or aggregate demand consists of two components: First, there is consumption demand, and secondly, there is a demand for capital goods, which is called investment demand. Thus, by aggregate expenditure we mean how much expenditure the households and the entrepreneurs are willing to undertake on consumption and investment. Therefore,

Aggregate Demand = Consumption Demand + Investment Demand

$$AD = C + I$$

where AD stands for aggregate demand, C for consumption demand and I for investment demand.

Using the term aggregate expenditure instead of aggregate demand we have

Aggregate Expenditure = Consumption expenditure + Investment expenditure

$$or\ AE = C + I$$

Consumption Demand:

As for consumption demand, it depends upon the propensity to con-sume of the community and the level of national income. Given the propensity to consume, as income increases, consumption demand will also increase. In other words, given the propensity to consume, consumption demand is a function of income.

Consumption function can take several forms. The most common form of short-run consumption function is where a is the intercept term of the function and represents autonomous consumption whereas b represents the slope of the consumption function.

C= a + bY

According to Keynes's theory current consump-tion expenditure depends primarily on current income. Further, according to Keynes, the chief fac-tor that determines consumption expenditure is disposable income, that is, income, available after taxes. Increase in personal taxes reduces personal disposable in-come and therefore consumption expenditure.

Fig. 5.1. Consumption Function
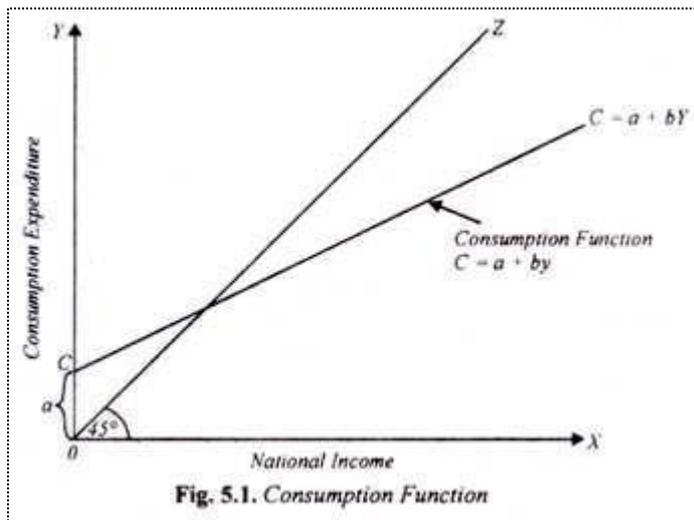
Consumption Function

Consider Fig. 5.1 in which national income is measured along the X-axis and consumption de-mand (C) is shown on the Y-axis. In this figure, a straight line OZ which makes 45° angle with the X-axis has been drawn.

This straight line OZ with 45° angle with the X-axis represents the ref-erence income line to measure the difference between consumption and level of income. This is also often called income line. This 45° line represents national income in money terms. In fact, national product and income are the same things. In this figure a curve C has also been drawn which represents consumption function, C = a + by of the community.

This curve of consumption function slopes upward from left to right, which shows that as income increases the amount of consumption demand also increases. As income line OZ makes 45° angle with the X-axis, the gap between the consumption function curve C and the income line OZ represents the saving of the community.

The reason for this is that a part of the income is consumed and a part is saved, i.e., National Income = Consumption + Saving. This is also written as Y = C + S, where y represents income, C consumption and S saving. It will be seen from Fig. 5.1 that the gap between the consumption function curve C and the income line OZ goes on increasing as income increases. In other words, the amount of saving or saving gap increases as income increases.

It is worth mentioning that in the short-run consumption function does not change. This is because the propensity to consume, that is, the whole consumption function curve C depends upon the tastes, preferences, the income distribution in the society, the population level, wealth of the people etc., which do not undergo much change in the short run. The implication of the stability of consumption function is that the consumption demand is primarily determined by the level of cur-rent national income.

Similarly, when income tax, an instrument of fiscal policy, is reduced disposable income of the households increases and as a result at a given level of national income (GDP), consumption demand rises leading to the upward shift in consumption function.

Investment Demand:

The other com-ponent of the aggregate demand is investment which is a crucial factor in the determination of equilibrium level of national income.

In-vestment demand depends upon two factors:
   (1) Marginal efficiency of capital and

   (2) Rate of interest.

Of these two factors, rate of in-terest is comparatively stable and does not frequently change in the short run. Therefore, the fluctuations in the level of investment demand chiefly depend upon the changes in the marginal efficiency of capital.

The mar-ginal efficiency of capital means the expected rate of profit which the business community hopes to get from the investment in capital Fig. 5.2. Investment Marginal efficiency of capital depends upon the replacement cost of the capital goods on the one hand, and profit expectations of entrepreneurs on the other.

Investment

Profit expectations are more important because they often change even in the short run and cause fluctuations in investment. If the level of national income and employment is desired to be raised in a free market capitalist economy, then steps should be taken which will raise the expectations of the entrepreneurs (i.e., business firms) regarding profit-earning from in-vestment.

In any particular year, there will be a given level of investment demand which, as seen above, is determined by marginal efficiency of capital and a given rate of interest. However, in Keynes's theory investment being determined by marginal efficiency of capital and rate of interest does not depend on the level of income.

In actual practice when the level of income rises, the demand for goods will also rise and this will favorably affect the expectations of the entrepre-neurs regarding making of profits. Rise in the profit expectations will raise the marginal efficiency of capital which in turn will increase the level of investment. But it is quite clear that investment demand does not directly depend upon income; it is only affected indirectly by changes in income.

Aggregate Expenditure or Demand Curve

Therefore, in our Figure 5.3 we have taken a given amount of investment demand independent of the level of income and added it to upward slop-ing consumption function curve to get aggregate expenditure curve C + I. The distance between the C curve and the C + I curve is paral-lel to the C curve throughout which indicates that the level of invest-ment is constant and does not change with the change in income.

It may however be noted that with either a change in the rate of interest or marginal efficiency of capital investment will change. Therefore, in income-expenditure diagram as shown in Fig. 5.3, a different new amount of investment of will have to be taken.

Aggregate Output:

As mentioned above, in the short run the level of national income and employment in a free- market economy depends upon the equilibrium between aggregate expenditure and aggregate out-put. We have also explained above the various components of aggregate expenditure on goods and services. We now run to explain the aggregate supply and factors on which it depends. It is important to note again that Keynes in his analysis assumed that prices and wages remain constant in the short run.

In an economy without any role of Government, national income means the total money value of goods and services produced in an economy in a year.

There are two important constituents of aggregate output:

1. The supply or output of final consumer goods and services in a year; and

2. The output of capital goods which are also called producer goods because they help in producing further goods.

National income is the same thing as national product as both represents the value of output of final goods and services produced. In fact, aggregate supply or money value of national product of goods and services is distributed among the various factors of production as wages, rent, interest and profits as rewards them for their contribution to the national product.

The aggregate output which is also sometimes referred to as aggregate supply of goods of an economy depends upon the stock of capital, the amount of labour used and the state of technology. In the short run, stock of capital remains constant and therefore output can be increased by increas-ing the amount of labour employed.

Like the classical economists Keynes also thought that aggre-gate output or national income depend the short-run production function with a given capital stock and constant technology. Thus, we have the following production function in the short run.

$$Y = (N, K, T)$$

where Y is national output, K is the constant amount of capital stock, T is the constant state of technology and N is the labour employed which is a variable factor.

It may be noted that the amount of production which a given amount of labour can produce depends upon the given stock of capital and state of tech-nology. The higher the level of technology, more can be produced with the help of given resources.

Since J.M. Keynes in the nineteen thirties and we at present are con-cerned with the determination of income and employment in the short run, the stock of capital and the state of tech-nology are assumed to be constant. For similar reasons, size of population is also assumed to be constant. How-ever, the amount of labour employed out of this given size of population can vary depending upon the demand for labour.

45° Line as Aggregate Output Curve (With Fixed Prices):

In the income-expenditure analysis with which we are presently concerned we need to compare Gross Domestic Product (or National Income) with aggregate expenditure (AE), also called aggregate demand (AD), which is represented on the vertical axis.

For this purpose we draw a 45° line from the origin which helps us to transfer Gross Domestic Product or real National Income (i.e. gross supply of output at constant prices) from the horizontal axis to the vertical axis for comparing it with total expenditure on goods and services.
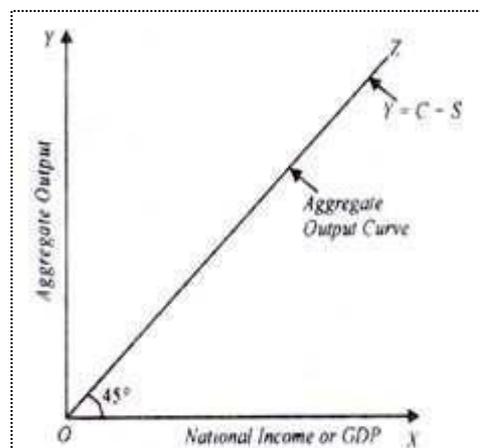

Fig. 5.4. *45° line Showing Aggregate Output*

45 Line Showing Aggregate Output

It follows from above that 45° line shows two things. First, it shows varying levels of aggregate production or the supply of goods (both consumer and capital goods) that will be offered for sale at the given price level at various levels of aggregate expenditure. This shows that up to the level of full-employment of resources any amount of aggregate supply of output will be forthcoming at the given price level depending on the aggregate demand or expenditures.

The greater the aggregate demand or expenditure, the greater the aggregate supply of output at the given price level. Secondly, it represents national income. In fact, as you would have read in national income accounting, na-tional product and national income are the same things.

Equilibrium Level of National Income:

Now, we shall explain how through the intersection of aggregate demand and aggregate supply curves the equilibrium level of national income is determined in Keynes's two sector model. C + I curve represents the aggregate expenditure and 45° OZ line represents aggregate supply of output.

Fig. 5.5. *Determination of National Income : Basic Keynesian Model*
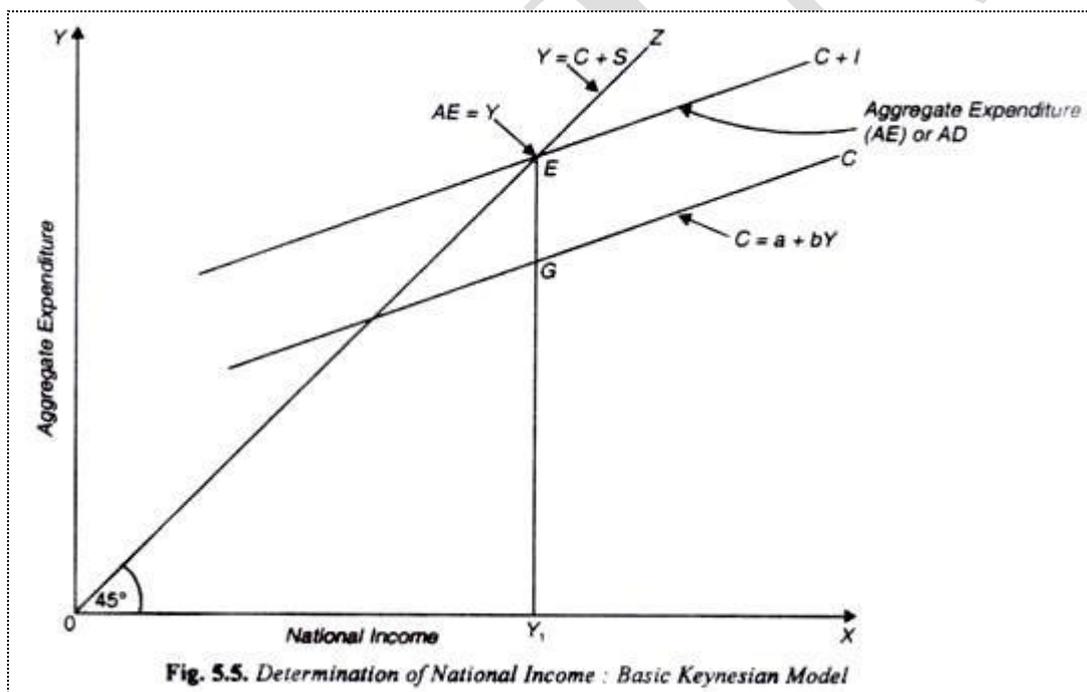
Determination of National Income: Basic Keynesian Model

Normally the goods and services are produced by firms when they think they can sell them in the market. There will be equilibrium in the goods market when total output of goods and services produced will be equal to the total demand for output. Aggregate demand for them is represented by aggregate expenditure. In equilibrium aggregate expenditure (which is denoted by AE) must equal aggregate output (GDP). Since aggregate output or GDP equals

national income (K) we have the following condition for equilibrium.

$$AE = GDP = Y$$

It will be seen in Fig. 5.5 that aggregate expenditure curve (AE) or C + I curve intersects 45° line at point E which satisfies the equilibrium condition. That is, a point E which corresponds to the income level OY1 aggregate expenditure is equal to aggregate output. Therefore, E is the equilib-rium point and OY1 represents the equilibrium level of national income. Now, income cannot be in equilibrium at levels smaller than OY1, since aggregate expenditure exceeds aggregate supply of output as C+I curve which depicts aggregate expenditure of output lies above 45° line.

