KLE LAW ACADEMY BELAGAVI

(Constituent Colleges: KLE Society's Law College, Bengaluru, Gurusiddappa Kotambri Law College, Hubballi, S.A. Manvi Law College, Gadag, KLE Society's B.V. Bellad Law College, Belagavi, KLE Law College, Chikodi, and KLE College of Law, Kalamboli, Navi Mumbai)

STUDY MATERIAL

for

MACRO ECONOMICS

Prepared as per the syllabus prescribed by Karnataka State Law University (KSLU), Hubballi

Compiled by

Dr. Ramesh Manelli, Asst. Prof.

Reviewed by

Sarala Vaidya, Asst. Prof.

K.L.E. Society's Law College, Bengaluru

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5 Years B.Com., LL.B.

SYLLABUS

MACRO ECONOMICS

Objectives:

- To enable the student to learn the well formulated principles of macro economics
- To help the student to understand the integrated working of modern economy
- To provide the basis for the study of other branches of economics with their applicability to law discipline
- To help the student to appreciate the role of government in the economic functioning of a nation

Unit –I: Macro Economics and National Income

- Macroeconomics, micro-macro paradox, importance and uses of macroeconomics
- Circular flow of income and wealth
- National income-concepts, methods of calculating national income, problems in the estimation of national income

Unit –II: Classical and Keynesian Economics

- Classical theory of income-output and employment, Say's law of market. Wage price flexibility, critical evaluation
- Keynesian theory of income, output and employment. Effective demand and supply. Consumption function, average and marginal propensity to consume. Factors affecting consumption function, investment function-Marginal efficiency of capital. Multiplier, Accelerator, comparison between Classical and Keynesian theories.

Unit –III: Monetary Economics

- Value of money-cash transaction, cash balance approach-Marshall, Keynes index numbers-simple and weighted
- Commercial banking-portfolio management, credit creation
- Central banking, methods of credit control-quantitative, qualitative

Unit –IV: Public Finance

- Public finance meaning, branches, principle of maximum social advantage, sources of public revenue, canons of taxation-direct and indirect taxes, impact and incidence
- Effects of taxation on production, consumption and distribution
- Public expenditure-causes of growth of public expenditure, effects of public expenditure on production, consumption and distribution
- Public debt-sources of public borrowing, methods of debt redemption
- Budget-types

Unit –V: Economic Fluctuations and Business Cycles

- Inflation meaning, approaches-demand-pull and cost push, effects of inflation on production, consumption and distribution.
- Inflationary gap
- Methods to control inflation-fiscal, monetary and administrative measures
- Trade cycles-phases-causes and theories of trade cycles

Prescribed books:

1) Macro Economics by M.L Seth
2) Macro Economics by M.L. Jhingan
3) Advanced Economic Theory by H.L Ahuja
4) Modern Economic Theory by K.K. Dewett

Reference Books:

1) Macroeconomics: Theory and Policy by Ackley G
2) Monetary Economics by Gupta, S. B.
3) Economic Development: Principles, Problems and Policies by Higgins, B
4) The General Theory of Employment, Interest and Money by Keynes, J.M
5) Economic Development: Theory, History and Policy by Meier, G.M. and R.E Baldwin
6) Money Banking Trade and Public Finance by M.L. Seth
7) Monetary Theory by M.C. Vaish

TABLE OF CONTENT

UNIT –I: MACRO ECONOMICS AND NATIONAL INCOME

Macroeconomics

Like many sciences, economics has roots in Greek antiquity. Indeed, the term "economist" is derived from two Greek words, *oikos* (house) and *nomos* (managing). Thus the original meaning of "economist" was household manager.

However, the well-to-do households with which ancient Greek writers concerned themselves often included farms or workshops. Hence economy or household management subsumed farm and business management.

In *Oikonomikos* (translated as "the skilled economist"), Xenophon (circa 430–355 b.c.) recollected discussions between Socrates and other Athenians about management of farms and households.

Modern economists divided the subject matter of economics into two main branches —micro economics and macro economics.

These terms —micro economics and macro economics were used in 1933 for the first time by Prof. Ragnar Frisch of Oslo University (Norway) who was also the first co-recipient of Nobel Memorial Prize in Economic Sciences in 1969.

The main object of micro economics is the analysis of price determination and the allocation of specific resources to particular uses.

Macro economics aims at determining the levels of national income, total employment of resources and general price level.

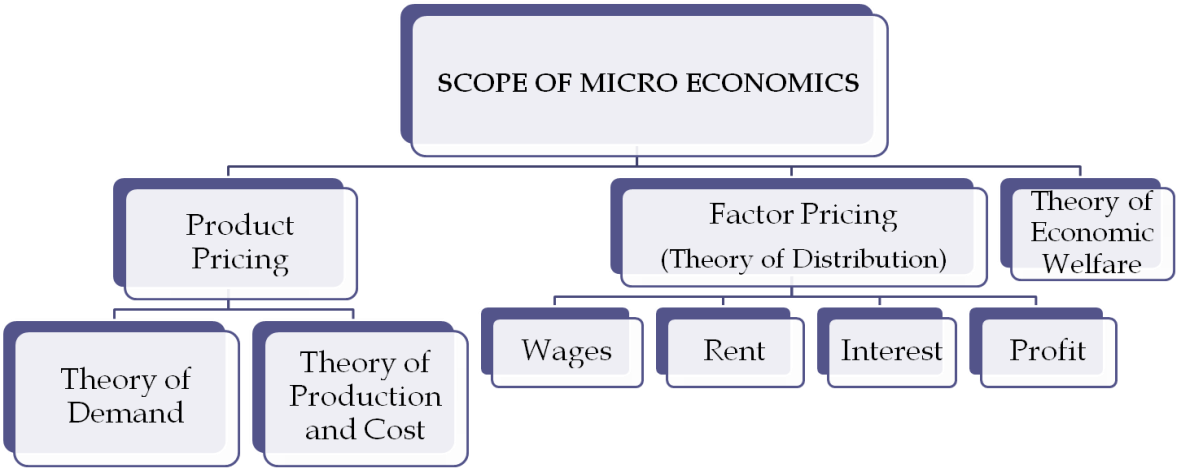
Micro economics

The term 'micro' has been derived from the Greek word 'MICROS' which means 'small'.

Micro economics studies the behavior of individual economic units of an economy like households, firms, individual consumers, and producers etc.

It does not study the economy as a whole.

Micro economics is also known to be as price theory.



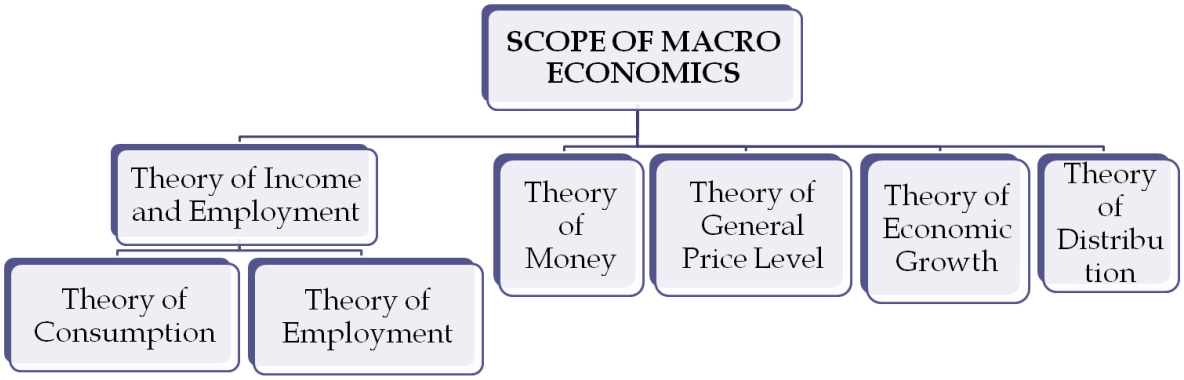
Macro economics

The term ‘macro’ has been derived from the Greek word ‘MACROS’ which means ‘large’.

Macro economics studies the economic aggregates, such as national income, total employment, total savings, investment etc.

It does study the economy as a whole.

Macro economics is also known as income theory or employment theory.



Micro-macro paradox

Basis	Micro economics	Macro economics
Degree Aggregation	It studies the individual economic units, such as single consumer, producer, single firm, industry, etc.	It deals with the aggregates of the economy, such as national income, total employment, general price level, etc.
Objective	It studies the principles, problems, policies concerning the optimum allocation of resources.	It studies the problems, policies and principles relating to full employment of resources.
Method of Study	In it, laws and principles are formulated by taking *'other things being equal'* We show effect of only one change keeping other factors constant. This method of study is called *'partial equilibrium analysis'.*	In it, mutual interdependence of different economic variables e.g. total income, total consumption, total saving etc. is studied. This method of study is called *'general economic analysis'.*
Paradox	Micro decisions may not hold true for the economy as a whole. Ex. if an individual saves, he/she will be benefited	But if the whole society starts saving, it will reduce consumption leads to reduction in demand leads to reduction in income etc.
Instrument	Its main instruments are demand and supply	Its main instruments are aggregate demand and aggregate supply.
Alternative Name	It is also called 'Price Theory'	It is also called the 'Income Theory' or 'Employment Theory'.

Relationship between micro economics and macro economics

Two independent branches belong to economics.

Study different economic phenomena.

Complementary to each other in a sense one cannot exist without the other.

Micro economic theory depends upon macro economic theory and macro economic theory depends upon microeconomic theory.

Although there is actually only "one" economics, the overall field is divided in two areas which in turn are very broad: microeconomics and macroeconomics.

Prior to 1930 the economists concentrated their attention on the area of microeconomics. And in post 1930s they have given so much more attention to macroeconomics.

The reason why it has received so much attention since the 1930s is due to macroeconomic record—that is, the record of the changes in total output, unemployment, and the price level over the previous decades.

Macroeconomics, in its briefest description is the study of the economy's total output, employment, and the price level.

The term 'macro-economics' applies to the study of relations between broad economic aggregates.

Macroeconomic theory is the theory of income, employment, prices and money.

Macroeconomics is "that part of economics which studies the overall averages and aggregates of system."

Macroeconomics is "the study of forces or factors that determine the levels of aggregate production, employment, and prices in an economy, and their rates of change over time."

Macroeconomics deals with the functioning of the economy as a whole, including how economy's total output of goods and services and the total employment of resources are determined and what causes these magnitudes to fluctuate.

Importance and uses of macroeconomics

Main justifications of macroeconomics:

Indispensable to the formulation and execution of various government policies requires the knowledge of macroeconomics.

Indispensable to understanding the behaviour of the economy needs the study of macroeconomics.

No science can study its entire field without attempting some sort of aggregative approach.

Indispensable for the purpose of understanding of microeconomic analysis needs through understanding and knowledge of macroeconomics.

Circular Flow of Income and Expenditure

An economy can be defined as the integrated system of production, exchange and consumption. In carrying out these economic activities, people are involved in making transactions—they buy and sell goods and services.

Economic transactions generate two kinds of flows: (i) product or real flow, i.e., the flow of goods and services, and (ii) money flow. Product and money flow in opposite direction in a circular fashion. The product-flow consists of (a) factor flow, that is, flow of factor services, and (b) goods flow, that is, flow of goods and services.

In a monetized economy, the flow of factor services generates money flows in the form of *factor payments* which take the form of *income flows*. The factor payments and expenditure on consumer goods and services take the form of expenditure flow. Expenditure flow is in the form of money flow. Both income and expenditure flow in a circular fashion in opposite direction. The entire economic system can therefore be viewed as circular flows of income and expenditure. The magnitude of these flows, in fact, determines the size of national income.

The mechanism of income and expenditure flows is extremely complex in reality. The economists, however, use simplified models to illustrate the circular flows of income and expenditure.

While presenting the flows of income and expenditure, the economy is divided into four sectors: (i) household sector; (ii) the firms (or the business sector); (iii) government sector; and (iv) foreign sector.

In combination of these four models, the economists were formulated three circular flow models for the purpose of showing the circular flow of income.

I. Two-sector model including the household and the firms
II. Three-sector model including the household, the firms and the government sector
III. Four-sector model including the household, the firms, the government and the foreign sector

I. Two-sector model including the household and the firms

Introduction

— It represents a private closed economy in which there is no government and no foreign trade.
— It is obviously an unrealistic model.
— It provides a convenient starting point to analyze the circular flows.

Basic features and functions of households and the firms

The households:

- Owners of all the factors of production in an economy.
- Total income consists of wages, rent, interest and profits
- Consumers of all the consumer goods and services
- Spend total income on goods and services produced by the firms
- If save any part of the income invest it in the firms

The firms:

- Own no resources of own
- Hire and use the factors of production—land, labour and capital from the households.
- Produce and sell goods and services to the households
- Do not save, there is no corporate saving.

Assumptions

i. Households spend their total income on goods and services produced by the firms. They do not hoard any part of their income.
ii. Firms produce goods and services only as much as demanded by the households. They do not maintain any inventory.
iii. Firms make factor payments to the households in the form of rent, wages, interest and profits.
iv. There is no inflow or outflow of income or of goods and services from any outside source.

A graphical representation

Real flows of resources, goods and services have been shown in Fig. 6.1. In the upper loop of this figure, the resources such as land, capital and entrepreneurial ability flow from households to business firms as indicated by the arrow mark.

In opposite direction to this, money flows from business firms to the households as factor payments such as wages, rent, interest and profits.

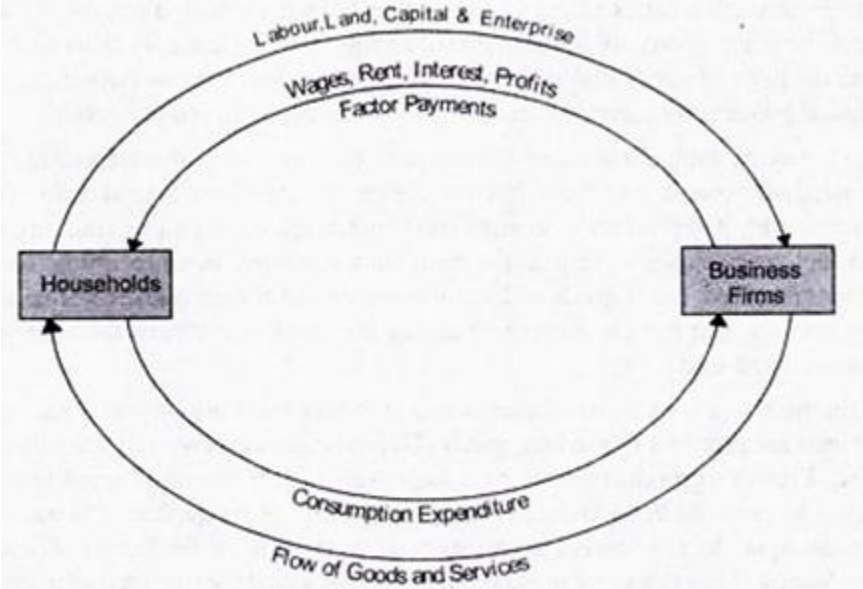


Fig. 6.1. *Circular Flow of Income in a Simple Two Sector Economy*

Circular Income Flow in a Two Sector Economy In the lower part of the figure, money flows from households to firms as consumption expenditure made by the households on the goods and services produced by the firms, while the flow of goods and services is in opposite direction from business firms to households.

Thus we see that money flows from business firms to households as factor payments and then it flows from households to firms. Thus there is, in fact, a circular flow of money or income. This circular flow of money will continue indefinitely week by week and year by year. This is how the economy functions. It may, however, be pointed out that this flow of money income will not always remain the same in volume.

In other words, the flow of money income will not always continue at a constant level. In year of depression, the circular flow of money income will contract, i.e., will become lesser in volume, and in years of prosperity it will expand, i.e., will become greater in volume.

This is so because the flow of money is a measure of national income and will, therefore, change with changes in the national income. In year of depres-sion, when national income is low, the volume of the flow of money will be small and in years of prosperity when the level of national income is quite high, the flow of money will be large.

In order to make our analysis simple and to explain the central issues involved, we take many assumptions. In the first place, we assume that neither the households save from their incomes, nor the firms save from their profits. We further assume that the government does not play any part in the national economy.

In other words, the government does not receive any money from the people by way of taxes, nor does the government spend any money on the goods and services produced by the firms or on the resources and services supplied by the households. Thirdly, we assume that the economy neither imports goods and services, nor exports

anything. In other words, in our above analysis we have not taken into account the role of foreign trade. In fact we have explained above the flow of money that occurs in the functioning of a closed economy with no savings and no role of government.

Circular Income Flow with Saving and Investment:

In our above analysis of the circular flow of income we have assumed that all income which the households receive, they spend it on consumer goods and services. A result, circular flow of money speeding and income remains undiminished. We will now explain if households save a part of their income, how their savings will affect money flows in the economy.

When households save, their expenditure on goods and services will decline to that extent and as a result money flow to the busi-ness firms will contract. With reduced money receipts, firms will hire fewer workers (or lay off some workers) or reduce the factor payments they make to the suppliers of factors such as workers.

This will lead to the fall in total incomes of the households. Thus, savings reduce the flow of money ex-penditure to the business firms and will cause a fall in economy's total income. Economists therefore call savings a leakage from the money expenditure flow.

But savings by households need not lead to reduced aggregate spending and income if they find their way back into flow of expenditure. In free market economies there exists a set of institutions such as banks, insurance companies, financial houses, stock markets where households deposit their savings. All these institutions together are called financial institutions or financial market. We as-sume that all the savings of households come in the financial market. We further assume that there are no inter-households borrowings.

It is business firms who borrow from the financial market for investment in capital goods such as machines, factories, tools and instruments, trucks. Firms spend on investment in order to expand their productive capacity in future.

Thus, through investment expenditure by borrowing the savings of the households deposited in financial market, are again brought into the expenditure stream and as a result total flow of spending does not decrease. Circular money flow with saving and investment is illustrated in Fig. 6.2 where in the middle part a box representing financial market is drawn. Money flow of savings is shown from the households towards the financial market. Then flow of investment expenditure is shown as borrowing by business firms from the financial market.

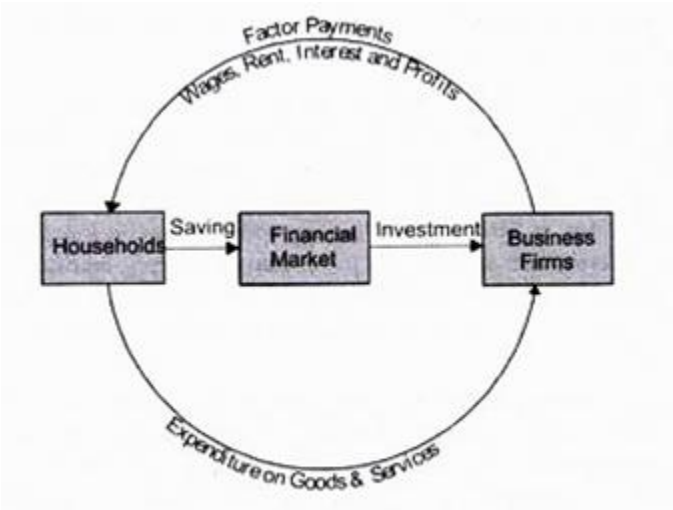


Fig. 6.2. *Circular Money Flow with Saving and Investment*

Condition for the Constancy of Circular Income Flow:

Now the question arises what is the condition for the flow of money income to continue at a steady level so that it makes possible the production and subsequent flow of a given volume of goods and services at constant prices. To explain this we have to introduce saving and investment in the analysis of circular flow of income.

Saving a part of income means it is not spent on consumer goods and services. In other words, saving is withdrawal of some money from the income flow. On the other hand, investment means some money is spent on buying new capital goods to expand production capacity. In other words, investment is injection of some money in circular flow of income.

For the circular flow of income to continue unabated, the withdrawal of money from the income stream by way of saving must equal injection of money by way of investment expenditure. Therefore, planned savings must be equal to planned investment if the constant money income flow in an economy is to be obtained.

Now, what will happen if planned investment expenditure falls short of the planned savings? As a result of fall in planned investment expenditure, income, output and employment will fall and therefore the flow of money will contract.

If the equality between planned savings and planned investment is disturbed by increase in savings, then the immediate effect will be that the stocks of goods lying in the shelves of the shops will increase (as some of the goods will not be sold due to the fall in consumption i.e., increase in savings). Owing to the deficiency of demand for goods and the accumulation of stocks, retailers will place small orders with the wholesalers. Consequently, smaller amount of goods will be produced and therefore fewer capital goods like ma-chinery will be indeed with the result that fixed investment will tend to fall.

Thus the ultimate effect of either the fall in planned investment or the increase in planned savings is the same, namely, the fall in income, output, employment and prices with the result that the flow of money will contract.

On the other hand, if the equality between planned savings and planned investment is disturbed by the increase in investment demand, the result will be increase in income, output and employment. Consequently, the flow of money income will expand.

It is thus clear from the above analysis that the flow of money income will continue at a constant level only when the condition of equality between planned saving and investment is satisfied. It was believed by classical economists that financial market provides a mechanism which coordinates the savings of households and the investment expenditure, by the firms. Rate of interest, which is the price for the use of savings, is determined by saving and investment.

If savings exceed investment expenditure, rate of interest falls so that, at a lower rate of interest, investment increases and both become equal. On the contrary, if investment expenditure is greater than savings, rate of interest will rise so that at a higher rate of interest savings increase and become equal to planned investment expenditure.

However, an eminent British economist J.M. Keynes refuted the above argument that changes in rate of interest will cause saving and investment to become equal. According to him, since in a free market capitalist economy, investment is made by business enterprises and savings are mostly done by households and for different reasons, there is no guarantee that planned investment will be equal to planned savings and thus fluctuations in income, output and employment are inevitable.

As a result, circular flow of income does not continue at a steady level in a free-enterprise capital-ist economy unless certain corrective and preventive steps are taken by the government to maintain stability in the economy.

Saving-Investment Identity in National Income Accounts in a Two Sector Economy:

Despite the fact that people who save are different from the business firms which primarily invest, in national income accounts savings are identical or always equal to investment in a simple two sector economy having no roles of Government and foreign trade. This is a basic identity in national income accounts which needs to be carefully understood.

Of course, in our above analysis of circular flow of income, we explained that planned investment by business firms can differ from savings by household. But in that analysis we referred to planned or intended investment and savings which often differ and affect the flow of national income.

However, in national income accounts we are concerned with actual saving and actual investment. It is these actual or realized saving and invest-ment that are identical in national income accounts. We can prove their identity in the following way.

In a simple economy which has neither government, nor foreign trade, the value of output produced which we denote by Y is equal to the value of output sold. Since the value of output sold in a simple two sector economy is equal to the sum of consumption expenditure and investment expenditure we have $y = C + I$ where Y = Value of aggregate output, C = Consumption expenditure and I = Investment expenditure.

A pertinent question which arises here is what happens to the unsold output. The unsold output leads to the increase in the inventories of goods and in national income accounting increase in inven-tories of goods is treated as a part of actual investment. This may be considered as the firms selling the goods to them to add to their inventories. Thus, gross national product (GNP) produced is used either for consumption or for investment.

Now, look at the gross national product or income in the simple economy from the viewpoint of its allocation between consumption and saving. Since national income (which is equal to GNP) can be either consumed or saved, we have $Y = C + S$

From the identities (i) and (ii) we get

$C + I = Y = C + S$

The left hand side of the identity (iii), namely $C + I = Y$ shows the components of aggregate demand (that is, aggregate expenditure on goods and services produced) and the right-hand side of the identity (iii) namely $Y = C +$ S shows the allocation of national income to either consumption or saving. Thus, the identity (iii) shows that the value of output produced or sold is equal to the total income received. It is income received that is spent on goods and services produced.

Now subtracting the consumption (C) from both sides of the identity (iii) we have

$I = Y = S$ or $I = S$

Thus, in our two sector simple economy with neither government, nor foreign trade, investment is identically equal to saving.

Circular Income Flow in a Three Sector Economy with Government:

In our above analysis of money flow, we have ignored the existence of government for the sake of making our circular flow model simple. This is quite unrealistic because government absorbs a good part of the incomes earned by households. Government affects the economy in a number of ways.

Here we will concentrate on its taxing, spending and borrowing roles. Government purchases goods and services just as households and firms do. Government expenditure takes many forms including spending on capital goods and infrastructure (highways, power, communication), on defense goods, and on education and public health and so on. These add to the money flows which are shown in Fig. 6.3 where a box representing Government has been drawn. It will be seen that government purchases of goods and services from firms and households are shown as flow of money spending on goods and services.

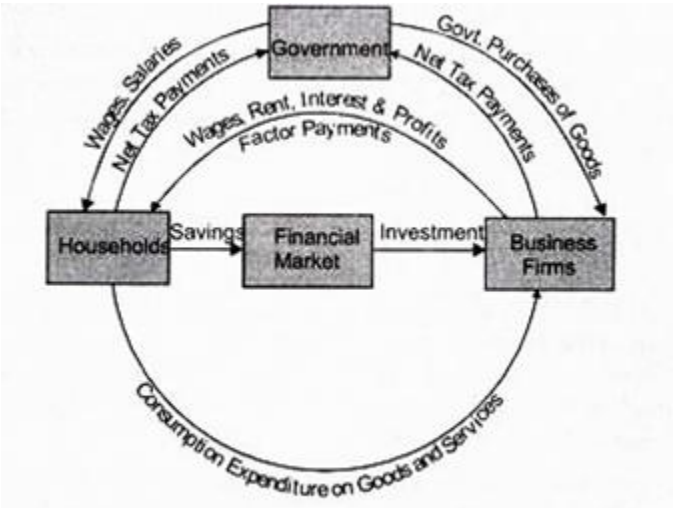


Fig. 6.3. *Circular Income Flow Model with Government*

Circular Income Flow Model with Government

Government expenditure may be financed through taxes, out of assets or by borrowing. The money flow from households and business firms to the government is labeled as tax payments in Fig. 6.3 This money flow includes all the tax payments made by households less transfer payments received from the Government. Transfer payments are treated as negative tax payments.

Another method of financing Government expenditure is borrowing from the financial market. This can be represented by the money flow from the financial market to the Government and is labelled as Government borrowing (To avoid confusion we have not drawn this money flow from financial market to the Government). Government borrowing increases the demand for credit which causes rate of interest to rise.

The government borrowing through its effect on the rate of interest affects the behaviour of firms and households. Business firms consider the interest rate as cost of borrowing and the rise in the interest rate as a result of

borrowing by the Government lowers private investment. However, households who view the rate of interest as return on savings feel encouraged to save more.

It follows from above that the inclusion of the Government sector significantly affects the overall economic situation. Total expenditure flow in the economy is now the sum of consumption expendi-ture (denoted by C), investment expenditure (I) and Government expenditure (denoted by G). Thus

Total expenditure (E) = $C + I + G$ .....*(i)*

Total income (K) received is allocated to consumption (C), savings (S) and taxes (T). Thus

$Y = C + S + T$ ... *(ii)*

Since expenditure) made must be equal to the income received (Y), from equations (i) and (ii) above we have

$C + I + G = C + S + T$ ... *(iii)*

Since C occurs on both sides of the equation (iii) and will therefore be cancelled out, we have

$I + G = S + T$ ...*(iv)*

By rearranging we obtain

$G – T = S – I$ ... *(v)*

Equation (v) is very significant as it depicts what would be the consequences if government budget is not balanced, that is, if Government expenditure (G) is greater than the tax revenue (7), that is, G >T, the government will have a deficit budget. To finance the deficit budget, the Government will borrow from the financial market.

For this purpose, then private investment by business firms must be less than the savings of the households. Thus Government borrowing reduces private investment in the economy. In other words, Government borrowing crowds out private investment.

Money Income Flows in the Four Sector Open Economy: Adding Foreign Sector:

We now turn to explain the money flows that are generated in an open economy, that is, economy which have trade relations with foreign countries. Thus, the inclusion of the foreign sector will reveal to us the interaction of the domestic economy with foreign countries. Foreigners interact with the domestic firms and households through exports and imports of goods and services as well as through borrowing and lending operations through financial market. Goods and services produced within the domestic territory which are sold to the foreigners are called exports.

On the other hand, purchases of foreign-made goods and services by domestic households are called imports. Figure 6.4 illustrates additional money flows that occur in the open economy when exports and imports also exist in the economy. In our analysis, we assume it is only the business firms of the domestic economy that interact with foreign countries and therefore export and import goods and services.

Circular Flow of Income in an Open Economy with Government and Foreign Sector

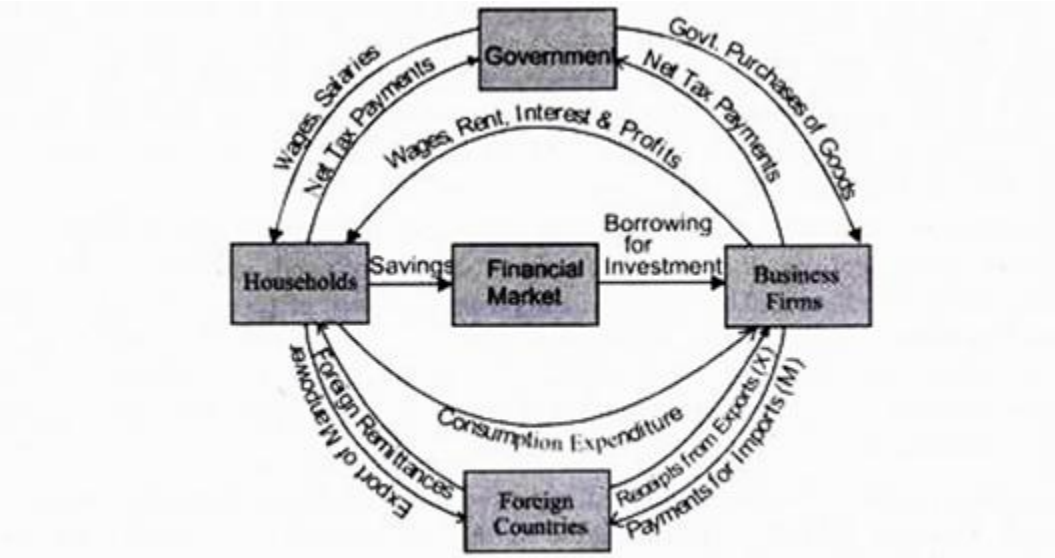


Fig. 6.4. *Circular Flow of Income in an Open Economy with Government and Foreign Sector*

A flow of money spending on imports has been shown to be occurring from the domestic business firms to the foreign countries (i.e., rest of the world). On the contrary, flow of money expenditure on exports of a domestic economy has been shown to be taking place from foreign countries to the business firms of the domestic economy.

If exports are equal to the imports, then there exists a balance of trade. Generally, exports and imports are not equal to each other. If value of exports exceeds the value of imports, trade surplus occurs. On the other hand if value of imports exceeds value of exports of a country, trade deficit occurs.

In the open economy there is interaction between countries not only through exports and imports of goods and services but also through borrowing and lending funds or what is also called financial market. These days' financial markets around the world have become well integrated.

When there is a trade surplus in the economy, that is, when exports (X) exceed imports (M), net capital inflow will take place. By net capital inflow we mean foreigners will borrow from domestic savers to finance their purchases of domestic exports. In this way as a result of net capital inflow domestic savers will lend to foreigners, that is, acquire foreign financial assets.

On the contrary, in case of import surplus, that is, when imports are greater than exports, trade deficit will occur. Therefore, in case of trade deficit, domestic consumer households and business firms will borrow from abroad to finance their excess of imports over exports. As a result, foreigners will acquire domestic financial assets.

From the circular flows that occur in the open economy the national income must be measured by aggregate expenditure that includes net exports, that is, X-M where X represents exports and M represents imports. Imports must be subtracted from the total expenditure on foreign produced goods and services to get the value of net exports. Thus, in the open economy

National Income = $C + I + G + NX$

Where NX represents net exports, X-M.

Since national income can be consumed, saved or paid as taxes to the Government we have

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

National Income

Introduction

Macroeconomics deals with national aggregates such as gross national product, employment, price levels, consumption and investment, money supply and demand, balance of payments etc,.

The Gross National Product (GNP) is the most important macro variable. Moreover, GNP is, in fact, the source and pivot of all macro variables.

Understanding the concept and measure of GNP is, therefore, an essential element in the study of macroeconomics.

National income and related concepts

National income is, broadly speaking, the money value of all final outcome of all economic activities of the people of a country.

The term 'national income' is however used in a variety of senses depending on (i) what is included in and excluded from the national income concept, and (ii) what method is used for estimating national income.

Macroeconomic analysis use different concepts and measures of national income-mainly Gross National Product (GNP) and Gross Domestic Product (GDP).

