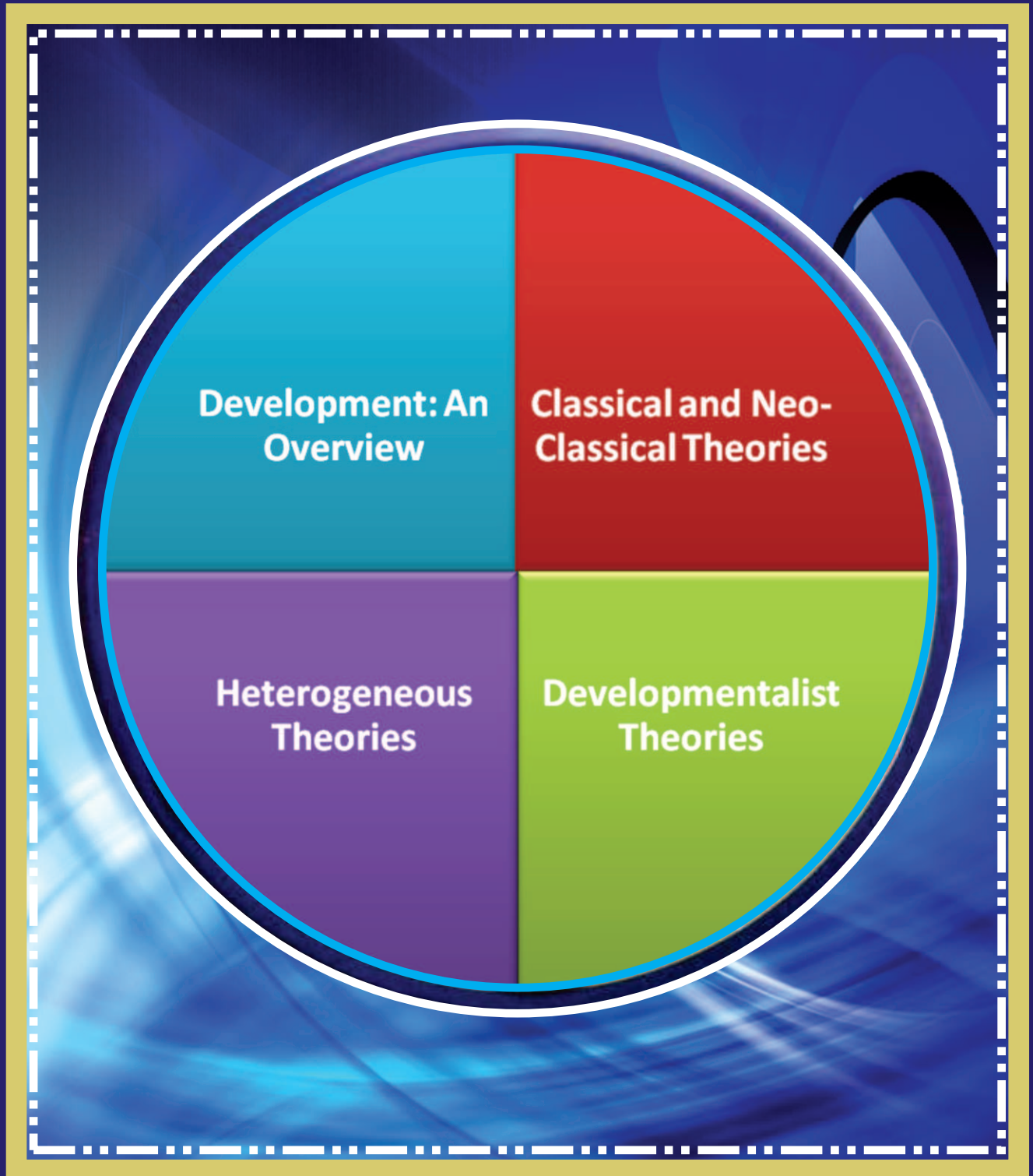




Block

2

CLASSICAL AND NEO-CLASSICAL THEORIES

UNIT 1

Classical Theories	5
---------------------------	----------

UNIT 2

Neo-Classical Theories	20
-------------------------------	-----------

UNIT 3

Marxian Theory	31
-----------------------	-----------

UNIT 4

Schumpeter Theory	47
--------------------------	-----------

PROGRAMME DESIGN COMMITTEE

Prof. Amita Shah Gujarat Institute of Development Research, Ahmedabad	Prof. P. Radhakrishnan Madras Institute of Development Studies, Chennai
Prof. S. K. Bhati Jamia Millia Islamia, New Delhi	Prof. Ramashray Roy (Rtd) Centre for Study of Developing Societies, Delhi
Prof. J. S. Gandhi (Rtd) Jawaharlal Nehru University, New Delhi	Prof. R. P. Singh (Rtd) Ex-Vice-Chancellor, MPUAT, Udaipur
Prof. Gopal Krishnan (Rtd) Punjab University, Chandigarh	Prof. K. Vijayaraghavan Indian Agriculture Research Institute, New Delhi
Prof. S. Janakrajan Madras Institute of Development Studies, Chennai	Dr. Nilima Shrivastava IGNOU, New Delhi
Prof. Kumar B. Das Utkal University, Bhubaneswar	Prof. B. K. Pattanaik IGNOU, New Delhi
Prof. Nadeem Mohsin (Rtd) A.N.Sinha Institute of Social Sciences, Patna	Dr. Nehal A. Farooquee IGNOU, New Delhi
	Dr. P.V.K.Sasidhar IGNOU, New Delhi

PROGRAMME DESIGN COMMITTEE (REVISED)

Prof. T.S. Papola Institute for Studies in Industrial Development, New Delhi	Prof. Nadeem Mohsin (Rtd) A.N.Sinha Institute of Social Sciences, Patna
Prof. S. Janakrajan Madras Institute of Development Studies, Chennai.	Prof. Rajesh University of Delhi, New Delhi
Prof. S. K. Bhati Jamia Millia Islamia, New Delhi	Prof. B. K. Pattanaik IGNOU, New Delhi
Prof. Preet Rustagi Institute for Human Development, Delhi	Prof. Nehal A. Farooquee IGNOU, New Delhi
Prof. Gopal Iyer (Rtd) Panjab University, Chandigarh	Prof. P.V.K. Sasidhar IGNOU, New Delhi