This excess demand will be met by the firms selling goods from their stocks or inventories of goods kept by them. This leads to the decline in inventories of goods below the desired levels. This unintended fall in inventories will induce the firms to expand their output of goods and services to meet the extra demand for them and keep their inventories of goods at the desired levels.

Thus when at a given level of national income, aggregate expenditure (i.e., aggregate demand) exceeds aggregate output, national income will increase. With this increase in national income or output, employment of labour will also rise to produce the increment in output. This process of expansion in output under the pressure of excess demand will continue till national income OY1 is reached.

Principle of Effective Demand:

We have seen above that the equilibrium level of national income is determined by aggre-gate demand and aggregate supply of output. Consider Fig. 5.5 where it will be seen that, the prices remaining constant, aggregate expenditure (AE) curve C + I shows varying levels of aggregate demand at various levels of national income. The particular aggregate demand which is equal to aggregate output and therefore determines the equilibrium national income is called effective demand.

In other words, effective demand is that level of aggregate demand (aggregate expenditure) which becomes effective in determining equilibrium level of income because it is equal to aggregate supply of output. This is called Keynesian principle of effective demand. In Fig. 5.5, the effective demand is equal to Y1E. Note that the level of national income OY1 which has been determined, equals the effective demand Y1E (OY1 = Y1E).

There are several other points on the aggregate demand (expenditure) curve but what dis-tinguishes effective demand from all these points is that at this point aggregate demand is equal to aggregate output. On all other points aggregate demand is either more or less than aggregate output. Thus, the level of national income is determined by and equal to effective

demand.
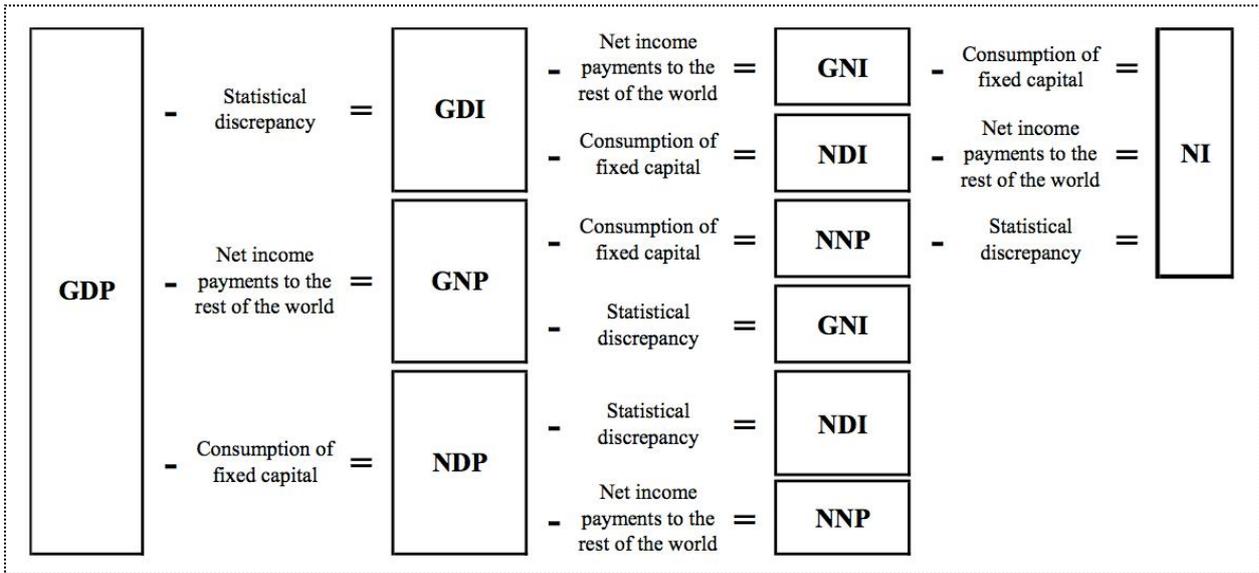
Mathematical summaries of various concept

- **GNP at market price – depreciation = NNP at market price**

- **GNP at market price – net income from abroad = GDP at market price**

- **GNP at market price – net indirect taxes = GNP at factor cost.**

- **NNP at market price – net income from abroad = NDP at market price**

- **NNP at market price – net indirect taxes = NNP at factor cost**

4.3.1 Keynesian Theory of National Income Determination

According to Keynes, there can be different sources of national income, such as government, foreign trade, individuals, businesses and trusts.

For determining national income, Keynes had divided the different sources of income into four sectors namely' household sector, business sector, government sector, and foreign sector.

Different Models of National Income Determination

The two-sector model of economy involves households and businesses only, while three-sector model represents households businesses, and government. On the other hand, the four-sector model contains households, businesses, government, and foreign sector. Let us discuss these three types of models of income determination given by Keynes.

Determination of National Income in Two-Sector Economy:

The determination of level of national income in the two-sector economy is based on an assumption that two-sector economy is an economy where there is no intervention of the government and foreign trade.

Apart from this, an economy can be a two-sector economy if it satisfies the following assumptions:

a) Comprises only two sectors, namely, households and businesses. The households are the owners of factors of production and provide factor services to businesses to earn their livelihood in the form of wages, rents, interest, and profits. In addition the households are the consumers of final goods and services produced by businesses. On the other hand, businesses purchase factor services from households to produce goods and services and sell it to households.

b) Does not have government interference. If government is there, it does not have any role to play in the economic activity of a country. For example, in the two-sector economy, the government is not involved in activities, such as taxation, expenditure, and consumption.

c) Comprises a closed economy in which the foreign trade does not exist. In other words, import and export services are absent in such an economy.

d) Contains no profit that is undistributed or savings by the organization. In other words, the profit earned by an organization is completely distributed in the form of dividends among shareholders.

e) Keeps the prices of goods and services, supply of factors of production, and production technique constant throughout the life cycle of organization.

4.4 Keynes believed that there are two major factors that determine the national income of a country. These two factors are Aggregate Supply (AS) and Aggregate Demand (AD) of goods and services.

In addition, he believed that the equilibrium level of national income can be estimated when AD=AS. Before representing the relationship between AS and AD on a graph, let us understand these two concepts in detail.

Aggregate Supply:

AS can be defined as total value of goods and services produced and supplied at a particular point of time. It comprises consumer goods as well as producer goods. When goods and services produced at a particular point of time is multiplied by the respective prices of goods and services, it provides the total value of the national output. The national output is the aggregate supply in the form of money value. The Keynesian AS curve is drawn based on an assumption that total income is equal to total expenditure. In other words, the total income earned is fully spent on different types of goods and services.

Aggregate Supply Curve

According to Keynes theory of national income determination, the aggregate income is always equal to consumption and savings.

The formula used for aggregate income determination:

Aggregate Income = Consumption(C) + Saving (S)

Therefore, the AS schedule is usually called C + S schedule. The AS curve is also named as Aggregate Expenditure (AE) curve.

4.4.1 Aggregate Demand:

AD refers to the effective demand that is equal to the actual expenditure. Aggregate effective demand refers to the aggregate expenditure of an economy in a specific time frame. AD involves two concepts, namely, AD for consumer goods or consumption (C) and aggregate demand for capital goods or investment (I).

Therefore, the AD can be represented by the following formula:

AD = C + I

Therefore, AD schedule is also termed as C+I schedule. According to Keynes theory of national income determination in short-run investment (I) remains constant throughout the AD schedule, while consumption (C) keeps on changing. Therefore, consumption (C) acts as the major determinant or function of income (Y).

………………………………………………………………………………………….

The Aggregate Demand Curve and its Slope

The Aggregate Demand curve plots the level of Aggregate Demand at various price levels. As the price level rises, the level of Aggregate Demand falls. The reverse is also true. As the price level falls, Aggregate Demand increases. Thus an inverse relationship exists between the price level and Aggregate Demand. The negative slope in the image labeled "Aggregate Demand Curve" illustrates this inverse relationship.
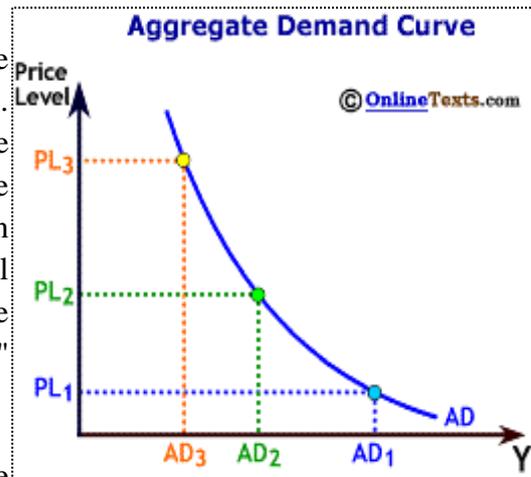
At first glance, the downward slope of the Aggregate Demand curve seems perfectly intuitive. The law of demand seems to explain the negative relationship between price and Aggregate Demand. Upon further reflection, however, this reasoning is incorrect. The law of demand applies to individual markets because when the price of a particular good or service rises, consumers substitute other products in place of the more expensive item. So the law of demand deals with changes in relative prices--the price of one good relative to another good. In macroeconomics, the price plotted on the vertical axis is the price level, the average level of all prices in the economy. If the price level increases, all prices in the economy are rising, on average, and there are no goods or services for which the consumer can substitute. The microeconomic demand curve and the law of demand do not strictly apply.

Two explanations exist to account for the negative relationship between Aggregate Demand and the price level. These explanations are called the wealth effect and the international trade effect.

The wealth effect occurs because certain financial assets have returns stated in nominal dollars. If the price level rises unexpectedly, the real return on these assets falls. For example, suppose that a person purchases a $100 bond that will pay a 10 percent return, so the bondholder will receive $110 in one year. The bondholder forecasts no inflation over the year, but the inflation rate turns out to be 5 percent. When the bondholder receives the $110 payment, the real return is less than the bondholder expected

because the purchasing power of the $110 is less than it was a year ago. In effect, the rising price level reduces the bondholder's wealth. If the value of a person's financial assets declines, she will reduce consumption, and Aggregate Demand will decline.

International Trade Effect

Change in Price Level	→	Change in Price of Domestic Goods Relative to Foreign Goods	→	Change in Net Exports	→	Change in Agg. Demand

The international trade effect occurs because an increase in the price level can reduce net exports. If the nominal exchange rate is fixed, an increase in the U.S. price level means that, in real terms, the U.S. dollar is appreciating. For example, suppose that one U.S. dollar equals one British pound and a toaster costs $20 and 20 pounds to produce in both the U.S. and England, respectively. Suppose then that the price level in the U.S. increases so that prices of domestically produced goods and services are higher than before. Assume that the price of a domestically produced toaster rises to $22. If the price level in England is unchanged, then the toaster still costs just 20 pounds to produce and it can be imported and sold in the U.S. for $20 because of the one-to-one exchange rate. The fixed exchange rate gives U.S. consumers more import purchasing power. In other words, a rising U.S. price level, all else equal, lowers the cost of foreign goods relative to domestic goods. The relatively cheaper imports will be demanded at the expense of domestically produced goods, decreasing net exports and hence, Aggregate Demand.

Movements Along vs. Shifts in the Aggregate Demand Curve

A change in the level of Aggregate Demand that is caused by a change in the price level is referred to as a movement along the Aggregate Demand curve. The figure titled "Movement Along AD Curve" illustrates a movement from point A to point B. As the price level rises, consumption and net exports decline because of the wealth and international trade effects, respectively. The economy moves along the Aggregate Demand curve.