Gross National Product (GNP)

The Gross National Product (GNP) is defined as the sum of market value of all final goods and services produced in a country during a specific period of time, generally one year.

The GNP can also be defined and measured as the sum of all factor payments (wages, interest, rent, profits and depreciation). It is then called GNP at factor cost.

Gross Domestic Product (GDP)

The concept of GDP is similar to that of GNP with a significant difference, of course.

GNP = Market value of domestically produced goods and services + incomes earned by residents of a country in foreign countries ─ incomes earned by the foreigners in the country.

GDP = Market value of goods and services produced by the residents in the country + incomes earned in the country by foreigners ─ income received by residents of a country from abroad.

Net National Product (NNP)

The concept of NNP closely related to the concept of GNP.

The concept of GNP includes the output of both final consumer and capital goods.

A part of capital goods is used up or consumed in the process of production of various goods and services. This is called depreciation or capital consumption.

While GNP is gross of depreciation, NNP is net of depreciation. NNP obtained by subtracting depreciation from GNP.

NNP = GNP ─ Depreciation

The NNP is the measure of national income which is available for consumption and net investment.

NNP is the actual measure of national income.

The NNP divided by the population of the country gives the per capita income.

Personal Incomes (PI)

Personal income (PI) can be defined as the sum of all kinds of incomes received by the individuals from all sources of incomes.

Personal income includes wages and salaries, fees and commission, bonus, fringe benefits, dividends, interest earnings from self-employment.

It also includes transfer incomes like pensions, family allowances, unemployment allowances, sickness allowances, old age benefits and social security benefits.

Personal Income and NNP

The sum of personal incomes is not exactly the same as NNP. The reason is that NNP excludes certain items included in personal incomes and it includes some other items not included in personal incomes.

NNP does not include many items of personal income, for example, transfer payments like social security benefits, pensions, old age allowances, and such other benefits.

NNP does include undistributed profits of private companies, surpluses of public undertakings, and rentals of the public properties.

NNP can be measured by making some additions to PI.

NNP = UDP + SPU + RPP

Disposable income (Yd) = Pi ─ Personal taxes

Nominal and Real GNP

GNP estimated at both current and constant prices.

The GNP estimated at current prices is called nominal GNP and GNP estimated at constant prices in given year (base year) is called real GNP.

The need for estimating GNP at constant prices arises because GNP at the current prices gives a misleading picture of economy performance when prices are continuously rising or decreasing.

The GNP Deflator and its Application

The GNP deflator is essentially an adjustment factor which is used to convert nominal GNP to real GNP.

The GNP deflator is the ratio of price index number (PIN) of a chosen year to the price index number of the base year.

The chosen year is the year whose real GNP is to be estimated.

GNP deflator = $\frac{PIN\ of\ the\ chosen\ year}{100}$

GNP Implicit Deflator

Another variant GNP deflator is GNP implicit deflator, also called implicit price deflator. It is the ratio of nominal GNP to real GNP. That is,

GNP Implicit Deflator = $\frac{\text{Nominal GNP}}{Real\ GNP}$

The GNP implicit deflator can be used for, 1) to construct price index numbers, and 2) to measure the rate of change in prices.

Measurement of National Income

The concept of the national income involves three interpretations—all of which lead to same result.

First, it represents the monetary value of all aggregate annual production in the economy.

Second, it represents aggregate income of the country.

Third, it represents the aggregate expenditure in the economy.

This three-fold interpretation of national income has, thus, given rise to three methods for measuring national income.

They are,

i. Census of Production Method (Value Added Method)
ii. Census of Income Method, and
iii. Census of Expenditure Method.

i. Census of Production Method

It is referred to as the *Inventory Method.*

The aggregate production of the *final* goods and services in an economy in any one year is evaluated in terms of money.

The entire output of final goods and services is multiplied by their respective market prices to find out the gross national product.

Value-added method measures the contribution of each producing enterprise in the domestic territory of the country. This method involves:

a. Identifying the producing enterprise and classifying them into industrial sectors according to their activities,
b. Estimating net value added of each producing enterprise as well as each industrial sector and adding up the net value added by all the sectors.

All the producing enterprises are broadly classified into three main sectors, namely:

a. Primary sector which includes agriculture and allied activities,
b. Secondary sector which includes manufacturing units, and
c. Tertiary sector which includes services like banking, insurance,, transport and communications, trade and professions.

These sectors are further divided into sub-sectors and each sub-sector is further divided into commodity group or service group.

ii. Census of Income Method

It is also known as *'Factor Cost Method'.*

National income is realized by adding up wages, rent, interest, dividends and profits.

The incomes accruing to all the factors of production during the process of production are aggregated together to arrive at the national income of the country. This is known as *national income at factor cost.*

Various factors of production are paid remuneration for the services rendered by them in production are known as factor payments.

Factor payments represent the costs of producers. But for the factors of production they constitute factor-incomes which have to be aggregated to estimate the national income of the country.

The national product is obtained by adding up the factor-incomes accruing to the concerned factors during the process of production.

iii. Census of Expenditure Method.

The national income can be viewed as the nation's total expenditure on goods and services produced during the year. Each unit of goods and services produced is matched by an expenditure on that unit.

Most of the goods and services produced in the country are bought by the consumers. But there are some goods and services which remain unsold.

If the unsold goods and services are regarded as having been bought by the producers who hold them as *stocks* and *inventories*, then the monetary value of the total national production would be *equal* to the total national expenditure.

Under the expenditure approach to national income the total national expenditure can be classified into four categories.

a. Personal consumption expenditure
b. Gross Domestic private investment
c. Government's purchases of goods and services
d. Net foreign investment

a. Personal consumption expenditure

It includes the consumption of durable and non-durable goods produced in the country during the year.

The sub-head also include expenditure on services, such as transport, educational and postal services, etc.

Expenditure on the purchase of a house is treated as investment rather than consumption expenditure.

b. Gross Domestic private investment

It includes private investment in 'capital' or 'producer goods'.

Private investment here also includes what is called net additions to business inventories. So inventory investment has to be taken into account while estimating the national income.

c. Government's purchases of goods & services

The government ─central, state and local purchases from market the consumer goods.

The government also purchases a number of different services.

Governments do spend large amounts of money on what are called transfer payments. Since these payments are not payments for currently produced goods and services, the amount spent on transfer payments is not included in the national income of the country.

d. Net foreign investment

The entire production of a country is not sold within the country. A part of it is exported to other countries. This part of the production should be included in the national income of the country.

The country imports some finished goods from other countries during the year. To make proper allowance for such exports and imports, the value of imports should be deducted from the value of exports. If the balance is positive, it should be added to the other items of expenditure. If it is negative it should be subtracted from the sum of other expenditure items.

Thus, the aggregates resulting from the expenditure method measured at market prices are as follows:

Gross National Product = Consumption expenditure + net domestic investment + net foreign investment + replacement expenditure (i.e. expenditure on replacement investment).

Factor determining National Income

a. Quantity and quality of factors of production
b. The state of technical know-how
c. Political stability

Difficulties in the calculation of national income

The calculation of national income of a country is a task full of difficulties and complexities. These are mostly due to the non-availability or partial availability of detailed and reliable statistics about the different sectors of the economy.

They may also arise due to lack of a clear grasp of the national accounting procedures.

In the developed countries of the West have their statistical techniques to a sufficiently high level. Further, they are also in a position to collect detailed statistics about the various sectors of their economy.

Underdeveloped countries of Asia and Africa confronted with innumerable difficulties in estimating their national incomes. The difficulties are in terms of statistical as well as conceptual.

Conceptual problems

Definition of various concepts and terminology

a. Definition of nation for computing national income, method employed in the national income estimation
b. Stage of economic activity at which national income is to be calculated, and
c. The type of commodities and services which are to be taken into account in national income.

The concept of national income extends beyond national political boundaries.

Some of the conceptual problems faced in the estimation of national income are:

a. Definition of economic goods
b. Excluded market transactions
c. Imputed value of goods and services
d. Multiple counting
e. Inventories
f. Depreciation

Statistical problems

The statistical problems in underdeveloped countries are:

a. Inadequacy
b. Size is not fixed
c. Improper
d. Lack of specialization

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UNIT –II: CLASSICAL THEORY OF INCOME, OUTPUT AND EMPLOYMENT

Introduction

J. M. Keynes in his 'General Theory of Employment, Interest and Money' published in 1936, presented a theory of employment which represented a departure from classical thought.

Contents of classicism

A body of economic thought ascribed to such a galaxy of economists as Adam Smith. David Ricardo, J. S. Mill, Alfred Marshall and A.C. Pigou are often regarded as the classical theory. By classicism or classical economics means the traditional or the orthodox principles of economic theory which have been handed down from generations since.

No doubt, these principles have been elaborated, refined, and modified from time to time by succeeding economists, yet the hard core of classical theory remains more or less the same. These principles constitute by themselves a well-defined body of economic thought. The followers of classical economists and who adopted and perfected the classical economic theories are called as neo-classical economists or neo-classical theory.

The classical theory of unemployment

The classical theory of employment assumes that there is always full employment of labour even without inflation. In fact, full employment is considered to be the normal situation and any lapses from full employment are considered to be abnormal. Even if at any time there is not actual full employment, the classical theory asserts that there is always a tendency towards full employment.

Basic assumptions

The classical theory of unemployment is based on the following assumptions:

i. There is the existence of full employment even without inflation.
ii. There is the free market price system.
iii. There is the perfect competition in labour and product markets and labour is homogenous.
iv. There is a closed laissez faire capitalist economy.
v. Wages and prices are flexible.
vi. Since supply creates its own demand, there can never be any deficiency in demand.
vii. Total output of an economy is divided between consumption and investment expenditures.
viii. Capital stock and technological knowledge are given in the short-run.

The free play of economic forces itself brings about the fuller utilization of economic resources including labour. Any interference with free play of market forces shall fail to bring about full employment. The classical economists advocate that the government should keep its hands off the economic field if there is to be full employment of labour and other resources.

The assumption of there is always full employment of resources is justified in classical economists by Jean-Baptiste Say in *Say's Law of Markets.* This law is, in fact, the core of classical economic theory.

Say's Law of Market

Introduction

J. B. Say (1767-1822), a French economist, propounded this law in his book entitled, *Traite d' Economique Politique* which later became a very popular treatise on political economy in France. According to Say's Law, general overproduction, and hence, general employment are logical impossibilities. Say disbelieved those writers and businessmen who thought, the overproduction and unemployment were common occurrences. He rejected this view by saying that, "supply always creates its own demand."

In Say's own words, "It is production which creates markets for goods." The main source of demand is the flow of factor incomes generated from the main source itself. Whenever any new productive process is initiated and a certain output results, the demand for that output is also simultaneously generated on account of the payment of remuneration to the factors of production.

In other words, every output, brought into existence, injects an equivalent amount of purchasing power in circulation which ultimately leads to its sale — so that there is no surplus output or overproduction. The process of manufacture, thus, of a motor car also brings into being an equivalent amount of purchasing power in the form of wages, profits, etc., which would ultimately leads to its purchase. Hence, there can be no overproduction of any commodity at any time. This is the essence of Say's law.

Implications of Say's Law

i. There is automatic adjustment of every element with the working of the economy.
ii. General overproduction is impossible.
iii. Since general overproduction is impossible there shall be no general unemployment.
iv. The employment of unemployed resources shall pay its own way.
v. The economic system is automatic and works itself without any external stimulus.

Wage Price Flexibility

Introduction

Keynes's main attack against the classical economist's viewed of the relationship between price flexibility and full employment. Keynes challenged the classical belief that price flexibility can be relied upon to generate automatic full employment.

Wage Flexibility

The importance of wage flexibility arises from the fact that, in most macroeconomic models, we find an inverse relationship between wages and employment. Unemployment is thus associated with wages in excess of full-employment level and the persistence of unemployment then depends on how quickly wages adjust in the face of unemployment. It is often argued that if wages were very (if not completely) flexible, unemployment would be eliminated quickly and automatically by wage cuts, and that, consequently, any persistence of unemployment must be attributable to wage rigidity.

No doubt wage inflexibility plays a crucial role in explaining unemployment in both classical and Keynesian models. But the mechanism through which it does so is quite different in the two cases. Classical unemployment occurs when the real wage exceeds the marginal product of labour at full employment. So, it is not profitable for firms to employ the whole labour force.

It can only be reduced by cuts in real wages, which makes it profitable for firms to employ some more workers at the margin. Keynesian unemployment is caused by a deficiency of aggregate demand. But aggregate demand is largely determined in nominal terms so that a cut in money wages, and, hence, in prices, tends to raise real aggregate demand. Thus, it is the inflexibility, or downward rigidity, of money wages which is the crucial assumption in explaining why unemployment persists in the Keynesian system (even when the economy is in equilibrium, i.e., a situation of underemployment equilibrium in Keynesian terminology).

The effectiveness of money wage flexibility in reducing unemployment depends on the interaction of wage-setting and price-setting behaviour. As Keynes stressed in the General Theory (1936), if a change in money wages leads to an equi-proportionate change in prices, as the behaviour of competitive market might lead one to expect, it will leave the real wage unchanged. Thus, in the Keynesian system, the wage bargaining (which is generally conducted in money terms) has no direct effect on the real wage. If the price level is fixed, a fall in money wages will reduce real wages but, because there is no fall in prices, there is no stimulus to aggregate demand, and, hence, a fall in money wages will not help remove Keynesian unemployment.

Essentially a Static Analysis:

The static Keynesian model rules out the possibility of automatic full employment. There is no guarantee that the desired savings will automatically be equal to investment.

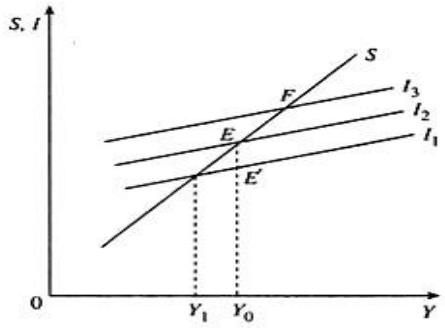

Fig. 1: Saving-Investment Equilibrium

Desired real savings *(S)* and investment *(I)* are assumed to depend only on the level of real income *(Y).* There are three possible investment schedules—I_1, I_2, I_3. Here, Y_0 is the full employment level of income. If the investment desires of the businesses are represented by the curve I_1, desired savings at full employment exceed desired investment by EE'.

Only if the investment schedule happened to be I_2, the economy would reach full employment level, with desired investment equal to desired savings. Since, in Keynes's model, investment decisions are independent of savings decisions, there is no reason to expect the investment schedule to coincide with I_2. Hence there is assurance that automatic full employment will result.

While defending the classicists, Don Patinkin argues that desired savings and investment depend on the rate of interest as well as the level of income; and that, granted flexibility, variations in the interest rate serve as an automatic mechanism for ensuring full employment.

The Classical Theme

Patinkin's defense of the classicists can be interpreted as the savings and investment functions (representing what households and businesses desire to).

$$S = f(r, Y)$$

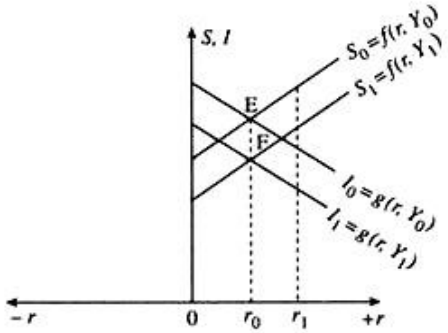

Fig. 2: Saving and Investment for Full-Employment and Less than Full-Employment Levels of Income

Consider the pair of curves, which correspond to the full employment income Y_0. If in Fig. 2, the rate of interest were r1, then households would be desirous of saving more at full employment than businesses would plan to invest.

If the interest rate continued to fall, savings would fall and investment would increase. The process would continue until finally desired full employment savings and investment would be equated at the level $S_0 = I_0$.

In a like manner, if, at full employment desired investment exceeds desired savings, a rise in the interest rate will prevent inflation. This is why variations in the rate of interest serve automatically to prevent any discrepancy between desired full-employment investment and savings, and, thus, to ensure full employment.

For analytical convenience, that desired investment depends on the rate of interest as well as the level of real income, while desired savings depend only on the latter. Then a fall in the rate of interest will raise the investment curve from, say, I_1 to I_2.

That is, at any level of income, businesses can be encouraged to invest more by a reduction in the rate of interest. In a like manner, a rise in the rate of interest will shift the investment curve downward from, say, I_3 to I_2. Thus, at full employment, desired savings will be equal to desired investment.

Critical Evaluation

Introduction

- Classical school of thought vs. Keynesian economics.
- Classical economics vs. Keynesian economic models
- Critical evolution

Critical evolution

i. Keynes rejected the fundamental classical assumption of normal, automatic full employment equilibrium in the economy:

— Considered it as unrealistic, regarded full employment as a special situation.

— Observed that the general situation in a capitalist economy is one of underemployment.

— This is because the capitalist society does not function according to Say's law especially during depression when aggregate supply exceeds its demand.

II. Keynes refuted the say's law of markets with the help of his theory of effective demand:

— All income earned by the factor-owners would not be spent in buying products which they help to produce. A part of the earned income is saved and is not automatically invested because saving and investment are done by two entirely different groups of people.

— So when all income is not spent on consumption goods and a portion of it is saved and not invested their results a deficiency of aggregate demand. This leads to general overproduction because all that is produced is not sold. This, in turn, leads to general unemployment. Thus Keynes invalidated Say's Law by invoking the principle that all saving is not automatically invested.

III. No automatic working of the price mechanism:

— Classical view that the laissez faire policy was essential for an automatic and self-adjusting process of achieving full employment equilibrium. He pointed out that the free market capitalist system was not automatic and self-adjusting because of the way some capitalist institutions function on profit-motive alone.

— There are two principal classes, the rich and the poor. The rich possess much wealth but they do not spend the whole of it on consumption. The poor do not have money to purchase consumption goods. In times of prosperity, the incomes of the rich rise much more than the incomes of the poor.

— Thus, there is general deficiency of aggregate demand in relation to aggregate supply which leads to overproduction and unemployment in the economy.

— This, among other reasons, led to the Great Depression. Had the capitalist system been automatic and self-adjusting this depression would not have occurred. Keynes, therefore, advocated State intervention for adjusting aggregate supply and demand in the economy through fiscal and monetary measures.

IV. Inadequate analysis of the demand for money

— The classical economists believed that money was demanded only for transactions and precautionary purposes. They did not recognize the speculative demand for money because they thought it irrational as money held for speculative purposes related to idle balances. But Keynes did not agree with this view. He emphasized the rationality of speculative demand for money.

— He pointed out that the cost of assets meant for transactions and precautionary purposes may be very small at a low rate of interest and therefore the demand for active balances may be low. But the speculative demand for money would be infinitely large at a low rate of interest.

— Thus the rate of interest will not be allowed to fall below a certain minimum level, where the speculative demand for money would become perfectly interest-elastic. This is Keynes's 'liquidity trap' situation which Keynes considered as the real situation in the depths of the Great Depression.

— Keynes pointed out that it was possible for saving to exceed investment while the rate of interest was positive. The liquidity trap prevents the rate of interest from falling below certain minimum level. This may prevent the equality of saving and investment at full employment.

V. Money influences output and employment:

— The classical economists regarded money as neutral. Therefore, they had separated the theory of output, employment and interest rate from the monetary theory. According to them, the level of output and employment, and the equilibrium rate of interest were determined by real forces.

— Keynes criticized the classical view that the monetary theory should be treated as separate from the value theory. He tried to integrate monetary theory with value theory, and brought the theory of interest within the domain of monetary theory (by regarding the interest rate as a monetary phenomenon). This lie attempted by forging a link between the quantity of money and the price level via the rate of interest.

— Keynes's argument is: when the quantity of money increases, the rate of interest falls, investment increases, income and output increases, demand increases, factor costs and wages increase, relative prices increase, and ultimately the general price level rises.

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VII. Keynes refuted Pigou's contention that a cut in money wage could achieve full employment:

— Keynes never favored a wage-cut policy.

— Keynes did not accept the classical assumption that there was a direct proportionate relationship between money wages and real wages. According to him, for the economy as a whole there is an inverse relation between the two. When money wages fall, real wages rise and vice versa.

— Keynes believed that employment could be increased more easily through monetary and fiscal measures rather than by reduction in money wage.

VIII. State intervention is necessary for economic stability:

— Keynes did not agree with Pigou that "frictional maladjustments alone account for failure to utilize fully our productive power." The capitalist system is such that left to itself it is incapable of using its productive powerfully.

— Therefore, State intervention is necessary both for efficiency and stability. The government has many options. The State may directly invest to raise the level of economic activity or to supplement deficient private investment. It may pass legislation recognizing trade unions, fixing minimum wages and providing relief to workers through social security measures.

IX. Importance of the short-run problems:

— The classicists believed in the automatic establishment of long-run full-employment equilibrium through a self- adjusting process.

— Keynes maintained that society had no patience to wait for the long period, for the common man believes that "In the long-run we are all dead." As pointed by Schumpeter. "His philosophy of life was essentially a short-term philosophy." His analysis is confined to short-run phenomena.

— Politicians making policy choices attach more importance to short-run problems. Classical policy proposals were not acceptable to them as these would take a long time to work out their way. The classical macro model might have been quite logical on its assumptions and policy prescriptions. But it was unfit for short-term macro analysis and policy-making. Keynes had good reasons to reject classicism.

Keynesian Theory of Income, Output and Employment

Income and employment theory, a body of economic analysis concerned with the relative levels of output, employment, and prices in an economy. By defining the interrelation of these macroeconomic factors, governments try to create policies that contribute to economic stability.

Modern interest in income and employment theory was triggered by the severity of the Great Depression of the 1929 in the United States and Europe.

In its failure to explain the persistent high levels of unemployment and the low levels of business productivity, the prevailing school of classical economics lacked solutions for the problems of that era.

John Maynard Keynes offered new thinking on income and employment theory with the publication of General Theory of Employment, Interest and Money (1936).

Building on his theory, Keynesians have stressed the relationship between income, output, and expenditure. Since transactions are two-sided—in that one person's income is another person's expenditure—the relationship could be expressed in the form of a simple equation: $Y = O = D$.

Where,

Y is the national income (*i.e.*, purchasing power),
O is the value of the national output, and
D is national expenditure.

What this equation means is that effective demand is equal to income as well as to output. Since consumers can either spend or save their income, $Y = C + S$, where C is consumption and S is savings.

On the output side, production is either sold to final customers or invested in inventory or new capital equipment, (such as production plants or machinery). So $O = C + I$, where C represents sales to final customers and I investment. Thus, $C + S = C + I$ and, therefore, $S = I$.

However, while savings and investment may thus be equated from an accounting standpoint, in fact, actual planned savings and planned investment may differ in real life. Keynesians say that economic instability stems from this discrepancy between savings and investment.

A competing theory of income and employment, the monetarist approach, places the quantity of money in the controlling role. The analysis of the effects of increasing or decreasing the money supply is approximately parallel to that of the consumption-and-savings relation.

The rules of thumb derived from the two theories may, in fact, be combined: an excess demand for goods or an excess supply of money (the two may be seen as aspects of the same phenomenon) will be associated with rising income; similarly, an excess supply of goods or an excess demand for money will be associated with falling income.

Monetarists, such as Milton Friedman, have advocated monetary policy as the proper countercyclical tool of government.

Both the Keynesian and the monetarist theories have two notable shortcomings.

First, both are demand-side theories and are therefore incapable of contributing toward the long-term considerations of economic growth.

Second, both assume that people can be fooled over and over again; in reality, as they learn to anticipate government policies based on the monetarist or Keynesian models, people act in ways to offset these policies and thus negate the government actions.

Effective Demand and Supply

Introduction

According to classicists, there will always be full employment in a free enterprise capitalist economy because of the operation of Say's Law and wage-price flexibility.

This classical theory came under severe attack during the Great Depression years of 1929 at the hands of J. M. Keynes. He rejected the notion of full employment and instead suggested full employment as a special case and not a general case.

Full employment is a temporary phenomenon, an astrological coincidence.

Keynes claimed his theory to be 'general', i.e., applicable at any point of time. That is why he christened his epoch-making book: The General Theory of Employment, Interest and Money (1936). Thus, Keynes' theory is "general". In this book, he not only criticized the classical macroeconomics, but also presented a 'new' theory of income and employment.

He is often described by economists as a revolutionary one in the sense that it was Keynes who salvaged the capitalist economy from destruction in the 1930s. Critics, however, label him as a 'conservative revolutionary'.

Keynes' theory of employment is a demand-deficient theory. This means that Keynes visualized employment/unemployment from the demand side of the model. His theory is, thus, known as demand-oriented approach, as opposed to the classical supply side model.

According to Keynes, the volume of employment in a country depends on the level of effective demand of people for goods and services. Unemployment is attributed to the deficiency of effective demand.

Keynes' theory is a short run theory when population, labour force, technology, etc., do not change. Once Keynes remarked that since "in the long run we are all dead", it is of no use to present a long run theory.

The volume of employment depends on the level of national income/output. Higher (lower) the level of national output higher (lower) is the volume of employment. Keynesian theory of employment determination is also the theory of income determination.

Meaning of Effective Demand

Keynes' theory of employment is based on the principle of effective demand.

In other words, level of employment in a capitalist economy depends on the level of effective demand.

Thus, unemployment is attributed to the deficiency of effective demand and to cure it requires the increasing of the level of effective demand.

By 'effective' demand, Keynes meant the total demand for goods and services in an economy at various levels of employment.

Total demand for goods and services by the people is the sum total of all demand meant for consumption and investment.

In other words, the sum of consumption expenditures and investment expenditures constitute effective demand in a two-sector economy.

In order to meet such demand, people are employed to produce all kinds of goods, both consumption goods and investment goods.

The effective demand may be defined as the total of all expenditures, i.e.,

$$C + I + G$$

Where:

C = consumption expenditure,
I = expenditure, and
G = government expenditure.

According to Keynes, the level of employment is determined by the effective demand which, in turn, is determined by aggregate demand function or aggregate demand price and aggregate supply function or aggregate supply price.

In Keynes' words; "The value of D (Aggregate Demand) at the point of Aggregate Demand function, where it is intersected by the Aggregate Supply function, will be called the effective demand."

Aggregate Supply (AS)

Employers hire and purchase various inputs and raw materials to produce goods. Thus, production involves cost. If sales revenue from the sale of output produced exceeds cost of production at a given level of employment and output, the entrepreneur would be induced to employ more labour and other inputs to produce more.

At any given level of employment of labour, aggregate supply price is the total amount of money that all entrepreneurs in the economy expect to receive from the sale of output produced by given number of labourers employed. For each particular level of employment, there is an aggregate supply price. 'Price' means the amount of money received from the sale of output, i.e., sales proceeds.

Thus, aggregate supply price refers to the proceeds from the sale of output at each level of employment and there are different aggregate supply prices for different levels of employment.

If this information is expressed in a tabular form, would get "aggregate supply price schedule" or aggregate supply function. The aggregate supply function is a schedule of the minimum amounts of proceeds required to induce varying quantities of employment.

Simply, it shows various aggregate supply prices at different levels of employment. Plotting this information graphically, would obtain aggregate supply curve.

According to Keynes, aggregate supply function is an increasing function of the level of employment.

Aggregate supply (AS) curve slopes upward from left to right because volume of employment increases with the increase in sale proceeds. But there is a limit to increase output level. This is called full employment level of output beyond which output cannot be increased; it is because of full employment that AS curve becomes vertical or perfectly inelastic.

This means that the level of employment cannot exceed full employment (LF) level even by increasing aggregate supply price. This is shown in given Figure.

Aggregate Demand (AD)

Aggregate demand or aggregate demand price is the amount of money or price which all entrepreneurs expect to receive from the sale of output produced by a given number of men employed. Or it refers to the expected revenue from the sale of output at a particular level of employment.

Each level of employment is associated with a particular aggregate supply price and there are different aggregate demand prices for different levels of employment. Like the aggregate supply schedule, aggregate demand schedule shows the aggregate demand price for each possible level of employment.
Plotting the aggregate demand schedule we obtain aggregate demand curve as there is a positive relation between the level of employment and aggregate demand price, i.e., expected sales receipts. This is shown in Fig. It rises from left to right.

Equilibrium level of employment— the point of effective demand:

Aggregate demand and aggregate supply are the two determinants of effective demand.

The intersection of the aggregate supply function with the aggregate demand function determines the volume of income and employment in an economy.

So long as expected sales receipts of the entrepreneur (i.e., aggregate demand schedule) exceed costs (i.e., aggregate supply schedule), the level of employment should be increasing and the process will continue until expected receipts equal costs or aggregate demand curve intersects aggregate supply curve.

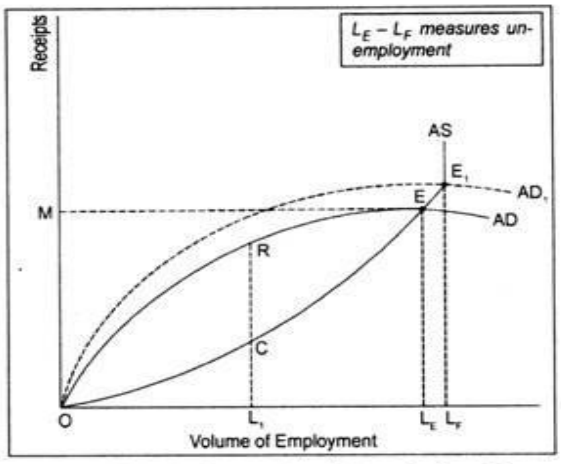


Fig. 3.4: Effective Demand and Determination of Employment

The AS curve starts from the origin. If aggregate receipts (i.e., GNP) are zero, entrepreneurs would not hire workers.

Likewise, AD curve also starts from the origin. The equilibrium level of employment is determined by the intersection of the AS and AD curves. This is the point of effective demand— point E in Figure.

Corresponding to intersection point, OLE workers are employed. At the OL1 level of employment, expected receipts exceed necessary costs by the amount RC. Entrepreneurs will now go on hiring more labour till OLE level of employment is reached.

At this level of employment, entrepreneurs' expectations of profits are maximized. Employment beyond OLE is unprofitable because costs exceed revenue. Thus, actual employment (OLE) falls short of full employment (OLF). Keynesian system shows two kinds of equilibria—actual employment equilibrium determined by AD and AS curves and underemployment equilibrium.

Keynes made little emphasis to the aggregate supply function since its determinants (such as technology, supply or availability of raw materials, etc.,) do not change in the short run.

Figure shows the situation of equilibrium at less than full employment level. Actual equilibrium, OLE, is short of full employment equilibrium, OLE. Thus, the distance OLF–OLE measures unemployment. This is called involuntary unemployment—a situation at which people are willing to work but do not find jobs.

This unemployment, according to Keynes, is due to the deficiency of aggregate demand. This unemployment can be removed by stimulating aggregate demand. By raising consumption expenditure, level of employment can be raised.

There is a limit to consumption expenditure. So what is needed is the raising of (private) investment demand. Anyway, an increase in consumption demand and investment demand will raise the level of employment in the economy.

The point of effective demand has been changed because of the shifting of AD curve from AD to AD1 new effective demand is now given by E1 Corresponding to this point, equilibrium level of employment is OLF—the level of full employment.

Thus, in Keynes' theory, unemployment is due to the deficiency of effective demand. Only by stimulating effective demand can a higher level of employment be achieved. However, Keynes goes on arguing that equilibrium level of employment will not necessarily be at full employment.

Consumption Function

Background

How equilibrium level of income and employment is determined?

Aggregate demand and aggregate supply are in equilibrium in an economy.

Aggregate demand is the sum-total of two types of demand: a) consumption demand and b) investment demand.

What is consumption demand? What are the factors that determine consumption demand?

Consumption demand plays a very important role in the determination of the level of employment and income.

In one of the effective ways of increasing employment and income in a country is to adopt such measures as to increase consumption or strengthening propensity to consume.

Introduction

Propensity to consume is also called 'consumption function.' $apc = \frac{C}{Y}$

In Keynesian theory, consumption function is not concerned with the consumption of an individual consumer but with the sum total of consumption spending by all the individuals.

Meaning

Consumption means the amount spent on consumption at a given level of income.

Consumption function or propensity to consume means the whole of the schedule showing consumption expenditure at various levels of income.

Consumption function or propensity to consume indicates a functional relationship between two aggregates, namely, total consumption expenditure and the gross national income.

It is a schedule that expresses relationship between consumption and disposable income.

Factors influencing consumption

Consumption spending of the people is influenced, among others, by the following factors:

i. the real income of the individual,

ii. past savings,

iii. rate of interest.

Average and Marginal Propensities to Consume

The relationship between income and consumption is measured by the average and marginal propensities to consume.

The average propensity to consume is a relationship between total consumption and total income in a given time period. It is the ratio of consumption to income.