Dr. S. Srinivasa Rao Jawaharlal Nehru University, New Delhi	Dr. Pradeep Kumar IGNOU, New Delhi
Dr. S. Rubina Naqvi Hindu College, University of Delhi, Delhi	Dr. Nisha Varghese IGNOU, New Delhi
	Dr. Grace Don Nemching IGNOU, New Delhi

COURSE PREPARATION TEAM

Unit Writer:	Editors:
Prof. Kumar B. Das Utkal University, Bhubaneswar (Unit 1&3)	Prof. S. K. Bhati (Content Editor) NCERT, New Delhi
Dr. Nisha Varghese SOEDS, IGNOU (Unit 2)	Mr. Praveer Shukla (Language Editor) New Delhi
Prof. B. K. Pattanaik SOEDS, IGNOU (Unit 4)	Dr. Nisha Varghese, IGNOU
	Prof. B. K. Pattanaik, IGNOU
	Prof. Nehal A. Farooquee, IGNOU
	Prof. P. V. K. Sasidhar, IGNOU

Course Coordinator : Dr.Nisha Varghese, E-mail : nishavarghese@ignou.ac.in
Programme Coordinators : Prof. P.V.K. Sasidhar, Prof. B.K. Pattanaik,
Prof. Nehal A. Farooquee,

PRINT PRODUCTION

Mr. S. Burman Deputy Registrar (Publication) MPDD, IGNOU, New Delhi	Mr. KN Mohanan Asst. Registrar (Publication) MPDD, IGNOU, New Delhi	Mr. Babu Lal Rewadia Section Officer (Publication) MPDD, IGNOU, New Delhi
---	---	---

May, 2018

© Indira Gandhi National Open University, 2018

ISBN: 987-

All rights reserved. No part of this work may be reproduced in any form, by mimeograph or any other means, without permission in writing from the Copyright holder.

Further information on the IGNOU courses may be obtained from the University's office at Maidan Garhi, New Delhi or the official website of IGNOU at www.ignou.ac.in

Printed and published on behalf of IGNOU, New Delhi by Registrar, MPDD, IGNOU, New Delhi.

Laser Typeset by Rajshree Computers, V-166A, Bhagwati Vihar, (Near Sec. 2, Dwarka), New Delhi
Printed at:

BLOCK 2 CLASSICAL AND NEO-CLASSICAL THEORIES

Block-2 of Course MDV-101 consists of four units namely Classical Theories, Neo-Classical Theories, Marxian Theory and Schumpeter Theory.