A change in the price level will cause movement along the Aggregate Demand Curve.

A change in any factor other than a change in the price level that changes the level of Aggregate Demand results in a shift of the Aggregate Demand curve. The figure titled "Shift of Aggregate Demand Curve" illustrates a rightward shift. Factors that Shift the Aggregate Demand curve include changes in autonomous consumption, investment, government expenditures and net exports.

A change in anything but the price level that affects Aggregate Demand will cause a shift in the Aggregate Demand Curve.

An increase in autonomous consumption--the portion of consumption that is independent of disposable income--shifts the Aggregate Demand curve to the right because for a given price level, the level of Aggregate Demand is higher than before. For example, an increase in consumer confidence shifts the Aggregate Demand curve to the right.
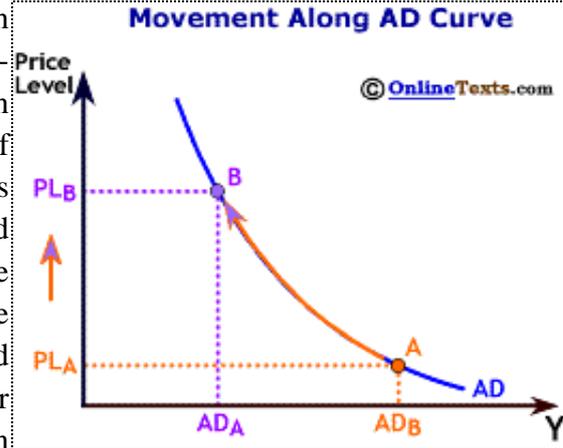
An increase in expected future income also shifts the Aggregate Demand curve rightward because consumers believe that their incomes will increase over time. A decrease in taxes shifts the Aggregate Demand curve to the right because for each price level, disposable income and, hence, consumption are higher than before.
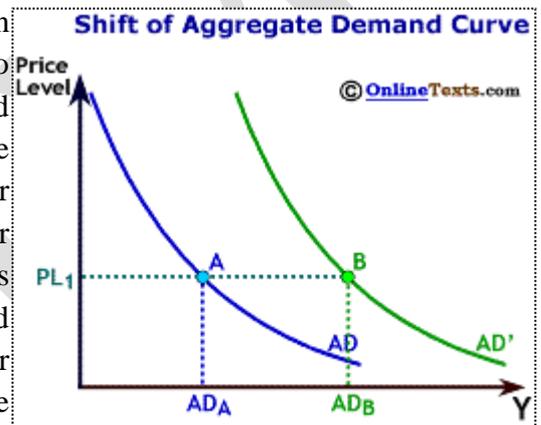
A change in investment expenditures is another factor that shifts the Aggregate Demand curve. An increase in plant and equipment expenditures, for example, shifts the Aggregate Demand curve to the right because the level of Aggregate Demand is higher at each price level. Investment could also increase due to an increase in business confidence or a fall in interest rates. As we will explore in a later chapter, the Federal Reserve may lower interest rates to stimulate investment.

A change in government expenditures is a third factor that shifts the Aggregate Demand curve. A decrease in government spending to cut back on defense spending at the end of the Cold War, for example, shifted the Aggregate Demand curve to the left.

Finally, changes in net exports shift the Aggregate Demand curve. If net exports rise, the Aggregate Demand curve shifts to the right. Net exports increase when there is a weakening of the domestic currency or when there is an increase in foreign income relative to domestic income.
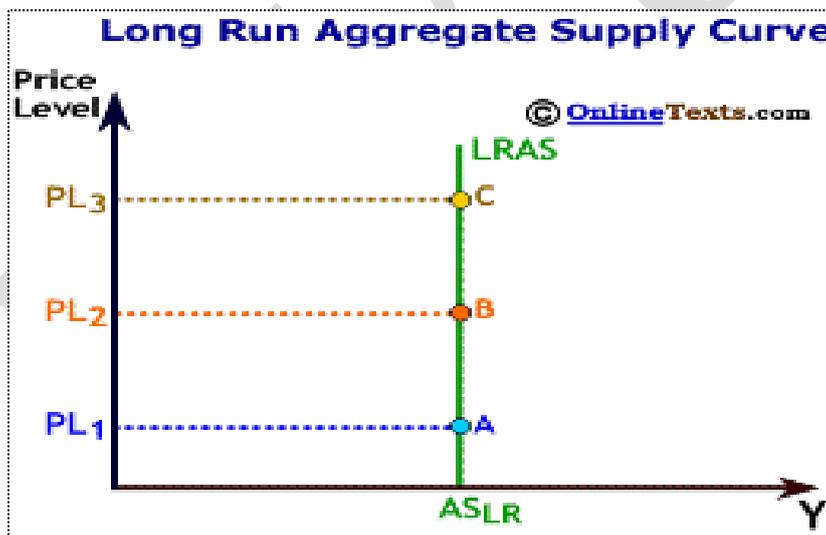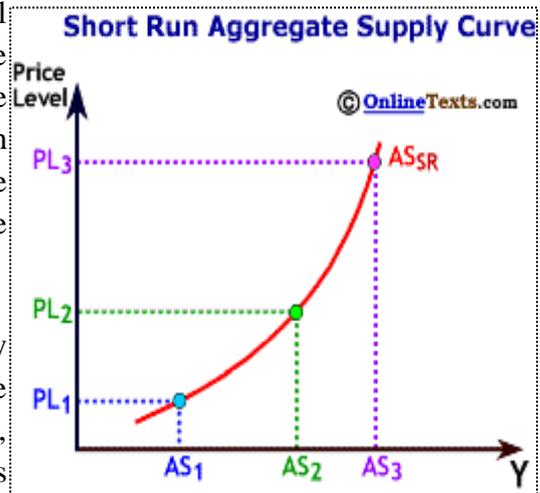
4.4.2 Aggregate Supply

The *Aggregate Supply curve* graphs the total amount of output (Y) produced at various price levels. A significant difference exists between the short-run Aggregate Supply curve and the long-run Aggregate Supply curve. In the short run the Aggregate Supply curve is upward sloping. In the long run the Aggregate Supply curve is vertical.

In the context of the Aggregate Supply curve, the short run is a time period in which the costs of production--wages, raw materials, energy, and so on--are held constant; only output prices vary. When prices rise, the level of Aggregate Supply also rises because firms seek to take advantage of the profit opportunities. A firm's profit is the difference between its revenues and costs over a given time period, say one year. Suppose that a firm produces picture frames and it uses only one input, labor. The Figure labeled "Short Run Aggregate Supply Curve" is upward sloping, which illustrates the positive relationship between the price level and Aggregate Supply.

We define the long run as a time period in which all prices and costs are variable. An increase in the price level will have no impact on Aggregate Supply in the long run because all firms' costs (e.g. wages and resource costs) will rise proportionally with the price level. Recall that the picture frame company increased profits by increasing the price of picture frames from $10 to $11. Over time, workers adjust their wage demands upward because goods and services are more expensive and because good workers are harder to find as employment rises with the level of production.

Suppose that workers increase their wage demands to $9 per hour. Now the firm earns the same $2 profit per frame as it did before the price level increase and the level of output returns to 2,000, the same level of production as in the first year. In the long run, the Aggregate Supply curve is vertical as illustrated in the Figure labeled "Long Run Aggregate Supply Curve." When resources such as labor and capital are fully employed, the economy's production is at the potential level of output, Y_p. When the economy is on the Long Run Aggregate Supply curve, GDP is equal to potential output.

4.5.Macroeconomic Equilibrium and Disequilibrium

Equilibrium in the macroeconomic sense occurs when the demand for final goods and services equals the supply of final goods and services. A short-run equilibrium, however, differs from a long-run equilibrium because in the long run the economy must be producing at the potential level of output so that all factors of production are fully employed.

Short-Run Equilibrium

The short-run equilibrium occurs where the Aggregate Demand curve crosses the short-run Aggregate Supply curve. The intersection of Aggregate Demand and Aggregate Supply in the figure labeled "Short Run Equilibrium" determines both the price level and the equilibrium level of GDP in the economy. The level of output can be above or below potential output. For example, suppose that the economy produces $9 trillion of goods and services in the year 2005 and potential output is $8.5 trillion.
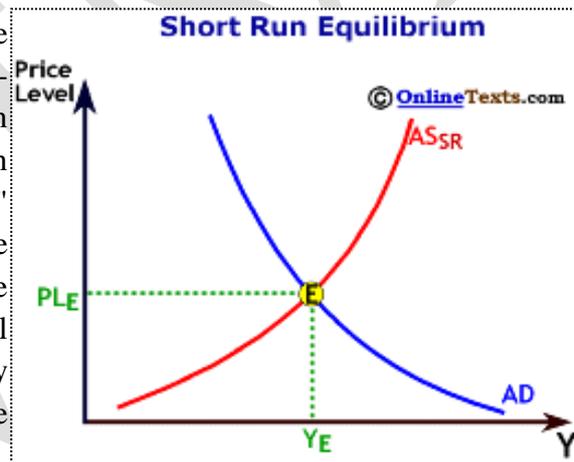
As long as the demand for final goods and services is also $9 trillion, the economy is at a short-run equilibrium. Because supply and demand are equal, firms do not overproduce, which would lead to an unintended accumulation of inventories. Nor do firms under produce, which would lead to an unintended depletion of inventories.

Long-Run Equilibrium

The long-run equilibrium can only occur where the Aggregate Demand curve crosses the vertical Long Run Aggregate Supply curve because in the long run, equilibrium output must equal potential output where all resources are fully employed.

This condition holds because in the short run, production input costs are held
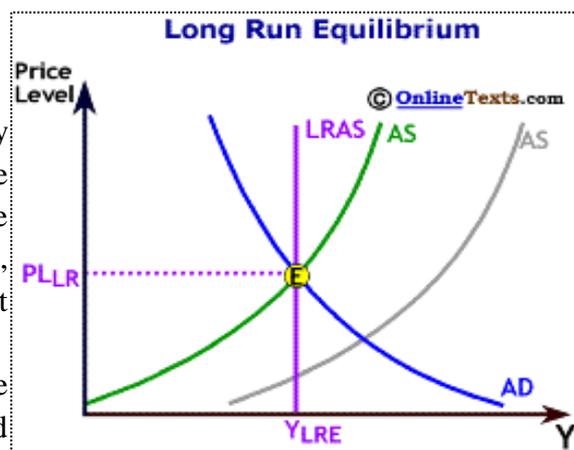
constant, but in the long run, input costs can vary. When output is above the potential level of output, there is pressure on wages to increase because workers are relatively scarce and employers bid up wages competing for the workers. As wages are bid up, the short-run Aggregate Supply curve shifts to the left until the equilibrium output is equal to potential output. This scenario is graphed in the figure labeled "Long Run Equilibrium."

Conversely, the Aggregate Demand curve could intersect the short-run Aggregate Supply curve at a level of output below potential output. In this scenario, unemployment would be above the natural rate of unemployment and there would be pressure on wages to decline, shifting the Aggregate Supply curve to the right. This process would continue until the Aggregate Demand curve intersected Aggregate Supply at the potential level of output. Note that in both short-run and long-run equilibriums, Aggregate Demand and Aggregate Supply are equal. The difference between the two is that the long run equilibrium requires the additional condition that output be at the potential level of output.