The marginal propensity to consume measures the incremental change in consumption as a result of a given increment in income. It is the ratio of change in consumption to changes in income.

Thus, $mpc = \frac{\Delta C}{\Delta C}$

Where:

C stands for consumption and *Y* for income;

ΔC is incremental change in consumption.

ΔY is incremental change in income.

The normal relationship between income and consumption is such that when income increases consumption also increases, but less than the increase in income.

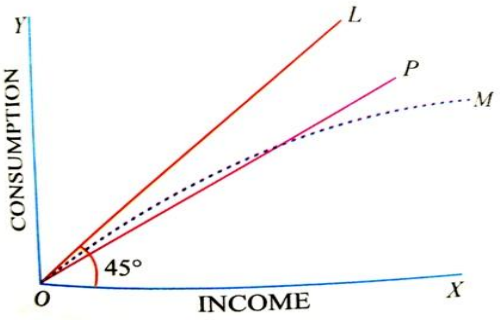
In other words, in normal times, the marginal propensity to consume is less than one. It is drawn as a straight line with a slope of less than one. This slope indicates the percentage of additional disposable income that will be spent.

It is less than one or unity, because it assumed that the whole additional income is not spent, that is, a certain percentage of it is spent and remainder is saved.

Income, Consumption and Saving

Income	*Consumption*	*Saving*
100	75	25
120	90	30
140	105	35
180	135	45
220	165	55

Income-Consumption Relationship



In figure where, income is represented on the *X-axis* and consumption on the *Y-axis*.

OL is the line which makes an angle of 45° with both the axes and any point on this straight line will be equidistant from both axes. Should the income-consumption curve coincide with this line, it will mean that the marginal propensity to consume is equal to one which is not normally true.

Hence, the income-consumption curve OP lies below the 45° line through its entire length.

The marginal propensity to consume will be measured by the tangent of the angle that the income-consumption curve makes with X-axis, etc., $mpc = tan < POX$

The curve turns out to be a straight line rising from the origin, which means that the marginal propensity to consume is constant throughout. This, however, need not be so and the curve may well become flatter as income rises, for as more and more consumption needs have been satisfied, a greater share of an increase in income than before may be saved.

The dotted curve OM represents such a relationship showing that as income rises, marginal propensity to consume becomes smaller and smaller.

There is some level of disposable income at which the entire income is spent. This is often called a "point of zero savings". Below this level of disposable income, the consumption expenditure will exceed the disposable income.

There may be cases in which the consumer has no income at all. In such cases, the income-consumption curve may not rise from the origin but from further left showing that when income is zero, consumption is not zero and that the individual is living on his past savings.

Keynesian consumption function

Concepts:

APC = Average Propensity to Consume

MPC = Marginal Propensity to Consume

APS = Average Propensity to Save

MPS = Marginal Propensity to Save

$$APC = \frac{C}{Y}$$

Where

C =Total consumption

Y = Total income

$$MPC = \frac{\Delta C}{\Delta Y}$$

It is nothing but the ratio of change in consumption due to the ratio of change in income. Mathematically if we take the derivative of total consumption, we get the 'MPC'.

$$APS = \frac{S}{Y}$$

Where

S = Savings

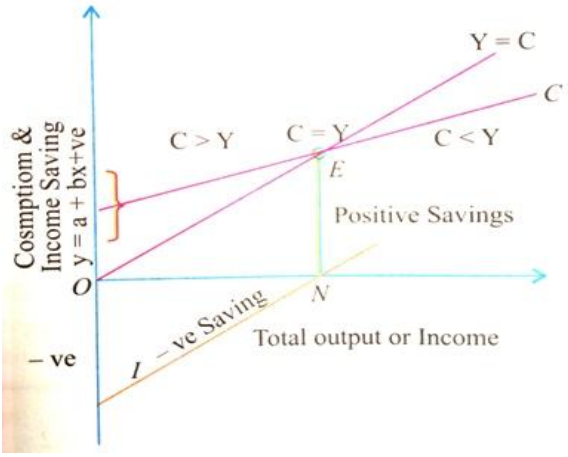
Y = Income

It is generally referred as average savings.

$$MPC = \frac{\Delta S}{\Delta Y}$$

It is nothing but percentage or ratio of change in savings due to percentage or ratio of change in income. If we take the derivate of total savings function, we obtain the 'MPS'.

Propensity to consume and save

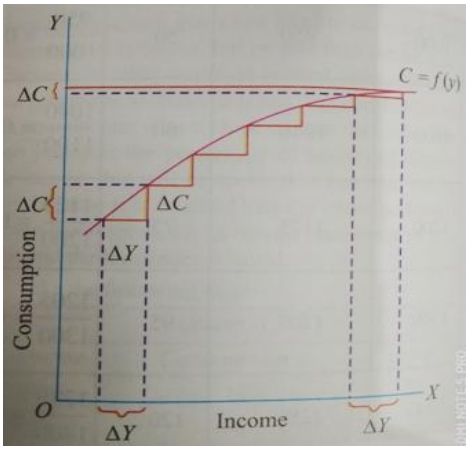


In the diagram *'C'* is consumption line, the 45° line is *Y = C*, (income = consumption) on y-axis consumption, savings and on x-axis, total output and income is measured.

At point *E*, consumption = income *(C = Y)*, before *'E'* consumption is greater than income *(C = Y)*, at this point savings is negative or the individual is either using his past savings or borrowing money to fulfill his consumption needs. After point *'E'* on the right hand side consumption is less than income *(C > Y)*.

The Keynesian Psychological law of consumption states that as the income increases the consumption also increases but less than proportionate.

Consumption function



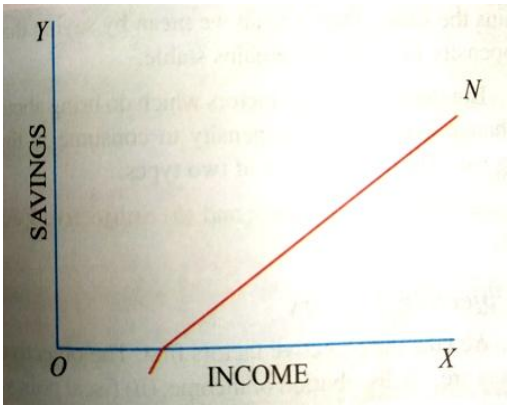
In the diagram, on y-axis consumption and on x-axis income is taken. The curve of consumption which is represented as c=f(y) because consumption is a function of income.

In the initial period the relationship between$\frac{\Delta C}{\Delta Y}$ that is MPC is more. That is, change in consumption due to change in income is relatively high.

As the curve moves towards right it is clear that change in consumption due to change in income is decreasing. In the second curve, $\frac{\Delta C}{\Delta Y}$ is completely very less than the first case.

This is what Keynes wanted to show that as income increases, consumption also increases but relatively with lower rate. This is referred as Keynesian psychological law of consumption.

Propensity to save



The income-consumption relation can be used to derive also the saving-income relation, for income not consumed is consumed is income saved.

Now plotting savings on Y-axis and income on X-axis, we get the saving-income curve ON in diagram.

Just as the marginal propensity to consume is measured by the slope of the income-consumption curve, similarly, the marginal propensity to save is given by the slope of the income –saving curve.

Marginal propensity to save is the increment in savings caused by a given increment in income. The marginal propensity to save is always one minus marginal propensity to consume.

Marginal propensity to save $MPS = \frac{\Delta S}{\Delta Y}$

$= 1 - \frac{\Delta C}{\Delta Y}$

Average propensity to save or APS $= \frac{S}{Y} = \frac{total\ saving}{total\ income}$

Keynes' Psychological law of consumption

Keynes propounded a law based on the analysis of consumption function. This law is called 'fundamental law of consumption or psychological law of consumption'. It states that aggregate consumption is a function of aggregate disposable income.

Propositions of the law

This law consists of three related propositions; these three propositions form Keynes' Psychological Law of Consumption.

Proposition 1:

- When aggregate income increases, consumption expenditure will also increase but by a somewhat smaller amount.
- The reason that as income increases, more and more of people's wants satisfied, hence not as much is again spent on consumption as the increase in income.
- Consumption expenditure will no doubt increase but not to the same extent as increase in income.

Preposition 2:

- When income increases, the increment of income will be divided in same proportion between saving and consumption.
- This really follows the first proposition. Since consumption spending does not increase at the same rate as the increase in income, a part of the increase is saved and only a part is consumed.
- That is why consumption and savings go side by side. What is not consumed is saved. Saving is, thus, the complement of consumption.

Preposition 3:

- As income increases both the consumption spending and savings will go up.
- An increment of income is unlikely to lead either to less spending or less savings than before.
- It will seldom happen that a person may decrease his consumption or his savings when he has got more income.
- He will spend a little more than before and also save more than before.

Assumptions

i. The habits of the people regarding spending do not change or that the propensity to consume remains the same.

ii. The conditions remain normal; for instance there is no hyperinflation or there is no war or other abnormal conditions.

iii. Apply to a free economy and in peace time and over a short period.

Implications

i. Since consumption largely depends on income and consumption function is more or less stable, it is necessary to increase investment to fill the gap of declining consumption as income increases. If this is not

done, increased output will not be profitable. This law, therefore, undermines the crucial importance of investment.

ii. Even when income increases, consumption lags behind. Hence general over-production is possible. The government will have to step in to remedy the situation. If somehow consumption is not increased, marginal efficiency of capital will go down. The demand for capital diminishes and all economic progress will come to a standstill.

iii. When the trade cycle has reached the highest point of prosperity, income has gone up. But since consumption does not correspondingly gone up, the downward cycle starts, for demand has lagged behind. In the same manner, when the business cycle has touched the lowest point, the cycle starts upwards, because consumption cannot be diminished beyond a certain point. This is due to the stability of marginal propensity to consume.

iv. Since marginal propensity to consume is less than unity, this law explains the over-saving gap. As income goes on increasing, consumption does not increase as much. Hence saving process proceeds cumulatively and there is danger of over-saving.

v. Due to unique nature of income generation in an economy also leads to less proportion of consumption. If money is injected into the economic system, it will increase consumption but to a smaller extent than increase in income.

Factors influencing consumption function

When the propensity to consume is stable, it does not mean the consumption expenditure remains constant. Consumption expenditure does no doubt vary as income varies. But consumption changes according to a set of pattern.

But there are certain factors which do bring about a change even in this propensity to consume in the long run.

These factors of two types:

1) Objective factors, and
2) Subjective factors.

1) Objective factors

The objective factors include:

i. Distribution of income,
ii. Fiscal policy,
iii. Substantial changes in rate of interest,
iv. Changes in business expectations,
v. Windfall gains and losses
vi. Liquidity preference

i. Distribution of income

— Apart from the size of national income, consumption behavior of the economy will also be influenced by the pattern of income distribution.
— It will be generally observed that the average and marginal propensity to consume of the poor people are greater than those of rich.
— This is because the poor man has a lot of unsatisfied wants and he is likely to seize every opportunity that comes his way to satisfy them. On the other hand, the rich have already a high standard of living and relatively less urgent wants remain to be satisfied, so that in their case, an addition to their incomes is more likely to be saved than spent on consumption.
— Consumption is typically the function of the poor and saving typically function of the rich.
— Therefore, given the national income, a more equal distribution of incomes will make for a higher marginal propensity to consume and, therefore, will raise the value of the multiplier.

ii. Fiscal policy

— A reduction in taxation will leave more post-tax income with the people and this will stimulate higher expenditure on consumption; an increase in taxes will depress consumption.
— Of the two types of taxes, *i.e.,* direct and indirect, the latter will have more immediate effect on consumption than the former, particularly when direct taxes are progressive in their incidence.
— Commodity taxes penalize consumption expenditure directly by raising the prices of the commodities while taxes on income reduce commonly indirectly by reducing the post-tax income of the individual.

— Hence, the structure of the fiscal system has an important influence on the consumption behavior of the economy.
— Changes in fiscal policy are liable to bring about shift in the consumption-income curve.
— Modern trend towards welfare state financed by progressive taxation tends to shift upwards the consumption function.

iii. Substantial changes in rate of interest

— If the rate of interest raises, people will consume less and save more in order to take advantage of the higher rate. On the other hand, if the rate of interest falls, people will consume more and save less.

iv. Changes in business expectations,

— By affecting the incomes of certain classes of people affect consumption function.

v. Windfall losses and gains

— The windfall losses and gains arising out of changes in capital values affect the 'saving brackets' mostly and not the spending sections. Hence, their influence on consumption function is not so well marked.

vi. Liquidity preference

— The larger the volume of savings in the hands of the people, the more likely are they to spend out of current income because such holdings shall have the effect of increasing people's sense of security. But when people do not have any such holdings, they are not likely to spend much out of current income.
— The wartime savings of the individuals are believed to have caused the consumption function to shift upwards in the post-war period. It is, thus, clear that the more liquid people are (*i.e.*, greater the savings and cash balances with them) the greater will be the rate of consumption out of a given income.

2) Subjective factors

— It is the subjective factors which, according to Keynes, basically underlie and determine the propensity to consume.

— Keynes laid the stress on the role of the psychology of human nature in determining the consumption function.
— Subjective factors relate both to the behavior pattern of individuals and of business corporations.
— As regards motives which lead individuals to save, Keynes mentioned factors such as building of reserves for unforeseen contingencies.
— In regards to the behavior patterns of business corporations, among the factors which induce them to save, Keynes mentioned: the desire to expand one's business; the desire to face emergencies successfully; the desire to demonstrate successful management; and the desire to ensure sufficient financial provision against depreciation and obsolescence.

Measures for raising consumption

Since consumption function is a major factor determining the level of income and employment in the economy, it is worthwhile considering what measures can be adopted to stimulate consumption. This, in turn, would stimulate investment and add to the national income and create more employment.

i. Redistribution of income

— If income is redistributed in favor of the poor, whose propensity to consume is higher, from the rich whose propensity to save is greater, it will go a long way in raising the consumption function.

ii. Comprehensive social security

— The weaker sections of the society can be helped to increase their consumption through social security measures.
— It will solve the paradox of thrift, which usually characterizes the affluent sections of society.

iii. Liberal wage policy

— Liberal wage policies will help the workers, who constitute the masses, in raising their living standards and increasing their consumption.

iv. Credit facilities

— Poor and middle class people can be enabled to buy more consumer goods through liberal consumer credit.
— The nationalized banks in India are trying to do something in this direction.

Investment Function

Background

How equilibrium level of income and employment is determined?

Aggregate demand and aggregate supply are in equilibrium in an economy.

Aggregate demand is the sum-total of two types of demand: a) consumption demand and b) investment demand.

What is investment demand? What are the factors that determine investment demand?

Investment demand plays a very important role in the determination of the level of employment and income.

In one of the effective ways of increasing employment and income in a country is to adopt such measures as to increase investment or strengthening the marginal efficiency of capital.

Introduction

Keynes uses the term investment to mean real investment i.e., investment in the building of new machines, bridges, roads, new factory buildings and other forms of productive capital stock of the community including increase in inventories.

Classical economists considered investment demand simply as a decreasing function of the interest, *i.e., 1 = (i).* Where 1 stands for investment demand and *i* stands for the rate of interest.

Types of investment

i. Gross vs. Net

- Investment may be counted on the gross or the net basis.
- Net investment is gross investment minus depreciation.
- In the theory of income and employment, investment means net investment and not gross investment.

ii. Ex-ante vs. Ex-post

- Investment may be ex-ante or planned or anticipated or intended investment; or it may be ex-post, i.e., actually realized investment or when investment is not merely planned or intended but which has actually been invested or implemented.

iii. Private vs. public

— Private investment is on private account, i.e., by private individuals and public investment is by the government.

— Private investment, *i.e.,* by private investor or entrepreneurs is influenced by marginal efficiency of capital (*i.e.*, profit expectation) and the rate of interest. It is profit-elastic.

— Public investment is by State or local authorities, such as building of roads, irrigation projects, school buildings, public parks, electricity works, etc. In public investment profit motive does not enter into consideration. It is undertaken for social good and not for private gain.

iv. Autonomous vs. Induced

— Investment which is independent of the level of income is called autonomous investment. Such investment does not vary with the level of income.

— Autonomous investment is income-inelastic.

— It is depend more on population growth and technical progress than on anything else.

— The influence of change in income is not altogether ruled out, because higher income would probably result in more investment. But the influence of income is negligible as compared with the influence of population growth and progress of technical knowledge.

— Investment which varies with the changes in national income is called induced investment.

— Changes in national income bring about changes in aggregate demand which in turn affects the volume of investment.

— When, for instance, national income increases, aggregate demand too increases. Investment has to be undertaken to meet this increased demand.

— This induced investment is income-elastic, i.e., it increases as income increases, and vice versa.

Importance of investment

— There are two major constituents of effective demand — investment and consumption. Of the two, investment is more volatile and unpredictable as well as a more strategic variable.

— Being a more volatile variable, investment determines effective demand more than its other constituent, *viz.,* consumption spending.

Factors affecting investment

— What induces businessmen to undertake investment?

— Obviously, profit expectations seems to exercise a major influence on investment decisions of businessmen and these profit expectations in turn are influenced by the current and the expected level of economic activity, changes in technique, etc.

— Broadly speaking, inducement to invest depends on two factors, *viz.*,

  a) the marginal efficiency of capital (which according to Keynes is another name for the expected rate of profit); and
  b) the rate of interest.

— Investment will not be made continuously, unless the rate of return or profit at least be equal to the rate of interest. So as long as the expected rate of profit exceeds the rate of interest, investment will continue to be made.

— The yield expected from a new unit of capital is called by Keynes marginal efficiency of capital. This marginal efficiency of capital must never fall below the current rate of interest, if investment is to be worthwhile.

— Hence, the inducement to invest depends on the marginal efficiency of capital on the one hand and the rate of interest on the other.

— Of these two determinants of inducement to invest, *viz.*, the marginal efficiency of capital and the rate of interest, which is of greater importance?

— The rate of interest does not quickly change; it is more or less sticky or constant. Hence, the inducement to invest, by and large, depends on the marginal efficiency of capital.

— If the business expectations are good or if the marginal efficiency of capital is high, more investment will be made in spite of high rate of interest.

— On the contrary, depression or bleak prospects of profits will discourage investment, even if the prevailing rate of interest low. Thus, fluctuations in investment are mainly due to the fluctuations in the marginal efficiency of capital.

Other factors

There are some other factors that affect investment.

For instance, if a firm has already excess capacity and can easily handle increased future demand, it will not go in for further investment to increase its capital equipment.

Technological progress also affects current level of investment.

Summary

The level of income and employment depends on (a) consumption and (b) investment.

Consumption being more or less stable, and left with the more important factor viz., investment.

Investment depends on (a) the rate of interest and (b) marginal efficiency of capital or the expected rate of profit.

The rate of interest being more or less constant, and left with the marginal efficiency of capital as the sole determinant of the level of income and employment in a country.

Marginal efficiency of capital

Meaning

In modern world, an act of an investment involves a great amount of risk.

The great uncertainty about the future gives rise to the extreme instability and fluctuations in the rate of investment in modern capitalist economies.

The businessmen try to reduce the unpredictably of the future by trying to base their decision in the light of past and present trends.

Marginal efficiency of investment is the highest expected rate of profit which is likely to be had by a marginal increase in the rate of investment.

Since it refers to the expected rate, rather than the current rate of profit, marginal efficiency of investment is liable to a great deal of fluctuations in the short run.

It is the perspective yield which gives the marginal efficiency of capital its most important characteristic, *ie.*, instability.

Marginal efficiency of a capital asset can be calculated by relating the prospective yield of the asset to its supply price.

I define the marginal efficiency of capital as being equal to that rate of discount which would make the present value of the series of annuities given by the returns expected from the capital asset during the life just equal to its supply price." J M Keynes

Marginal efficiency of capital is the rate at which prospective yield of an asset is discounted so as to make it just equal to the supply price or replacement cost of the asset.

The formula is

Supply price = Discounted Prospective Yield

$$C_r = \frac{R_1}{1+r} + \frac{R_2}{(1+r)^2} + \frac{R_3}{(1+r)^3} \ldots\ldots + \frac{R_n}{(1+r)^n}$$

Where

Cr = the replacement cost or supply price.

R1, R2……Rn = the series of the prospective annual returns or yields;

r = the rate of discount which would make the present value of the series of annual returns just equal to replacement cost or supply price of the capitalist asset. This is really the marginal efficiency of capital.

Investment demand curve

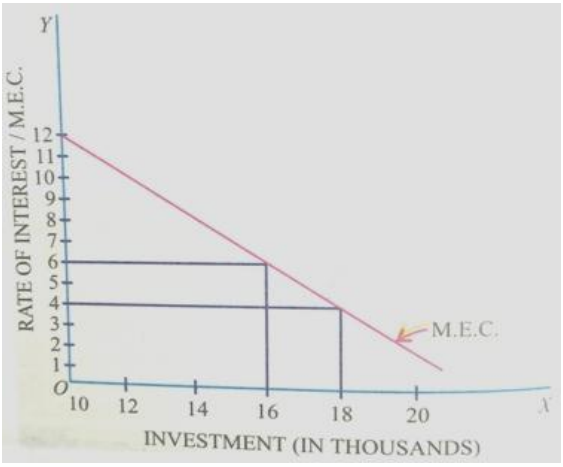
The marginal efficiency of capital falls as investment increases. There are two reasons for this:

i. the installation of a larger number of similar machines lead to a reduction in their prospective yields just as consumption of more units leads to a decrease in marginal utility.
ii. the prices of such machines will go up as their demand increases. This will add to the costs. Thus costs go up on the one hand and the market price of their products goes down as production increases. This is because with more investment the productive capacity of the economy will increase and this will depress the expected rate of profit. It is clear that marginal efficiency of capital will be different at different levels of capital investment. As investment increases, marginal efficiency of capital goes down. Thus, the curve of marginal efficiency of investment is likely to be a curve falling from left to right.

Diminishing marginal efficiency of capital

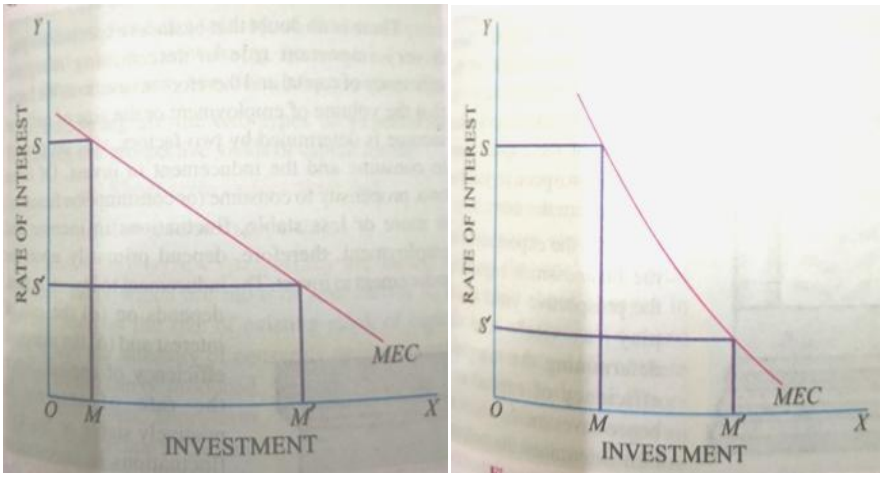
Investment (Rs.)	Marginal Efficiency of Capital
10,000	12%
12,000	10%
14,000	8%
16,000	6%
18,000	4%
20,000	2%

Marginal Efficiency Curve



Given a marginal efficiency schedule or curve, the investment will depend on the prevailing rate of interest.

The position and shape of the MEC Curve



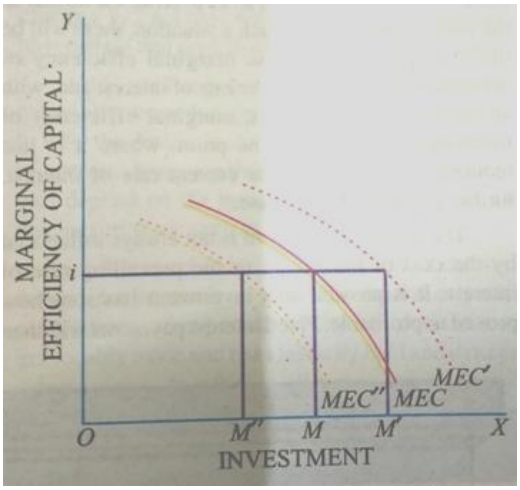
Interest-elastic MEC curve Interest-inelastic MEC curve

The elasticity of the MEC determines the extent to which the volume of investment would change consequent upon changes in the rate of interest.

If the MEC is relatively interest-elastic, a little fall in the rate of interest will result in a considerable expansion in the volume of investment.

If MEC is relatively interest inelastic, then a considerable fall in the rate of interest may not lead to any increase in the volume of investment.

Shifts in MEC



Shifts in Marginal Efficiency of Capital

As the expectations regarding the prospective yields change, the marginal efficiency of capital will change too and the MEC curve will shift upward or downwards.

In an unprecedented situation where there is a increasing demand for goods, the entrepreneur' expectations of profit will rise high and the investment demand curve or the MEC curve will shift upwards to MEC'.

This means that a given rate of interest, investment will be greater than before.

On x-axis it is investment and on y-axis it is rate of interest. At oi rate of interest OM level of investment.

If for some reason demand for goods has decreased bringing down the marginal efficiency of capital to MEC'', at the same rate of interest i, investment will only be OM'' as compared with OM before.

Influence of the rate of interest

The rate of interest, along with the marginal efficiency of investment, determines the volume of investment.

If the rate of interest is higher than the marginal efficiency of investment, it will not be profitable to create a new physical asset.

If marginal efficiency of investment is lower than the current rate of interest, it is more profitable to lend one's money rather than use it for creating new assets.

If marginal efficiency of investment is higher than the current rate of interest, it is more profitable to invest one's money rather than lending to someone.

If marginal efficiency of investment is equals the current rate of interest, there the equilibrium level of rate of investment is achieved.

The rate of investment depends on the rate of interest. It is interest-elastic.

A low rate of interest tends to stimulate investment. But it may fail to do so, if marginal efficiency of investment is already lower than the rate of interest (as may well happen during a depression). Of the two determinants of the rate of investment, marginal efficiency of investment is more volatile than the rate of interest.

The rate of interest is usually 'sticky' in the short run, while marginal efficiency of investment fluctuates from one extreme to another.

If there is divergence between rate of interest and marginal efficiency of investment, usually the marginal efficiency of investment will adjust to the rate of interest.

The level of investment is not always influenced by the cost of barrowing or the prevailing rate of interest. It is possible that investment has somehow proved unprofitable. Fixed interest payments will then reduce the future earnings on the equity issue of the firm and thus discourage investment. Also, instead of borrowing, the firm has the option of increasing the ordinary stock issue.

If profits increase proportionately to increase in share capital, the proposition cannot be attractive to the investing firm. Moreover, the firm can plough back its accumulated profits and may not resort to borrowing.

Although, for the economy as a whole, the supply of funds may be interest-elastic, yet an individual firm may not find borrowing from the market worthwhile.

In actual practice, investment demand is not much influenced by rate of interest (*i.e.,* it is interest-inelastic). Investment demand is largely determined by marginal efficiency of capital.

Role of business expectations in determining MEC

Business expectations play a very important role in determining marginal efficiency of capital and therefore investment.

The volume of employment or the size of national income is determined by two factors, viz., propensity to consume and the inducement to invest.

Of these two, propensity to consume (or consumption function) is more or less stable, fluctuations in income and employment, therefore, depend primarily upon the inducement to invest.

The inducement to invest, in turn, depends on (a) the rate of interest and (b) the marginal efficiency of capital. Since the rate of interest is relatively stable or 'sticky', fluctuations in investment depend primarily upon the changes in the marginal efficiency of capital.

There are two determinants of marginal efficiency of capital, viz., the supply price or cost of the capital asset and the prospective yield or return from the asset.

It is the expectations of the businessmen regarding the prospective yield which play a vital role in determining the marginal efficiency of capital and hence investment, which in turn determines the volume of employment or size of the national income.

The most important characteristic of the marginal efficiency of capital is its instability and this is caused by the uncertainty in prospective yield or business expectations.

In a capitalist economy, the instability of economic life (or economic fluctuations) is mainly attributable to the unstable character of prospective yields from capital assets.

Whether the demand for capital goods is stable or unstable will be determined by the stability or instability of prospective yields, i.e., by business expectations.

As business expectations change, the volume of investment changes and so does the volume of business activity or the volume of employment.

The marginal efficiency of capital refers to the yield that is expected in future from investment in a brand-new asset and not the return actually obtained from an existing plant, till it becomes useless.

Further, it may also be borne in mind that the prospective yield is made up of the total returns expected from the asset during the whole of its life, and these returns may vary from year to year.

There are two types of expectations regarding the perspective yields of capital assets:

(a) Short-term expectations; and
(b) Long-term expectations.

a) Short-term expectations:

— Based on existing facts which are more or less known to be certain such as the size of existing stock of capital assets and the intensity of consumer demand for the goods which can be produced with these assets.
— Relate to the sale proceeds of the goods made with the existing plant.

(b) *Long-term expectations:*

— Relate to the sale proceeds of output resulting from the alterations in the size of the plant or from entirely a new plant.
— Obviously, the factors on which long-run expectations are based are uncertain.

Short-run expectations are more stable because what has happened in the recent past is a safe guide for the near future. But no past experience will tell what will happen in the long run. The long-run expectations are highly unstable.

But long-term expectations are more important in explaining fluctuations in investment and employment.

Factors influencing expectations

In view of the important role that the business expectations play in determining marginal efficiency of capital, it is imperative to analyze the forces which influence the prospective yields of an asset.

The long-run expectations are influenced by factors such as:

i. The state of confidence
ii. Stock exchange valuation
iii. Irrevocable decisions
iv. Elements of instability
v. Linkages with investments
vi. Behavior of investors
vii. Non-economic factors

i. The state of confidence

Much depends on *how confident the businessmen are about the future changes, i.e.,* not only what they expect to happen but how certain and confident they are that it will happen.

ii. Stock exchange valuation

The value of the assets also depends *a great deal on the value attached to it* by the dealers in stock exchanges.

Given the rate of interest, changes in the capital values of investments will *depend on the perspective yields as shown by dealings in stock exchange.*

iii. Irrevocable decisions

Investment decisions depend not so much on cold calculations or precise calculations of expected profits but decisions are irrevocably made and risks taken by bold and dynamic entrepreneurs.

iv. Elements of instability

In modern times, elements of instability have been imported into the economic system by divorce between ownership and control and by working of stock exchanges.

Prospects of the various investments are assessed and reassessed almost daily, even several times in a day

It has now become possible to invest one day and disinvest the next day.

v. Linkages with investments

The stock exchange dealings regarding the revaluation of the existing investments inevitably influence similar new investments. Thus, the present investments are linked with new investment which is the real investment.

vi. Behavior of investors

Dealings in stock exchange by ignorant and unintelligent investors may give a perverted view of the entrepreneur's long-term expectations.

Even a professional dealer is more concerned with making money than with giving a correct valuation of the assets. He also takes a short-run view.

vii. Non-economic factors

There are several non-economic factors. Some political events such as threat of a war, success of a particular party in elections or a diplomatic triumph also affects the value of assets or their prospective yields.

Theory of secular stagnation

The marginal efficiency of capital showing declining tendency in the long run.

Falling rate of profit.

A diminishing marginal efficiency of capital.

In a capitalist society, the rate of profit goes on falling in the long-run. It is called “Stagnation Thesis”.

The rate of profit continues to fall in the long run, why is t so?

The rate of profit falls because the amount of capital in a country goes on increasing. —Adam Smith

The rate of profit falls due to the niggardliness of nature. Owing to increase in population even inferior lands have to be brought cultivation and naturally the output decreases.—Davis Ricardo and Mill

The stock of capital goods increases, its return goes on decreasing. Marginal efficiency of capital decreases in the long-run because with a growing stock of capital assets, prospective yield decreases. —J.M. Keynes

The marginal efficiency of capital depends on two factors: (a) supply price or cost of production and (b) prospective yields.

The marginal efficiency of capital decreases because either the cost of production increases or the prospective yield decreases.

In the short-run, marginal efficiency of capital decreases because the cost of production of capital increases, but the longer the period the greater is the influence of the prospective yields. Thus, the secular decline in the marginal efficiency of capital is almost entirely the result of a fall in the prospective yield.

The prospective yield decreases because there is increase in the supply of capital goods. As investment increases, production increases. The increase in capital and other factors leads to an increase in output which results in fall in prices. The result is that future expectations from investment go down.

But as long as the marginal efficiency of capital is more than the current rate of interest, further investment will continue since the rate of interest is less than the rate of profit. If the rate of interest falls to zero, the production of capital goods will increase up to the point where the rate of profit also falls to zero.