Unit-1 on **‘Classical Theories’** introduces various classical theories of development. The main classical theories of development discussed in this unit are Adam Smith’s theory, Ricardian theory, Malthusian theory and J. S. Mill’s theory.

Unit-2 on **‘Neo-Classical Theories’**, discusses Keynesian Theory from which the Neo-Classical theories take their roots, the Harrod Domar model which was built on the Keynesian Theory and Solow’s model which has more relevance to less developed countries.

Unit-3 on **‘Marxian Theory’** discusses in detail, the philosophy, features and limitations of Marxian theory of development.

Unit-4 on **‘Schumpeter Theory’**, discusses the Schumpeter’s Theory in detail including the various features of the theory and a critical appraisal of the theory.

UNIT 1 CLASSICAL THEORIES

Structure

- 1.1 Introduction
- 1.2 The Classical Philosophy of Development
- 1.3 Classical Theories of Economic Growth and Development
- 1.4 An Overview of the Classical Theory of Economic Growth and Development
- 1.5 The Relevance of Classical Theories to Underdeveloped Countries
- 1.6 A Critical Appraisal of Classical Theories
- 1.7 Let Us Sum Up
- 1.8 References and Suggested Readings
- 1.9 Check Your Progress - Possible Answers

1.1 INTRODUCTION

As you know, theories are fundamental to any subject. If you are a student of Arts with Political Science and Economics as subjects, you might have studied Political Theory and Economic Theory. Likewise, in development studies also, theories of development are fundamental to the concept of development. This unit discusses the classical theories of development. The leading members of the classical school are Adam Smith, David Ricardo, and J. S. Mill. This unit mainly discusses the thoughts of these important economists who belong to the classical school of development. In the subsequent unit you will read about the Neo-Classical Theory.

After studying this unit you should be able to:

- explain classical philosophy of development;
- discuss classical theories of development; and
- point out the criticisms of classical theory of development.

1.2 THE CLASSICAL PHILOSOPHY OF DEVELOPMENT

The philosophical foundation of the classical school is embedded in an individualistic outlook. The classical economists were basically concerned with the activities of individuals. According to classicists, it is the welfare of each individual that leads to the welfare of the society and not vice versa. There is no conflict between the interests of the individuals and those of society. The welfare of society is the sum total of the well-being of all the individuals living in that society. The classical economists derived their conclusions by different reasoning. By adopting the inductive process, Smith says that individualism is the outcome of the principle of natural liberty. Adam Smith contends that when each individual acts freely, according to the natural laws operating within him, he maximizes his individual welfare and his society's welfare in the physical world. In Smith's view, the ideal economy is a self-regulating market system that automatically satisfies the economic needs of the people.

He arrived at this conclusion more from his observations of individual behaviour and functioning of society than from some abstract principle. He describes the market mechanism as an “invisible hand” that leads all individuals, in pursuit of their own self-interests, to produce the greatest benefit for society as a whole. He approves of only three fields for government action: defense, justice, and public works and institutions. On the other hand, classical economists such as Ricardo and Bentham rejected the concepts of natural law and natural liberty, and derived their conclusions on the ‘principle of utility’. According to this principle, each individual strives to maximize ‘pleasure’ in his various decisions.

Another important aspect of the classical school of development is the doctrine of *laissez-faire*. The doctrine of *laissez-faire* upholds the idea of economic liberalism. In other words, it says: let the natural forces of the economic system work independently, and they will produce results beneficial to both the individual and to society. Guided by his philosophy of Naturalism and Optimism, Smith advocated a policy of economic liberty. This policy has both negative and positive arguments. Negative arguments are set against the interference of government in economic activities, while positive arguments demonstrated the desirability of free trade.

Smith gave two arguments in support of the doctrine of *laissez-faire*:

- i) Economic liberty allows for full and free working of the mechanism of the invisible hand in a competitive economy, which ensures the maximum national wealth
- ii) Economic liberty facilitates setting in forces which are responsible for the growth of the wealth of a country over a period of time.

Thus, the doctrine of natural order works in the economic field through the laws of the market and the laws of motion.