Disequilibrium

Suppose the economy is in disequilibrium. Let us consider first the case in which Aggregate Demand exceeds Aggregate Supply, or AD > AS. Demand for goods and services is greater than the production of goods and services. As demand outpaces supply, firms see inventories declining unexpectedly and they respond by increasing output and prices until equilibrium is reached. As the price level rises, aggregate demand declines due to the wealth and international trade effects, and aggregate supply rises due to firms' potential for larger profits. This scenario is illustrated in the figure titled "Aggregate Demand Exceeds Aggregate Supply."
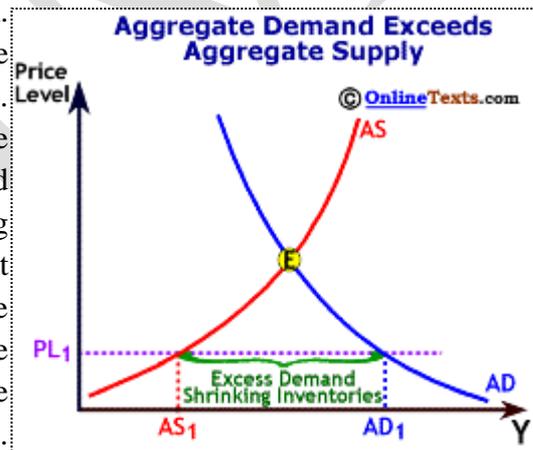
The alternative scenario, illustrated in the figure titled "Aggregate Supply Exceeds Aggregate Demand," occurs when the price level is too high such that Aggregate Demand is less than Aggregate Supply, or AD < AS. Demand for goods and services is less than production of goods and services, and firms see inventories increasing unexpectedly. They respond by decreasing production and prices. As the price level falls, Aggregate Demand increases and Aggregate Supply decreases. Again, the economy tends towards equilibrium.
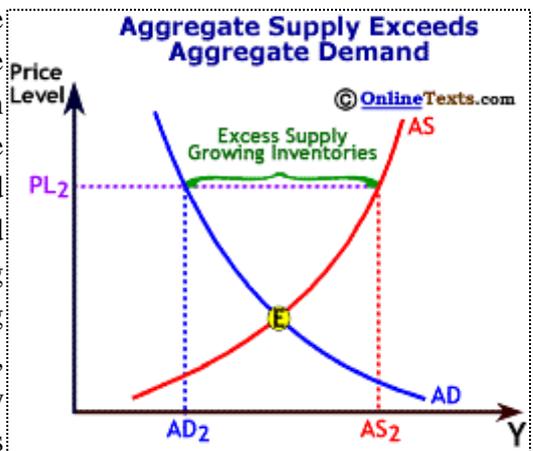
Aggregate Demand: it's Meaning and Components

Aggregate Demand: Meaning and Components

(a) Meaning:

Aggregate demand refers to the total demand for final goods and services in the economy.

Since aggregate demand is measured by total expenditure of the community on goods and services, therefore, aggregate demand is also defined as 'total amount of money which all sectors (households, firms, government) of the economy are ready to spend on purchase of goods and services.

Alternatively, it is the total expenditure which the community intends to incur on purchase of goods and services. Thus, aggregate demand is synonymous with aggregate expenditure in the economy. If the total intended (i.e., ex-ante) expenditure on buying all the output is larger than before, this shows a higher aggregate demand.

On the contrary, if the community decides to spend less on the available output, it shows a fall in the aggregate demand. In simple words, aggregate demand is the total expenditure on consumption and investment. It should be noted that determination of output and employment in Keynesian framework depends mainly on the level of aggregate demand in short period.

The Aggregate Demand Curve (AD)

A rise in the price level causes a contraction of AD

A fall in the price level causes an expansion of AD

$$AD = C+I+G+(X-M)$$
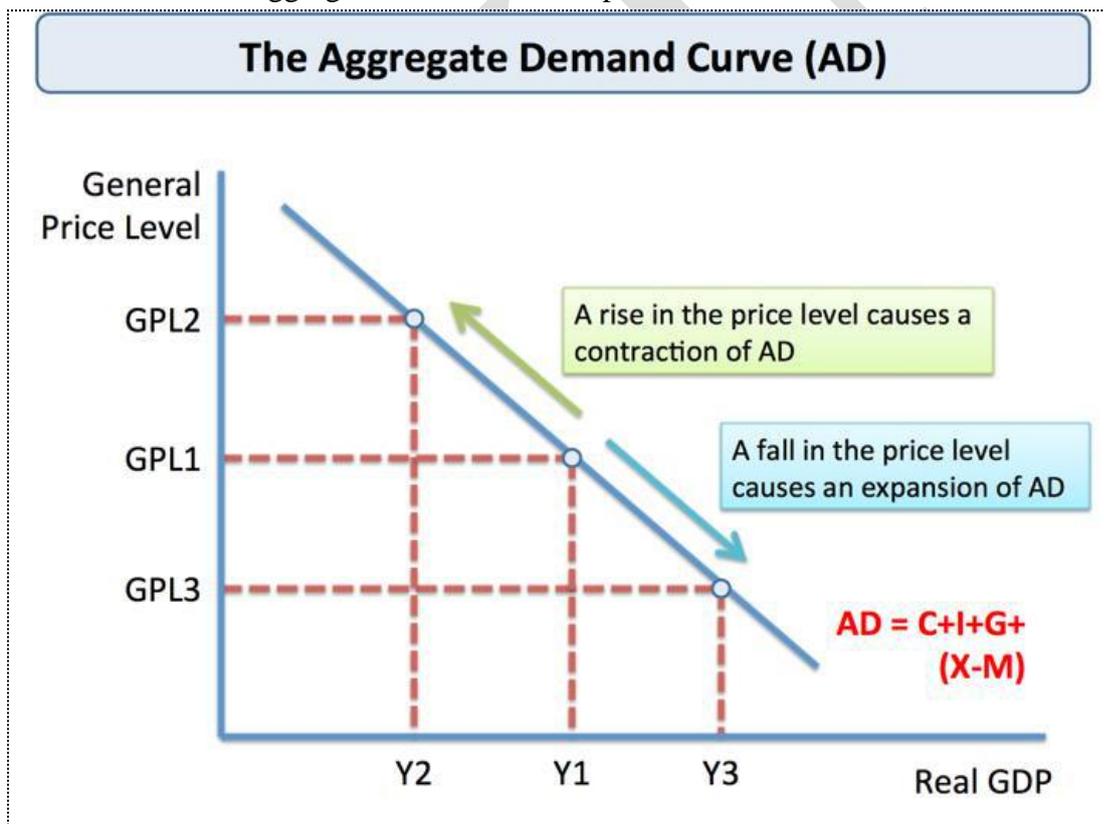
(b) Components of AD:

Thus, the main components of aggregate demand (aggregate expenditure) in a four

sector economy are:

1. Household (or private) consumption demand. (C)

2. Private investment demand. (I)

3. Government demand for goods and services. (G)

4. Net export demand. (X-M)

Thus,

AD = C + I + G+(X-M)

Mind, all the variables represent planned (ex-ante) and not actual (ex-post).

We discuss below each of the above components:

1. Household (or Private) Consumption Demand (C):

It is defined as 'Value of goods and services that households are able and willing to buy.' Alternatively, it refers to ex-ante (planned) consumption expenditure to be incurred by all households on purchase of goods and services. For instance, households' demand for food, clothing, housing, books, furniture, cycles, radios, TV sets, educational and medical services will be called household consumption demand. Consumption (C) is a function (f) of disposable income (Y), i.e., $C = J(Y)$ (for detail refer Section 8.6).

As disposable income increases, consumption expenditure also increases but by how much? It depends upon propensity to consume. The relationship between income and consumption is called 'propensity to consume' or consumption function. Consumption function is represented by the equation. (For details see Section 8.6)

2. Private Investment Demand (I):

This refers to planned (ex-ante) expenditure on creation of new capital assets like machines, buildings and raw materials by private entrepreneurs. Remember, investment in Keynesian sense does not imply purchase of existing shares or securities but means expenditures on creation of new capital assets such as plants and equipment, inventories, construction works, etc. that help in production. Investment is made not only to maintain present level of production, but also to increase production capacity in future.

An economy grows through investment. Among three categories of investment, namely, purchase of new buildings, addition to stock and investment in fixed plant or machinery, the investment demand is focussed on last category, i.e., machinery.

The relationship between investment demand and rate of interest is called investment demand function. There is inverse relationship between rate of interest and investment demand. Investment is of two types—Autonomous and Induced (see Section 8.11) but all private investment expenditure is assumed as induced investment.

Thus, three elements which are important in understanding investment are:

1. **Revenue (i.e., rate of return on new investment)**
2. **Cost (i.e., rate of interest)**
3. **Expectations (of profit)**

Investment demand function:

Macroeconomics is a branch of economics that focuses on the behavior and decision-making of an economy as a whole . In this manner it differs from the field ofmicroeconomics, which evaluates the motivations of and relationships between individual economic agents.

3. Government Demand for Goods and Services (G):

It refers to government planned (ex-ante) expenditure on purchase of consumer and capital goods to fulfill common needs of the society. The level of government expenditure is determined by government policy Present-day states are by and large welfare states wherein government participation in economic welfare of the people has increased manifold.

Government demand may be for satisfying public needs for roads, schools, hospitals, water works, railway transport or for infrastructure (like roads, bridges, airports), maintenance of law and order and defence from external aggression. Investment can be induced and autonomous.

It needs to be noted that whereas investment in private sector is made with profit motive and, therefore, called induced investment, government investment is guided by people's welfare motive and, therefore, called autonomous investment. Since investment expenditure is assumed to be autonomous, graphically investment curve is a horizontal line parallel to x-axis as shown as.

4. Net Exports (Exports-Imports) Demand:

Net export is the difference between export of goods and services and import of goods and services during a given period. Net exports reflect the demand of foreign countries for our goods and services over our demand for foreign countries' goods and services. Thus, net exports show expected (ex-ante) net foreign demand.

This strengthens the income, output and employment process of our economy. As against it, imports from abroad drive out the earning of the economy and, therefore, they do not encourage domestic output and employment.

There are many factors which influence the volume of net foreign demand such as foreign exchange rates, terms of trade, trade policy of the importing and exporting countries, relative prices of goods, incomes of the nations, balance of payment position, types of exchange control, etc. Since net exports or foreign expenditure on our goods and services constitute a small proportion of the total expenditure (or aggregate demand), this constituent of net exports is usually ignored.

Fig. 8.1
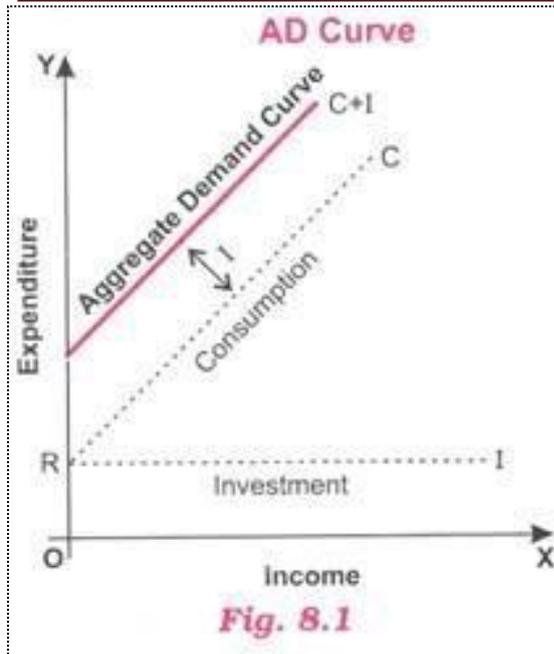
AD Curve

In sum, aggregate demand is the sum of the above- mentioned four types of demand (expenditure), i.e., AD = C + 1 + G + (X-M). Since determination of income (output) and employment is to be studied in the context of a two sector (Household and Firm) economy we shall, therefore, include in aggregate demand (AD) only two broad components of demand such as consumption demand (C) and investment demand (I). Put in symbols:

$$AD = C + I$$

Aggregate demand curve has been shown as sum of consumption (C) and investment (I).

Following are noteworthy points of the diagram:
1. AD curve has a positive slope which means when income increases, AD (expenditure) also increases.
2. AD curve does not originate at point O which shows that even at zero level of income, some minimum level of consumption (equal to OR in the Fig. 8.1) is essential.
3. Investment curve is a straight line parallel to X-axis because according to Keynes, level of investment remains constant at all levels of income during short period.

4.6 Concepts of National Income

There are various concepts of National Income. The main concepts of NI are: GDP, GNP, NNP, NI, PI, DI, and PCI. These different concepts explain about the phenomenon of economic activities of the various sectors of the various sectors of the economy.

Gross Domestic Product (GDP)

The most important concept of national income is Gross Domestic Product. Gross domestic product is the money value of all final goods and services produced within the domestic territory of a country during a year.

Algebraic expression under product method is,

GDP=(P*Q)

where,

GDP=Gross Domestic Product

P=Price of goods and service

Q=Quantity of goods and service

denotes the summation of all values.

According to expenditure approach, GDP is the sum of consumption, investment, government expenditure, net foreign exports of a country during a year.