What checks the decline in marginal efficiency of capital?

Some of the factors which prevent the marginal efficiency of capital from falling to zero are increase in population, territorial expansion and technical progress. These are growth factors. The wars break out off and on and they check the fall in the rate of profits. In case these growth factors cease to operate, there will be secular stagnation.

In rich countries, where there is abundance of capital goods and investment ceases to be profitable, there is unemployment. Hence, such countries cannot maintain full employment without social control on investment.

The control on investment cannot be left in the hands of private individuals. The long-term expectations are so uncertain that they cause fluctuations in the marginal efficiency of capital, which cannot be set right by changes in the rate of interest. There is a great fear of fall in the long run return resulting from the continuing uncontrolled increase in capital goods. This may irreparably damage the future productive capacity of the community.

Hence, government control is essential. State can understand much better the long-term needs of the community and it has the power to keep it in a state of comfort.

Thus, the theoretical concept of marginal efficiency of capital has its practical counterpart in socialization of investment. This necessitates overall economic planning. —J M Keynes

Determination of rate of interest

The rate of interest determined by the demand for and supply of money.

The demand for money is the demand for money to hold. It is determined by three motives, viz., transactions motive, precautionary motive and speculative motive.

The supply of money is fixed by monetary authorities in a country, while demand for money arises because of liquidity preferences of the people, arising out of transactions, precautionary and speculative motives.

The demand for money, however, is not absolute. People can be induced to part with liquidity if the reward i.e., the rate of interest, being offered in return is attractive.

Generally, the higher the rate of interest the lower will be the demand for liquidity, as the rate of interest falls the demand for liquidity increases, and, at very low rates of interest, it may become absolute, i.e., people may refuse to part with any amount of money with them.

Given the demand for money, an increase in supply of money will lower the rate of interest. However, when the rate of interest is very low, say, 2 per cent, it may be difficult to lower the rate of interest any further by increasing the supply of money.

This is so, because at the very low rates of interest, the demand for money becomes nearly absolute.

When the rate of interest is already low, the reward for parting with money is only nominal.

At very low rates of interest, people expect that sooner or later the rate will rise, and they prefer to wait till then for lending rather than lending money just now.

Multiplier and Accelerator

Introduction

The concept of multiplier is closely connected with the marginal propensity to consume. Considered as one of Keynes's path-breaking contributions to economic analysis. Keynes developed the idea (investment multiplier) as early as 1929. R. F. Kahn further developed (employment multiplier) it in 1931. Today, the multiplier has become a part and parcel of the Keynesian theory of employment. In fact, it is the "centre piece of macroeconomic theory" today.

Meaning

In general, "multiplier" means the effect of one variable on another. For example, if a one unit changes in money leads to a one unit change in output, the multiplier is 1.

A multiplier indicates the change in an endogenous variable for a unit change in an exogenous variable.

The multiplier is the amount by which equilibrium output changes when autonomous aggregate demand increases by 1 unit.

Keynes's Investment Multiplier

The investment multiplier expresses the relationship between an initial increment in investment and the final increment in aggregate income.

In other words, the multiplier is the ratio of the change in income to the change in investment.

The investment multiplier (K) has been defined as a ratio of increment in income (δY) to an increment in autonomous investment (δ1). Thus, $K = \delta Y/\delta 1$

It shows how many times the effect of an initial change in investment is multiplied by causing changes in the aggregate income.

Whenever an investment is made in the economy, the effect is to increase aggregate income not only by the amount of the original investment, but by something much more than it.

The reason is that the original investment increases income not only in the industries where the investment is made, but also in certain other industries whose products are demanded by men employed in investment industries.

The size of the multiplier depends upon the size of the marginal propensity to consume. The two related to each other.

Higher the marginal propensity to consume higher shall be the size of the multiplier; the lower the marginal propensity to consume, the lower shall be the multiplier.

In fact, the size of the multiplier derived from the M.P.C.

The multiplier is equal to the reciprocal of 1 minus the M.P.C. Keynes expresses the multiplier in symbolic term as *K*.

$$K = \frac{1}{1-m}$$

Where:

K = multiplier

m = *M.P.C.*

If marginal propensity consume is known to us, K can easily be determined by this formula. For example M.P.C. is $\frac{1}{2}$ then, $K = \frac{1}{1-\frac{1}{2}} = \frac{1}{\frac{1}{2}} = 2.$

The marginal propensity consumes plus marginal propensity to save is equal to 1. If the marginal propensity consume is deducted from 1, remaining is the marginal propensity to save.

The earlier formula can also be expressed in the following form: $K = \frac{1}{s}$

Where:

K = multiplier

1 = equal to one

S = marginal propensity to save

In order to obtain multiplier that is *K*, it should be known either the marginal propensity consume or the marginal propensity to save.

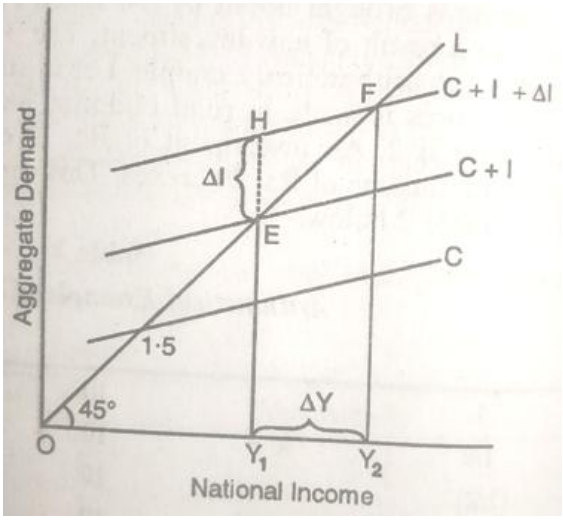
If the marginal propensity save is known by applying the formula $K = \frac{1}{s}$ multiplier (K) can be found.

But if the marginal propensity saves is not known it can be found out by deducting from *M.P.C.* from *1*. Anyway, what is necessary to find *K*, is the marginal propensity to save.

For example: the marginal propensity to consume is $\frac{9}{10}$. By deducting $\frac{9}{10}$ from 1, obtain $\frac{1}{10}$ which is the marginal propensity to save. The reciprocal of $\frac{1}{10}$ is 10 which is the multiplier.

In short, the multiplier is the reciprocal of the marginal propensity to save which is always equal to 1 minus the marginal propensity to consume.

M.P.C. vs. aggregate demand



From the graph

The conception of multiplier can be explained with the help of saving-investment diagram as well.

Suppose that the marginal propensity to consume in a community is $\frac{1}{3}$, or the marginal propensity to save is $\frac{2}{3}$.

Further, suppose that the community which is already investing a sum of Rs. 30 crores now decides to increase this investment by another Rs. 10 crores. Since the multiplier is 3 the income of the community shall increase by Rs. 30 crores consequent upon an additional investment of Rs. 10 crores.

In this diagram QR represents the original investment of Rs. 30 crores. SS represents the saving curve. The additional investment of Rs. 10 crores is represented by the Q'R' which is above the original investment curve QR.

The distance between these curves is equal to Rs. 10 crores as shown in the diagram. M was the original point of equilibrium between saving and investment, and at this equilibrium point the income of the community was 130 crores.

But when an additional investment of Rs. 10 crores is made, the new investment intersects the SS curve at M'. At this point, the income of the community is Rs. 160 crores. In other words, as a result of an additional investment of Rs. 10 crores, the income has increased by Rs. 30 crores (from Rs. 30 crores to Rs. 160 crores) because the multiplier is 3.

Assumptions (or, limitations)

The theory of multiplier bears a significant amount of truth. An increase in investment has secondary consequences which result in an increase in income larger than initial increase in investment.

There are, however, certain difficulties which arise from the use of the multiplier concept. The process of following this increased spending through the hands of several groups of people, for instance, is not as simple as assumed.

Assuming everyone had marginal propensity to consume of 50 per cent. This was not a realistic assumption. Varying conditions were likely to produce varying marginal propensities to consume. It was, thus, difficult to estimate the value of the multiplier, because difficult to determine exactly how the consumers will react.

Thus, the theory of the multiplier was subject to certain limitations.

The concept of multiplier explains that investment multiplier will raise income instantaneously multiplier times the initial investment.

There is no time lag between investment and income. The multiplier is based on certain assumptions. It will operate to the full extent only if these assumptions are actually realized in practice. Non-fulfillment or partial-fulfillment of these assumptions will retard the working of the multiplier.

Limitations

i. Availability of consumer goods
ii. Maintenance of investment
iii. Net increase in investment
iv. No investment from induced consumption
v. No change in the M.P.C.
vi. Existence of closed economy
vii. No time lags between successive expenditures on consumption
viii. Existence of less than full employment.

Conditions for the operation of multiplier

i. Existence of involuntary unemployment
ii. Existence of an industrialized economy
iii. Existence of excess capacity in consumer goods
iv. Existence of an elastic supply of capital

The principle of acceleration or the accelerator

Multiplier and accelerator are parallel concepts.

While multiplier shows the effect of investment on consumption (and on income and unemployment), the accelerator shows the effect of a change in consumption on investment.

The multiplier shows the dependence of consumption on investment. The accelerator, on the other hand shows the dependence of investment on consumption.

Accelerator explains how changes in consumption affect the volume of investment. To be more accurate it measures the effect of an investment (or decrement) in the rate of consumption on the volume of investment. It expresses the ratio of the net change in the consumption to the net change in investment.

The accelerator simply measures the change in investment goods industries consequent upon the changes in the consumption goods industries.

The principle of acceleration (or accelerator effect) states that a given increase in the demand for consumption goods in the economy generally leads to an accelerated demand for investment goods.

The accelerated is the numerical value of the relation between an increase in consumption and the resulting increase in investment.

Assuming that an expenditure of Rs. 5 crores on consumption goods industries leads to an investment of Rs. 10 crores in investment goods industries, then the accelerator is 2. It can be 1 and even less than 1. It can even be zero.

If the production of consumption goods involves no investment in the investment goods industries then the accelerator is zero. But, generally, the production of consumption goods does require some amount of capital equipment. Hence, the accelerator is generally more than unity.

Operation of the accelerator principle

Equation $$I_{gt} = V\,(Y_t - Y_{t-1}) + R$$

$$= V\,\Delta Y_c + R$$

Where

I_{gt} = gross investment period t,

V = accelerator

Y_t = national output in period t

Y_{t-1} = national output in previous period *(t-1)*

R = replacement investment

Thus, the gross investment during period *t* depends on the change in output *(Y)* from period *t-1* to period *t* multiplied by the acceleration V plus replacement investment *R*. In order to arrive at net investment, *R* must be deducted from both sides of the equation. If $Y_t > Y_{t-1}$ net investment is positive during period *t*. On the other hand, $Y_t < Y_{t-1}$ net investment is negative or there is disinvestment in period *t*.

Table: Operation of the acceleration principle: V = 4

Period (years)	Total Output (Y)	Required Capital	Replacement Investment (R)	Net Investment	Gross Investment
t	100	400	40	0	40
t + 1	100	400	40	0	40
t + 2	105	420	40	20	60
t + 3	115	460	40	40	80
t + 4	130	520	40	60	100
t + 5	140	560	40	40	80
t + 6	145	580	40	20	60
t + 7	140	560	40	-20	20
t + 8	130	520	40	-40	0
t + 9	125	500	40	-20	20

Assuming the value of accelerator V = 4.

The required capital stock in each period is 4 times the corresponding output of that period (col. 3).

The replacement is assumed to the equal to 10 percent of capital stock in period t, shown as 40 in each time period.

Net investment in col. (5) equals V times the changes in output between one period and the preceding period.

Comparison between Classical and Keynesian theories

i. Assumption of full employment

— Classical theorists always assumed full employment of labour and other resources.

— To them, full employment was a normal situation and unemployment was an abnormal situation.

— According to classism, even if there is less than full employment in the economy, there is always a tendency towards full employment.

— By the term full employment of the available resources, the classical economists meant that 'there is no involuntary unemployment'. If there is unemployment in the economy, classicists felt that it was due to the existence of monopoly in industry and governmental interference with the free play of the forces of competition in the market or it may be due to the imperfections of the market owing to immobility of the factors of production.

— If these limitations could somehow be eliminated, full employment, according to classical economists, would always exist. Hence, the best way to ensure full employment for the Government was to pursue the policy of 'laissez faire' capitalism under which free competitive market forces were allowed to have full and free play.

ii. Emphasis on the study of allocation of resources only

— The existence of 'full employment' being a normal situation in the classical scheme, it followed that factors of production are always fully employed and there is no further scope for additional employment of resources in new industries. The choice, according to classism, was not between employment and unemployment but between employment here and employment there, i.e., increase in production in one direction could be achieved only at the cost of some decrease in another direction in the economy.

— In other words, classism fell there could not be any significant misallocation of resources as the price mechanism, acting as an 'invisible hand' would achieve the best, the most efficient allocation of resources. Since the optimum allocation of a given quantity of resources was the main subject-matter of classical economics, it was but natural that they did not discuss the problem of national output, income or employment.

— With their assumption of full employment, there obviously could not be any change in the real national income of the community through additional employment of resources. What could possibly be done,

given, the composition and volume of the real national income, was a more efficient allocation of the given resources.

— As such, they remained concerned with the special case of full employment and not with the general factors that determine employment at any time. In brief, the well-known theory of value, distribution and production formed the 'core' of classical economics. That unemployment of resources could also persist to pose a problem did not occur to them at all.

iii. Policy of 'Laissez faire'

— Classical theorists had great faith in the philosophy of laisez-faire capitalism, which meant 'leave alone' or 'let alone' in business matters. Laissez-faire capitalism would not tolerate any kind of intervention by the Government in business matters; they rather considered it a positive hindrance in the free working of the market economy.

— Classicals believed in Laissez-faire capitalism as it was the traditional model of study from the very' beginning. Classicals had great faith in price mechanism, profit-motive, free and perfect competition and the self-adjusting nature of the system. They felt that if the system is allowed to work freely without any encroachments on the part of the state, it has potentialities to overcome the maladjustments in the economic system, if there are any.

iv. Wage-cut policy as a cure for unemployed resources

— Classicals further believed that involuntary unemployment could be easily cured by cutting wages down through office and perfect competition which always exists in the labour market. They argued that so long as labour does not demand more than what it is 'worth' or more than its marginal productivity, there in no possibility of persistent unemployment in the economy.

— Classicals believed that employment is determined by the wage bargains between the workers and employers, therefore, wage-cuts will reduce unemployment; such a policy if pursued vigorously can restore full employment as well. Basing their reasoning on the existence of free and perfect competition in the product and labour markets, classicals argued that the unemployed workers will cut down wages leading to a fall in prices, which, in turn, will encourage demand giving a fillip to sales.

— As a result of all this, more will be produced as more is demanded and employment would increase because workers are employed at lower wages to increase production. Wage-cuts, thus occupied a central place in the classical scheme of reasoning for automatic functioning of the capitalist economy at full employment.

v. Assumption of neutral money

— Classicals did not give much importance to money treating it only as a medium of exchange its role as a store of value was not considered. To them, money facilitated the transactions of goods but had no effect on income, output and employment. They considered it as a 'veil' which hides real things goods and services. In other words, they assumed that people have one motive for holding money, i.e. the transaction motive.

— Classicals completely ignored the precautionary and speculative motives for holding money. In short, they never recognized that money could also influence the level of income, output and employment. In contrast to this view, Keynes considered money on as on active force that in influences total output.

vi. Interest rate as the equilibrating mechanism between saving and investment

— Classicals would give the pride of place to the rate of interest as the equalizer of saving and investment at full employment of resources. The implied assumption was that both saving and investment are highly sensitive to changes in the rate of interest.

— The belief was firmly rooted that saving and investment can be equal only at full employment, and that 'under employment equilibrium' is a disequilibrium situation which would not last long in an atmosphere of wage price flexibility under the pressure of competition.

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Value of money

What is value of money?

Value to money arises from the fact that it is capable of purchasing a number of goods and services which are useful for the purchasers. The value of money lies in its buying capacity. The greater is its buying capacity, the higher shall be its value.

"The amount of things in general which will be given in exchange for a unit of money." —*Robertson D. H.*

By the term 'value of money' means the purchasing power of money or buying capacity of money.

The value of money depends upon the level of prices of goods and services to be purchased with money. The lower the price level, the higher shall be the value of money; the higher the price level, the lower shall be the value of money. Hence, there is inverse relationship between the value of money and price level.

The value of money is the reciprocal of the price level.

The conception of the value of money is relative as it always expresses the relationship between a given unit of money and the amount of goods and services that can be exchanged for it.

The value of money is sought to be measured in terms of "the general level of prices." The general level of prices is based on the price level of all commodities taken together. To express symbolically, thus $V_m = \frac{1}{p}$

V_m = Value of money
P = Price level

"The value of money without qualification is almost meaningless."— *Prof. Crowther*

There could be many values of money depending upon the use to which money is put.

Prof. Crowther has laid down three standards of value of money. The standards laid down are rather arbitrary, yet they are useful. They are:

i. The wholesale standards
ii. The retail or consumption standards
iii. The labour standard

i. The wholesale standards

It is expressed in terms of the prices of all those commodities which are traded in wholesale market. Such a value is called the wholesale value of money.

The wholesale standard is generally proffered because wholesale prices are regularly quoted in the market and are easily available in the press.

ii. The retail or consumption standards

It is expressed in terms of the prices of those goods and services which are ordinarily bought by an average family for the purpose of consumption.

Since, the average family buys in the retail market, the value of money expressed so called the retail value of money.

iii. The labour standard

The value of money is also expressed in terms of labour.

It is generally calculated from the rate of wages payable to labour for a day's work. The value of money so expressed is called the labour value of money.

Several difficulties arise according to this standard. *Firstly*, labour is not homogeneous. It is of several types. *Secondly*, even in the same category of labour, there are differences of skill, efficiency and regularity of work.

The Transaction Approach (Fisher's version)

The transaction version of the quantity theory of money was presented by Irving Fisher in his famous book The Purchasing Power of Money (1911), in the form of an Equation of Exchange which is set forth as: $MV = PT$

The equation of exchange has two sides, namely, *MV* and *PT*.

Where:

M = The total quantity of money in circulation

V = The velocity of circulation of money, *i.e.*, the average number of times each unit of money is spent on the purchase of goods and services.

P = The general price level (or, the average price per unit of *T*)

T = The total volume of transactions (of goods and services) against money.

What is MV?

It gives the aggregate effective supply of money (or total money expenditure) during a given period of time.

It represents total supply of money in the economy.

The supply of money at any particular movement of time, of course, is the total quantity of money in existence at that movement of time.

The supply of money over a period of time is the total quantity of money multiplied by the velocity of its circulation. It is indicated by *MV*.

What is PT?

It represents the money value of all the goods and services bought during a given period of time.

It indicates the total demand for money. The demand for money is essentially the demand for transactions purposes.

"Money is demanded not for its own sake, but for the sake of goods and services that it helps to buy." *Fisher*

The demand for money is equal to the total value of all goods and services transacted during a period of time.

Fisher point out that in a country, during any given period of time, the total quantity of money *(i.e., MV)* will be equal to the total value of all goods and services bought and sold *(i.e., PT).*

Prof. Fisher version of quantity theory of money is based on essential function money, namely, that, money is a medium of exchange. It is not needed for its own sake, but to exchange it for goods and services.

According to Fisher, the purchasing power of money (or, the value of money) depends upon the quantity of money relatively to the amount of goods and services to be purchased.

Hence,

MV (Supply of Money) = *PT* (Demand for Money)

The above equation is referred to as the Cash Transaction Equation. It could also be expressed as follows:

$$P = \frac{MV}{T}$$

This equation implies that the quantity of money determines the price level; the price level in its turn varies directly with the quantity of money (provided *V* and *T* remain constant).

The above equation of exchange only primary money or currency money has been included. But money in the modern economy is limited not only to primary money, *i.e.*, currency notes and coins. It includes banks' demand deposits or credit money as well.

It was on account of the growing importance of bank deposits or credit money that Fisher later on extended his equation of exchange to include credit money.

Fisher represented demand deposits in the banks (or, credit money) by *M'* and velocity of circulation of credit money by *V'*. Thus, the extended form of equation of exchange was presented by Fisher as follows:

$$MV+M'V' = PT$$

$$P = \frac{MV + M'V'}{T}$$

From the above equation the aggregate effective supply of money is represented by $MV + M'V'$.

The price level is determined by following factors:

i. The quantity of money in circulation *(M)*,

ii. The velocity of circulation of money *(V)*,

iii. The volume of bank or credit money *(M')*

iv. The velocity of circulation bank or credit money *(V'),* and

v. The volume of trade *(T).*

The equation of exchange further show the price level *(P)* is directly related to *M, V, M',* and *V'*. It is, however, inversely related to *T*.

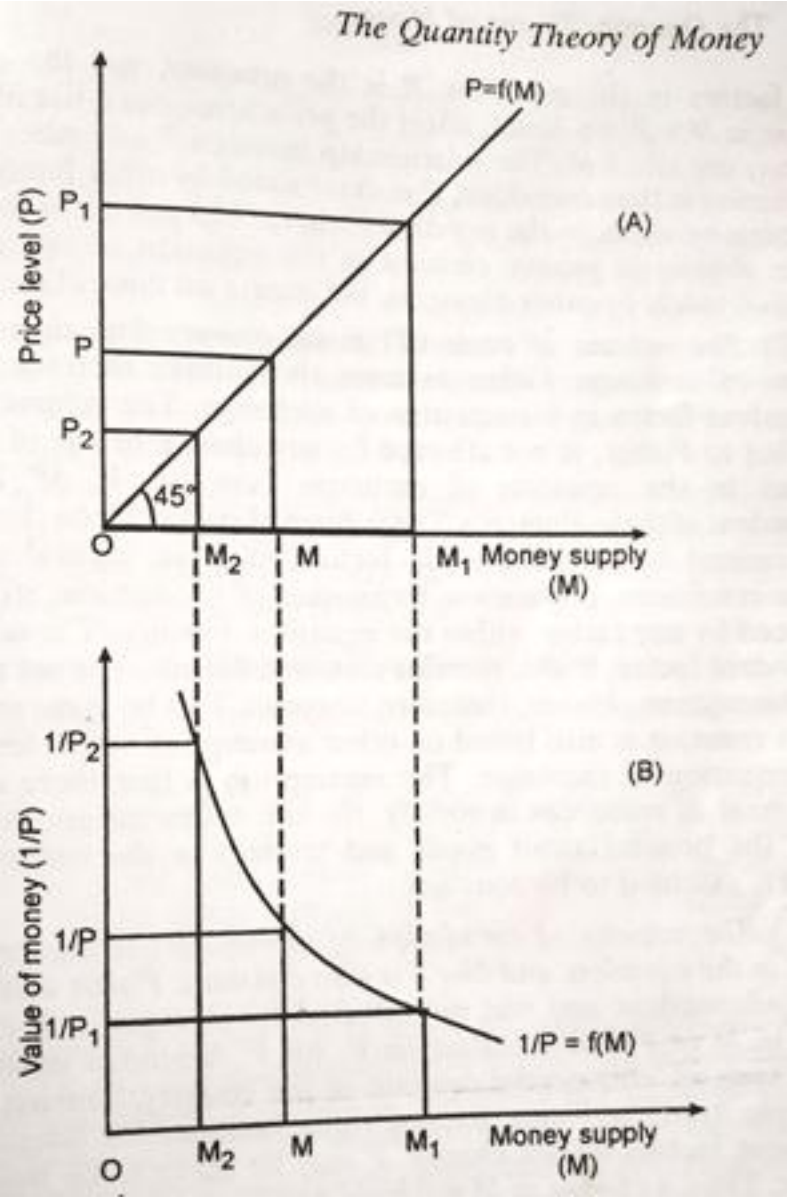
The basic proposition which, *Prof. Fisher* establishes in his equation of exchange is that the price level or the value of money is function of the supply of money, provided other things remain constant.

The other things include *V, M', V'* and *T*. If *V, M', V'*, and *T* remain constant, *P* will change in direct proportion to *M*.

Prof. Fisher, thus, established a direct and proportionate relationship between the changes in the quantity of money and the resultant price level.

If the quantity of money is doubled, the price level will also be doubled and the value of money equal; if the quantity of money is equal, the price level will also be equal and the value of money doubled.

The effects of change in money supply is doubled on the price level *(P)* and the value of money *(1/P)* are graphically shown in A and B respectively.



From the graph A

When money supply is doubled from *OM* to *OM1*, the price level also doubled from *OP* to *OP1*, when the money supply is reduced from *OM* to *OM2*, the price level is reduced from *OP* to *OP2*.

Price curve *P=f (M)* is a 45° line showing a direct proportional relationship between the money supply and price level.

From the graph B

When the money supply is doubled from *OM* to *OM1*, the value of money is reduced from *O1/P* to *O1/P1* and when the money is reduced from *OM* to *OM2*, the value of money is doubled from *O1/P* to *O1/P2*.

The value of money curve *1/P=f (M)* is a rectangular hyperbole curve showing an adverse proportional relationship between the money supply and the value of money.

Assumptions of Fisher's Equation of Exchange

Fisher's equation of exchange is based on the following assumptions:

i. The price level of P is an inactive element in the equation of exchange.

ii. The volume of trade (T) is an independent element in the equation of exchange

iii. The velocity of circulation of money (V) is an independent element in the equation, and like T is also constant

iv. The ratio of credit money to legal tender money remains constant

i. The price level of P is an inactive element in the equation of exchange.

— *P* is purely a passive element.

— *P* is resultant, not the cause.

— An increase in *M* will affect the price level, but a rise in the price level may not affect *M*.

ii. The volume of trade (T) is an independent element in the equation of exchange

— The volume of trade to be an independent factor.

— It is not affected by any change in any of the other elements in the equation of exchange *(M, V, M', V').* It is independent of these elements.

— The volume of trade *(T)* is determined by certain outside factors, such as, natural resources, climatic conditions, population, techniques of production, etc. It is not influenced by any factor within the equation.

— *T* is not only an independent factor, it also remain constant.

iii. The velocity of circulation of money (V) is an independent element in the equation, and like T is also constant

— Fisher assumed that *V* was independent and was not affected by changes in *M* or *P*. Any change in *M* or *P* had no effect on *V*, for *V* depended upon external factors.

— *V* considered as constant.

iv. The ratio of credit money to legal tender money remains constant

— Under any given conditions of industry and civilization deposits tend to hold a fixed normal ratio to money in circulation.

— The inclusion of M' does not normally disturb the quantitative relation between money and prices.

— If the ratio of credit money to legal tender money does not remain constant, then the quantitative relation between money and prices will not hold good.

Critical appraisal of the quantity theory of money

Fisher's equation of exchange has been subjected to the following criticisms:

i. It is based on unrealistic assumptions.

ii. It is a long-term analysis of money.

iii. It does not tell precisely how changes in money supply influence the price level.

iv. There is no direct and proportional relationship between the quantity of money and the price level.

v. It is a static theory.

vi. Do not furnish a comprehensive explanation about the price changes.

vii. It is incomplete.

viii. It ignores the rate of interest as determinant of the price level.

ix. The expression of MV is not technically a consistent one.

x. It is concerned with the analysis of the general price level.

The Cash Balance Approach (Cambridge Version)

Background

The quantity theory of money is, indeed, a very old theory; it was first propounded in 1588 by an Italian economist Davanzatti.

The classical economists explained the value of money in terms of the quantity theory of money.

Classical economists like David Ricardo, David Hume and J. S. Mill not only accepted this theory, but also sought to introduce improvements and refinements in the body of this theory.

Irving Fisher, the American economists who was in his book The Purchasing Power, published in 1911, gave it a quantitative form in terms of his famous Equation of Exchange. The quantity theory of money aims at explaining the factors that determine the general price level in the country. In other words, it identifies those causes which bring about changes in the value of money. In its unrefined (original form) the theory states that the price level or the value of money is determined by the supply of money. The value of money varies inversely as the supply of money; the price level, on the contrary, varies directly as the quantity of money. It is a mathematical relationship between quantity of money and price level on the one hand, and the quantity of money and value of money on the other hand. This is known as the strict version or the Proportionality Approach to the quantity theory of money.

Some classical economists hold to the not-so-strict-version of the theory, according to which there is no strict or definite proportional relationship between the quantity of money and the price level. According to strict version, if the quantity of money increases, prices will rise. But there is no attempt to say by how much prices will rise, if the quantity of money increases. There are two versions of the quantity theory of money: (i) The transactions approach, and (ii) The cash balance approach. There is another version in the form of reformulation of the quantity theory presented by Milton Friedman.

Cash balance approach is generally associated with the names of the economists like Alfred Marshall, A. C. Pigou, J. M. Keynes and D. H. Robertson, who belonged to the Cambridge University.

The main aim of developing the cash balance approach was to integrate the monetary theory with the value of money. The value of money, according to the cash balance approach, depends upon the demand for and supply of

money. The value of money at any time comes to be settled at the level at which the demand for money is equal to its supply.

The changes in the value of money are caused by changes in either its demand or its supply or in both. It would, thus, be seen that the cash balance approach is only an application of the general theory of value to the problem of money. The cash balance approach considers the demand for and supply of money at a particular point of time, rather than over a period of time as the transaction approach does. The supply of money is its stock at a particular point of time rather than its flow over a given period of time. The supply of money at a particular movement comprises all the cash and bank deposits subject to withdrawal by cheques. This supply of money set against the community's aggregate demand (or, cash balance) determines the level of prices or the value of money in the economy.

According to cash balance approach, the demand for money refers to that total quantity of money which is held by private individuals, commercial firms, and the government to meet their day-to-day requirements.

The basic claim of the cash balance approach is the community's demand for money or cash balances arises out of its transactions and precautionary motives. (The demand for money arising from the speculative motive is ignored in the cash balance approach). The community's total demand for money (i.e., the demand for cash balances which the community wishes to hold) constitutes a certain proportion of its annual real national income. The demand for money, according to cash balance approach, arises out of the liquidity preference of the people.

Every individual prefers to hold his assets as far as possible in the most liquid form. In economic terminology, this desire of the individual is referred to as his "liquidity preference". According to cash balance approach, the higher the liquidity preference of the people, the greater the demand for money (with higher liquidity preference, the people desire to hold larger cash balances with themselves). On the contrary, the lower the liquidity preference, the lower the demand for money on the part of the people. The liquidity preference, thus, exercises its influence on the demand for money. The Cambridge economists have attempted to express the relationship between the supply of and the demand for money by formulating cash balance equations known as "Cambridge Equations."

Summary

According to the cash balance approach, the value of money depends upon the demand for and supply of money.

The demand for money means the demand to hold money. The demand for money and the value of money inversely related, whereas, demand for money and general price level directly related with the quantity of money. The supply of money and value of money directly related, whereas, supply of money and general price level inversely related with the quantity of money.

An increase in the demand for money means smaller demand for goods and services, because the people can have larger cash balances only by cutting down their expenditure on goods and services. Consequently, the price level will fall, but the value of money rise. A fall in the demand for money means a larger demand for goods and services on the part of the people. Consequently, the price level will rise but the value of money will fall.

Alfred Marshall's Equation

The Marshallian cash balance equation is expressed as follows.

$$M = KPY$$

Where:

M = Supply of money (i.e., total amount of currency plus demand deposits in the banks);
P = Price level;
Y = Aggregate real income;
K = Fraction of the real income which the public desires to hold in the form of money.

The price level is directly proportional to the supply of money *(M).* The price level is indirectly proportional to the aggregate real income *(Y)* and the proportion of real income which individuals choose to keep in the form of money *(K).*

M and Y being constant, price level *(P)* fall due to increase in people's demand for money (by holding cash balances) that is *K*. And price level *(P)* will rise with decrease in demand for money that is *K*. The value of money (the purchasing power of money) can be found out by dividing the total quantity of goods which the public desires to hold out of the total income (KY) by the total supply of money (M). Thus,

$$p = \frac{KY}{M}$$

Where, P represents the purchasing power of money.
According to Marshall's equation, the value of money is influenced not only by changes in M, but also by changes in K. K is rather a more important influence on P than M. For example, a sudden change in K (i.e., the desire of the

people to hold cash) may greatly influence P even though the supply of money is constant. Thus the price level is$p = \frac{M}{KY}$.

Keynes Index Numbers-Simple and Weighted

Measurement of changes in the value of money

The changes in the value of money are shown by the changes in the general level of prices over a period of time.

The changes in the general prices can be measured by means of a statistical device known as Index Number. Thus, changes in the value of money are measured by the use of index numbers.

Index numbers may be defined as a series of figures by which changes in the size of an economic phenomenon are measured from time to time.

There can be various types of index numbers, price index numbers is one among them. It is with the price index numbers that measures the changes in the value of money over a period of time.