The classical economists are followers of the doctrine of *laissez-faire*. They criticized the mercantilist system of protection. Smith incorporated some of the ‘Physiocrats’ ideas, including *laissez-faire*, into their economic theories, but rejected the idea that only agriculture was productive. The classical economists were against the subsidization of agriculture in the form of the Corn Laws. They rejected the mercantilist’s protectionist policy of trade. They opposed all kinds of restrictions on economic activities. According to them, all economies function best under private initiatives and competitive conditions, rather than under state control. Individual action motivated by enlightened self-interest and regulated by competition tends to promote individual as well as social welfare. The classical economists opposed the system of relief, or subsidy, to the poor on the ground that it promoted laziness, and increased their family size. The economists in the classical school produced their “magnificent dynamics” during a period in which

- a) individual actions are regulated by the forces of self-interest and competition
- b) production is organized by private individuals with a profit motive
- c) all goods and services of productive factors are brought for sale in the market.

The industrial revolution led to vast changes in society. These changes raised the question of how a society could be organized. The market economy posed theoretical as well as practical problems. On the theoretical side, the problem was to show how such an economy could develop and respond to the needs of society. On the practical side of public policy, the problem was whether to allow private forces to function freely, or to allow state intervention to achieve social objectives. The classical economists attempted to answer these questions.

The classical school of thought is further governed by the Law of Market. As mentioned earlier, according to Smith, the market is governed by two forces

- a) self-interest (the chief stimulator of individual action)
- b) competition (the beneficial outcome of the society).

The natural sentiment of self interest in a society of similarly motivated individuals results in competition. Through this automatic mechanism of competition, these individuals are driven to produce those goods which the society wants, in the quantities that society desires and at prices that the society is prepared to pay. Thus, the invisible hand of beneficial natural order is nothing but the automatic mechanism of a competitive market which regulates the economic activities to produce maximum social welfare.

Almost all the classical economists, except Malthus, accepted Say's formulation that: "Supply creates its own demand". Say's law implies three things

- a) Money is a veil: its only function is to serve as a medium of exchange
- b) General over production, or market glut, is impossible
- c) Full employment equilibrium is automatically ensured.

So, in this view, in the long run, there can never be a market glut. Therefore, the free economy always attains full employment equilibrium in the long run. Imbalance in the labour market is the result of imbalance in the goods market. Full employment equilibrium is automatically restored by free market forces.

Now that you are familiar with the classical philosophy of development, try and answer the following questions in *Check Your Progress-1*.

Check Your Progress 1

Note: a) Write your answer in about 50 words.

- b) Check your answer with possible answers given at the end of the unit.

1. Explain the doctrine of laissez-faire.

.....

.....

.....

2. Discuss Adam Smith's argument in favour of laissez-faire.

.....

.....

.....

1.3 CLASSICAL THEORIES OF ECONOMIC GROWTH AND DEVELOPMENT

The classical economists were primarily concerned with the dynamics of economic growth of a capitalist economy. In their view, population growth and capital accumulation are the necessary conditions of growth. The forces of diminishing returns and technological advancements determine the pace of economic growth. Capital accumulation, which itself is determined by the rate of profit, on one hand, creates a demand for labour, and, on the other, fosters technological improvements by facilitating the division of labour. Population, which tends to grow rapidly, increases the demand for food. Food production is subject to diminishing returns. Thus, we have two forces working in opposite directions: technological advancements promoting growth on one side, and the eventuality of diminishing returns that retard growth on the other. Thus, the long run trend of the economy depends upon the relative strength of these two forces.

The three theories of economic growth that are based on the classical school of thought are:

- a) **The Optimistic Theory** (Adam Smith): According to Smith, the process of development never comes to an end. Capital accumulation has two favourable effects. On one hand, it facilitates technological progress by making division of labour possible. On the other, it expands markets by increasing wages. Thus, economic growth continues forever.

Smith's optimism is because:

- i) He took into consideration that machines are complementary to labour, but neglected the labour-replacing effect of technology
 - ii) He assumed constant returns, and bypassed the gloomy effects of diminishing return
 - iii) He focused on aggregate wealth resulting from division of labour, economies of scale and the invisible hand.
- b) **The Pessimistic Theory** (Ricardo, Malthus): Ricardo and Malthus were pessimistic in their vision of the long run process of growth. Ricardo was less concerned about growth, and more about income distribution and trade. The Ricardian growth model emphasized the limits to growth imposed by the scarcity of land. Malthus maintained that the geometric growth of the population would outrun the arithmetical growth of food production. As a result, the process of economic growth would come to a standstill. The limits to growth are posed by land and population growth.
- c) **The Moderate Theory** (J.S. Mill): Mill followed the middle path. On one hand, refused to accept the Pessimistic theory due to two reasons. First, he hoped that the growing popularity and effectiveness of moral restraint would lighten the problem of over-population. Second, he was confident of a cultural change that would occur and would slacken the acquisitive spirit of society. However, Mill was not optimistic. He did not believe in the favourable effects of technological improvements. These improvements, themselves, are subject to diminishing returns.