Algebraic expression under expenditure approach is,

GDP=C+I+G+(X-M)

Where,

C=Consumption

I=Investment

G=Government expenditure

(X-M)=Export minus import

GDP includes the following types of final goods and services. They are:

- Consumer goods and services.
- Gross private domestic investment in capital goods.
- Government expenditure.
- Exports and imports.
- Gross National Product (GNP)

Gross National Product is the total market value of all final goods and services produced annually in a country plus net factor income from abroad. Thus, GNP is the total measure of the flow of goods and services at market value resulting from current production during a year in a country including net factor income from abroad. The GNP can be expressed as the following equation:

GNP=GDP+NFIA (Net Factor Income from Abroad)

or, GNP=C+I+G+(X-M)+NFIA

Hence, GNP includes the following:

- Consumer goods and services.
- Gross private domestic investment in capital goods.
- Government expenditure.
- Net exports (exports-imports).
- Net factor income from abroad.
- Net National Product (NNP)

Net National Product is the market value of all final goods and services after allowing for depreciation. It is also called National Income at market price. When charges for depreciation are deducted from the gross national product, we get it. Thus,

NNP=GNP-Depreciation

or, NNP=C+I+G+(X-M)+NFIA-Depreciation

National Income (NI)

National Income is also known as National Income at factor cost. National income at factor cost means the sum of all incomes earned by resources suppliers for their contribution of land, labor, capital and organizational ability which go into the years net production. Hence, the sum of the income received by factors of production in the form of rent, wages, interest and profit is called National Income. Symbolically,

NI=NNP+Subsidies-Interest Taxes

or, GNP-Depreciation+Subsidies-Indirect Taxes

or, NI=C+G+I+(X-M)+NFIA-Depreciation-Indirect Taxes+Subsidies

Personal Income (PI)

Personal Income is the total money income received by individuals and households of a country from all possible sources before direct taxes. Therefore, personal income can be expressed as follows:

PI=NI-Corporate Income Taxes-Undistributed Corporate Profits-Social Security Contribution+Transfer Payments

Disposable Income (DI)

The income left after the payment of direct taxes from personal income is called Disposable Income. Disposable income means actual income which can be spent on consumption by individuals and families. Thus, it can be expressed as:

DI=PI-Direct Taxes

From consumption approach,

DI=Consumption Expenditure+Savings

Per Capita Income (PCI)

Per Capita Income of a country is derived by dividing the national income of the country by the total population of a country. Thus,

PCI=Total National Income/Total National Population

4.6.1 Components of National Income

The following points highlight the top seventeen components or constituents of national income. The components or constituents are: 1. Gross Domestic Product (GDP) 2. GDP at Factor Cost 3. Net Domestic Product (NDP) 4. Nominal and Real GDP 5. GDP Deflator 6. Gross National Product (GNP) 7. GNP at Market Prices 8. GNP at Factor Cost 9. Net National Product (NNP) 10. NNP at Market Prices and Others.

1. Gross Domestic Product (GDP):

GDP is the total value of goods and services produced within the country during a year. This is calculated at market prices and is known as GDP at market prices. Dernberg defines GDP at market price as "the market value of the output of final goods and services produced in the domestic territory of a country during an accounting year."

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.

a. 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 GDI 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 defence and other services (or government services). In other words, it is the sum of Gross Value Added.

b. 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.

c. 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 people of the 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 material, 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.

2. GDP at Factor Cost:

GDP at factor cost is the sum of net value added by all producers within the country. Since the net value added gets distributed as income to the owners of factors of production, GDP is the sum of domestic factor incomes and fixed capital consumption (or depreciation).

Thus GDP at Factor Cost = Net value added + Depreciation.

GDP at factor cost includes:

1. Compensation of Employees i.e., wages, salaries, etc.
2. Operating Surplus which is the business profit of both incorporated and unincorporated firms,
3. Mixed Income of Self- employed.

Conceptually, GDP at factor cost and GDP at market price must be identical. This is because the factor cost (payments to factors) of producing goods must equal the final value of goods and services at market prices. However, the market value of goods and services is different from the earnings of the factors of production.

In GDP at market price are included indirect taxes and are excluded subsidies by the government. Therefore, in order to arrive at GDP at factor cost, indirect taxes are subtracted and subsidies are added to GDP at market price.

Thus, GDP at Factor Cost = GDP at Market Price – Indirect Taxes + Subsidies.

3. Net Domestic Product (NDP):

NDP is the value of net output of the economy during the year. Some of the country's capital equipment wears out or becomes obsolete each year during the production process. The value of this capital consumption is some percentage of gross investment which is deducted from GDP. Thus Net Domestic Product = GDP at Factor Cost – Depreciation.

4. Nominal and Real GDP:

When GDP is measured on the basis of current prices, 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 the 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:

Real GDP = GDP for the/Current Year $\times$ Base Year (=100)/Current Year Index. 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 $\times$ 100/300 = Rs. 2, 00,000 crores.

5. GDP Deflator:

GDP deflator is an index of price changes of goods and services included in GDP. It is a price index which is calculated by dividing the nominal GDP in a given year by the real GDP for the same year and multiplying it by 100. Thus,

GDP Deflator = Nominal (or Current Prices) GDP/Real (or Constant Prices) GDP x 100

For example, GDP Deflator in 1997-98 = 1426.7th. crores/1049.2th. crores at x 100= 135.9

993 – 94 prices

It shows that at constant prices (1993-94), GDP in 1997-98 increased by 135.9% due to inflation (or rise in prices) from Rs. 1049.2 thousand crores in 1993-94 to Rs. 1426.7 thousand crores in 1997-98.

6. Gross National Product (GNP):

GNP is the total measure of the flow of goods and services at market value resulting from current production during a year in a country, including net income from abroad.

GNP includes four types of final goods and services:
1. Consumers' goods and services to satisfy the immediate wants of the people;

2. Gross private domestic investment in capital goods consisting of fixed capital formation, residential construction and inventories of finished and unfinished goods;

3. Goods and services produced by the government; and

4. Net export of goods and services, i.e., the difference between value of exports and imports of goods and services, known as net income from abroad.

In this concept of GNP, there are certain factors that have to be taken into consideration.
First, GNP is the measure of money, in which all kinds of goods and services produced in a country during one year are measured in terms of money at current prices and then added together. But in this manner, due to an increase or decrease in the prices, the GNP shows a rise or decline, which may not be real.
Fourth the transactions which do not arise from the produce of current year or which do not contribute in any way to production are not included in the GNP. The sale and purchase of old goods; and of shares, bonds and assets of existing companies are not included in GNP because these do not make any addition to the national product, and the goods are simply transferred.

Likewise, the payments received under social security, e.g., unemployment insurance allowance, old age pension, and interest on public loans are also not included in GNP, because the recipients do not provide any service in lieu of them. But the depreciation of machines, plants and other capital goods is not deducted from GNP

Fifth the profits earned or losses incurred on account of changes in capital assets as a result of fluctuations in market prices are not included in the GNP if they are not responsible for current production or economic activity. For example, if the price of a house or a piece of land increases due to inflation, the profit earned by selling it will not be a part of GNP.

But if, during the current year, a portion of a house is constructed anew, the increase in the value of the house (after subtracting the cost of the newly constructed portion) will be included in the GNP. Similarly, variations in the value of assets, that can be ascertained beforehand and are insured against flood or fire, are not included in the GNP.

Last, the income earned through illegal activities is not included in the GNP. Although the goods sold in the black-market are priced and fulfil the needs of the people, but as they are not useful from the social point of view, the income received from their sale and purchase is always excluded from the GNP.

Three Approaches to GNP:

After having studied the fundamental constituents of GNP, it is essential to know how it is estimated. Three approaches are employed for this purpose. One, the income method to GNP; two, the expenditure method to GNP; and three, the value added method to GNP Since gross income equals gross expenditure, GNP estimated by all these methods would be the same with appropriate adjustments.

a. Income Approaches to GNP:

The income approach 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 fall 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) Mixed incomes:

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

(vi) Undistributed corporate profits:

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

(vii) Mixed incomes:

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

(viii) Direct taxes:

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

(ix) Indirect taxes:

The government levies a number of indirect taxes, like excise duties and sales tax. These taxes are included in the prices 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.

(x) 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.

(xi) 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, then 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 Incomes +Direct Taxes+ Indirect Taxes+ Depreciation+ Net Income from abroad.

b. Expenditure approach 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-use 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 the inventory is added to or subtracted from it.

(iii) Net foreign investment:

It means the difference between exports and imports of 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 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 (1) + 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.

c. Value added approach 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 Table 1.

The Table 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 GNP by value added is Rs 75 crores (Rs 155minus Rs. 80 crores).

Table 1 GDP by Value Added			(Rs. Crores)
Industry	Total Output	Intermediate Purchases	Value Added
(1)	(2)	(3)	(4)=(2–3)
1. Agriculture	30	10	20
2. Manufacturing	70	45	25
3. Others	55	25	30
Total	155	80	75

GDP by Value Added

The total value added equals the value of gross national (domestic) product of the economy. Out of this value added, the major portion goes in the form of 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 2.

Table 2 : Gross Domestic Product	(Rs Crores)
1. Wages and salaries	45
2. Income from rent	3
3. Net interest	4
4. Profits of companies	8
5. Indirect taxes	7
6. Depreciation	8
Gross domestic Product	75

Gross Domestic Product

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 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 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 46.2 (Rs 45 + 3 + 4 + 8 crores = Rs 60 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).

Its Importance:

The value added method for measuring national income is more realistic than the product and income methods because it avoids the problem of double counting by excluding the value of intermediate products. Thus this method establishes the importance of intermediate products in the national economy.

Second, by studying the national income accounts relating to value added, the contribution of each production sector to the value of the GNP can be found out.

For instance, it can tell us whether agriculture is contributing more or the share of manufacturing is falling, or of the tertiary sector is increasing in the current year as compared to some previous years. Third, this method is highly useful because "it provides a means of checking the GNP estimates obtained by summing the various types of commodity purchases."

Its Difficulties:

However, difficulties arise in the calculation of value added in the case of certain public services like police, military, health, education, etc. Which cannot be estimated accurately in money terms? Similarly, it is difficult to estimate the contribution made to value added by profits earned on irrigation and power projects.

7. 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. Thus GNP at market prices means the gross value of final goods and services produced annually in a country plus net income from abroad. It includes the gross value of output of all items from (1) to (4) mentioned under GNP.

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

8. 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. It includes all items mentioned above under Income Approach to GNP less indirect taxes.

GNP at market prices always includes indirect taxes levied by the government on goods which raise their prices. But GNP at factor cost is the income which the factors of production receive, in return, for their services alone. It is the cost of production. Thus GNP at market prices is always higher than GNP at factor cost.

Therefore, in order to arrive at GNP at factor cost, we deduct indirect taxes from GNP at market prices. Again, it often happens that the cost of production of a commodity to the producer is higher than price of a similar commodity in the market.

In order to protect such producers, the government helps them by granting monetary help in the form of a subsidy equal to the difference between the market price and the cost of production of the commodity.

As a result, the price of the commodity to the producer is reduced and equals the market price of similar commodity. For example, if the market price of rice is Rs 3 per kg but it costs the producers in certain areas Rs 3.50.

The government gives a subsidy of 50 paise per kg to them in order to meet their cost of production. Thus 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.

9. Net National Product (NNP):

GNP 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. Thus NNP= GNP-Depreciation.

10. 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. Thus NNP at Market Prices=GNP at Market Prices-Depreciation.

11. 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.

12. 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:
1. Wages and salaries,
2. Rents, including imputed house rents,
3. Interest,
4. Dividends
5. Undistributed corporate profits, including surpluses of public undertakings,
6. Mixed incomes consisting of profits of unincorporated firms, self-employed persons, partnerships, etc., and
7. 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 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 imports, 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.

13. 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, and 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.

14. 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 of 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.

15. 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 the disposable income, direct taxes are deducted from personal income.

Thus Disposable income=Personal Income-Direct Taxes. But the whole of the disposable income is not spent on consumption and a part of it is saved. Therefore, the disposable income is divided into consumption expenditure and saving. 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 plus Subsidies-Direct Taxes on Persons-Direct Taxes on Business-Social Security Payments+ Transfer Payments + Net Income from Abroad.