The prices of all the commodities and services neither rise nor fall simultaneously. If the prices of some commodities and services are falling, those of others may be rising. It is possible that the prices of some commodities and services may rise in greater proportion, while those of other may rise in small proportion.

It is also possible that the prices of some commodities and services may not change at all. But one can find the average of the changes of in the prices of the various goods and services whether the average price level has risen or fallen.

The objective of the price index numbers is to present in an abbreviated form the changes in the general price level.

If the index number registers a rise, it is an indication that the general price level has gone up. In other words, the prices of goods and services have risen, or the value of money has fallen.

On the contrary, if the index number registers a fall, it is an indication that the general price level has gone down, or the value of money has gone up.

Index numbers compares the price level in some preceding period with the price level in some succeeding period. Index numbers always gives a comparative view of the changes in price levels.

Index numbers are used not merely to measure changes in the price level; they can be employed to measure changes in certain other economic phenomena as well.

Methods of Preparing Price Index Numbers

The basic principles of for constructing a price index are:

i. Choice of the base year
ii. Choice of commodities and services
iii. Selection of the prices of commodities and services
iv. To represent prices in percentages
v. To find out the average of prices both in the base year as well as the year of inquiry.

i. Choice of the base year

The first step to be taken in the construction of a price index is the choice of the base year.

The year the average price level of which is to be compared with the average price levels of other years.

The base year should be one which is a normal year from point view. There should be nothing abnormal happening in the base year.

The objective of the price index should also be borne in mind while choosing the base year.

ii. Choice of commodities and services

The second step should be to select the goods and services which will form the basis of the price index.

Selecting only representative goods and services for the purpose of preparing the price index since prices of all goods and services cannot be taken into account while preparing the price index.

The larger the number of goods and services included, the more representative the index number shall be.

iii. Selection of the prices of commodities and services

The third step is to find out the prices of the selected representative goods and services both in the base year as well as in the year of inquiry.

Prices can be of two types, i) wholesale prices, and ii) retail prices.

Wholesale prices represents the changes in the general price level, whereas, retail prices examines the standard of living.

iv. To represent prices in percentages

The fourth step is to represent the price of every commodity and service in the base year by 100.

Then the changes in the prices of all commodities and services in the year of inquiry are represented in the form of percentages.

v. To find out the average of prices both in the base year as well as the year of inquiry.

The final step in the preparation of the price index number is to find out the averages of the percentages of prices both in the base year as well as the year of inquiry, and then to compare the two averages.

The average of the base year is always equal to 100, but the average of the year of inquiry may be greater or lesser than 100. This very average is called the price index.

If the average of the year of inquiry exceeds the average of the base year, it means that, the general price level has gone up.

On the contrary, if the average of the year of inquiry is less than the average of the base year, it means that, the general price level has gone down. Thus, the changes in the general price level by means of percentages.

Construction of price index numbers

Price index numbers can be constructed either through simple aggregative method or weighted aggregative method.

In a simple aggregative method, the total price of commodities in a given (current/inquiry) year is divided by the total price of commodities in a base year and expressed as a percentage.

In a weighted aggregative method the component items are weighted according to some system of weights reflecting their relative importance.

Simple aggregative method

In a simple aggregative method, the total price of commodities in a given (current/inquiry) year is divided by the total price of commodities in a base year and expressed as a percentage.

Steps:

i. Add the prices of all the commodities in the current (inquiry) year. Denote the sum as ∑P1

ii. Add the prices of all the commodities in the base year. Denote the sum as ∑P0

iii. Use the following formula to find simple price index number of current year based on base year.

$$P_{01} = \frac{\sum P_1}{\sum P_0} \times 100$$

Example

Table 1

Commodities	***Prices in the base year 2004 (in Rs.)***	***Index number of the base year***	***Prices in 2010 (in Rs.)***	***Index Number of 2010***
1. Wheat	20 per quintal	100	40	200
2. Rice	40 per quintal	100	120	300
3. Vanaspati	2 per kg.	100	4	200
4. Milk	0.50 per litre.	100	1	200
5. Oil	1 per kg.	100	3	300
6. Cloth	1 per metre	100	3	300
7. Coal	2 per quintal	100	4	200
		700 ÷ 7 = 100		1700 ÷ 7=242.8

Limitations

The main drawback of this simple price index number is that all the commodities included in the index number cannot be given equal weight.

The consumer cannot give equal weight to all the commodities which he/she purchases.

The simple price index number does not represent price changes accurately.

Since there is defect with this method one has to use the alternative method to construct the price index number.

Weighted aggregative method

Index numbers prepared by giving weights to goods and services according to their relative importance, are known as weighted price index numbers.

If a particular section of the public spends a major portion of its income on a particular commodity, then that commodity is given greater weight in the index number.

On the contrary, if the commodity in question claims only a small proportion of the consumer's income, it is accorded a smaller weight in the index number.

Thus, different commodities are accorded different weights in accordance with the expenditure incurred on them.

Example

Table II

Commodities	***Price in the base year 2004 (in Rs.)***	***Weighted Index of the Base Year***	***Prices in 2010 (in Rs.)***	***Weighted Index of 2010***
1. Wheat	20 per quintal	100 X 2 = 200	40	200 X 2 = 400
2. Rice	40 per quintal	100 X 3 = 300	120	300 X 3 = 900
3. Vanaspati	2 per kg.	100 X 2 = 200	4	200 X 2 = 400
4. Milk	0.50 per litre.	100 X 1 = 100	1	200 X 1= 200
5. Oil	1 per kg.	100 X 1 = 100	3	300 X 1 = 300
6. Cloth	1 per metr	100 X 2 = 200	3	300 X 2 = 600
7. Coal	1 per quintal	100 X 1 = 100	4	200 X 1 = 200
		1,200 ÷ 12 = 100	.	3,000 ÷ 12 = 250

While constructing the price index number weights used are quantity weights.

Many formulae have been developed to estimate index numbers on the basis of quantity weights.

Some of these are:

i. Laspeyre's formula
ii. Pasche's formula
iii. Dorbush and Bowley' s formula

iv. Fisher's ideal formula

Difficulties and problems

The measurement of changes in the value of money through price index numbers is not an easy task.

There are so many difficulties or problems in the construction of the price index numbers.

These difficulties can be classified under three heads: i) conceptual difficulties, ii) practical difficulties, and iii) use difficulties.

i. Conceptual difficulties

There are many conceptual difficulties in the construction of the price index number.

The "value of money" is itself is a vague and abstract concept. It is generally defined as the reciprocal of the general price level. Thus, changes in the value of money are measured through corresponding changes in the general price level over a period of time. But the concept of general price level is itself abstract.

Theoretically, the concept 'General Price Level' includes the prices of all the commodities, but, in practice, it is impossible to include the prices of all the commodities available in the market.

It is on account of difficulty or impossibility of inclusion of prices of all the commodities available in the market sometime resort to sectional price levels, such as, wholesale price index, retail price index, cost of living index number for the working-class, etc. Each index number would reflect different changes in the value of money.

A rise or a fall in the general level of price does not imply that the price of every commodity has fallen or risen to the same extent cause; the prices of certain commodities may not fall or rise at all.

The changes in the value of money cannot be measured accurately with the help of the price index numbers.

Measuring the value of money through wholesale price index numbers is not accurate. The general public does not make its purchases from the wholesale market. It is affected more by retail than wholesale prices.

The difficulty about retail prices is that they are not readily available. Even when they are available, their accuracy cannot be vouchsafed.

Wide variations in retail prices somewhat causes difficulty in the preparation of the retail price index number.

ii. Practical difficulties

Several practical difficulties arise while constructing the price index number.

a) Difficulty in the choice of the base year.
b) Difficulty in the choice of representative commodities.
c) Difficulty in obtaining statistical information about prices.
d) Difficulty in assigning weights.
e) Difficulty of employing a proper method of averaging.

iii. Use difficulties

It poses difficulties while using it for comparisons over time and place to measure the changes in the value of money:

a) Difficulty as to measure of usefulness
b) Difficulty as to international comparisons
c) General changes, not particular changes
d) Fail to recognize dynamic changes

Types of index numbers

The following are the main types of index numbers:

a) Wholesale Price Index Numbers
b) Cost of Living Index Numbers
c) Industrial Index Numbers

Advantages of Index Numbers

The following are the advantages of index numbers.

a) Cost of living index numbers.
b) Measurement of the value of money.
c) State of affairs in foreign trade.
d) Production trends.
e) Planned economy.

Limitations of index numbers

Every index number is prepared with a definite objective in view; it cannot be utilized for any other objective.

It would not be proper to compare the index numbers prepared on the basis of old consumption patterns with the index numbers formulated on the basis of current consumption patterns.

The index numbers generally lack mathematical exactness, indicate merely broad trends at work in the economy of the country.
No accurate and reliable information about changes in the value of money.
There is no scientific basis for assigning 'weights' to different goods and services in the weighted index numbers. 'Weights' are generally assigned to goods and services in highly arbitrary fashion.

Commercial Banking

Meaning

A commercial bank is a business organization which deals in money, i.e., borrowing and lending of money.

Through borrowing and lending of money commercial bank makes profit.

The lending role of interest is higher than it pays to its depositors. It is because of this difference in lending and borrowing rates of interest that it is able to make profits.

Definitions

"A banker is one who in the ordinary course of his business, receives money which he repays by honoring cheques of persons from whom or on whose account he receives it."—*Prof. Hart*

"A bank is an establishment which makes to individuals such advances of money as may be required and safely made, and to which individuals entrust money when not required by them for use." —*Prof. Kinley*

"The accepting for the purpose of lending or investment of deposits of money from the public repayable on demand or otherwise and withdrawal by cheques, drafts, order, or otherwise."

—*The Indian Companies Act, 1949.*

"Banks are not merely traders in money but also important manufacturers of money." — *Prof. Sayers*

Features

Bank is an institution which has the following features:

i. It deals with money; it accepts deposits and advances loans.
ii. It also deals with credit; it has the ability to create credit. In other words, it has the ability to expand its liabilities as a multiple of its reserves.
iii. It is a commercial institution whose aim is to earn profit.
iv. It is a unique financial institution that creates demand deposits which serves as a medium of exchange and as a result, banks affect the money supply and manage the payment system of the country.

Functions of commercial banks

Definition

"Ordinary banking business consists of changing cash for bank deposits and bank deposits for cash: transferring bank deposits from one person or corporation to another, giving bank deposits in exchange for bills of exchange, government bonds, the secured promises of businessmen to repay, and so forth." —*Prof. Sayers*

The modern bank performs a large variety of functions and services.

The fundamental functions performed by the banks are:

1) Acceptance of deposits
2) Advancing of loans
3) Investment of funds
4) Promote the use of cheques
5) Agency function of the commercial bank
6) Purchase and sale of foreign exchange
7) Financing internal and foreign trade
8) Other functions of the commercial bank
9) Creation of credit
10) Fulfillment of socio-economic objectives

1) Acceptance of deposits

The commercial banks accept three types of deposits from the public:

i. Fixed deposits account

Money in this account accepted for a fixed period say, one, two or five years. The money so deposited cannot be withdrawn before the expiry of the fixed period. The rate of interest on this account is higher than that on other accounts. The larger the period, the higher is the rate of interest. In technical language, this type of deposit is known as *time* or *term deposit.* It matures at a definite date and entails an interest penalty if it is withdrawn earlier due to some emergency by the depositor.

ii. Current account

The depositor can withdraw the money from his current account whenever he requires it. Generally speaking, the bank grants no interest on this account because it has to keep the cash ready at all times to meet the requirements of the depositors. This account is generally opened by businessmen who may have to withdraw money several times a day. The bank, however, levies certain incidental charges on the customer for the services rendered by it. In

technical language, it is known as *demand deposit* or *checking deposit*. The debtor (*i.e.,* bank) has to pay off the debt on demand either to the depositor himself or to anyone else whom he authorizes by writing a cheque. The money represented by demand deposits is the debt of the bank. It is a liability for the bank but an asset for the depositor.

iii. Savings bank account

Some restrictions are imposed on the depositor under this account. For example, the depositor can withdraw only a specified sum of money in a week. Of course, the depositors are given cheque facility to withdraw money from this account. The rate of interest allowed on this account rather low. This type of deposit account encourages small savings in the country.

iv. Recurring deposit account

Money in these accounts is deposited in monthly installments for a fixed period and is repaid to the depositors along with interest on maturity. The purpose is to encourage regular savings.

According to banking terminology, the bank's deposits are divisible into two categories:

(a) Demand deposits or demand liabilities

These deposits refer to those deposits which are repayable by the banks on demand. These include current deposits and a major portion of the savings deposits.

(b) Time deposits or time liabilities

Time deposits are accepted by the banks for fixed time-periods and are not repayable before the expiry of the stipulated period. They include fixed deposits, recurring deposits and time liability portion of the savings deposit.

Greater the volume of demand deposits, greater shall be the proportion of the liquid assets which the banks will be required to keep with themselves to meet their liabilities. In addition to the commercial banks, there are certain other institutions as well which specialize in the acceptance of both time and savings deposits. They are savings and thrift association, mutual savings banks, Credit Unions etc.

2) Advancing of loans

The deposits received by the commercial banks are not allowed to lie idle in the cash box of the bank. After keeping certain cash reserves, the balance is given by the bank to the needy borrowers in the form of loans and advances. Before advancing loans to the borrowers, the bank satisfies itself fully about their creditworthiness. The various types of loans and advances are as follows:

i. Making ordinary loans

Here the bank gives a specified sum of money to a person or a firm against some collateral security. The loan money is credited to the account of the borrower and the borrower can withdraw the money from the account according to his requirements. The bank can recall such loans at its option.

ii. Cash credit

Under this account, the bank gives loans to the borrower against certain security. But the entire loan is not given at one particular time. What the bank does is that it opens the account in the name of the debtor and allows him to withdraw the money from time to time up to a certain limit determined by the value of the stocks kept in the debtor's godown. The godown remains in the possession of the bank. The debtor continues to withdraw small sums of money according to his requirements, but he cannot exceed the credit limit allowed to him. The bank, however, charges interest only on the amount withdrawn from the account. This type of loan is very popular with the Indian businessmen.

iii. Overdraft

Sometimes the bank grants overdraft facilities to its respectable and reliable customers. The bank allows such customers to overdraw their accounts through cheques. The customers, however, pay interest to the bank on the amount overdrawn by them.

iv. Discounting of bills of exchange

This is another type of lending which is very popular with the modern banks. If the holder of an exchange bill needs money immediately he can get it discounted by the bank. After deducting its commission, the bank pays the present price of the bill to the holder. When the exchange bill matures, the bank can secure its payment from the party which had accepted the bill.

3) Investment of funds

Beside loans and advances, a modern commercial bank also invests a part of its surplus funds in government securities and earns interest on them. In India, the commercial banks are required under statute to invest a part of their funds in government and other approved securities. Though the return from such securities is not very attractive, the funds invested in them are not only near liquid, but also secure from the risk of loss.

4) Promote the use of cheques

The commercial banks render an important service by providing to their customers a cheap medium of exchange like cheques. It is found much more convenient to settle debts through cheques rather than through the use of cash. The cheque is the most developed type of credit instrument in the money market.

5) Agency functions of the commercial bank

In addition to the above functions, the commercial bank performs certain agency functions for its customers. For these services, the bank charges certain commissions from its clients. The various agency services rendered by the bank are as follows:

i. Transfer of funds

The bank helps its customers in transferring funds from one place to another. The instrument used for this purpose is known as the ‘Bank Draft’. For these services, the bank charges a small commission from the customers.

ii. Collecting customers’ funds

The bank collects the funds of its customers from other banks and credits them to their accounts.

iii. Purchase and sale of shares and securities for its customers.

The bank buys and sells stocks and shares of private companies as well as government securities on behalf of its customers.

iv. Collecting dividends on the shares of the customers

The bank collects dividends as well as interest on the shares and debentures of its customers and credits them to their accounts.

v. Payment of premia

The bank pays premia to the insurance companies on behalf of its customers. It may also pay certain bills of the customers as per their directives.

vi. The bank acts as the trustee and the executor

The bank preserves the 'Wills' of the customers and executes them after their death.

vii. Income tax consultant

The bank may also give an advice to its customers on income tax matters. It may even prepare the income tax returns of its customers on payment of its fee.

viii. Acts as correspondent

The bank may also act as a correspondent, agent, or representative of its customers. The bank may obtain passports, traveler's tickets and even secure air and sea passages for its customers.

6) Purchase and sale of foreign exchange

The commercial banks also carry on the business of buying and selling foreign currencies. Ordinarily, the sale and purchase of foreign currency is done by the Foreign Exchange Banks. But in India, some commercial banks, in addition to their other functions, also do business in foreign exchange.

7) Financing internal and foreign trade

The bank finances internal and foreign trade through discounting of exchange bills. Sometimes, the bank gives short-term loans to traders on the security of commercial papers. This discounting business greatly facilitates the movement of internal and external trade.

8) Other functions of the commercial bank

i. Safe custody of valuable goods

The modern bank provides locker facilities to its customers. The customers can keep their valuables, such as gold and silver ornaments, important papers, shares and debentures in these lockers. The bank charges an annual rental for this service.

ii. Issuing of traveler's cheques

The bank also issues traveler's cheques or circular letters of credit for the benefit of its customers. The customers are saved from botheration and the risk of carrying cash during their travels.

iii. Giving information about its customers

Since the bank is closely acquainted with its customers, it can pass on reliable information about their creditworthiness to other parties at other places. The businessmen often make use of this service to know about the creditworthiness of other parties at other places.

iv. Collection of statistics

The modern bank collects statistics about money, banking, trade, and commerce, and publishes them in the form of pamphlets and handouts. This helps the bank's customers in acquiring knowledge about the latest economic situation on the basis of which they can formulate their business policy.

v. Underwriting of company debentures

Sometimes private companies issue debentures for public sale. But the public may hesitate in buying these debentures unless they are underwritten by the banks. The public has full confidence in the banks. If the debentures carry the signatures of a bank, the public would not hesitate in buying them. For underwriting these debentures, the bankers charge a small underwriting commission from the companies.

vi. Accepting bills of exchange on behalf of customers

Sometimes the bank accepts exchange bills on behalf of their trusted customers. This benefits the customers because when the bank signifies its acceptance on the exchange bill, it becomes readily discountable in the money market.

vii. Giving advice on financial matters

Since the bank is fully acquainted with the economic situation in the country, it is in a position to render useful advice to its customers on financial matters.

9) Creation of credit

As pointed out above, granting of loans and advances is an important function of the commercial bank. But the process by which the bank grants loans and advances has special significance for the modern economy. As is well known, when the bank grants a loan to its customers, it generally does not lend out cash, equal to the amount of the loan, to the customer as an individual moneylender does, but, on the contrary, opens an account in his (borrower's) name and credits the amount of the loan to his account. Thus, when a bank grants a loan, it creates a deposit or a liability against itself. Since the deposits of the banks circulate as money, the creation of such deposits leads to a net increase in the money stock of the economy. This is known as creation of money or creation of credit by the bank. A modern bank during its operations, create quite a good deal of money which has a far-reaching influence on the course of economic activity in the economy.

10) Fulfillment of socio-economic objectives

In recent years, commercial banks, particularly in developing countries, have been called upon to help achieve certain socioeconomic objectives laid down by the State.

For example, the nationalized banks in India (representing 85% of the total banking business in the country) have framed special innovative schemes of credit to help small agriculturalists, village and cottage industries, retailers, artisans, the self-employed persons through loans and advances at concessional rates of interest.

Under the Differential Interest Schemes (DIS) the nationalized banks in India advance loans to persons belonging to scheduled tribes, tailors, rickshaw-walas, shoe-makers at the concessional rate of 4 per cent per annum. This does not cover even the cost of the funds made available to these priority sectors. Banking is, thus, being used to sub-serve the national policy objectives of reducing inequalities of income and wealth, removal of poverty and elimination of unemployment in the country.

Portfolio management

The main aim of a commercial bank is to seek profit like any other institution. Its capacity to earn profit depends upon its investment policy. Its investment policy, in turn, depends on the manner in which it manages its investment portfolio.

Thus "commercial bank investment policy emerges from a straight forward application of the theory of portfolio management to the particular circumstances of commercial bank."

Portfolio management refers to the prudent management of a bank's assets and liabilities in order to seek some optimum combination of income or profit, liquidity, and safety.

When a bank operates, it acquires and disposes of income-earning assets. These assets plus the bank's cash make up what is known as its portfolio.

A bank's earning assets consist of

(a) Securities issued by the central and state governments, local bodies and government institutions, and
(b) Financial obligations, such as promissory notes, bills of exchange, etc. issues by firms.

There earning assets constitute between one- fourth and one-third of a commercial bank's total assets. Thus a bank's earning assets are an important source of its income.

The manner in which banks manage their portfolios, that is acquiring and disposing of their earning assets, can have important affects on the financial markets, on the borrowing and spending practices of households and businesses, and on the economy as a whole.

Objectives of portfolio management

There are three main objectives of portfolio management which a wise bank follows: liquidity, safety and profitability. The three objectives are opposed to each other. To achieve on the bank will have to sacrifice the other objectives.

For example, if the banks seek high profit, it may have to sacrifice some safety and liquidity. If it seeks more safety and liquidity it may have to give up some income.

i. Liquidity

A commercial bank needs a higher degree of liquidity in its assets.

The liquidity of assets refers to the ease and certainty with which it can be turned into cash.

The liabilities of a bank are large in relation to its assets because it holds a small proportion of its assets in cash. But its liabilities are payable on demand at a short notice.

Therefore, the bank must hold a sufficiently large proportion of its assets in the form of cash and liquid assets for the purpose of profitability.

If the bank keeps liquidity the uppermost, its profit will below. On the other hands, if it ignores liquidity and aims at earning more, it will be disastrous for it. Thus in managing its investment portfolio a bank must strike a balance between the objectives of liquidity and profitability.

The balance must be achieved with a relatively high degree of safety. This is because banks are subject to a number of restrictions that limit the size of earning assets they can acquire.

ii. Safety

A commercial bank always operates under conditions of uncertainty and risk. It is uncertain about the amount and cost of funds it can acquire and about its income in the future.

Moreover, it faces two types of risks.

a) The market risk which results from the decline in the prices of debt obligations when the market rate of interest rises.

b) The risk by default where the bank fears that the debtors are not likely to repay the principle and pay the interest in time. “This risk is largely concentrated in customer loans, where banks have a special function to perform, and bank loans to businesses and bank mortgage loans are among the high grade loans of these types.”

In the light of these risks, a commercial bank has to maintain the safety of its assets.

It is also prohibited by law to assume large risks because it is required to keep a high ration of its fixed liabilities to its total assets with itself and also with the central bank in the form of cash. But if the bank follows the safety principle strictly by holding only the safest assets it will not be able to create more credit. It will thus lose customers to other banks and its income will also be very low.

If the bank takes too much risk, it may be highly harmful for it. Therefore, a commercial bank “must estimate the amount of risks attached to the various types of available assets, compare estimated risk differentials, consider both long-turn and short- run consequences, and strike a balance.”

iii. Profitability

One of the principle objectives of a bank is to earn more profit. It is essential for the purpose of paying interest to depositors, wage to the staff, dividend to shareholders and meeting other expenses. It cannot afford to hold a large amount of funds in cash for that will mean forgoing income. But the conflict between profitability and liquidity is not very sharp. Liquidity and safety are primary considerations while profitability is subsidiary for the very existence of a bank depends on the first two.

Credit Creation

Introduction

The creation of credit by a modern bank is a controversial issue.

Well-known economists like Hartley Withers, J.M. Keynes, Halm and Sayers are of the firm view that the modern banks do create credit in the economy.

"Banks are not merely purveyors but also, in an important sense, manufactures of money."—Prof. Sayers

Meaning

Money is said to be created when the banks, through their lending activities, make a net addition to the total supply of money in the economy.

Similarly, money is said to be destroyed when the loans are repaid by the borrowers to the banks and, consequently, the credit already created by the banks is wiped out in the process.

Thus, the giving of loans by the banks in the form of derivative deposits leads to the creation of money while the repayment of the loans already taken by the borrowers results in the destruction of money.

Bank credit, as referred in India includes only advances in the form of loans, cash credit, overdrafts, bills (both inland and foreign) purchased and discounted and investments in approved securities other than government securities.

The modern banks create deposits in two ways. Firstly, in a passive way which results in primary or passive deposits? Secondly, in a more active way this results in active or derivative deposits.

i. Primary or passive deposits

The bank creates passive deposits when it opens a deposit account in the name of the customer who brings cash or cheques to be credited to his account. In this case, the role of the bank is merely passive. It has merely accepted the

cash or the cheques brought by the customer and deposited them in his account. Such types of deposits are known as passive or primary deposits.

It is these deposits which form later on the basis of loan transactions by the bank. In other words, it is out of these primary or passive deposits that the bank makes loans and advances to its customers.

The primary or passive deposits do not make any net addition to the stock of money in the economy; these deposits merely convert currency money into deposit money.

Hence, creation of these deposits does not mean creation of money. But these deposits provide funds out of which the bank makes loans and advances to its customers.
The primary deposits are not going to be withdrawn by the depositors at the same time. At best, only a small portion of these deposits may be withdrawn by the depositors at any one particular time. So the bank, after keeping a small percentage of these deposits in cash, uses the balance for making loans and advances to the customers.

The percentage of the primary deposits which is kept in cash by the bank is known as the cash reserve ratio (CRR).

ii. Derivative or active deposits

Derivative or active deposits are created by the bank in a more active manner by opening a deposit account in the name of the person who comes to the bank to borrow funds from it.

Since the bank plays an active role in the creation of such deposits, they are known as active deposits.
The borrower may either withdraw from his account the entire amount at once or he may withdraw small amounts of money from time to time according to his requirement.

By making a loan, the bank has, at the same time, created a new deposit in its books. Hence, the well known banking maxim is that “every loan creates a deposit”. This deposit is called active deposit because it has been created actively by the bank. It is called derivative deposit because it has been derived directly from the loan transaction of the bank.

The creation of primary deposits makes no net addition to the total stock of money: but the creation of an active or derivative deposit does result in a net increase in the total supply of money in the economy.

After a period of time, when the loan is repaid by the borrower, the derivative deposit that was created by the bank will be automatically wiped out. This would lead to a net decrease in the total stock of money in the economy.

Thus, the granting of a loan by the bank leads to the creation of money, while the repayment of the loan leads to the destruction of money. The active deposits are also created by the bank when it purchases securities or other forms of assets from the public.

Process of credit creation: Balance sheet approach

Suppose that the maximum cash reserve ratio is maintained by the commercial banks is 10% and a person deposits Rs. 1,00,000 in the Bank of India, A.R Colony Branch.

The balance sheet of the Bank of India will show as follows:

Liabilities	**Amount (in Rs.)**	**Assets**		**Amount (in Rs.)**
Primary deposit	1,00,000	Cash		1,00,000
		Cash reserve @ 10% *i.e.*,	10,000	
		Excess reserve	90,000	
	1,00,000			**1,00,000**

As the bank is maintaining 10% of the cash reserve as minimum balance, therefore the bank will keep Rs. 10,000 as cash reserve requirement and will create derivative deposit to the extent of Rs. 90,000 because this figure represents the excess reserves with the bank. This excess reserve fund which is with the bank may be used as giving loans and advances to its customers. Then the balance sheet will appear as under:

Bank of India

Liabilities	**Rs.**	**Assets**	**Rs.**
Primary deposit	1,00,000	Cash	1,00,000
Derivative deposit	90,000	Loan	90,000
	1,90,000		1,90,000

Next, suppose, the borrower Mr. Rahul Kumar in the repayment of some business outstanding gives the cheque of Rs. 2,00,000 to Mr. Shanker Lai who has a deposit account in the United Bank of India. The United Bank receives Rs. 2, 00,000 as primary deposit. This will increase the liability of the United Bank by Rs. 2, 00,000.

The Balance Sheet of the United Bank of India will be as under:

Liabilities	Rs.	Assets		Rs.
Primary deposit	2,00,000	Cash		2,00,000
		Cash reserve ratio @ 10 % *i.e.*,	20,000	
		Excess reserve	1,80,000	
	2,00,000			2,00,000

By seeing the above Balance Sheet, it is clear that the deposit liabilities of the bank have increased by Rs. 2, 00,000. There is also an equivalent increase in the cash reserve of Rs. 2, 00,000. After keeping the Reserve of 10% cash, the bank balance now will be Rs, 1, 80,000. Now, the bank is in a position to expand its lending activity to the extent of its excess reserves of Rs. 1, 80,000. If the bank expands its loans and advances to Rs. 1, 80,000, new Balance Sheet will be as under:

United Bank of India

Liabilities	Rs.	Assets	Rs.
Primary deposit	2,00,000	Cash	2,00,000
Derivative deposit	1,80,000	Loan	1,80,000
	3,80,000		3,80,000

Limitation on the power of bank to create credit

The commercial banks do not have unlimited power of credit creation. Their power to create credit is limited by the following factors.

i. Volume of currency in circulation
ii. Cash reserve ratio
iii. External drain
iv. Banking habits of the people
v. Banks' reserves with the central bank
vi. Obligation to maintain statutory liquidity ratio
vii. Monetary policy of the central bank
viii. Supply of good collateral securities

Utility of commercial banks

Commercial banking in modern times is indispensible for economic progress of a country.

In fact, the functions of modern commercial bankers and their utility to the community are so enormous that we simply cannot afford even to imagine, let alone experience, the inconveniences we would experience if commercial banks are closed.
A short strike of even one day by the employees of commercial banks disrupts the entire economic activities in the country.

Commercial bank serves the community in numerous ways.

i. By accepting deposits, the bank promotes the habit of thrift and savings among the people. These savings of the people later result in capital formation, which is the basis of economic progress in the country.

ii. The banks also encourage industrial innovations and business expansion through funds provided by them to the entrepreneurs.

iii. The banks exercise considerable influence on the level of economic activity through their ability to create money in the economy.

iv. Through their lending policy, the banks can influence the course and direction of economic activity within the economy.

v. The various utility functions performed by the banks are of great economic significance for the economy. Such functions as cheap remittance of funds, accepting and discounting bills of exchange, agency functions, such as, collection of dividends and interest on behalf of customers are very important for the working of the modern economy.

In fact, the economic development of a country is not possible without a sound system of commercial banking.

Central Banking

Introduction

The central banking is one of the most useful institutions which human initiative has developed to help the society in managing its collective financial affairs.

Every country, these days, has a central bank which controls its entire banking system.

Few countries had a central bank in the 19th century, but the popularity of the central bank as an institution has greatly increased in the 20th century.

Today, there is hardly any country in the world which does not have a central bank of its own.

After the First World War, an International Monetary Conference was held at Brussels in 1929 to find a solution to the problem of recurring economic crises which confronted the world at that time. This conference recommended the setting up of a central bank in every country.

The Bank of England is the oldest central bank in the world. It assumed central banking functions in the second half of the 19th century. That is between 1850 and 1899. In the USA the central bank known as Federal Reserve System was established in the year 1913.
India's central bank known as the Reserve Bank of India (RBI) was set up in 1935.

Definition

The central bank occupies a pivoted position in the monetary and banking structure of the country.

The central bank is the undisputed leader of the money market. As such, it supervises controls and regulates the activities of the commercial banks affiliated with it.

The central bank is also the highest monetary institution in the country charged with the duty and responsibility of carrying out the monetary policy.

Different writers have given different definitions of central banking based on one or more functions performed by the central bank.

"The essential function of a central bank is the maintenance of the stability of the monetary standard".

—Kisch and Elkin

"The essential characteristic of a central bank is its function as the lender of the last resort". *—R.G. Hawtrey*

"The primary function of a central banking is a banking system in which a single bank has either a complete or a residuary monopoly in the note issue. It was out of monopoly in the note issue that were derived the secondary functions and characteristics of our modern central banking". *—Vera Smith*

"The one true, but at the same time, all-sufficing function of a central bank is control of credit".*—W.A. Shaw*

"The bank in any country to which has been entrusted the duty of regulating the volume of currency and credit in that country". *—In the Statutes of the Bank for International Settlements.*

"The business of a central bank as distinguished from a commercial bank is to control the commercial banks in such a way as to promote the general monetary policy of the State".*—R. S. Sayers*

"A central bank is a bank of bankers. Its duty is to control the monetary base…and through control of this 'high-powered money' to control the community's supply of money". *—Samuelson*

"The central bank may be defined as the apex banking and monetary institution whose main function is to control, regulate and stabilize the banking and the monetary system of the country in the national interest." *—General view of central bank.*

Reserve Bank of India (RBI)

RBI is the central bank of India. The RBI was established in 1935 with a capital of Rs. 5 crore. This capital of Rs. 5 crore was divided into 5 lakh equity share of Rs. 100 each.