I. Adam Smith's Growth Model

Adam Smith's theory of economic development is derived from his famous book *The Wealth of Nations*. The main points of his theory of economic development are

- Natural law
- *Laissez-faire*
- The division of labour
- Capital accumulation

Adam Smith advocated natural law in economic affairs. He opposed any government intervention in economic affairs of a country. He was a staunch free trader and advocated the policy of *laissez-faire* in economic affairs. He opined that natural laws are superior to law of states.

Adam Smith recognized three factors of production, namely land, labour, and capital

$$Y = f(K, L, N)$$

Y = Income

K = Stock of Capital

L = Labour Force

N = Land

In Smith's growth model, the process of development is initiated by the employment of productive labour, accelerated by the division of labour, and regulated by capital accumulation. The determinants of economic growth are

- a) capital accumulation
- b) the size of the working population
- c) the extent of the market.

Smith's dynamics of the growth process can be understood with the help of the following three propositions

- i) a rise in capital accumulation raises the ratio of productive to unproductive workers
- ii) increased demand for a work force raises the wage rate above the subsistence level which, in turn, increases the supply of the work force
- iii) an increase in the working population enlarges the size of the market, and widens the scope of division of labour.

Given adequate market possibilities and the basis for the capital accumulation, a division of labour takes place which increases the productivity of labour. The increased productivity of labour enhances national income, and enlarges the size of the working population. Both these elements widen market possibilities, and broaden the base for capital accumulation. This further increases the scope for the division of labour. Thus, the system becomes self-sustaining and cumulative. Smith observed that farmers, producers, and businessmen are the key agents of economic growth. It is the free trade, enterprise, and competition that led farmers, producers, and businessmen to expand the market; and which subsequently makes economic development interrelated.

II. The Ricardian Dynamic Model

Ricardo was concerned with a dynamic analysis. His theory of distribution was closely connected with the theory of growth. According to him the tendency to accumulate capital is the prime motive force in the process of economic growth. Capital accumulation means saving, and saving is regulated by the power to save and the will to save. The power to save depends upon the net income or the amount of the surplus over the total product necessary to maintain labour's subsistence level. The will to save depends upon the rate of profit. If the rate of profit is high, the capitalist will tend to consume less, and save more, and, *vice versa*. Thus, capital accumulation is an increasing function of net income.

Capital accumulation increases the demand for labour by pushing up market wages. Rising wages lead to the growth of population which in turn brings wages to the equilibrium level of subsistence minimum. The marginal product (or, total product-less-rent) of capital and labour falls as a consequence of the law of diminishing returns. Thus, real wages being constant at the subsistence level, a fall in the marginal product means that the relative share of labour (wages) increases and the relative share of capital (profits) falls. Out of these profits, again, there will be capital accumulation, but at a reduced rate, because profits will have fallen. The process of growth will continue until the profits fall to zero. At this stage, capital accumulation stops, the progress of economy halts, and the system reaches a stationary state.

In the Ricardian analysis, two more forces determine the pattern of development. They are: the law of population and the law of diminishing returns. The rate of capital accumulation regulates the demand for labour, and the demand for labour regulates the rate of population growth. Diminishing returns can be remedied by technological improvements. But, Ricardo believes that technological progress is also subject to the law of diminishing returns. Thus, in the long run, the law of diminishing returns must operate and productivity must fall.

The other two important edifices of the Ricardian model are the Law of Rent and the Corn Laws. The Law of Rent is based on the observation that the differing fertility of land yields unequal profit to the capital and on the labour that is applied on it. As far as the Corn Laws is concerned, Ricardo was against the Corn Laws. The Corn Laws were important tariffs designed to support domestic corn prices against competition from less expensive foreign imports. The Corn Laws aimed at enhancing the profits of the landowners. Ricardo believed that higher tariffs would shift the distribution of income in favour of the landlords.