16. 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, the 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 of which 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 as 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 that 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 1993-94 is the base year and the national income for 2004-05 is Rs 20,000 crores and the index 100 number for this year is 250. Hence, Real National Income for 2004-05=20,000x Rs. 8,000 crores. This is also known as National Income at Constant Prices.

17. Per Capita Income:

The average income of the people of a country in a particular year is called Per Capita Income for that year. This concept also refers to the measurement of income at current prices and at constant prices. For instance, in order to find out the per capita income for 2005, at current prices, the national income of a country is divided by the population of the country in that year

Per Capita Income for 2005 = National income for 2005/Population in 2005

Similarly, for the purpose of arriving at the Real Per Capita Income, this very formula is employed.

Real Per Capita Income for 2005 = Real national income for 2005/Population in 2005.

This concept enables us to know the average income and the standard of living of the people. But it is not very reliable, because in every country due to the unequal distribution of national income, a major portion of it goes to the richer sections of the society and thus income received by the common man is lower than the per capita income

4.7 Multiplier Effect

Aggregate demand can have a much greater final impact on the level of equilibrium national income. This is known as the **multiplier effect** - the multiplier is explained in our short revision video below.

Multiplier Process
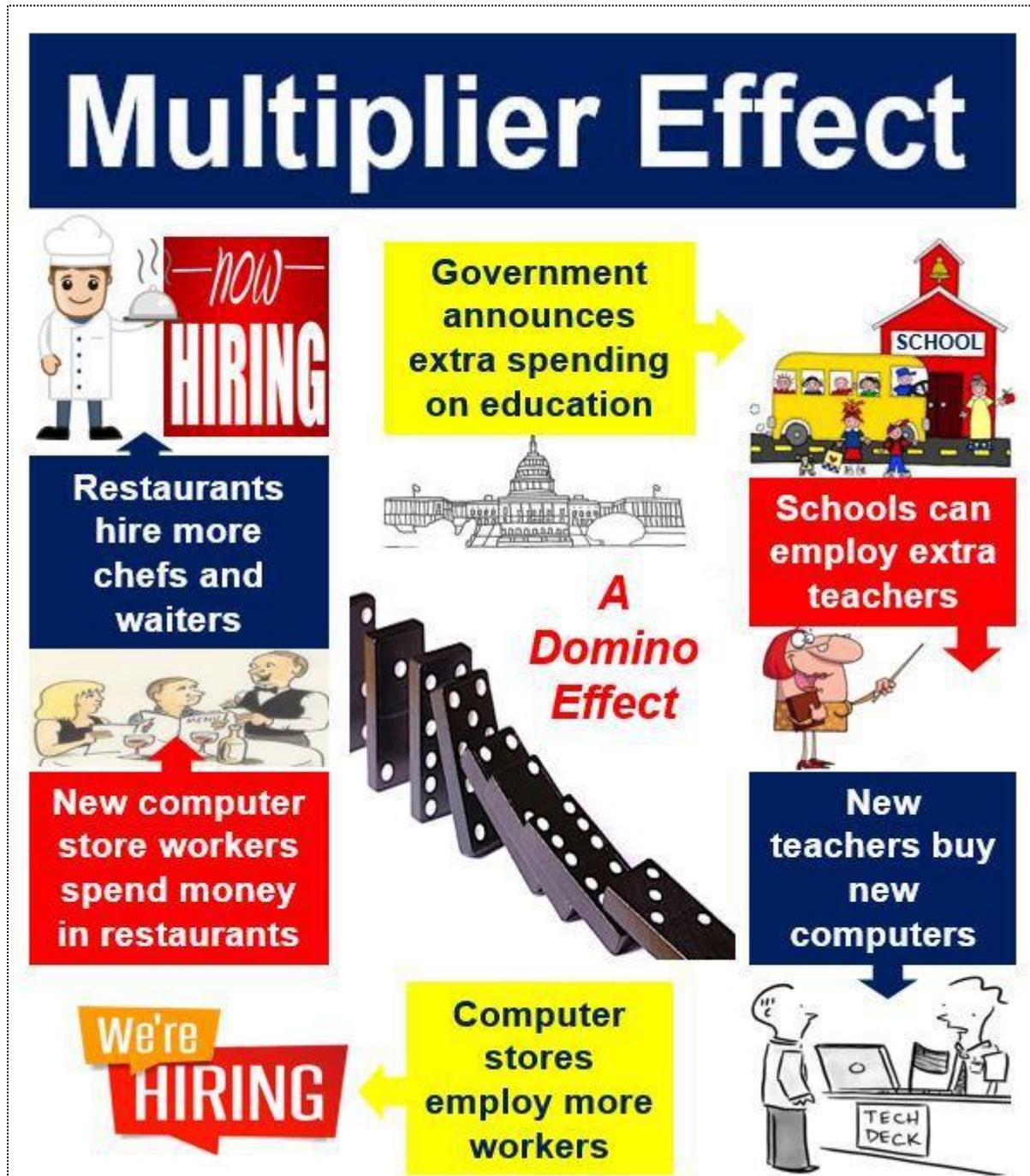
Describing the multiplier process

- 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

Positive Multiplier and Negative Multiplier Effects

Positive multiplier

When an initial increase in an injection (or a decrease in a leakage) leads to a greater final increase in real GDP.

Negative multiplier

When an initial decrease in an injection (or an increase in a leakage) leads to a greater final decrease in real GDP.

What is a simple definition of the multiplier?

It is the number of times a rise in national income exceeds the rise in injections of demand that caused it

Examples of the multiplier effect at work

- Consider a **£300 million increase in capital investment**– for example created when an overseas company decides to build a new production plant in the UK
- This may set off a chain reaction of increases in expenditures. Firms who produce the capital goods and construction businesses who win contracts to build the new factory will see an increase in their incomes and profits
- If they and their employees in turn, collectively spend about 3/5 of that additional income, then £180m will be added to the incomes of others.

At this point, total income has grown by (£300m + (0.6 x £300m).

The sum will continue to increase as the producers of the additional goods and services realize an increase in their incomes, of which they in turn spend 60% on even more goods and services.

The increase in total income will then be (£300m + (0.6 x £300m) + (0.6 x £180m).

Each time, the extra spending and income is a fraction of the previous addition to the circular flow.

Marginal Rate of Leakage and the Multiplier Value

The rate of leakage from the circular flow
Assume that for each £100 of extra income
- 10% is saved
- 20% is taken in taxation
- 20% leaks from the economy in imports

Multiplier = 1 / (sum of the propensity to save + tax + import)
If propensity to save = 0.1
Propensity to tax = 0.2
Propensity to import = 0.2
Then the multiplier = 1/0.5 = 2

At each stage the extra money flowing around the circular flow gets smaller

£100m extra GDP

- £20m saved
- £40m taxed
- £40m imports

£200m Injection

- £10m saved
- £20m taxed
- £20 imports

- £10m saved
- £20m taxed
- £20m imports

£50m extra GDP
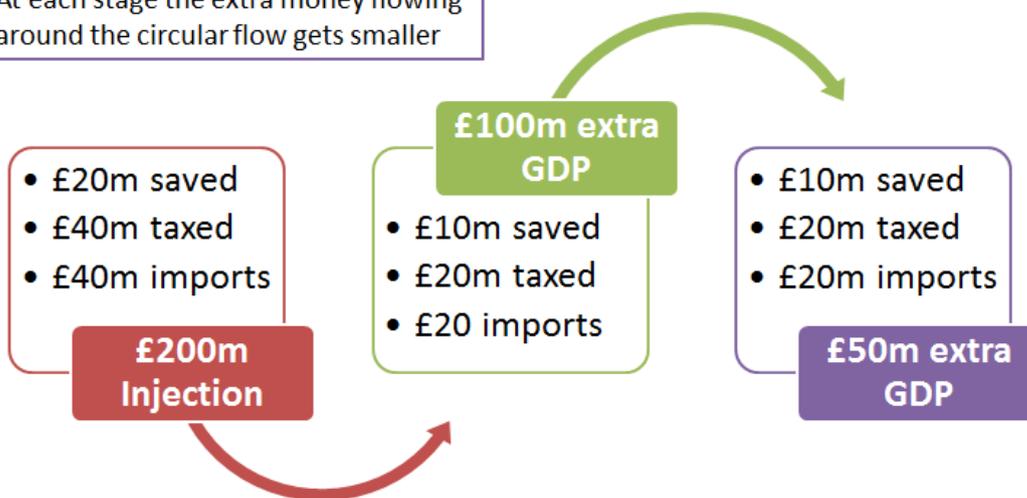
The Multiplier and links to Keynesian Economics

- The concept of the multiplier process became important in the 1930s when **John Maynard Keynes** suggested it as a tool to help governments to maintain high levels of employment
- This "**demand-management approach**", designed to help overcome a shortage of capital investment, measured the amount of government spending needed to reach a level of national income that would prevent unemployment.

What determines the value of the multiplier?

The value of the multiplier depends on:

- Propensity to import
- Propensity to save
- Propensity to tax
- Amount of spare capacity
- Avoiding crowding

4.8 Demand side Management

Demand side economics is based on the belief that the main force affecting overall economic activity and causing short-term fluctuations is consumer demand for goods and services. Sometimes called Keynesian economics, demand side economics developed in response to the Great Depression when conventional supply side economics failed to adequately explain why the mechanisms of the free market was seemingly unable to self-correct or restore balance to the economy as previously expected.

In opposition to classical theories of economics that theorize economic activity is stimulated by increasing net wealth, leading to investment in providing increased supplies. Demand side economics claims that economic activity is best boosted by increasing the buying power of the lower and middle classes, thus increasing the demand for goods and services.

At the core of demand side economics is the focus on aggregate demand. Aggregate demand is the combination of consumption of goods, industry investment in capital goods, government spending and net exports. When other elements of aggregate demand are weak, the government can mitigate their impact by increasing its spending. The government can intervene to generate demand for goods and services.

Demand side economists support heavy government spending during a national recession to overcome the short-term low aggregate demand. Raising the market's aggregate demand will reduce unemployment and encourage economic activity, according to this theory. The government increases demand through spending on public goods and services as well as through its control of the money supply through altering interest rates or trading on government-issued bonds.

Keynesian economists believe the primary factor driving economic activity and short-term fluctuations is the demand for goods and services, the theory is sometimes called demand-side economics. This perspective is at odds with classical economic theory, or supply-side economics, which states the production of goods or services, or supply, is of primary importance in economic growth.

Economist John Maynard Keynes developed his economic theories in large part as a response to the Great Depression of the 1930s. Prior to the Great Depression, classical economics was the dominant theory, with the belief that through the market forces of supply and demand, economic equilibrium would be restored naturally over time. However, the Great Depression and its long-running, widespread unemployment defied classical economic theories, which could not explain why the mechanisms of the free market were not restoring balance to the economy.

Keynes maintained that unemployment is the result of an insufficient demand for goods. During the Great Depression, factories sat idle and workers were unemployed because there was not enough of a demand for those products. In turn, factories had insufficient demand for workers. Because of this lack of aggregate demand, unemployment persisted and, contrary to classical theories of economics, the market was not able to self-correct and restore balance.

One of the core characteristics of Keynesian or demand-side economics is the emphasis on aggregate demand. Aggregate demand is composed of four elements: consumption of goods and services; investment by industry in capital goods; government spending on public goods and services; and net exports. Under the demand-side model, Keynes advocated for government intervention to help overcome low aggregate demand in the short-term, such as during a recession or depression, to reduce unemployment and stimulate growth.

If the other components of aggregate demand are static, government spending can mitigate these issues. If people are less able or willing to consume, and businesses are less willing to invest in building more factories, the government can step in to generate demand for goods and services. It can achieve this goal through its control of the money supply; it does this by altering interest rates or selling or buying government-issued bonds.

Keynesian economics supports heavy government spending during a national recession to encourage economic activity. Putting more money in the pockets of the middle and lower classes has greater benefit to the economy than saving or stockpiling the money in a wealthy person's account. Increasing the flow of money to lower and middle classes increases the velocity of money, or the frequency at which $1 is used to buy domestically produced goods and services. Increased velocity of money means that more people are consuming goods and services and, thus, contributing to an increase in aggregate demand.

4.9 Fiscal Policy

One of the factors that helps determine the country's economic direction is fiscal policy. The government uses fiscal policy to influence the economy by adjusting revenue and spending levels. In the United States, both the executive and legislative branches of the government determine fiscal policy.