The RBI was nationalized on January 1, 1949.

Necessity of central bank

The need for a central banking in a country arises from the following:

a) Control of credit
b) Issue of paper currency
c) Economic help to the commercial banks
d) Implementation of the government monetary policies

Principles of central banking

Following are the main principles of central banking:

a) The central bank is always inspired by the spirit of national welfare.
b) Monetary and financial stability
c) Freedom from political influence
d) No competition with member banks

Comparison between central and commercial banking

There are similarities as well as dissimilarities between central banking and commercial banking.

The similarities are as follows:

a) Both deals in money
b) Both create credit
c) Non-acceptance of immovable properties as securities
d) Both extend short-term credits

The dissimilarities are as follows:

a) Central bank is apex bank and it exercises control over the entire banking system of the country. The commercial bank, on the contrary, is only a constituent unit of the banking system.
b) Central bank is owned by State (Central govt.), commercial banks are both public and privately owned.
c) Central bank is not profit-hunting; profit is its secondary objective. Profit earning is the primary objective of commercial banks.
d) It does not deal directly with the public. It is the banker to the government and also bankers' bank. It does not undertake the functions normally performed by commercial banks.
e) The central bank does not compete with the commercial banks, because if it competes with them it will be doing so with the funds which the commercial banks are obliged to keep with it. Moreover, if the central competes with the commercial banks, it will be deviating from its major functions as the bankers' bank and as the lender of the last resort.
f) The central bank has special relationship with the commercial banks affiliated with it. The central bank is generally given statutory powers to exercise check on the activities of the commercial banks.
g) The central bank possesses the monopoly of note issue. This right is no longer enjoyed by the commercial banks.
h) The central bank is the custodian of the foreign exchange reserves of the country. As such, it is responsible for maintaining the stability of foreign exchange rates. Commercial banks do not exercise this function.
i) The central bank acts as the banker to the government. It accepts deposits on behalf of the government and also gives short-term loans to it. Commercial banks act as bankers to the general public. They accept not only deposits from their customers but also extend loans and advances to them.
j) The central bank also functions as the bankers' bank. The commercial banks are required by law to maintain a certain percentage of their cash reserves with the central bank.
k) The central bank acting as the lender of the last resort, grants credit to the commercial banks in times of emergency by rediscounting their commercial bills.
l) The central bank acts as the clearing house for the commercial banks. No such function is performed by any commercial bank.
m) The central bank is the apex institution which controls and regulates the monetary and banking system of the country. No such responsibility rests on the commercial banks.

Functions of the central bank

The functions of the central bank differ from country to country in accordance with the prevailing economic situation. But there are certain functions which are commonly performed by the central bank in all countries.

In the opinion of De Kock, there are six functions which are performed by the central bank in almost all countries.

The functions of central bank as follows:

i. Enjoys monopoly of note issue
ii. Acts as the banker, agent and adviser to the government
iii. Acts as the bankers' bank
iv. The custodian of the nation's gold and foreign reserves
v. Acts as the controller of credit
vi. Responsible for financial stability
vii. Agency of economic growth
viii. Publishes economic statistics

i. Enjoys monopoly of note issue

The commercial banks in the 19th century had the right to issue notes, but the note issued by them suffered from a number of drawbacks.

- Firstly, there was lack of uniformity in the notes issued by the commercial banks.
- Secondly, every commercial bank was required to issue notes according to its reserves which were bound to be of a limited size. As such, the notes issued by them were in limited quantity.
- Thirdly, sometimes the commercial banks failed to convert their notes in cash on public demand. Hence, it was realized that the note issue system of commercial banks was not satisfactory.

After sometime, the government took the issue of paper currency in its own hands. But even this system proved unsatisfactory in the long run.

- The reason was that the system of note issue adopted by the government suffered from lack of elasticity.
- The government was not in a position to estimate accurately the money requirements of the economy.
- Hence, it came to be realized, in course of time, that the central bank was the most appropriate institution to undertake the issue of paper currency.

The following advantages have accrued from the system of note issue by the central bank:

a) Uniformity in the monetary system
b) Greater public confidence
c) Elasticity in the monetary system
d) Control on credit creation
e) Profit for the government
f) Stability in the internal and external value of money

ii. Acts as the banker, agent and adviser to the government.

As banker to the government:

a) Keeps the accounts of various govt. departments and institutions
b) Accepts from the deposits;
c) Undertakes the collection of cheques and drafts deposited in the government account;
d) Transfers govt. funds from one place to another or from one account to another
e) Provides short-term loans (ways and means advances) to the govt. when requested by it.
f) Provides to the govt. foreign exchange resources to enable to meet its external debt or for the purchase of foreign goods, or for making other payments, etc.

As an agent to the government:

a) Accepts loans and manages the public debt of the govt.
b) The timing of government loan is also decided by it, keeping in view the overall liquidity conditions in the market.
c) The new loans and the treasury bills are issued by it on behalf of the govt.
d) It receives taxes and other payments from the public on behalf of the govt.

As an adviser to the government:

a) It tenders useful advice to the govt. on important economic problems like those of devaluation of currency, commercial policy, and foreign exchange policy, the budgetary policy, etc.

b) Since, it possesses full information about the working of the economy; it is in a position to offer useful advice to the govt. on financial problems.
c) It is also the custodian of the nation's gold and foreign exchange reserves and in that capacity manages the country's relation with international financial institutions.

iii. Acts as the bankers' bank.

The central bank acts as the banker's bank in three different capacities:

a) It acts as the custodian of the cash reserves of the commercial banks;
b) It acts as the lender of the last resort;
c) It is the bank of central clearance, settlement and transfer.

a) It acts as the custodian of the cash reserves of the commercial banks.

Every commercial bank has to keep a certain percentage of its liabilities with the central bank in the form of cash reserves.

The commercial bank no doubt, keeps a certain percentage of its liabilities in the form of cash reserves with itself. These cash reserves are kept by the commercial banks in two forms: (i) Cash reserves kept with it; and (ii) Cash reserves kept with the Central Bank.

The commercial banks make use of their reserves with the central bank in times of emergency.

Since, the central bank holds the cash reserves of commercial banks, it is named as the "reserve bank" of the country.

This centralization of cash reserves results in several advantages for the country:

a. Reinforces the confidence of the public in the strength of the banking system of the country
b. Resultsin a more effective utilization of the cash reserves of the country
c. Enables the central bank to extend accommodation to those commercial banks which find themselves in temporary difficulties

d. Ensures elasticity in the credit structure of the country
e. When the cash reserves accumulate with the central bank, it can make use of them in the interests of national welfare.
f. Since the central bank is the clearing house of the country, the various commercial banks can settle their claims and counterclaims through its medium.
g. Enables the central bank to control the creation of credit by the commercial banks through increasing or decreasing their cash reserves
h. In other words, the central bank controls the creation of credit by using the technique of variable reserve ratio.

b) It acts as the lender of the last resort.

If the commercial banks are not able to secure financial accommodation from other sources, then as a last resort, they can approach the central bank for the necessary credit facilities.

The central bank will be prepared to grant accommodation to the commercial banks against eligible securities.

The commercial banks can also get their eligible securities and exchange bills rediscounted by the central bank. This practice greatly benefits the commercial banks.

The commercial banks can fall back upon the central bank in times of emergency. This results in the following advantages:

a. Commercial banks can carry on their activities on the basis of smaller cash reserves. Since they can get their eligible paper rediscounted by the central bank in times of emergency. Hence, the commercial banks need not keep large cash reserves to meet the cash requirements of the depositors.
b. Commercial banks can secure financial help from the central bank at a time of crisis. This strengthens public confidence in the bank because the people know that in case of emergency the central bank will come to the rescue of the commercial banks.
c. This system (acting as the lender of the last resort) helps the commercial banks to maintain the liquidity of their financial resources. The commercial banks assured of financial accommodation through the grant of rediscounting facilities by the central bank.
d. Offers an opportunity for the central bank to establish its control over the banking system of the country.

c) It is the bank of central clearance, settlement and transfer.

Since it holds the cash reserves of the commercial banks, it becomes easier and more convenient for it to act as the clearing house of the country.

All commercial banks have their accounts with the central bank. Consequently, the central bank can settle the claims and counterclaims of the commercial banks with the minimum use of cash.
Central bank helps the commercial banks to create credit on a large scale because the demand for cash is automatically reduced consequent upon the functioning of the clearing house system in the country.

iv. The custodian of the nation's gold and foreign reserves

If there are fluctuations in foreign exchange rates, the central bank, in order to minimize them, may have to buy and sell foreign currencies in the market.

The central bank responsibility is to maintain the stability in the rates of foreign exchange.

In case of emergency, the central bank may even impose control on the buying and selling of foreign currencies in the market.

v. Acts as the controller of credit.

The credit money produces a deep impact on the economy.

If the central bank is able to keep the creation of credit within limits, it can prove a blessing for the country. But if credit is not effectively controlled and kept within limits, it can have dangerous consequences for the economy.

There is no other institution which can control credit more effectively than the central bank.

By controlling credit in an effective manner, the central bank can help to bring about not only stability in the internal price level but also can check fluctuations in the foreign exchange rates.

vi. Responsible for financial stability

The central bank's responsibility for ensuring financial stability arises mainly from its mandated functions such as following:

a. The regulator of banking system;
b. The regulator and supervisor of the payment and settlement system;
c. The regulator of the money foreign exchange, government security and credit markets;
d. Banker to the banks, as also the lender of the last resort.

This unique combination of responsibilities for macro-prudential regulation and micro-prudential supervision together with an implicit mandate to exploit the synergies across various dimensions.

vii. Agency of economic growth.

The central bank not only a regulatory authority but also an agency of economic growth.

The central bank takes all possible steps from time to time to stimulate the economic growth of the country.
Besides stimulating economic growth, the central bank also tenders useful advice to the government on economic and financial matters with the ultimate objective of spending up the process of economic growth.

viii. Publishes economic statistics

In almost every country, the central bank collects and publishes statistics about the various aspects of the functioning of the national economy.

Published statistics of the central bank provides valuable information to the govt. on the basis of statistical information it can formulate and implement economic policies.

Central banking: Objectives and methods of credit control.

Introduction

The present day economy is referred to as the credit driven economy because credit has come to play a predominant role in the modern economic system.

The overwhelming majority of business transactions, particularly in advanced economies, are settled through the use of credit instruments by the parties concerned.

In fact, the credit is the life-blood of modern business.

Credit plays the same role in the economy as money.

Changes in the volume of credit have exactly the same effect on the internal price level as changes in the supply of money. Therefore, it becomes necessary to exercise some control on the creation of credit for the smooth functioning of the economy.

A free and unlimited creation of credit by commercial banks poses a serious threat to the national economy. Hence, it becomes necessary to keep the creation of credit under the control of the central bank.

The central bank is the most appropriate body to control the creation of credit in view of its functions as the bank of issue and the custodian of cash reserves of the member banks.

Objectives of credit control

The important objectives of credit control are as follows:

i. Stability in the internal price level
ii. Economic stability
iii. Stability in exchange rate
iv. Stabilization of the money market
v. Promotion of economic growth
vi. Meeting business needs
vii. Checking the outflow of gold

Methods of credit control

There are various methods which are employed by the central bank to control the creation of credit by the commercial banks.

The principal methods (or instruments) used by the central bank can be classified under two heads:

I. Quantitative or general methods, and
II. Qualitative or selective methods.

The quantitative or general methods are intended to expand or contrast the total volume of credit in the banking system without devoting any thought to the uses to which it is to be put.

The qualitative or the selective methods are directed, on the contrary, towards the diversion of credit into particular uses or channels in the economy. These methods have nothing to do with the control of the total volume of credit in the economy. Their objective is mainly to control and regulate the flow of credit into particular industries or businesses.

The qualitative controls can be utilized to discourage the flow of credit into those uses or industries which are not looked upon as essential for the functioning of the economy.

I. Quantitative or general methods

The important quantitative or the general methods of credit control are as follows:

i. Bank rate or discount rate policy
ii. Open market operations
iii. Variable cash reserve ratios

These methods have only a quantitative effect on the supply of credit. They are used for either increasing or reducing the volume of credit, without regard to the uses to which the credit is to be put by the borrowers.

i. Bank rate or discount rate policy

The bank rate policy is one of the principal methods of general credit control. It is the earliest method of credit control.

The bank rate can be interpreted in two senses.

In the narrow sense, the bank rate may be defined as the minimum official rate at which the central bank as a bank of rediscount, rediscount first-class bills of exchange brought to it by the discount houses and commercial banks.

In the broad sense, the bank rate may be defined as the varying of the terms and conditions under which the market can have temporary access to the central bank either in the form of rediscounts or through secured advances.

The central bank, thus, tries to control credit (through bank rate policy) by influencing both the cost as well as the availability of credit.

The cost of credit is influenced by changing the bank rate. By raising the bank rate or the discount rate, the central bank raises the cost of credit, and by lowering the bank rate or the discount rate, it lowers down the cost of credit.

The bank rate policy also affects the availability of credit by changing the conditions under which the central bank grants loans to the commercial banks. By changing the eligibility rules, the central bank can influence the availability of credit.

The process of bank rate influence

As regards the process through which changes in the bank rate influence the supply of credit, the level of business activity and the price level, there are two approaches: one put forward by Prof. R.G. Hawtrey and the other by Prof. J.M. Keynes.

Hawtrey's approach: According to Hawtrey, changes in the bank rate operate through changes in the short-term rates of interest which, in their turn, influence the cost of borrowing by businessmen and industrialists.

Keynes' approach: Keynes outlined an alternative approach to the effects of changes in bank rate upon the volume of credit, the level of business activity and the internal price level.

In his opinion, the bank rate changes become effective through changes in the long-term interest rates as reflected by changes in the capital value of long-term securities.

Conditions essential for the success of the bank rate

The success of bank rate policy depends upon the following conditions given ahead:

a. Existence of close relationship between bank rate and other interest rates
b. Existence of an elastic economic structure
c. Existence of short-term funds market in the country

Limitations of bank rate policy

Theoretically speaking, the bank rate policy is looked upon as an important weapon to achieve the following objectives:

a. Controlling the quantity of the credit in the economy,
b. Restoring the equilibrium between saving and investment in the economy,
c. Correcting the disequilibrium in the balance of payments, and
d. Maintaining the stability of exchange rates

However, the bank rate policy may not prove very effective in achieving these objectives on account of its limitations. The following are the main limitations of the bank rate policy:

a. Non-existence of conditions for a successful bank rate policy
b. Non-sensitivity to changes in interest rates
c. Non-effectiveness in controlling deflation
d. Existence of conflict between the internal and external effects of the bank rate policy
e. Increasing non-dependence of commercial banks on the central bank
f. Non-effectiveness in controlling balance of payments disequilibrium

Decline in the importance of the bank rate

Up to 1914, the Bank of England used the bank rate policy as the only method of credit control. But after 1914 the conditions changed in Britain and the bank rate policy became less effective in controlling volume of credit within the economy.

The various factors that led to the decline in the importance of the bank rate policy are set forth as:

a. Lack of elasticity in economic structure
b. Increased liquidity in the assets of commercial banks
c. Decline in the importance of bill of exchange as a credit instrument
d. Rise of other methods of credit control
e. Rise in interest rates
f. Less sensitivity to changes in interest rates
g. Changes in the methods of business financing
h. Increasing importance of fiscal policy

Bank rate policy in India

Although the Reserve Bank of India has been using bank rate policy in combination with other methods of credit control, this has not been very successful on account of the following reasons:

The Indian money market is split up into two sectors: (i) the modern banking sector, and (ii) the indigenous banking sector.

a. There is no coordination between the indigenous and the modern banking sector with the result that changes in the modern sector are not transmitted into the indigenous sector. Even the modern banking sector lacks coordination amongst its constituent units.
b. The Indian commercial banks are in the habit of keeping surplus cash reserves over and above the minimum statutory requirements. This results in reducing their dependence on the Reserve Bank for financial accommodation.
c. The bank rate policy can prove effective only when the commercial banks approach the central bank for financial accommodation either in the form of rediscounting exchange bills or through secured loans.
d. The non-availability of eligible commercial papers in sufficiently large quantity for being rediscounted by the central bank is another factor that has reduced the effectiveness of the bank rate policy in India.

ii. Open market operations

Open market operations as a method of credit control developed only after the First World War.

The term ‘Open Market Operations’ is used in two senses.

In the narrow sense, open market operations imply the purchase and sale by the central bank of government securities in the money market.

In the broad sense, this term implies the purchase and sale by the central bank not only of government securities but also of other eligible papers, like bills and securities of private concerns.

Reasons for the popularity of open market operations

The increasing popularity of open market operations is due to the following reasons:

a. The effectiveness of open market operations as a method of credit control was proved beyond doubt during and after the First World War.
b. The open market operations as a method of credit control produce a more direct and immediate effect on credit conditions than the bank rate policy.
c. The scope for large-scale open market operations has increased in recent years due to the increased availability of govt. and other securities in the money market.
d. The ineffectiveness of bank rate policy emphasized the need for an alternative method of credit control. The central banks devised the technique of open market operations as an alternative to bank rate policy.

Objectives of open market operation

Following are the objectives of the policy of open market operations:

a. To eliminate the effects of exports and imports of gold under the gold standard.
b. To impose a check on the export of capital
c. To remove the shortage of money in the money market
d. To make bank rate policy successful

e. To check the ‘run on the bank’

Conditions for the success of the policy of open market operation

The success of open market operations depends on the fulfillment of certain conditions which may be set forth as follows:

a. Existence of a well-developed securities market
b. Maintenance of a definite cash reserve ratio by the commercial banks
c. Non-operation of extraneous factors
d. Non-conformist attitude of the borrowers
e. Existence of an adequate stock of securities with the central bank
f. Non-existence of direct access of commercial banks to the central bank
g. Policy of open market operations is more effective in controlling credit than stimulating expansion of credit

iii. Variable cash reserve ratios

The traditional methods of credit control, such as, the bank rate policy and the open market operations have several limitations.

It is on account of these limitations that these two methods are found to be rather ineffective when the economy is confronted with abnormal circumstances.
This happens particularly when there are excessive reserves with the commercial banks on the basis of which they are creating rather too much of credit. This overexpansion of credit may not be in the larger interests of the economy.

The two traditional methods may not be able to control an inflationary situation. To effectively control an inflationary situation, a more direct and a more effective method is required by which the excessive reserves of the commercial banks can either be wiped out altogether or rendered ineffective for the purpose of credit creation.

Such a method of credit control takes the form of variations in the cash reserve ratio of commercial banks. This method is known as the method of Variable Cash Reserve Ratio (VCRR). It was first suggested by Lord Keynes who did much to popularize it as a method of credit control by the central bank.

For a long time, this method of variable cash reserves ratio was looked upon as an indispensable method of promoting the overall liquidity and the solvency of the banking system.

The centralization of the cash reserves of the commercial banks in the central bank was supposed to promote the liquidity and solvency of the banking system.

It inspired greater public confidence in the ability of the commercial banks to meet their obligations to the depositors.

Limitations of the method of variable cash reserve ratio

The method of credit control is subject to a number of limitations which may be set forth:

a. The method does not prove effective when the commercial banks happen to have large excessive cash reserves with them.
b. This method also fails to be effective when the commercial banks happen to have foreign funds in their possession.
c. The actual impact of this method also depends upon the demand for credit by the borrowers.
d. This method is suitable only when it is desired to effect big changers in the reserves of the commercial banks.
e. This method is highly discriminatory in character.
f. This method creates a lot of uncertainty for the commercial banks and limits their freedom to lend their resources to their customers.

II. Qualitative or selective methods.

The selective credit control is a recent development in monetary management by the central bank.

The objective of quantitative methods is to control and regulate the total volume of credit in the economy, without bothering about the uses or the channels in to which it flows.

The objective of selective credit control is to encourage the flows of credit into those uses or channels which help the growth of the economy.

The method of qualitative credit control is discriminatory in character. In fact, they discriminate in favour of those uses or channels which are considered to be desirable or productive for the economy.

They discriminate against those uses and channels which are harmful for the smooth functioning of the economy.

The need for selective credit control has arisen on account of a major drawback in the quantitative methods of credit control.

Objectives of selective credit control

The following are the main objectives of selective credit control:

a. To divert credit from undesirable and economically less urgent uses to more desirable and economically more urgent uses.
b. To control a particular sector of an economy without affecting the economy as a whole.
c. To discourage excessive consumer expenditure on durable consumer goods financed by bank installment credit.
d. To correct an unfavorable balance of payments of the country in question.
e. To bring under the control of the central bank credit created by private non-banking financial institutions.

Types of selective credit control

The following are the selective credit controls exercised by the central bank:

a. Fixation of margin requirements on secured loans
b. Regulation of consumer credits
c. Control through directives by the central bank
d. Rationing of credit
e. Moral suasion
f. Publicity
g. Direct action

a. Fixation of margin requirements on secured loans

The method of fixation of margin requirements is mostly used by the central bank to counter inflationary pressures in the economy. This, the central bank does by raising margin requirements on various types of secured loans.

The raising of margin requirements on secured loans results in several advantages:

— High margin requirements discourage speculative activities undertaken with bank credit and thereby lead to a diversion of resources from unproductive speculative activities to the fields of productive investments. The existence of high margin requirements, thus, discourages the borrowing of loans for speculative purposes.

— High margin requirements control inflationary pressures in two ways. Firstly, by curtailing speculative activities, they lead to a decline in the speculative demand for goods which ultimately contributes to a fall in the price level. Secondly, high margin requirements, by diverting credit to productive activities, lead to an increase in the supply of goods and services which contributes to a fall in the price level.

— By reducing speculative activities, high margin requirements reduce the fluctuations in the market prices of securities.

— High margin requirement help in diverting financial resources from speculative activities to sound investment projects.

b. Regulation of consumer credits

According to this system, a certain percentage of the price of the durable consumer goods is paid by the consumers in downright cash. The remaining part of the price of the goods is financed by bank credit which is repayable by the consumer in installments spread over a specified period of time.

The objective of this method is to curb the consumption of durable consumer goods which happen to be in short supply in the economy.

This method controls excessive consumer demand for durable goods in the following ways:

— By extending or curtailing theapplicability of the method of consumer credit.
— By changing the minimum down payment
— By changing the maturity period of consumer credit
— By changing the cost of consumer credit

c. Control through directives by the central bank

Sometimes, selective credit controls may be enforced on the commercial banks through directives issued by the central bank from time to time.

These directives may be in the form of written orders, appeals or warnings by the central bank addressed to the commercial banks. These directives are issued to the commercial banks in order to realize the following objectives:

— To control the lending policies of commercial banks.
— To divert credit from less urgent uses to more urgent uses or from the less productive uses to the more productive uses.
— To prohibit lending for certain purposes altogether.
— To fix maximum limits of credit for certain purposes.

d. Rationing of credit

The term ‘rationing of credit’ implies two things. First, it means that the central bank fixes a limit upon its rediscounting facilities for any particular bank. Second, it means that the central bank fixes the quota of every affiliated bank for financial accommodation from the central bank.

If the demand for credit from the banks is in excess of its supply, the central bank resorts to credit rationing as the only way of distributing available resources among the different banks in accordance with a prior credit plan.

The method of credit rationing has, however, been subjected to criticism.

This method conflicts with an important function of the central bank, namely, that central bank is the lender of the last resort.

If the central bank acts as the lender of the last resort, then it cannot deny financial accommodation to a member bank even if the demand of the bank concerned exceeds its rationed quota.

e. Moral suasion

This method involves advice, request and persuasion with the commercial banks to cooperate with the central bank in implementing it credit policies. If the commercial banks do not abide by the advice or request of the central bank, no punitive action is taken against them. The central bank merely uses its moral influence with the commercial banks to prevail upon them to accept its policies.

The central bank under this method can only appeal to the patriotic and nationalistic sentiments of the commercial banks.

The central bank may even hold occasional conferences with the commercial banks to make its policies known to them. Anyway, the method of moral suasion is a purely informal method with no legal sanction behind it.

f. Publicity

Several central banks have adopted publicity as an instrument of credit control. They use this instrument not only for influencing the credit policies of commercial banks but also to educate and influence public opinion in the country.

In fact, publicity is an essential instrument to ensure the effectiveness of the monetary policy of the central bank. Under this method, the central bank gives wide publicity to what is good and what is bad in the credit system of the country. Publicity takes several forms.

"Publicity includes publishing regularly the weekly statements of their assets and liabilities, monthly reviews of credit and business conditions and comprehensive annual reports on their operations and activities, money market, and banking conditions, generally, public finance, trade, industry, agriculture, etc." *Prof. De Kock*

g. Direct action

The method of direct action is most extensively used by the central banks to implement their credit policies. This method can be used to enforce both quantitative as well as qualitative credit controls by the central bank.

The method is not used in isolation; it is used as a supplement to other methods of credit control.

The method of direct action implies the use of coercive measures against those commercial banks whose credit policies do not confirm to the declared objectives of the central bank.

This method also involves the issuing of general instructions by the central bank to all the commercial banks. It may also take the form of special instructions by the central bank issued to the erring bank.

It should, however, be remembered that, the method of direct action is used only as a last resort when other methods fail to yield the desired result.

Direct action against the erring banks can take the following form:

— The central bank may refuse altogether to grant discounting facilities to such banks.

— The central bank may refuse to sanction further financial accommodation to a bank whose existing borrowings are found to be in excess of its capital and reserves.

— The central bank may start charging penal rate of interest on money borrowed by a bank beyond the prescribed limit.

— The method of direct action can prove effective only when the central bank is armed with sufficient legal powers to enforce its directives on the banks. Hence, the central bank is several countries have been given statutory powers to take drastic action against the defaulting banks.

The method of direct action as an instrument of credit control suffers from certain limitations:

— The method of direct action involves the use of coercion against the erring banks. This produces adverse psychological reactions on the commercial banks against the central bank. With the constant threat of direct

action, the commercial banks will find themselves unable to offer full-fledged cooperation to the central bank in the implementation of its credit policies.

— The method of direct action also creates several difficulties for the commercial banks.

— Though the commercial banks may be able to regulate the immediate use of credit, it is not possible for them to control its ultimate use by the customers. The loan taken by the borrowers ostensibly for a particular purpose may not be used for that purpose. On the contrary, it may be used for a purpose which figures quite low in the scale of priorities formulated by the central bank.

— The method of direct action conflicts with the function of the central bank as the lender of the last resort.

Limitations of the method of selective credit control

— The methods of selective credit control are generally applicable to commercial banks alone. They do not apply to non-banking financial institutions which create quire a sizeable portion of the total volume of credit in the economy. The policies of these financial institutions may run counter to those of the central bank. To that extent, the desired objectives of selective credit control may be defeated.

— It is difficult to distinguish between productive and unproductive uses of credit. Selective credit controls generally aim at diverting bank credit from the less productive to the more productive uses.

It is exceedingly difficult for the commercial banks to make the distinction between productive and unproductive uses. To that extent, the effectiveness of the methods of selective credit control is reduced.

— The commercial banks are not in a position to control the ultimate use of credit in the economy.

The loans given by the commercial banks ostensibly for productive purposes may be used by the borrowers through securing clean loans from the commercial banks.

— There are no restrictions on clean credit under the selective credit control policy with the result that measures like higher margin requirements may be violated by the borrowers through securing clean loans from the commercial banks.

— It is quite possible that the commercial banks through manipulations of accounts may advance loans to their customers for prohibited uses under various guises. Thus, the credit policy of the central bank may be defeated by the commercial banks in connivance with the borrowers.

— The methods of selective credit control may not prove very effective in controlling credit in the economy, the reason being that investments mostly financed by capital issues and loans from non- banking financial institutions. To that extent, the effectiveness of selective credit control policy may be correspondingly reduced.

— The methods of selective credit control do not prove as effective under unit banking as they do under branch banking.

— The methods of selective credit control may loose their efficacy if the merchants, traders and businessmen choose to carry on their economic activities without recourse to bank credit.

They may resort to trade credits or accommodation bills to escape the rigours of monetary discipline. To that extent, the efficacy of selective credit control is nullified.

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UNIT –IV: PUBLIC FINANCE

Introduction

Public finance is a study of income and expenditure of a government. It studies the income raised through revenue and expenditure incurred or spent on the activities of public authorities.

Income and expenditure of the government are regulated through marginal adjustments so as to give the maximum public benefit.

The term ‘public authorities’ connotes all sorts of governments though they differ in their functions, operations, sources of income and objectives of expenditure.

Meaning

The word ‘public’ is a collective term which stands for the collection of individuals. In a wider sense, it refers to all the members of a community. The ordinary meaning of the term ‘finance’ is money resource i.e., coins or notes in a specified area (generally a country).

In public finance, the world ‘public’ is used in a narrow sense whereas the word ‘finance’ is used in its wider sense.

Branches

Public finance is broadly divided into four branches. These are:

i. Public expenditure,
ii. Public revenue,
iii. Public debt and
iv. Financial administration.

Public expenditure studies the various principles, effects and problems of expenditure made by the public authorities.

Public revenue includes the study of various ways of raising revenues by the public bodies. It also studies the principles and effects of taxation and how the burden of taxation is distributed among the various classes in the society.

Public debt is the study of the various principles and methods of raising debts and their economic effects. It also deals with the methods of repayment and management of public debt.

The branch of financial administration deals with the methods of budget preparation, various types of budgets, war finance, development finance, etc.

Principle of Maximum Social Advantage

The fiscal or budgetary operations of the government have manifold effects on the economy.

The revenue collected by the government through taxation and the dispersal of public expenditures can have significant influence on the consumption, production and distribution of the national income of the country.

The fiscal operations of the government resolve themselves into a series of transfers of purchasing power from one section of the people to another, along with the variations in the total incomes available in the economy.

In fact, the fiscal activities of the government affect the allocation of resources, the use of resources from one channel to another, hence, the level of income, output and employment.

It is desirable that some standard or criterion should be laid down to judge the appropriateness of a particular operation of public finance — the government's revenue and expenditures.

In a modern welfare state, such a criterion can obviously be nothing else but the economic welfare of the people.

The best criterion for the purpose is provided by Dalton H. and Pigou A.C.

- 'Principle of maximum social advantage' given by Dalton H.
- 'Principle of maximum aggregate welfare' given by Pigou A.C.

I. The effects of raising public revenue **should be balanced** against the effects of spending it.

- The distinction between false and true economy exist.
- The very best of plans of finance is to spend little and the best of all taxes is that which is least in amount. J.B Say (1767-1832)
- Does every tax is an evil?
- Does all public expenditure is good?

II. The operations of public finance **resolve themselves** into transfers or variations of purchasing power.

- The best system of public finance is that which secures the maximum social advantage from the operations involved.
- All the operations of public finance resolve themselves into a series of transfers of purchasing power, or of variations in total purchasing power, and of use of consequential changes in the use of economic resources.

— The best system of public finance is that which secures the maximum social advantage from the operations which it conducts.

III. Important criteria of social advantage are:

1. The preservation of the community against internal disorders and external attacks.
2. Improvements in production
3. Improvements in distribution

1. The preservation of the community against internal disorders and external attacks.

— The need to preserve the community, assuming it to be worth preserving in its existing form, against internal disorder and external attacks.
— It is a question of wise public policy at home and abroad, and not merely of expenditure on police and armed forces.
— It is the obligation of the government to increase the welfare, both economic and non-economic, of its people.

2. Improvements in production

Improvements in production resolve themselves into:

— Increases of productive power, so that a larger product per worker shall be obtained with a smaller effort,
— Improvements in the organization of production, so as to reduce to a minimum the waste of economic resources through unemployment and other causes.
— Improvements in the composition, or 'pattern', of production, so as best to serve the needs of the community.

3. Improvements in distribution

Improvements in distribution resolve themselves into:

— A reduction in the great inequality in the incomes of different individuals and families.
— A reduction in the great fluctuations, between different periods of time in the incomes of particular individuals and families, especially among the poorer sections. Less inequality is desirable.
— Full employment is accepted as one of the first economic aims of a well-organized economy.

Sources of Public Revenue

A government needs income for the performance of a variety of functions and meeting its expenditure.

Public revenue refers to the income raised from the public by the government through taxes from the public.