Fiscal policy is based on the theories of British economist John Maynard Keynes, which state that increasing or decreasing revenue (taxes) and expenditures (spending) levels influences inflation, employment and the flow of money through the economic system. Fiscal policy is often used in combination with monetary policy, which in the United States is set by the Federal Reserve, to influence the direction of the economy and meet economic goals.

The two main tools of fiscal policy are taxes and spending. Taxes influence the economy by determining how much money the government has to spend in certain areas and how much money individuals have to spend. For example, if the government is trying to spur spending among consumers, it can decrease taxes. A cut in taxes provides families with extra money, which the government hopes they will turn around and spend on other goods and services, thus spurring the economy as a whole.

Fiscal Policy refers to the use of the spending levels and tax rates to influence the economy. It is the sister strategy to monetary policy which deals with the central bank's influence over a nation's money supply. The governing bodies use combinations of both these policies to achieve the desired economic goals. Thus, the essential tools of fiscal policy are taxing and spending.

The fiscal policy is controlled by those people in the government who have control over the tax rates and government spending. It varies from country to country. The individuals who have control over the budget are referred to as the fiscal authority. In the United States, it is held by the executive and legislative branches; whereas in Europe, there are varied models with the power, mostly, lying in the hands of the prime minister or the finance minister and the parliament with the degree of power of either bodies changing through time.

Discretionary Fiscal Policy and Automatic Stabilizers

The government exercises fiscal policy to prevent economic fluctuations from taking place. When actions are undertaken to minimize economic fluctuations, it is known as discretionary fiscal policy. Discretionary fiscal policy is employed when an increase in unemployment and inflation is observed.

Another element that can come into play during economic fluctuations is Automatic Stabilizers. They are taxes and transfers that automatically change with changes in economic conditions in a way that dampens economic cycles. For example, at times of economic downturns, the amount of money spent on food stamps automatically rises as more people apply for it or the rules are eased. The additional spending generated by the food stamps helps to soften the downturn for the individuals receiving the help, and also benefits the businesses and employees where the money is spent.

Types of Fiscal Policies

There are two types of fiscal policy: expansionary and contractionary. The objective of expansionary fiscal policy is to reduce unemployment. Thus, an increase in government spending and/or decrease in taxes are implemented that results in better GDP and reduced unemployment. However, it can also cause some inflation. On the other hand, the objective of contractionary fiscal policy is to reduce inflation. Therefore, a decrease in government spending and/or an increase in taxes are implemented that leads to decreasing inflation. However, it can also trigger some unemployment. [5] In other words, fiscal policy that increases aggregate demand directly through an increase in government spending is typically called expansionary or *loose.* By contrast, fiscal policy is often considered contractionary or *tight* if it reduces demand via lower spending.

Effects of Fiscal Policy

The objectives of fiscal policy vary with duration and economy of application. In the short term, governments may focus on macroeconomic stabilization with aims of stimulating an ailing economy, combating rising inflation, or helping reduce external vulnerabilities. In the longer term, the aim may be to foster sustainable growth or reduce poverty with actions on the *supply side* to improve infrastructure or education. Although these objectives are common among countries, their relative importance differs depending on the country circumstances. In the short term, priorities may reflect the business cycle or response to a natural disaster while in the longer term; the catalysts can be development levels, demographics, or resource endowments.

The macroeconomic effects of fiscal policy have to be studied under two circumstances: one with reduced expenditure (less spending) and the other with reduced revenue (less taxes). The results of lessened expenditure have, in general, a small effect on GDP; and they don't impact private consumption significantly. Although they do have a negative effect on private investment, a varied effect on housing prices, lead to a quick fall in stock prices and depreciation of the real effective exchange rate.

Reduced taxes have the inverse outcomes as they have positive (although lagged) effects on GDP and private investment; have a positive effect on both housing and stock prices; and lead to appreciation of the real effective exchange rate.

Limits of Fiscal Policy

Fiscal policy is a powerful tool that can maintain the economy in perfect balance. However, putting them into practice is quite a difficult task because of various reasons.

Government spending levels can't be altered with that easily. A major chunk of government funds is devoted to health care, social service, and veterans' benefits and such. Thus, changes in expenditure generally must come from the small part of the budget that includes discretionary spending. This gives the government less leeway for increasing or lowering spending.

Another inhibiting factor is working with estimations. When lawmakers put fiscal policies in place, they base their decisions partly on the past behaviors of individuals. It is risky to assume that people will, for example, respond the same way to a tax cut in the future as they have in the past.

Although changes in fiscal policy affect the economy, changes take time. By the time the policy takes effect, the economy might be moving in the opposite direction. In these cases, fiscal policy would only add to the new trend, instead of correcting the original problem.

The pressure that people in authority experience of pleasing the citizens hinders fiscal policy as well. Expansionary fiscal policy (reduced taxes) is a popular choice, but it can't be applied in every situation, and thus, puts the authorities in a predicament when contractionary policy has to be applied, and instills fear a backlash from the voters. Furthermore, execution of fiscal policy isn't a simple task. It requires a coordinated effort from multiple pockets of the government which is very difficult to make happen. In addition, a problem prevalent in one part of the country may not be as troublesome in another or possibly the opposite of that. In addition, in order to be effective, the fiscal policy has to be in coordination with the monetary policies of the central bank as well.

……………………………………………………………………………………………

4.9.1 Fiscal policy types

Fiscal policy is the means by which a government adjusts its spending levels and tax rates to monitor and influence a nation's economy. It is the sister strategy to monetary **policy** through which a central bank influences a nation's money supply.

Fiscal policy is the means by which a government adjusts its spending levels and tax rates to monitor and influence a nation's economy. It is the sister strategy to monetary policy through which a central bank influences a nation's money supply. These two policies are used in various combinations to direct a country's economic goals. Here we look at how fiscal policy works, how it must be monitored and how its implementation may affect different people in an economy.

Fiscal policy that **increases** aggregate demand directly through an increase in government spending is typically called **expansionary** or "loose." By contrast, fiscal policy is often considered **contractionary** or "tight" if it reduces demand via lower spending.

Fiscal policy can be used in order to either stimulate a sluggish economy or to slow down an economy that is growing at a rate that is getting out of control (which can lead to inflation or asset bubbles). Fiscal policy directly affects the aggregate demand of an economy. Recall that aggregate demand is the total number of final goods and services in an economy, which include consumption, investment, government spending, and net exports.

Aggregate Demand = Consumption + Investment + Govt Spending + Net Exports

Fiscal policy has an effect on each of these categories. There are two types of fiscal policy: Expansionary and Contractionary.

Expansionary Fiscal Policy

When an economy is in a recession, expansionary fiscal policy is in order. Typically this type of fiscal policy results in increased government spending and/or lower taxes. A recession results in a recessionary gap meaning that aggregate demand (ie, GDP) is at a level lower than it would be in a full employment situation. In order to close this gap, a government will typically increase their spending which will directly increase the aggregate demand curve (since government spending creates demand for goods and services). At the same time, the government may choose to cut taxes, which will indirectly affect the aggregate demand curve by allowing for consumers to have more money at their disposal to consume and invest. The actions of this expansionary fiscal policy would result in a shift of the aggregate demand curve to the right, which would result closing the recessionary gap and helping an economy grow.

Contractionary Fiscal Policy

Contractionary fiscal policy is essentially the opposite of expansionary fiscal policy. When an economy is in a state where growth is at a rate that is getting out of control (causing inflation and asset bubbles), contractionary fiscal policy can be used to rein it in to a more sustainable level. If an economy is growing too fast or for example, if unemployment is too low, an inflationary gap will form. In order to eliminate this inflationary gap a government may reduce government spending and increase taxes. A decrease in spending by the government will directly decrease aggregate demand curve by reducing government demand for goods and services. Increases in tax levels will also slow growth, as consumers will have less money to consume and invest, thereby indirectly reducing the aggregate demand curve.

4.9.2 Objectives of a fiscal policy

1. Full employment
2. Price stability
3. Accelerating the rate of economic development
4. Optimum allocation of resources
5. Equitable distribution of income and wealth
6. Economic stability
7. Capital formation and growth
8. Encouraging investment

1. Full Employment:

The first and foremost objective of fiscal policy in a developing economy is to achieve and maintain full employment in an economy. In such countries, even if full employment is not achieved, the main motto is to avoid unemployment and to achieve a state of near full employment. Therefore, to reduce unemployment and under-employment, the state should spend sufficiently on social and economic overheads. These expenditures would help to create more employment opportunities and increase the productive efficiency of the economy.

In this way, public expenditure and public sector investment have a special role to play in a modern state. A properly planned investment will not only expand income, output and employment but will also step up effective demand through multiplier process and the economy will march automatically towards full employment. Besides public investment, private investment can also be encouraged through tax holidays, concessions, cheap loans, subsidies etc.

In the rural areas attempts can be made to encourage domestic industries by providing them training, cheap finance, equipment and marketing facilities. Expenditure on all these measures will help in eradicating unemployment and under-employment.

In this context, Prof. Keynes made the following recommendations to achieve full employment in an economy:

a) To capture the excessive purchasing power and to curb private spending:

b) Compensate the deficiency in private investment through public investment;

c) Cheap money policy or lower interest rates to attract more and more private entrepreneurs.

2. Price Stability:

There is a general agreement that economic growth and stability are joint objectives for underdeveloped countries. In a developing country, economic instability is manifested in the form of inflation. Prof. Nurkse believed that "inflationary pressures are inherent in the process of investment but the way to stop them is not to stop investment. They can be controlled by various other ways of which the chief is the powerful method of fiscal policy."

Therefore, in developing economies, inflation is a permanent phenomena where there is a tendency to the rise in prices due to expanding trend of public expenditure. As a result of rise in income, aggregate demand exceeds aggregate supply. Capital goods and consumer goods fail to keep pace with rising income.

Thus, these result in inflationary gap. The price rise generated by demand pull reinforced by cost push inflation leads to further widening the gap. The rise in prices raises demand for more wages. This further gives rise to repeated wage-price spirals. If this situation is not effectively controlled, it may turn into hyper inflation.

3. To Accelerate the Rate of Economic Growth:

Primarily, fiscal policy in a developing economy, should aim at achieving an accelerated rate of economic growth. But a high rate of economic growth cannot be achieved and maintained without stability in the economy. Therefore, fiscal measures such as taxation, public borrowing and deficit financing etc. should be used properly so that production, consumption and distribution may not adversely affect. It should promote the economy as a whole which in turn helps to raise national income and per capita income.

In this connection it is significant to quote the views of Mrs. Hicks, who observed, "now that fiscal policy has been developed as an established economic function of a government, every country is anxious to gear its public finance in pursuit of the twin aims of stability and growth, but their relative importance is very differently regarded from one country to another… A steady rate of expansion will tend to reduce the violence of such fluctuations as may occur; a successful full employment policy will provide an atmosphere which is congenial for growth."

4. Optimum Allocation of Resources:

Fiscal measures like taxation and public expenditure programmes, can greatly affect the allocation of resources in various occupations and sectors. As it is true, the national income and per capita income of underdeveloped countries is very low. In order to gear the economy, the government can push the growth of social infrastructure through fiscal measures. Public expenditure, subsidies and incentives can favorably influence the allocation of resources in the desired channels.

Tax exemptions and tax concessions may help a lot in attracting resources towards the favored industries. On the contrary, high taxation may draw away resources in a specific sector. Above all, direct curtailment of consumption and socially unproductive investment may be helpful in mobilization of resources.

Prof. R.N. Tripathi suggests the following steps to raise the saving ratio which provides the required finance for developmental schemes:

a) Direct physical control.
b) Increasing the rate of existing taxes.
c) Introduction of new taxes,
d) Public borrowing of non-inflationary nature,
e) Deficit financing**.**

5. Equitable Distribution of Income and Wealth:

It is needless to emphasize the significance of equitable distribution of income and wealth in a growing economy. Generally, inequality in wealth persists in such countries as in the early stages of growth, it concentrates in few hands. It is also because private ownership dominates the entire structure of the economy. Besides, extreme inequalities create political and social discontentment which further generate economic instability. For this, suitable fiscal policy of the government can be devised to bridge the gap between the incomes of the different sections of the society.

To reduce inequalities and to do distributive justice, the government should invest in those productive channels which incur benefit to low income groups and are helpful in raising their productivity and technology. Therefore, redistributive expenditure should help economic development and economic development should help redistribution.

6. Economic Stability:

Fiscal measures, to a larger extent, promote economic stability in the face of short-run international cyclical fluctuations. These fluctuations cause variations in terms of trade, making the most favourable to the developed and unfavorable to the developing economies. So, for the purpose of bringing economic stability, fiscal methods should incorporate built-in-flexibility in the budgetary system so that income and expenditure of the government may automatically provide compensatory effect on the rise or fall of the nation's income.

Therefore, fiscal policy plays a leading role in maintaining economic stability in the face of internal and external forces. The instability caused by external forces is corrected by a policy, popularly known as 'tariff policy' rather than aggregative fiscal policy. In the period of boom, export and import duties should be imposed to minimize the impact of international cyclical fluctuations.

To curb the use of additional purchasing power, heavy import duty on consumer goods and luxury import restrictions are essential. During the period of recession, government should undertake public works programmes through deficit financing. In nut shell, fiscal policy should be viewed from a larger perspective keeping in view the balanced growth of various sectors of the economy.

7. Capital Formation and Growth:

Capital assumes a central place in any development activity in a country and fiscal policy can be adopted as a crucial tool for the promotion of the highest possible rate of capital formation. A newly developing economy is encompassed by a 'vicious circle of poverty'. Therefore, a balanced growth is needed to breakdown the vicious circle which is only feasible with higher rate of capital formation. Once a country comes out of the clutches of backwardness, it stimulates investment and encourage capital formation.

Prof. Raja J. Chelliah recommends that fiscal policy must aim at the following for attaining rapid economic growth:

a) Raising the ratio of saving (s) to Income (y) by controlling consumption (c);
b) Raising the rate of investment:
c) Encouraging the flow of spending into productive way;
d) Reducing glaring inequalities of income and wealth.

Therefore, fiscal policy must be designed to be performed in two ways-by expanding investment in public and private enterprises and by diverting resources from socially less desirable to more desirable investment channels.

This Policy will help to raise the level of aggregate savings in the economy and create capital for bringing about a qualitative improvement in it. Capital formation, however, can also be facilitated by taxation, deficit spending and foreign borrowing. In fact, fiscal measures of the government can induce the private entrepreneurs to take active participation for mobilizing resources at least in the long run.

8. To Encourage Investment:

Fiscal policy aims at the acceleration of the rate of investment in the public as well as in private sectors of the economy. Fiscal policy, in the first instance, should encourage investment in public sector which in turn effect to increase the volume of investment in private sector. In other words, fiscal policy should aim at rapid economic development and must encourage investment in those channels which are considered most desirable from the point of view of society.

It should aim at curtailing conspicuous consumption and investment in unproductive channels. In the early stages of economic development, the government must try to build up economic and social overheads such like transport and communication, irrigation, flood control, power, ports, technical training, education, hospital and school facilities, so that they may provide external economies to induce investment in industrial and agricultural sectors of the economy.

These economies will be helpful for widening the size of the market, reducing the cost of production and increasing the social marginal productivity of investment. Here it must be remembered that projects of social marginal productivity should wisely be selected keeping in view its practical implication.

4.9.3 Major Instruments of Fiscal Policy

A. Budget:

      The budget of a nation is a useful instrument to assess the fluctuations in an economy.

 Different budgetary principles have been formulated by the economists, prominently known as:
- (1) Annual budget,
- (2) cyclical balanced budget and
- (3) fully managed compensatory budget.

Let us briefly explain them:

     1. Annual Balanced Budget:

        The classical economists propounded the principle of annually balanced budget. They defended it with force till the deep rooted crisis of 1930's.

The reasons for their reaccceptance of this principle are as under:

- a) They maintained that there should be balance in income and expenditure of the government;
- b) They felt that automatic system is capable to correct the evils;
- c) Balanced budget will not lead to depression or boom in the economy;
- d) It is politically desirable as it checks extravagant spending of the state;
- e) This type of budget assures full employment without inflation;
- f) The principle is based on the notion that government should increase the taxes to get more money and reduce expenditure to make the budget balanced.

However, this principle is subject to certain objections.
These objection are as under:

- a) Classical version that balanced budget is neutral is not well based. In practice, a balanced budget can be expansionary.
- b) The assumptions of full employment and automatic adjustment are too untenable in a modern economy.
- c) Some economists also argue that annually balanced budget involves lesser burden of the taxes.

2. Cyclically Balanced Budget:

        The cyclical balanced budget is termed as the 'Swedish budget'. Such a budget implies budgetary surpluses in prosperous period and employing the surplus revenue receipts for the retirement of public debt. During the period of recession, deficit budgets are prepared in such a manner that the budget surpluses during the earlier period of inflation are balanced with deficits.

The excess of public expenditure over revenues are financed through public borrowings. The cyclically balanced budget can stabilize the level of business activity. During inflation and prosperity, excessive spending activities are curbed with budgetary surpluses while budgetary deficits during recession with raising extra purchasing power.

This policy is favored on the following account:

(1) The government can easily adjust its finances according to the needs;
(2) This policy works smoothly in all times like depression, inflation, boom and recession;
(3) Cyclically balanced budget simply ensures stability but gives no guarantee that the system will get stabilized at the level of full employment.

3. Fully Managed Compensatory Budget:

This policy implies a deliberate adjustment in taxes, expenditures, revenues and public borrowings with the motto of achieving full employment without inflation. It assigns only a secondary role to the budgetary balance. It lays down the emphasis on maintenance of full employment and stability in the price level. With this principle, the growth of public debt and the problem of interest payment can be easily avoided. Thus, the principle is also called 'functional finance.

The fully managed compensatory budget has been criticized on the following grounds:

(1) It considers that the government should give blanket guarantee against unemployment.
(2) This policy is not automatic.
(3) It brings political upheavals as it delays the implementation of appropriate fiscal measures.
(4) A country is burdened with debt in the long run period.
(5) This policy is a prolonged lag which in practice has a disturbing effect on the economy.

B. Taxation:

Taxation is a powerful instrument of fiscal policy in the hands of public authorities which greatly effect the changes in disposable income, consumption and investment. An anti- depression tax policy increases disposable income of the individual, promotes consumption and investment. Obviously, there will be more funds with the people for consumption and investment purposes at the time of tax reduction.

This will ultimately result in the increase in spending activities i.e. it will tend to increase effective demand and reduce the deflationary gap. sometimes, it is suggested to reduce the rates of commodity taxes like excise duties, sales tax and import duty. As a result of these tax concessions, consumption is promoted. Now, a vital question arises about the extent to which unemployment is reduced or mitigated if a tax reduction stimulates consumption and investment expenditure.

Anti-Inflationary Tax Policy:

An anti-inflationary tax policy, on the contrary, must be directed to plug the inflationary gap. During inflation, fiscal authorities should not retain the existing tax structure but also evolve such measures (new taxes) to wipe off the excessive purchasing power and consumer demand. To this end, expenditure tax and excise duty can be raised.

The burden of taxation may be raised to the extent which may not retard new investment. A steeply progressive personal income tax and tax on windfall gains is highly effective to curb the abnormal inflationary pressures. Export should be restricted and imports of essential commodities should be liberated.

C. Public Expenditure:

The active participation of the government in economic activity has brought public spending to the front line among the fiscal tools. The appropriate variation in public expenditure can have more direct effect upon the level of economic activity than even taxes. The increased public spending will have a multiple effect upon income, output and employment exactly in the same way as increased investment has its effect on them. Similarly, a reduction in public spending, can reduce the level of economic activity through the reverse operation of the government expenditure multiplier.

(i) Public Expenditure in Inflation:

During the period of inflation, the basic reason of inflationary pressures is the excessive aggregate spending. Both private consumption and investment spending are abnormally high. In these circumstances, public spending policy must aim at reducing the government spending. In other words, some schemes should be abandoned and others be postponed. It should be carefully noted that government spending which is of productive nature, should not be shelved, since that may aggravate the inflationary dangers further.

(ii) Public Expenditure in Depression:

In depression, public spending emerges with greater significance. It is helpful to lift the economy out of the morass of stagnation. In this period, deficiency of demand is the result of sluggish private consumption and investment expenditure. Therefore, it can be met through the additional doses of public expenditure equivalent to the deflationary gap. The multiplier and acceleration effect of public spending will neutralize the depressing effect of lower private spending's and stimulate the path of recovery.

D. Public Works:

Keynes General Theory highlighted public works programme as the most significant anti-depression device. There are two forms of expenditure i.e., Public Works and 'Transfer Payments. Public Works according to Prof. J.M. Clark, are durable goods, primarily fixed structure, produced by the government.

They include expenditures on public works as roads, rail tracks, schools, parks, buildings, airports, post offices, hospitals, irrigation canals etc. Transfer payments are the payments such like interest on public debt, subsidy, pension, relief payment, unemployment, insurance and social security benefits etc. The expenditure on capital assets (public works) is called capital expenditure.

Public works are supported as an anti-depression device on the following grounds:

(1) They absorb hitherto unemployed workers.
(2) They increase the purchasing power of the community and thereby stimulate the demand for consumption goods.
(3) They help to create economically and socially useful capital assets as roads, canals, power plants, buildings, irrigation, training centres and public parks etc.
(4) They provide a strong incentive for the growth of industries which are generally hit by the state of depression.
(5) They help to maintain the moral and self respect of the work force and make use of the skill of unemployed people.
(6) The public works do not have an off setting effect upon private investment because these are started at a time when private investment is not forthcoming.

The above stated points are, therefore, the evidence that public works programme fully satisfies, the main criteria as laid down for public expenditure. However, this form of public expenditure is subject to certain limitations and practical difficulties. Some of these are listed as under.

4.9.4 Fiscal Policy Limitations

1. Difficult Forecasting:

The effectiveness of public works programmes always rests upon accurate forecasting of the depression or boom. But prediction of accurate forecasting is very difficult.

2. Timing of Public Works:

Another serious problem relates to the timing of public works with the moment of cycle. Due to lack of accurate forecasting, proper timing is neither feasible nor possible. Thus this factor along undermines the significance of public works as an instrument of stabilization.

3. Delay in starting:

Public works programmes are not something which can be started immediately. Actually, it is a long term programme which requires proper planning with regard to the finance and engineering. In this way, delay is the natural cause. Dernburg and McDougal have rightly noticed, "public works are, in short, clumsy and slow moving requiring time to get ready and time to turn off."

4. Scarcity of Resources:

The undertaking of public works programme may pose a serious threat due to non-availability of resources. It is likely that scarcity of resources may further aggravate the crisis instead of giving the pace of smoothness.

5. Limited Scope of Employment:

The public works programme is not capable of assuring job to all cadres of unemployed workers. Such works are only started to absorb unskilled and semi-skilled workers and not the specialised.

6. Misallocation of Resources:

As the slump gets deepened, there is wide spread unemployment of manpower and equipment. Generally, public works are located in only few selected areas. Thus, they may prove to be inadequate to cope with the requirements. Again, immobility in factors of production may also prevent the economic utilization of available resources. As a result, they reduce the efficiency of public works programme.

7. Burden of Public Debt:

The public works programme, generally, are financed through borrowing during depression. This will saddle the country with a heavy burden of repayment of principle amount and interest therein.

8. Cost Price Maladjustments:

The public works programme may perpetuate cost price maladjustments in heavy industries where public expenditure is concentrated. During the period of boom, wages and prices in construction industries have a strong upward tendency while in recession or depression, prices move downward, wages and costs remain sticky relatively. In short, such distortion in cost price structure brings more instability in the economy.

9. Effect on Private Enterprise:

In certain areas, the construction programmes undertaken by the public agencies may complete with private investment. As a result, the later is driven out of business. In such a case, public works will prove to be self-off setting and the aggregate demand will possibly fail to increase.

10. Control over Public Works:

The success of public works mostly depends on the nature of control over them. If public works are controlled by the central authority, delay is likely to arise in selected projects.

11. Political Considerations:

Public works are often started in democratic countries in certain areas not on account of economic reasons, but the political pressures at national, state and local levels sway the government decisions. Consequently, the economic utility of such public works remains very limited.

E. Public Debt:

Public debt is a sound fiscal weapon to fight against inflation and deflation. It brings about economic stability and full employment in an economy.