Sources of revenue:

1. Sources of tax revenue
2. Sources of non-tax revenue
3. Sources of other non-tax revenue

1. Sources of tax revenue

i. Union excise duties
ii. Customs
iii. Income tax
iv. Corporation tax
v. Wealth tax
vi. Gift tax
vii. Capital gains tax
viii. Hotel expenditure tax
ix. Tax on foreign travel

i. Union excise duties

Imposed by Central Government and are levied on commodities produced within the country, but excluding those commodities on which State excise is levied (viz., liquors and narcotic drugs).

ii. Customs

Customs duties include both import and export duties. These are the second-most important source of revenue for the Central Government.

iii. Income tax

Income tax is another important source of revenue for the Central Government. It is levied on the incomes of individuals, Hindu undivided families and unregistered firms.

iv. Corporation tax

The income tax on the net profits of joint stock companies is called corporation tax.

v. Wealth tax

It is an annual tax on the net wealth of individuals and Hindu undivided families. It is a progressive tax.

vi. Gift tax

It is a tax on gifts of property by an individual in his lifetime to future successors.

vii. Capital gains tax

It is applicable to capital gains resulting from the sale, exchange or transfer of capital assets.

viii. Hotel expenditure tax

Recently, a new tax has been levied on those who patronize high class hotels.

ix. Tax on foreign travel

Another new tax levied on foreign travel for conserving foreign exchange as well as to raise revenue.

2. Sources of non-tax revenue

i. Interest receipts
ii. Surplus profits of the central bank (RBI)
iii. Currency, coinage and mint
iv. Railways
v. Profits of public enterprises

i. Interest receipts

Largest non-tax source of Central Government's revenue receipts is the interest it earns mainly on the loans it has advanced to State Governments, to financial and industrial enterprises in the public sector.

ii. Surplus profits of central bank (RBI)

The surplus profits of the RBI are also a part of the revenues of the Central Government. In recent years, these have been quite substantial because of the large borrowing by the Government from the RBI against Treasury Bills for financing the Five-Year Plans.

iii. Currency, coinage and mint

Income from running the currency note printing presses. Moreover, profits are made from the circulation of coins — this profit being the difference between the face value of the coins and their manufacturing cost.

iv. Railways

The railways in India are owned and run by the Government of India. Accordingly, they pay a fixed dividend to general revenues, i.e., to the central govt. on the capital invested in the railways. Besides, a part of the net profits made by the railways is also payable to the central govt.

v. Profits of public enterprises

Public enterprises owned by the Central Government, e.g., the Steel Authority of India (SAIL), Hindustan Machine Tools (HMT), Bharat Heavy Electricals Ltd. (BHEL), State Trading Corporation (STC). The profits of such Public Sector Units (PSUs) are another source of revenue for the Government of India.

3. Sources of other non-tax revenue

The main source among them is the departmental receipts of the various ministries of the central govt. by way of fees, penalties, etc.

Canons of Taxation

Introduction

Canons of taxation refer to the administrative aspects of a tax. They relate to the rate, amount, and method of levy and collection of a tax.

The canons of taxation were first presented by Adam Smith in his famous book ‘The Wealth of Nations’. Defines numerous rules and principles upon which a good taxation system should be built.

Although these canons of taxation were presented a very long time ago, they are still used as the foundation of discussion on the principles of taxation.

Adam Smith originally presented only 4 canons of taxation, which are also commonly referred to as the ‘Main Canons of Taxation’ or ‘Adam Smith’s Canons of Taxation’. Along with the passage of time, more canons were developed to better suit the modern economies.

Adam Smith's canons of taxation:

1. *Canon of equality*

— It does not mean that everyone should pay the exact, equal amount of tax.
— The rich people should pay more taxes and the poor pay less.
— The amount of tax should be in proportion to the abilities of the taxpayer.
— It is one of the fundamental concepts to bring social equality in the country.
— Not only does it bring social justice, it is also one of the primary means for reaching the equal distribution of wealth in an economy.

2. *Canon of certainty*

— The canon of certainty ensures that the taxpayer should have full knowledge about his tax payment, which includes the amount to be paid, the mode it should be paid in and the due-date.
— It is believed that if the canon of certainty is not present, it leads to tax evasion.
— Everything be made clear, simple and absolutely certain when a tax is imposed on taxpayer.
— Considered a very important guidance rule when it comes to formulating the tax laws and procedures in a country.

3. *Canon of convenience*

— The canon of convenience states that all tax should be easy, convenient and taxpayer-friendly.
— The time and manner of payment must be convenient for the tax payer so that he is able to pay his taxes in due time.

— If the time and manner of the payment is not convenient, then it may lead to tax evasion and corruption.

4. Canon of economy

— The whole purpose of collecting taxes is to generate revenue for the economy. This revenue, in turn, is spent on public welfare projects.
— The cost of collecting taxes should be as minimum as possible.
— There should not be any leakage in the way so that the collections will go directly to the treasury, and therefore, will be spent in the government projects.

Other canons

5. Canon of productivity

— By virtue of the canon of productivity, it is better to have fewer taxes with large revenues, rather than more taxes with lesser amounts of revenue.
— It is always considered better to impose the only taxes that are able to produce larger returns.
— More taxes tend to create panic, chaos and confusion among the taxpayers and it is also against the canon of certainty and convenience to some extent.

6. Canon of simplicity

— The system of taxation should be made as simple as possible.
— The entire process should be simple, non-technical and straightforward. Along with the canon of certainty, where the amount, time duration and manner of payment is made certain, the canon of simplicity avoids cases of corruption and tax evasion if the entire method is made simple and easy.

7. Canon of diversity

— Canon of diversity refers to diversifying the tax sources in order to be more prudent and flexible.
— Being heavily dependent on a single tax source can be detrimental for the economy.
— It is better to collect taxes from multiple sources rather than concentrating on a single tax source. Otherwise, the economy is more likely to be confined, and hence, its growth will be limited as well.

8. Canon of elasticity

— An ideal system of taxation should consist of those types of taxes that can easily be adjusted. Taxes, which can be increased or decreased, according to the demand of the revenue, are considered ideal for the system.
— An example of such a tax can be the income tax, which is considered very much ideal in accordance with the canon of elasticity. This example can also be taken in accordance with the canon of equality.
— Flexible taxes are more suited for bringing social equality and achieving equal distribution of wealth. Since they are elastic and easily adjustable, many government objectives can be achieved through them.

9. Canon of flexibility

— Canon of flexibility means that the entire tax system should be flexible enough that the taxes can easily be increased or lowered, in accordance with the government needs.
— This flexibility ensures that whenever the government requires additional revenue, it can be generated without much hassle. Similarly, when the economy isn't booming, lowering taxes shouldn't be a problem either.

Direct and indirect tax

Direct Taxes, as the name suggests, are taxes that are directly paid to the government by the taxpayer. It is a tax applied on individuals and organizations directly by the government e.g. income tax, corporation tax, wealth tax etc.

Indirect Taxes are applied on the manufacture or sale of goods and services. These are initially paid to the government by an intermediary, who then adds the amount of the tax paid to the value of the goods/services and passes on the total amount to the end user. Examples of these are sales tax, service tax, excise duty etc.

Direct Taxes

i. Income Tax

Income tax is paid by an individual based on his/her taxable income in a given financial year. Under the Income Tax Act, the term 'individual' also includes Hindu Undivided Families (HUFs), Co-operative Societies, Trusts and any artificial judicial person. Taxable income refers to total income minus applicable deductions and exemptions.

Tax is payable if the taxable is above the minimum taxable limit and is paid as per the differing rates announced for each tax slab for the financial year.

ii. Corporation Tax

Corporation Tax is paid by Companies and Businesses operating in India on the income earned worldwide in a given financial year. The rates of taxation vary based on whether the company is incorporated in India or abroad.

iii. Wealth Tax

Wealth tax is applicable on individuals, HUFs or companies on the value of their assets in a given financial year on the date of valuation. It is taxed at the rate of 1% of the net wealth of any assets exceeding Rs 30, 00,000.

'Net wealth' here includes, unproductive assets like cash in hand above Rs 50,000, second residential property not rented out, cars, gold jewellery or bullion, boats, yachts, aircrafts or urban land. It does not include productive assets like commercial property, stocks, bonds, fixed deposits, mutual funds etc.

iv. Capital Gains Tax

The profits made on sale of property are taxable under Capital Gains Tax. Property here includes stocks, bonds, residential property, precious metals etc. It is taxed at two different rates based on how long the property was owned by the taxpayer – Short Term Capital Gains Tax and Long Term Capital Gains Tax. This deciding period of ownership varies greatly for different classes of property.

Indirect Taxes

i. Sales Tax

Sales Tax is charged on the sale of movable goods. It is collected by the Central Government in case of inter-state sales (Central Sales Tax or CST) and by the State Government for intra-state sales (Value Added Tax or VAT). The rates of taxation vary depending on the product type.

ii. Service Tax

Service tax is applicable on all services provided in India except a specified negative list of services that are exempt. It is paid by the service provider to the government who in turn collects it from the end user by the service provider at the time of provision of such service.

iii. Excise Duty

Excise duty is applicable on the manufacture of goods sold in India. Once goods are manufactured, it is originally paid by the manufacturer directly to the Central Government. When goods change hands from the manufacturer to the buyer, this tax is bundled by the manufacturer along with the cost of goods and passed on to the buyer.

Impact and Incidence of Taxation

Meaning of incidence:

The problem of the incidence of a tax is the problem of who pays it.

Taxes are not always borne by the people who pay them in the first instance. They are sometimes shifted on to other people. They are sometimes shifted on to other people.

Incidence means the final resting place of a tax. The incidence is on the man' who ultimately bears the money burden of the tax.

Impact and incidence distinguished.

The impact of the tax is on the person who pays it in the first instance and the incidence is on the one who finally bears it.

Example:

If an excise duty is imposed on sugar, it is paid in the first instance by the sugar manufacturers; the impact is on them. But the duty will be added to the price of the sugar sold, which, through a series of transfers, will ultimately fall on the consumer of sugar. The incidence is, therefore, on the final consumer.

Incidence is not shifting:

Shifting means the process of transfer, i.e., the passing of the tax from the one who first pays it to the one who finally bears it. It is through this process of shifting that the incidence of a tax comes finally to rest somewhere.

The process of shifting may be slow or may be only partially effective so that the burden of a tax may not fall entirely on the person, who is intended to bear it.

Incidence and effects:

The effect of a tax refers to incidental results of the tax. There are several consequences of the imposition of tax which are quite distinct from the problem of incidence.

The imposition of an excise duty on sugar can be shifted ultimately to the consumer of sugar.

The incidence is on the consumer. But the effects of this duty may be far-reaching! A heavy excise duty may cripple the industry. The manufacturer's profits will be reduced. Wages may be reduced. Labour and capital may have to leave the industry.

Thousands of middlemen engaged in the distribution of sugar may find their earnings reduced. Reshuffling of their family budgets may affect the demand for certain other goods. The consumption of sugar may decrease and its substitutes may increase. All these are the effects of the tax.

Importance of incidence:

The study of incidence is very-important. The tax system is not merely aimed at raising a certain amount of revenue, but the aim is to raise it from these sections of the people who can best bear the tax. The aim, in short, is to secure a just distribution of the tax burden.

This obviously cannot be done unless an effort is made to trace the incidence of each tax levied by the State. We must know who pays it ultimately in order to find out whether it is just to ask him to pay it, or whether the burden imposed on him is according to the ability of the tax-payer or not.

Effects of Taxation on Production, Consumption and Distribution

Introduction

The effects of taxation cover all the changes in the economy, resulting from the imposition of tax system.

The imposition of taxation has certain impacts on the production, consumption, investment, employment and similar other patterns. Its presence distorts these patterns and such distortions may be called effects of taxation.

"The best system of taxation from the economic points of view is that which has the best or the least bad economic effects." —*Prof. Hugh Dalton*

According to Dalton, taxation effect can be studied by grouping it in the following categories:

i. Effects of taxation on production
ii. Effects of taxation on distribution
iii. Other effects of taxation

i. Effects of taxation on production

Taxation affects the level of production in the economy. Prof. Dalton has pointed out that size of the national income employment depends upon three conditions:

a) Ability to work, save, and invest.
b) Willingness to work, save and invest.
    1. Nature of taxation
    2. Psychology of tax-payer
c) Diversion of resources between industries and places.

ii. Effects of taxation on distribution

The effects of taxation fewer than two heads:

a) Effect of direct tax on distribution
b) Effect of indirect tax on distribution

iii. Effects of taxation on consumption

The volume and nature of the consumption can be regulated by imposing heavy taxes on the sale of some products.

The taxation is not only the adequate measure for the purpose of regulation; it requires other measures of control, such as import and export policy, to be adopted.

Public expenditure: causes of growth, effects on production, consumption and distribution

Expenses incurred by the public authorities—central, state and local governments—are called public expenditure.

(Such) expenditures are made for the maintenance of the governments as well as for the benefit of the society as whole.

As a modern state is termed a ‘welfare state’, the horizon of activities of the government has expanded in length and breadth.

Causes of increase in public expenditure includes: size of the country & population, defense expenditure, welfare state, economic development and price rise.

Causes of growth of public expenditure

i. Welfare state
ii. To meet the defense needs
iii. Development of sectors
iv. Urbanization
v. Democratic and socialistic structure of the govt.
vi. Rural development schemes
vii. Industrial development
viii. Raising population
ix. Growth of transport and communication
x. To check the business fluctuation
xi. Increasing price level
xii. Increasing in national income
xiii. Social progress

Effects on production

The character and the volume of public expenditure is bound to have some effect on the pattern and amount of production in a country.

Public expenditure influences the productive activity in a number of ways, its volume and the character has an effect on efficiency: physical and mental.

Effects of public expenditure, according to Dalton depend on three factors as follows:

i. Ability to work, save and invest;
ii. Willingness of people to work, save and invest
iii. Effects on diversion of economic resources

Effects on consumption

A GDP component as it is, public expenditure has an immediate impact on GDP. An increase of public expenditure raises GDP by the same amount, other things equal. Moreover, since income is an important determinant of consumption, that increase of income will be followed by a rise in consumption: a positive feedback loop has been triggered between consumption and income, exactly as in the case of shocks in export, investment or autonomous consumption.

The full extent of this mechanism will depend, however, by the reactions of the other economic agents. Firms have to decide whether to increase production or prices in response to demand.

Moreover, if consumers interpret the increase in public expenditure as a fall in their disposable income (i.e. after-tax income), consumption may fall accordingly.

Effects on distribution

Public expenditure has an effect not only on the composition of national production and employment but at the same time, it is a powerful tool in the hands of the government to bring about equitable distribution of income and wealth.

In the opinion of Prof. Dalton, just like taxes, public expenditure also possesses the element of proportion, progression and regression.

A grant is regressive, if the smaller the recipient's income, the smaller the proportionate addition may be made by the grant; progressive if, the smaller the recipient's income, the larger the proportionate addition; proportional if whatever the size of the recipient income, the proportionate addition is the same.

Therefore, public expenditure benefiting the people in higher income group is regressive in nature as these type of expenditure least benefits to the people of poor group of the society. Public expenditure is progressive if it is incurred on the activities which add to the real income of the poor lots in the country. Public expenditure is proportional when it is more benefiting on different groups of the community on proportion to their income.

Public Debt: Sources and Methods of Debt Redemption

Meaning

Public debt is the total financial obligations incurred by the entire public sector of a nation, including guarantees and implicit debt.

Public debt would include obligations evidenced by a legal instrument issued by the Central, State, Municipal, or Local Government or Enterprises owned or controlled by the Government; and other entities considered public or quasi public.

Public debt denotes liabilities payable by the Central Government, which are contracted against the Consolidated Fund of India, as provided under Article 292 of the Constitution of India.

Public debt consists of both internal and external debt.

Sources of public borrowing

A. Public debt (A1+A2)

A1. Internal debt (I + II)

I. Marketable securities

II. Non-marketable securities

A2. External debt (III + VIII)

III. Multilateral

IV. Bilateral

V. IMF

VI. Trade credit

VII. Commercial borrowings

VIII. NRI deposits

IX. Rupee debt

Total long term debt (I-IX)

Short-term debt

B. Other liabilities

C. Total liabilities (A + B)

Methods of debt redemption

i. Refunding
ii. Conversion
iii. Sinking fund
iv. Capital levy
v. Terminal annuity
vi. Budget surplus
vii. Additional taxation
viii. Compulsory reduction in the rate of interest

i. Refunding

Refunding of debt implies issue of new bonds and securities for raising new loans in order to pay off the matured loans (i.e., old debts).

When the government uses this method of refunding, there is no liquidation of the money burden of public debt. Instead, the debt servicing (i.e., repayment of the interest along with the principal) burden gets accumulated on account of postponement of the debt- repayment to save future debt.

ii. Conversion

This is a method for reducing the burden of the debt. A government may have borrowed when the rate of interest was high. Now, if the rate of interest falls, it can convert a high-rated loan into a low-rated one.

The government gives notice to the creditors that they should either agree to reduce the interest rate for future payments or it will exercise the option of repaying the loan, in case the bond-holders do not accept the lower rate, then the government will raise a new loan at lower rate of interest and, with the proceeds, pay off the old debt. The effect is to convert a high-rated loan into a low-rated one. The financial burden is consequently reduced.

iii. Sinking fund

A fund is created for the repayment of every loan by setting aside a certain amount every year out of the current revenue. The sum to be set aside is so calculated that over a certain period, the total sum accumulated, together with the interest thereon, is enough to pay off the loan.

iv. Capital levy

In times of war or emergencies, most governments follow the practice of raising money necessary for the redemption of the public debt by imposing a special tax on capital.

A capital levy is just like a wealth tax in as much as it is imposed on capital assets. This method has certain decisive advantages. Firstly, it enables a government to repay its (emergency) debt by collecting additional tax revenues from the rich people (i.e., people who have huge properties).

This then reduces consumption spending of these people and the severity of inflation is weakened. Secondly, progressive levy on capital helps to reduce inequalities in income and wealth. But it has certain clear-cut disadvantages too. Firstly, it hampers capital formation. Secondly, during normal time this method is not suggested.

v. Terminal annuity

It is something similar to sinking fund. Under this method, the government pays off its debt on the basis of terminal annuity. By using this method, the government pays off the debt in equal annual installments.

This method enables government to reduce the burden of debt annually and at the time of maturity it is fully paid off. It is the method of redeeming debts in installments since the government is not required to make one huge lump sum payment.

vi. Budget surplus

By making a surplus budget, the government can pay off its debt to the people. As a general rule, the government makes use of the budgetary surplus to buy back from the market its own bonds and securities.

This method is of little use since modern governments resort to deficit budget. A surplus budget is usually not made.

vii. Additional taxation

Sometimes, the government imposes additional taxes on people to pay interest on public debt. By levying new taxes—both direct and indirect— the government can collect the necessary revenue so as to be able to pay off its old debt. Although an easier means of repudiation, this method has certain advantages since taxes have large distortionary effects.

viii. Compulsory reduction in the rate of interest

The government may pass an ordinance to reduce the rate of interest payable on its debt. This happens when the government suffers from financial crisis and when there is a huge deficit in its budget.

There are so many instances of such statutory reductions in the rate of interest. However, such practice is not followed under normal situations. Instead, the government is forced to adopt this method of debt repayment when situation so demands.

Budget-types

Meaning

A government budget is an annual financial statement which outlines the estimated government expenditure and expected government receipts or revenues for the forthcoming fiscal year. Depending on the feasibility of these estimates, budgets are of three types - balanced budget, surplus budget and deficit budget.

i. Balanced budget

A government budget is said to be a balanced budget if the estimated government expenditure is equal to expected government receipts in a particular financial year. Advocated by many classical economists, this type of budget is based on the principle of "living within means." They believed the government's expenditure should not exceed their revenue. Though an ideal approach to achieve a balanced economy and maintain fiscal discipline, a balanced budget does not ensure financial stability at times of economic depression or deflation. Theoretically, it's easy to balance the estimated expenditure and anticipated revenues but when it comes to practical implementation, such balance is hard to achieve.

Merits

- Ensures economic stability, if implemented successfully.
- Ensures that the government refrains from imprudent expenditures.

Demerits

- Unviable at times of recession and does not offer any solution to problems such as unemployment.

— Inapplicable in less developed countries as it limits the scope of economic growth.
— Restricts the government from spending on social welfare.

ii. Surplus budget

A government budget is said to be a surplus budget if the expected government revenues exceed the estimated government expenditure in a particular financial year.

This means that the government's earnings from taxes levied are greater than the amount the government spends on public welfare. A surplus budget denotes the financial affluence of a country. Such a budget can be implemented at times of inflation to reduce aggregate demand.

iii. Deficit budget

A government budget is said to be a deficit budget if the estimated government expenditure exceeds the expected government revenue in a particular financial year. This type of budget is best suited for developing economies, such as India. Especially helpful at times of recession, deficit budgets helps generate additional demand and boost the rate of economic growth. Here, the government incurs the excessive expenditure to improve the employment rate.

This results in an increase in demand for goods and services which helps in reviving the economy. The government covers this amount through public borrowings (by issuing government bonds) or by withdrawing from its accumulated reserve surplus.

Merits

— Helps in addressing public concerns such as unemployment at times of economic recession.
— Enables the government to spend on public welfare.

Demerits

— Can encourage imprudent expenditures by the government.
— Increases burden on the government by accumulating debts.

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Inflation

Two concepts (Demand of money and Supply of money) play a crucial role in the functioning of an economy.

An imbalance in any of these two functions can cause discrepancies in the whole functioning of an economy.

"The word inflation in the broadest possible sense refers to any increase in the general price-level which is sustained and non-seasonal in character"-Peterson.

Consequently, there is an increase in the general level of prices of goods and services over a given period of time. A persistent increase in the general price levels of goods and services is known as inflation.

Some of the popular definitions of inflation given by different management gurus are as follows:

According to Coulborn inflation can be defined as, "too much money chasing too few goods."

According to Parkin and Bade, "Inflation is an upward movement in the average level of prices. Its opposite is deflation, a downward movement in the average level of prices. The boundary between inflation and deflation is price stability."

According to Samuleson-Nordhaus, "Inflation is a rise in the general level of prices."

In the words of Peterson, "The word inflation in the broadest possible sense refers to any increase in the general price-level which is sustained and non-seasonal in character."

As per Johnson, "Inflation is an increase in the quantity of money faster than real national output is expanding."

Keynes has presented his view that true inflation is the one in which the elasticity of supply of output is zero in response to increase in supply of money. In other words, there is no change in supply of output when the supply of money increases, which is a case of full employment.

In case of full employment, the situation would not be inflationary. However, we do not rely on classical view of full employment. Therefore, when the supply of money increases then the output and price also increase. In case, the rise in prices exceeds the rise in output, then the situation is termed as inflationary situation.

Kinds of Inflation

Inflation is usually categorized on the basis of its rate and causes. Here, we would study the types of inflation based on its rate.

Broadly, inflation can be of three types based on its rate, which are as follows:

(a) Moderate Inflation

Takes place when the prices of goods and services rise at a single digit rate annually. Moderate inflation is also termed as creeping inflation. When an economy passes through moderate inflation, the prices of goods and services increase but at moderate rate.

However, the rate of increase in prices under this type of inflation varies from country to country. Moderate inflation is a type of inflation that can be anticipated; therefore, individuals hold money as a store of value.

(b) Galloping Inflation

Refers to a type of inflation that occurs when the prices of goods and services increase at two-digit or three-digit rate per annum. Galloping inflation is also known as jumping inflation. In the words of Baumol and Blinder, "Galloping inflation refers to an inflation that proceeds at an exceptionally high."

Galloping inflation has adverse effect on middle and low income groups in the society. As a result, individuals are not able to save money for future. This kind of situation requires strict measures to control inflation.

(c) Hyperinflation

Occurs when the rate of increase in prices is extremely high or out of control. In other words, hyperinflation takes place when the increase in prices is more than three-digit rate annually. Hyperinflation takes place when there is an unrestricted increase in the supply of money in the market.

This leads to a situation of imbalance in the supply and demand of money. Consequently, money loses its real worth at a rapid rate, which, in turn, leads to an increase in prices. The economic condition of Germany in 1922 and 1923 is the best example of hyperinflation. Apart from this, in 1989 and 1991, Argentina, Brazil, and Zimbabwe were also striving hard to overcome hyperinflation.

Causes of Inflation

Generally, inflation takes place in an economy when demand for goods and services exceeds the supply of output. Therefore, causes of inflation have two sides, the demand side and supply side.

The various causes of inflation are as follows:

(a) Increase in demand:

Takes place due to the following factors:

i. Increase in money supply
ii. Increase in disposable income
iii. Increase in expenditure on investment and consumption goods
iv. Increase profit-making capacity of producers and retailers
v. Increase in foreign demand and exports
vi. Increase in population

The aforementioned causes of inflation may work alone or in combination with each other. The main cause of inflation is the excessive government spending on economic growth and developmental plans. This causes increase in money supply in the market As a result, the disposable income of individual's increases, which, in turn, increases their purchasing power.

(b) Constant supply of output:

Occurs due to the following factors:

i. Lack of capital equipment
ii. Lack of factors of production, such as trained labor, raw materials, and inefficient management
iii. Increase in exports to get foreign currency
iv. Decrease in imports due to various reasons, such as war or restriction on imports
v. Increase in restrictive trade practices to get advantage from rise in price in future
vi. Prolonged industrial unrest.

The Demand-Pull Inflation

The theory of demand-pull inflation relates to what may be called the traditional theory of inflation.

The essence of this theory is that inflation is caused by an excess of demand (spending) relative to the available supply of goods and services at existing prices.

According to classicals, the key factor is the money supply because in accordance with the quantity theory of money only an increase in the money supply is capable of raising the general price level.

In modern income theory, however, demand-pull is interpreted to mean an excess of aggregate money demand relative to the economy's full employment output level. The theory assumes that prices for goods and services as well as for economic resources are responsive to supply and demand forces, and will, thus, moves readily upward under the pressure of a high level of aggregate demand.

Economists like Friedman, Hawtrey, Golden Weiser, who regard inflation as a purely monetary phenomenon, strongly support this theory of inflation caused by excess money supply. The excess demand in the economy develops owing to large-scale investment expenditure either in the public or in the private sector, thereby exceeding the total output.

As a result of this excess demand, prices will rise and excess demand inflation or demand-pull inflation comes to exist. Thus, we find that according to this theory of demand-pull inflation, prices rise in response to an excess of aggregate demand over existing supply of goods and services caused by an increase in the quantity of money—resulting in a fall of interest rates—increasing investment expenditures and prices. But demand-pull inflation may also be caused without an increase in money supply—when MEC or MPC goes up causing an increase in expenditures and hence prices. Since inflation is due to excess demand, it is considered controllable by the demand reducing monetary and fiscal policies.

Excess demand approach is further developed by Bent Hansen, Keynes, Wicksell and Sweedish economists. Their view is that the general price is determined by the total demand for and total supply of goods just as the price of any good is determined by the forces of demand and supply for it.

According to them inflation is a situation caused by excess demand, in which the total demand for goods as measured by the volume of money offered is in excess of supply of goods at prevailing prices. But a deeper analysis will show that there is very little difference between the two approaches, that is, the approach of quantity theory supported by Milton Friedman that excess demand is caused by excess money supply and Bent Hansen-Keynes approach that excess demand is caused by increased expenditures on C and I, especially when it is realized that excess demand can become effective only by means of an increased supply of money.

The Figure 32.5 shows that pure-demand-inflation theorists tend to assume that at some income level Y0 in the Figure corresponding to full-employment, the aggregate supply function becomes completely inelastic, as drawn. No income level lower than Y0 is a full-employment one, and increases in demand beyond D0, to D1 and D2 raise the price level from P0 to P1 and P2.

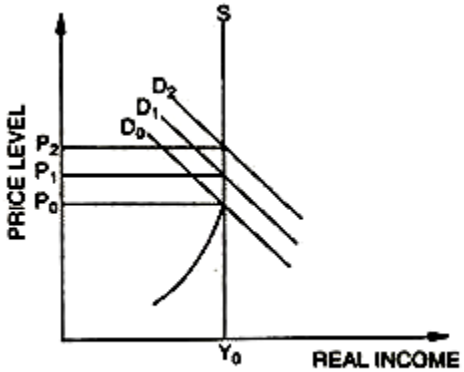


Fig. 32.5

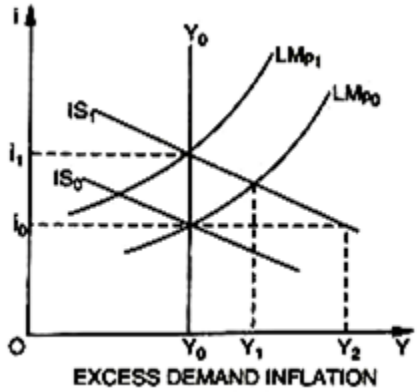
Price Level and Real Income

Inflation is a dynamic disequilibrium process. It implies a steady increase in the price level over time. Thus excess demand inflation implies that the IS and/or the LM schedules continue to shift upward over time so that excess demand for goods and services is perpetuated and general equilibrium is never established. Although an increase in the price level would normally tend to clear markets, this does not take place if demand continues to increase as fast as prices rise. Ultimately an excess demand inflation which is not fed by an expanding money supply must come to an end.

When interest rates rise to a high enough level, the demand for money will become totally inelastic with respect to the rate of interest. At this point there are no more speculative balances to be had, attempts to borrow funds either will be frustrated or, because of the resultant increase in interest rates, will cause the abandonment of other ventures. When the demand for money becomes inelastic, all funds are used for transaction purposes, and further increases in the aggregate demand can then be financed only by a reduction in expenditures elsewhere in the economy or by an increase in the transactions velocity of money. Thus, ultimately money supply is the causal factor.

Consider the diagram 32.6, which analyses the working of excess demand inflation irrespective of the fact whether excess demand is caused by increased money supply or by expenditures on C and I. Fig. 32.6

Let us suppose that the full-employment level of output remains fixed at Y0. General equilibrium is established at Y0 and i0 with price level p0. An increase in the price level may now come about as a result of an increase in aggregate demand, which shifts the IS0 schedule to IS1; the resulting excess demand of Y1 – Y0 leads to a bidding up prices so that the real value of the money supply shrinks and the LMp0 schedule shifts to LMp1, where general equilibrium is again established at the higher interest rate i1 and higher price level p1.



EXCESS DEMAND INFLATION
Fig. 32.6

Cost-Push Inflation

The theory of cost-push inflation became popular during and after the Second World War. This theory maintains that prices instead of being pulled-up by excess demand are also pushed-up as a result of a rise in the cost of production. Under cost-push inflation prices rise on account of a rise in the cost of raw materials, especially wages. The theory holds that the basic explanation for inflation is the fact that some producers, group of workers or both, succeed in raising the prices for either their product or services above the levels that would prevail under more competitive conditions.

In other words, inflationary pressures originate with supply rather than demand and spread throughout the economy. Inflation of the cost-push type originate in industries which are relatively concentrated and in which sellers can exercise considerable discretion in the formulation of both prices and wages. Cost-push inflation may not be possible in an economy characterized by pure competition.

Since this inflation is due to the forces of cost and supply, it is not subject to easy treatment because fiscal and monetary measures may cure a cost inflation only at the expense of increasing unemployment and slower growth. That is why many cost-push inflation experts advocate mitigation rather than elimination of inflation. The Figure 32.7 illustrates the pure cost-push inflation phenomenon:

Figure 32.7 shows that according to pure supply (cost-push) inflation theorists—in societies of oligopolies, unions and other pressure groups the aggregate supply curve moves upwards from S0 to .S1to S2 whatever may happen to aggregate demand. A usual characteristic of such markets is that the money wage rate is inflexible downward, the result of which is an aggregate supply curve of the kind shown by S0S. With the initial SoS and D0 curves in the Figure 32.7, we can turn to the process by which increases in the money wage rate push up the price level. We assume that there is an increase in the money wage rate that results entirely from the exploitation of the market

strength of labour unions and in no part from increased productivity of labour or increased demand for labour. Increase in wage rate has pushed S0S curve to S_1S.

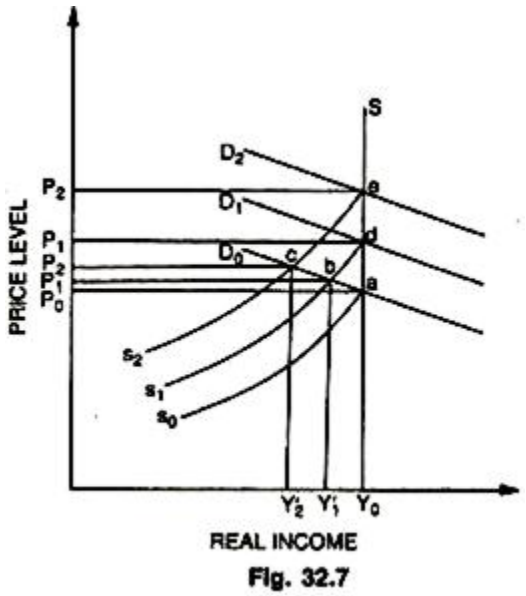


Fig. 32.7

Price Level and Real Income

The price level at which each possible level of output will be supplied increases proportionally with the increase in the money wage rate. With aggregate demand of D0, the result of the higher money wage rate and the resultant upward shift in SS function from S0S to S1S is a rise in the price level from P0 to P1 and a fall in the output level from Y0 to Y1 (which results in unemployment).

Thus, the rise in price level is accompanied by the appearance of unemployment. Further increase in money wage will bring further upward shifts in the SS curves (e.g., S2S). Each increase in money wage rate leads to a higher price level, lower output and higher unemployment. If left to increases, such increases in the money wage rate cannot continue indefinitely as the worsening unemployment that follows each such increase may be expected to restrain the Unions' demands for ever higher money wage rates.

Thus, this group of economists says that the process of inflation is caused not by an excess of demand but by increase in cost, particularly when factors of production try to increase their share of the total product by raising their awards or factor costs called cost-push inflation.

It is caused by the monopoly elements either in the labour market when there is wage-push or in the commodities market when there is profit-push but mostly it is due to wage-push which increases the cost of production and hence prices. It has been observed recently that in many countries labour unions have become very powerful so

that they are able to get wage increases almost every year greatly in excess of the overall average increase in output per man-hour.

According to an important variant of the cost-push theory, sectoral shifts in demand are the main causes of the inflationary process. For example, when the prices of tractors go up due to high prices of steel, the costs of agricultural products like food may go up necessitating a further rise in wages and so on. Thus, cost-push inflation once set in motion in one industry or sector, spreads like wildfire in the whole economy.

The revival of cost-push inflation theory was staged by Willard Thorp and Richard Quandt in their work 'The New Inflation' published in 1959. They emphasized the fact that cost-push inflation is caused by wage increases due to strong trade union activities on the part of labour. The wage increase and the rising cost of various inputs provide the initial impulse to inflation. It is due to rising cost on account of wages that workers and employers try to include escalator clauses in labour contracts, agreeing to raise wage rates as soon as there is a rise in the cost of living index.

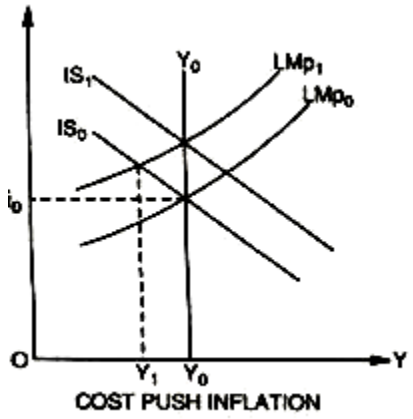
Escalator clauses provide for monetary correction on account of the facts of inflation, a measure also known as indexing. Under it as the inflation increases, the real income of labour is protected by equivalent wage increases. This, in turn, gives rise to cost-push inflation. Another variant of cost-push inflation is administrative inflation, which can occur during recession, recovery or shortages or simultaneously with demand-pull inflation.

In some industries or in case of certain goods, prices are determined less by demand and supply and more by administrative action, for example, when management in some industries raise prices in an attempt to increase profits, it results in administrative inflation. This has happened in steel, cement, coal, oil industries in the world and in India where there has been 30 to 50 per cent increase in prices despite high unemployment of both men and machines. However, both monetarists and Keynesians reject the idea of administrative type cost-push inflation—in fact monetarists reject all versions of cost-push inflation. Are there no limits to the extent to which this merry cost-push chase of wages after prices and prices after wages can be carried? Consider the adjacent Figure 32.8.

In this Figure general equilibrium prevails at Y0, i0 and p0. A price increase instigated autonomously by monopolistic busi-ness groups or as a result of wage pressure raises the price level to p1 and thus shifts the LMp0 schedule to LMp1. But at the new equilibrium between the IS and LM functions the level of output is below the full-employment level and, thus, there will be un-cleared markets and pressure on wages and price to return to their former level.

It looks, then, as if a general wage-price increase will create a situation in which all the higher priced output will not be bought, and this means that cost-push infla-tion is not likely to be self-sustaining as is sometimes believed.

The rise in wages and costs leading to rise in prices (wage-price spiral) will come to an end. Though the theory of cost-push inflation does tell us that in order to reduce unemployment a slowly rising price level is better than slowly sagging price level.



COST PUSH INFLATION
Fig. 32.8

Effects of inflation on production, consumption and distribution

1) Effects on Distribution of Income and Wealth

The impact of inflation is felt unevenly by the different groups of individuals within the national economy—some groups of people gain by making big fortune and some others lose.

a. Creditors and debtors

During inflation creditors lose because they receive in effect less in goods and services than if they had received the repayments during a period of low prices. Debtors, on other hand, as a group gain during inflation, since they repay their debts in currency that has lost its value (i.e., the same currency unit will now buy less goods and services).

b. Producers and workers

Producers gain because they get higher prices and thus more profits from the sale of their products. As the rise in prices is usually higher than the increase in costs, producers can earn more during inflation. But, workers lose as they find a fall in their real wages as their money wages do not usually rise proportionately with the increase in prices. They, as a class, however, gain because they get more employment during inflation.

c. Fixed income-earners

Fixed income-earners like the salaried people, rent-earners, landlords, pensioners, etc., suffer greatly because inflation reduces the value of their earnings.

d. Investors

The investors in equity shares gain as they get dividends at higher rates because of larger corporate profits and as they find the value of their shareholdings appreciated. But the bondholders lose as they get a fixed interest the real value of which has already fallen.

e. Traders, speculators, businesspeople and black-marketers:

They gain because they make more profits from the persistent rise in prices.

f. Farmers

Farmers also gain because the rise in the prices of agricultural products is usually higher than the increase in the prices of other goods.

Thus, inflation brings a shift in the pattern of distribution of income and wealth in the country, usually making the rich richer and the poor poorer. Thus during inflation there is more and more inequality in the distribution of income.

2) Effects on Production

The rising prices stimulate the production of all goods—both of consumption and of capital goods. As producers get more and more profit, they try to produce more and more by utilising all the available resources at their disposal.

But, after the stage of full employ-ment the production cannot increase as all the resources are fully employed. Moreover, the producers and the farmers would increase their stock in the expectation of a further rise in prices. As a result hoarding and cornering of commodities will increase.

But such favorable effects of inflation upon production are not always found. Sometimes, production may come to a standstill position despite rising prices, as was found in recent years in developing countries like India, Thailand and Bangladesh. This situation is described as stagflation.

3) Effects on Income and Employment

Inflation tends to increase the aggregate money income (i.e., national income) of the community as a whole on account of larger spending and greater production. Similarly, the volume of employment increases under the

impact of increased production. But the real income of the people fails to increase proportionately due to a fall in the purchasing power of money.

4) Effects on Business and Trade

The aggregate volume of internal trade tends to increase during inflation due to higher incomes, greater production and larger spending. But the export trade is likely to suffer on account of a rise in the prices of domestic goods. However, the business firms expand their businesses to make larger profits.

During most inflation since costs do not rise as fast as prices profits soar. But wages do not increase proportionate with prices, causing hardships to workers and making more and more inequality. As the old saying goes, during inflation prices move in escalator and wages in stairs.

5) Effects on the Government Finance

During inflation, the govern-ment revenue increases as it gets more revenue from income tax, sales tax, excise duties, etc. Similarly, public expenditure increases as the government is required to spend more and more for administrative and other purposes. But the rising prices reduce the real burden of public debt because a fix sum has to be paid in installment per period.

6) Effects on Growth

A mild inflation promotes economic growth, but a runaway inflation obstructs economic growth as it raises cost of develop-ment projects. Although a mild dose of inflation is inevitable and desirable in a developing economy, a high rate of inflation tends to lower the growth rate by slowing down the rate of capital formation and creating uncertainty.

Conclusion

But inflation, especially a runaway inflation, is an unstable situation. It makes the business world uneasy and uncertain. Society gets disturbed as there grows discontentment among the salaried people and they demand an increase in their wages and salaries.

The middle-class people suffer hard as the real value of their income becomes very low. Inflation is also unjust as it makes one class of people richer and the other poorer. But the most serious effect of inflation from the standpoint of the economy is that it makes the economic environment of business unstable.

Inflationary Gap

The concept of 'inflationary gap' introduced for the first by J M Keynes. This concept may be used to measure the pressure of inflation.

If aggregate demand exceeds the aggregate value of output at the full employment level, there will exist an inflationary gap in the economy. Aggregate demand or aggregate expenditure is composed of consumption expenditure (C), investment expenditure (I), government expenditure (G) and the trade balance or the value of exports minus the value of imports (X – M).

Let us denote aggregate value of output at the full employment by Y_f. This inflationary gap is given by $C + I + G + (X - M) > Y_f$. The consequence of such gap is price rise. Prices continue to rise so long as this gap persists. Inflationary gap thus describes disequilibrium situation.

Inflationary gap is thus the result of excess demand. It may be defined as the excess of planned levels of expenditure over the available output at base prices. An example will help us to clear the meaning of the concept of inflationary gap.

Suppose, the aggregate value of output at current price is Rs. 600 crores, the government now takes away output worth Rs. 100 crores for its own requirements, leaving thus Rs. 500 crores for civilian consumption. National income analysis says that the value of aggregate money income equals the net value of aggregate output.

Here also the total money income of the people (Rs. 500 crores) is equal to the net value of aggregate output (i.e., Rs. 600 crores – Rs. 100 crores = Rs. 500 crores). Thus, prices will remain stable since aggregate expenditure is equal to aggregate output. Let us further assume that the money income of the community is increased to Rs. 800 crores by creating additional purchasing power.

Let the government takes away Rs. 50 crores as taxes. A part of the increased income, says Rs. 100 crores, may now be saved. So the net disposal income available for spending becomes Rs. (800 – 50 – 100 =) 650 crores. Since the aggregate demand at old prices is Rs. 500 crores, an excess of Rs. 150 crores appears.

This excess represents inflationary gap that pulls up prices. If there is no corresponding increase in aggregate output, prices will continue to rise until aggregate output becomes equal to aggregate expenditure.

Keynes' demand inflation is often couched in terms of the concept of inflationary gap. We now graphically explain this gap with the help of the Keynesian cross that we use in connection with the determination of equilibrium national income. In Fig. 11.5, aggregate expenditure is measured on the vertical axis and national income or aggregate output is measured on the horizontal axis.

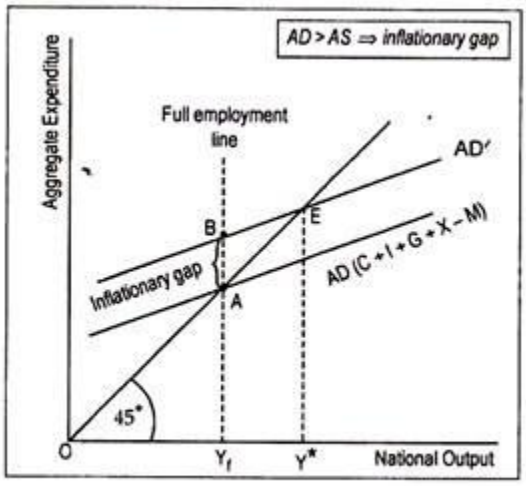


Fig. 11.5: Inflationary Gap

Let us assume that Yf is the full employment level of national income. If $C + I + G + (X - M)$ is the aggregate demand (AD) curve that cuts the 45° line at point A then an equilibrium income is determined at Y_f. There will not be any price rise since aggregate demand equals aggregate supply. Now if the AD curve shifts up to AD', equilibrium output will not increase since output cannot be increased beyond the full employment level.

In other words, because of full employment, output cannot increase to Y*. Thus at Y_f level of full employment output, there occurs an inflationary gap to the extent of AB. The vertical distance between the aggregate demand and the 45° line at the full employment level of national income is termed the inflationary gap. Or at full employment, there is an excess demand of AB that pulls up prices.

To describe inflationary gap in a simple way, we use Fig. 11.6. In this figure, we weigh aggregate demand (i.e., $C + I + G + X\text{-}M$) and aggregate supply. Since the former exceeds the latter, an inflationary gap emerges.

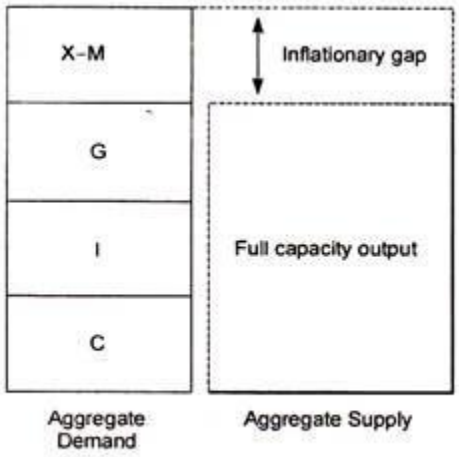


Fig. 11.6: Inflationary Gap

Inflationary gap can be eliminated/ minimized by using monetary policy and or fiscal policy instruments. Under the monetary policy, money supply is reduced and/or interest rates are increased. This gap, however, can be reduced either by reducing money income through reduction in government expenditure, or by increasing output of goods and services, or by increasing taxes.

Methods to Control Inflation

Inflation is considered to be a complex situation for an economy. If inflation goes beyond a moderate rate, it can create disastrous situations for an economy; therefore is should be under control.

It is not easy to control inflation by using a particular measure or instrument.

The main aim of every measure is to reduce the inflow of cash in the economy or reduce the liquidity in the market.

The different measures used for controlling inflation are shown in Figure-5:

Different Measures used for Controlling Inflation

The different measures (as shown in Figure-5) used for controlling inflation are explained below.

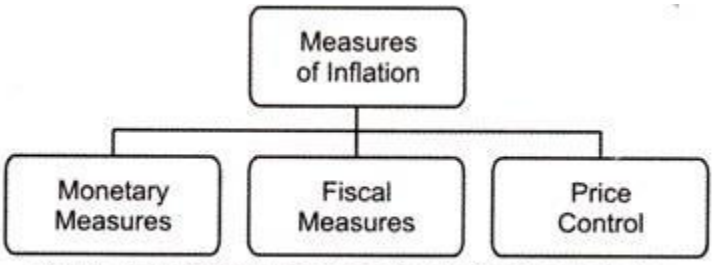


Figure-5: Different Measures for Controlling Inflation

1. Monetary Measures:

The government of a country takes several measures and formulates policies to control economic activities. Monetary policy is one of the most commonly used measures taken by the government to control inflation.

In monetary policy, the central bank increases rate of interest on borrowings for commercial banks. As a result, commercial banks increase their rate of interests on credit for the public. In such a situation, individuals prefer to save money instead of investing in new ventures.

This would reduce money supply in the market, which, in turn, controls inflation. Apart from this, the central bank reduces the credit creation capacity of commercial banks to control inflation.

The monetary policy of a country involves the following:

(a) Rise in Bank Rate:

Refers to one of the most widely used measure taken by the central bank to control inflation.

The bank rate is the rate at which the commercial bank gets a rediscount on loans and advances by the central bank. The increase in the bank rate results in the rise of rate of interest on loans for the public. This leads to the reduction in total spending of individuals.

The main reasons for reduction in total expenditure of individuals are as follows;

(i) Making the borrowing of money costlier:

Refers to the fact that with the rise in the bank rate by the central bank increases the interest rate on loans and advances by commercial banks. This makes the borrowing of money expensive for general public.

Consequently, individuals postpone their investment plans and wait for fall in interest rates in future. The reduction in investments results in the decreases in the total spending and helps in controlling inflation.

(ii) Creating adverse situations for businesses:

Implies that increase in bank rate has a psychological impact on some of the businesspersons. They consider this situation adverse for carrying out their business activities. Therefore, they reduce their spending and investment.

(iii) Increasing the propensity to save:

Refers to one of the most important reason for reduction in total expenditure of individuals. It is a well-known fact that individuals generally prefer to save money in inflationary conditions. As a result, the total expenditure of individuals on consumption and investment decreases.

(b) Direct Control on Credit Creation:

Constitutes the major part of monetary policy.

The central bank directly reduces the credit control capacity of commercial banks by using the following methods:

(i) Performing Open Market Operations (OMO):

efers to one of the important method used by the central bank to reduce the credit creation capacity of commercial banks. The central bank issues government securities to commercial banks and certain private businesses.

In this way, the cash with commercial banks would be spent on purchasing government securities. As a result, commercial bank would reduce credit supply for the general public.

(ii) Changing Reserve Ratios:

Involves increase or decrease in reserve ratios by the central bank to reduce the credit creation capacity of commercial banks. For example, when the central bank needs to reduce the credit creation capacity of commercial banks, it increases Cash Reserve Ratio (CRR). As a result, commercial banks need to keep a large amount of cash as reserve from their total deposits with the central bank. This would further reduce the lending capacity of commercial banks. Consequently, the investment by individuals in an economy would also reduce.

2. Fiscal Measures:

Apart from monetary policy, the government also uses fiscal measures to control inflation. The two main components of fiscal policy are government revenue and government expenditure. In fiscal policy, the government controls inflation either by reducing private spending or by decreasing government expenditure, or by using both.

It reduces private spending by increasing taxes on private businesses. When private spending is more, the government reduces its expenditure to control inflation. However, in present scenario, reducing government expenditure is not possible because there may be certain on-going projects for social welfare that cannot be postponed.

Besides this, the government expenditures are essential for other areas, such as defense, health, education, and law and order. In such a case, reducing private spending is more preferable rather than decreasing government expenditure. When the government reduces private spending by increasing taxes, individuals decrease their total expenditure.

For example, if direct taxes on profits increase, the total disposable income would reduce. As a result, the total spending of individuals decreases, which, in turn, reduces money supply in the market. Therefore, at the time of inflation, the government reduces its expenditure and increases taxes for dropping private spending.

3. Price Control:

Another method for ceasing inflation is preventing any further rise in the prices of goods and services. In this method, inflation is suppressed by price control, but cannot be controlled for the long term. In such a case, the basic inflationary pressure in the economy is not exhibited in the form of rise in prices for a short time. Such inflation is termed as suppressed inflation.

The historical evidences have shown that price control alone cannot control inflation, but only reduces the extent of inflation. For example, at the time of wars, the government of different countries imposed price controls to prevent any further rise in the prices. However, prices remain at peak in different economies. This was because of the reason that inflation was persistent in different economies, which caused sharp rise in prices. Therefore, it can be said inflation cannot be ceased unless its cause is determined.

Trade cycles-phases-causes and theories of trade cycles

Meaning of Trade Cycle:

A trade cycle refers to fluctuations in economic activities specially in employment, output and income, prices, profits etc. It has been defined differently by different economists. According to Mitchell, "Business cycles are of fluctuations in the economic activities of organized communities. The adjective 'business' restricts the concept of fluctuations in activities which are systematically conducted on commercial basis.

The noun 'cycle' bars out fluctuations which do not occur with a measure of regularity". According to Keynes, "A trade cycle is composed of periods of good trade characterized by rising prices and low unemployment percentages altering with periods of bad trade characterized by falling prices and high unemployment percentages".

Features of a Trade Cycle

1. A business cycle is synchronic. When cyclical fluctuations start in one sector it spreads to other sectors.

2. In a trade cycle, a period of prosperity is followed by a period of depression. Hence trade cycle is a wave like movement.

3. Business cycle is recurrent and rhythmic; prosperity is followed by depression and vice versa.

4. A trade cycle is cumulative and self-reinforcing. Each phase feeds on itself and creates further movement in the same direction.

5. A trade cycle is asymmetrical. The prosperity phase is slow and gradual and the phase of depression is rapid.

6. The business cycle is not periodical, some trade cycles last for three or four years, while others last for six or eight or even more years.

7. The impact of a trade cycle is differential. It affects different industries in different ways.

8. A trade cycle is international in character. Through international trade, booms and depressions in one country are passed to other countries.

Phases of a Trade Cycle:

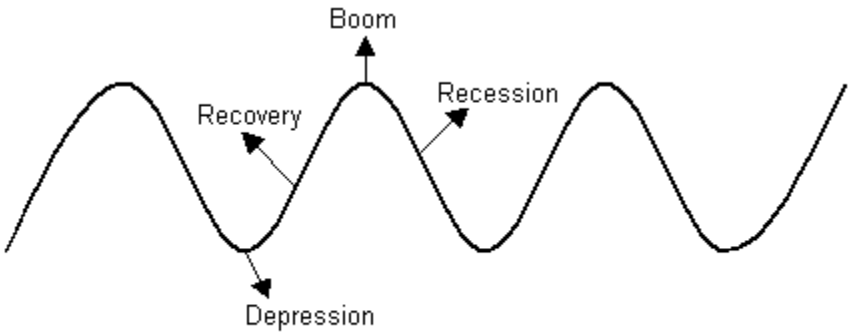


Figure 1 – Phases of Trade Cycle

Generally, a trade cycle is composed of four phases – depression, recovery, prosperity and recession.

Depression:

During depression, the level of economic activity is extremely low. Real income production, employment, prices, profit etc. are falling. There are idle resources. Price is low leading to a fall in profit, interest and wages. All the sections of the people suffer. During this phase, there will be pessimism leading to closing down of business firms.

Recovery:

Recovery denotes the turning point of business cycle form depression to prosperity. In this phase, there is a slow rise in output, employment, income and price. Demand for commodities goes up. There is increase in investment, bank loans and advances. Pessimism gives way to optimism. The process of revival and recovery becomes cumulative and leads to prosperity.

Prosperity: It is a state of affairs in which real income and employment are high. There are no idle resources. There is no wastage of materials. There is rise in wages, prices, profits and interest. Demand for bank loans increases. There is optimism everywhere. There is a general uptrend in business community.

However, these boom conditions cannot last long because the forces of expansion are very weak. There are bottlenecks and shortages. There may be scarcity of labour, raw material and other factors of production. Banks may stop their loans. These conditions lead to recession.

Recession: When the entrepreneurs realize their mistakes, they reduce investment, employment and production. Then fall in employment leads to fall in income, expenditure, prices and profits. Optimism gives way to pessimism. Banks reduce their loans and advances. Business expansion stops. This state of recession ends in depression.

Theories of Trade Cycle:

Many theories have been put forward from time to time to explain the phenomenon of trade cycles. These theories can be classified into non-monetary and monetary theories.

Non-Monetary Theories of Trade Cycle

1. Sunspot Theory or Climatic Theory:

It is the oldest theory of trade cycle. It is associated with W.S.Jevons and later on developed by H.C.Moore. According to this theory, the spot that appears on the sun influences the climatic conditions. When the spot appears, it will affect rainfall and hence agricultural crops.

When there is crop failure that will result in depression. On the other hand, if the spot did not appear on the sun, rainfall is good leading to prosperity. Thus, the variations in climate are so regular that depression is followed by prosperity.

However, this theory is not accepted today. Trade cycle is a complex phenomenon and it cannot be associated with climatic conditions. If this theory is correct, then industrialized countries should be free from cyclical fluctuations. But it is the advanced, industrialized countries which are affected by trade cycles.

2. Psychological Theory:

This theory was developed by A.C. Pigou. He emphasized the role of psychological factor in the generation of trade cycles. According to Pigou, the main cause for trade cycle is optimism and pessimism among business people and bankers. During the period of good trade, entrepreneurs become optimistic which would lead to increase in production.

The feeling of optimism is spread to other. Hence investments are increased beyond limits and there is over production, which results in losses. Entrepreneurs become pessimistic and reduce their investment and production. Thus, fluctuations are due to optimism leading to prosperity and pessimism resulting depression.

Though there is an element of truth in this theory, this theory is unable to explain the occurrence of boom and starting of revival. Further this theory fails to explain the periodicity of trade cycle.

3. Overinvestment Theory:

Arthur Spiethoff and D.H. Robertson have developed the over investment theory. It is based on Say's law of markets. It believes that over production in one sector leads to over production in other sectors. Suppose, there is

over production and excess supply in one sector, that will result in fall in price and income of the people employed in that sector. Fall in income will lead to a decline in demand for goods and services produced by other sectors. This will create over production in other sectors.

Spiethoff has pointed out that over investment is the cause for trade cycle. Over investment is due to indivisibility of investment and excess supply of bank credit. He gives the example of a railway company which lays down one more track to avoid traffic congestion. But this may result in excess capacity because the additional traffic may not be sufficient to utilise the second track fully.

Over investment and overproduction are encouraged by monetary factors. If the banking system places more money in the hands of entrepreneurs, prices will increase. The rise in prices may induce the entrepreneurs to increase their investments leading to over-investment. Thus Prof. Robertson has successfully combined real and monetary factors to explain business cycle.

This theory is realistic in the sense that it considers over investment as the cause of trade cycle. But it has failed to explain revival.

4. Over-Saving or Under Consumption Theory:

This theory is the oldest explanation of the cyclical fluctuations. This theory has been formulated by Malthus, Marx and Hobson. According to this theory, depression is due to over-saving. In the modern society, there are great inequalities of income. Rich people have large income but their marginal propensity to consume is less.

Hence they save and invest which results in an increase in the volume of goods. This causes a general glut in the market. At the same time, as majority of the people are poor, they have low propensity to consume. Therefore, consumption will not increase. Increase in the supply of goods and decline in the demand create under consumption and hence over production.

This theory is not free from criticism. This theory explains only the turning point from prosperity to depression. It does not say anything about recovery. This theory assumes that the amount saved would be automatically invested. But this is not true. It pays too much attention on saving and too little on others.

5. Keynes' Theory of Trade Cycles:

Keynes doesn't develop a complete and pure theory of trade cycles. According to Keynes, effective demand is composed of consumption and investment expenditure. It is effective demand which determines the level of income and employment.

Therefore, changes in total expenditure i.e., consumption and investment expenditures, affect effective demand and this will bring about fluctuation in economic activity. Keynes believes that consumption expenditure is stable and it is the fluctuation in investment expenditure which is responsible for changes in output, income and employment.

Investment depends on rate of interest and marginal efficiency of capital. Since rate of interest is more or less stable, marginal efficiency of capital determines investment. Marginal efficiency of capital depends on two factors – prospective yield and supply price of the capital asset. An increase in MEC will create more employment, output and income leading to prosperity. On the other hand, decline in MEC leads to unemployment and fall in income and output. It results in depression.

During the period of expansion businessmen are optimistic. MEC is rapidly increasing and rate of interest is sticky. So entrepreneurs undertake new investment. The process of expansion goes on till the boom is reached. As the process of expansion continues, cost of production increases, due to scarcity of factors of production. This will lead to a fall in MEC. Further, price of the product falls due to abundant supply leading to a decline in profits.

This leads to depression. As time passes, existing machinery becomes worn out and has to be replaced. Surplus stocks of goods are exhausted. As there is a fall in price of raw-materials and equipment, costs fall. Wages also go down. MEC increases leading to recovery. Keynes states that, "Trade cycle can be described and analyzed in terms of the fluctuations of the marginal efficiency of capital relatively to the rate of interest".

The merit of Keynes' theory lies in explaining the turning points-the lower and upper turning points of a trade cycle. The earlier economists considered the changes in the amount of credit given by banking system to be responsible for cyclical fluctuations. But for Keynes, the change in consumption function with its effect on MEC is responsible for trade cycle. Keynes, thus, has given a satisfactory explanation of the turning points of the trade cycle, "Keynes consumption function filled a serious gap and corrected a serious error in the previous theory of the business cycle". (Metzler).

Critics have pointed out the weakness of Keynes' theory. Firstly, according to Keynes the main cause for trade cycle is the fluctuations in MEC. But the term marginal efficiency of capital is vague. MEC depends on the expectations of the entrepreneur about future. In this sense, it is similar to that of Pigou's psychological theory. He has ignored real factors.

Secondly, Keynes assumes that rate of interest is stable. But rate of interest does play an important role in decision making process of entrepreneurs.

Thirdly, Keynes does not explain periodicity of trade cycle. In a period of recession and depression, according to Keynes, rate of interest should be high due to strong liquidity preference. But, during this period, rate of interest is

very low. Similarly during boom, rate of interest should be low because of weak liquidity preference; but actually the rate of interest is high.

6. Schumpeter's Innovation Theory:

Joseph A. Schumpeter has developed innovation theory of trade cycles. An innovation includes the discovery of a new product, opening of a new market, reorganization of an industry and development of a new method of production. These innovations may reduce the cost of production and may shift the demand curve. Thus innovations may bring about changes in economic conditions.

Suppose, at the full employment level, an innovation in the form of a new product has been introduced. Innovation is financed by bank loans. As there is full employment already, factors of production have to be withdrawn from others to manufacture the new product. Hence, due to competition for factors of production costs may go up, leading to an increase in price.

When the new product becomes successful, other entrepreneurs will also produce similar products. This will result in cumulative expansion and prosperity. When the innovation is adopted by many, supernormal profits will be competed away. Firms incurring losses will go out of business. Employment, output and income fall resulting in depression.

Schumpeter's theory has been criticized on the following grounds.

Firstly, Schumpeter's theory is based on two assumptions viz., full employment and that innovation is being financed by banks. But full employment is an unrealistic assumption, as no country in the world has achieved full employment. Further innovation is usually financed by the promoters and not by banks. Secondly, innovation is not the only cause of business cycle. There are many other causes which have not been analyzed by Schumpeter.

Monetary Theories of Trade Cycles

1. Over-Investment Theory:

Prof. Von Hayek in his books on "Monetary Theory and Trade Cycle" and "Prices and Production" has developed a theory of trade cycle. He has distinguished between equilibrium or natural rate of interest and market rate of interest. Market rate of interest is one at which demand for and supply of money are equal.

Equilibrium rate of interest is one at which savings are equal to investment. If both equilibrium rate of interest and market rate of interest are equal, there will be stability in the economy. If equilibrium rate of interest is higher than market rate of interest there will be prosperity and vice versa.

For instance, if the market rate of interest is lower than equilibrium rate of interest due to increase in money supply, investment will go up. The demand for capital goods will increase leading to a rise in price of these goods. As a result, there will be a diversion of resources from consumption goods industries to capital goods industries. Employment and income of the factors of production in capital goods industries will increase.

This will increase the demand for consumption goods. There will be competition for factors of production between capital goods and consumption good industries. Factor prices go up. Cost of production increases. At this time, banks will decide to reduce credit expansion. This will lead to rise in market rate of interest above the equilibrium rate of interest. Investment will fall; production declines leading to depression.

Hayek's theory has certain weaknesses:

1. It is not easy to transfer resources from capital goods industries to consumer goods industries and vice versa.

2. This theory does not explain all the phases of trade cycle.

3. It gives too much importance to rate of interest in determining investment. It has neglected other factors determining investment.

4. Hayek has suggested that the volume of money supply should be kept neutral to solve the problem of cyclical fluctuations. But this concept of neutrality of money is based on old quantity theory of money which has lost its validity.

2. Hawtrey's Monetary Theory:

Prof. Hawtrey considers trade cycle to be a purely monetary phenomenon. According to him non-monetary factors like wars, strike, floods, drought may cause only temporary depression. Hawtrey believes that expansion and contraction of money are the basic causes of trade cycle. Money supply changes due to changes in rates of interest.

When rate of interest is reduced by banks, entrepreneurs will borrow more and invest. This causes an increase in money supply and rise in price leading to expansion. On the other hand, an increase in the rate of interest will lead to reduction in borrowing, investment, prices and business activity and hence depression.

Hawtrey believes that trade cycle is nothing but small scale replica of inflation and deflation. An increase in money supply will lead to boom and vice versa, a decrease in money supply will result in depression.

Banks will give more loans to traders and merchants by lowering the rate of interest. Merchants place more orders which induce the entrepreneurs to increase production by employing more labourers. This results in increase in employment and income leading to an increase in demand for goods. Thus the phase of expansion starts.

Business expands; factors of production are fully employed; price increases further, resulting in boom conditions. At this time, the banks call off loans from the borrowers. In order to repay the loans, the borrowers sell their stocks. This sudden disposal of goods leads to fall in prices and liquidation of marginal firms. Banks will further contract credit.

Thus the period of contraction starts making the producers reduce their output. The process of contraction becomes cumulative leading to depression. When the economy is at the level of depression, banks have excess reserves. Therefore, banks will lend at a low rate of interest which makes the entrepreneurs to borrow more. Thus revival starts, becomes cumulative and leads to boom.

Hawtrey's theory has been criticized on many grounds:

1. Hawtrey's theory is considered to be an incomplete theory as it does not take into account the non-monetary factors which cause trade cycles.

2. It is wrong to say that banks alone cause business cycle. Credit expansion and contraction do not lead to boom and depression. But they are accentuated by bank credit.

3. The theory exaggerates the importance of bank credit as a means of financing development. In recent years, all firms resort to plough back of profits for expansion.

4. Mere contraction of bank credit will not lead to depression if marginal efficiency of capital is high. Businessmen will undertake investment in-spite of high rate of interest if they feel that the future prospects are bright.

5. Rate of interest does not determine the level of borrowing and investment. A high rate of interest will not prevent the people to borrow. Therefore, it may be stated that banking system cannot originate a trade cycle. Expansion and contraction of credit may be a supplementary cause but not the main and sole cause of trade cycle.

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