III. Malthusian Theory of Development

T. R. Malthus pioneered the theory of population and linked it with development. According to Malthus, population growth is the end product of the whole process of economic development. However, the increase in population cannot take place without proportionate increase in wealth. He was of the opinion that mere increase in population cannot provide a stimulus to economic expansion. In his view, population growth promotes development only when it brings an increase in effective demand.

Malthus contended that the process of growth is not automatic and easy. It needs a conscious deliberate effort on the part of the people to promote

growth. He did not see any movement of the economy towards a stationary state, but, he emphasized that the economy may reach slumps many times before it achieved an optimum level of development. Therefore, the process of development consists of many ups and downs, and the journey is not a smooth one.

The Components of Malthusian Theory

The various components of Malthusian theory are

- i) **Population Growth and Economic Development:** The Malthusian principle of population states that the population increases faster than the food supply. According to Malthus, population growth will promote economic development only when it increases the effective demand, and it is the increase in effective demand which will lead to increase in wealth.
- ii) **Factors in Economic Development:** According to Malthus the size of potential gross national product depends on land, labour, capital, and organization. When these four factors are combined in the right proportion, they maximize production in the agriculture and industrial sectors. The increase in production in the agriculture and industrial sector could be brought about thorough the accumulation of capital, fertility of soil, and technological progress.
- iv) **The Role of Production and Distribution:** Malthus regarded production and distribution, the two vital elements of wealth generation. Their appropriate combination will lead to a faster rate of increase of wealth. The potentiality of economic development depends on the appropriate strategy of production and its distribution.
- v) **The Role of Foreign Trade:** Malthus assigned adequate importance to foreign trade in speeding up economic growth. It provides incentives for investing as it leads to the expansion of market for goods produced.
- vi) **Economic Stagnation:** According to Malthus, the supply of labour is inelastic in the short run. In this case, the supply of capital increases faster than the increase in population, and this may lead to an increase in wages. However, he believed that rise in wage does not lead to an increase in effective demand because workers prefer leisure to increased consumption. As a result, prices fall, profits decline, investment falls, and, consequently, accumulation of capital is constrained. This state of affairs leads to economic stagnation.

IV. J.S. Mill's Theory of Development

J.S. Mill has made a significant contribution to the theory of economic development. According to Mill, economic development is a function of land, labour, and capital. He treated land and labour as original factors of production, and capital as the stock previously accumulated from the production of labour. According to him, the wealth of a nation increases production faster than the labour force. He also distinguished between productive consumption, and unproductive consumption. Productive consumption is that consumption which increases the productive power of the community.

The important constituents of Mill's theory of development are

- i) control of population growth
- ii) a wage fund
- iii) The role of capital accumulation
- iv) rate of profit
- v) The role of the state
- vi) The stationary state

i) Control of Population Growth: Mill believed in Malthusian Theory of Population. According to Mill, the tendency of a population is to increase faster than the means of living. Therefore, there is a need to restrict population growth in order to bring faster development.

ii) The Wage Fund: According to Mill, the elasticity of labour supply is very high in response to rise in wages. Wages usually cross the subsistence level. Wages are paid out of capital, and, hence, they are limited by the existing fund of capital. Further, wages are determined by the demand and supply of labour. Any change in the wage rate is affected by the change in capital or population. Thus, the rise and fall in wages depends upon whether capital grows faster than a population, or whether population grows faster than capital. Mill pointed out that an increase in consumption leads to a decline in investment. On the other hand, increase in investment leads to an increased wage fund, and this leads to economic progress. Mill believed that the wage fund depends upon the aggregate fund of capital, and the wages that are paid out of capital as advances.

iii) The Role of Capital Accumulation: Capital is defined as the previously accumulated stock of the products of formal labour: the higher the capital, the larger the size of wages and thus, the higher the demand for productive labour. Capital is the result of savings, and savings means abstinence from present consumption for the sake of future investment. According to Mill, capital accumulation depends upon

- i) the size of the fund that savings can make, and
- ii) the strength of the disposition to save.

Thus, capital is the kingdom of development, and it is the upshot of investment.

iv) The Rate of Profit: According to Mill, the ultimate tendency in an economy is for the rate of profit to decline due to diminishing returns in agriculture, and an increase in the population at a Malthusian rate. In the absence of technical improvement in agriculture, and with a high population growth rate, the rate of profit is bound to decline, and the economy will approach a stationary state.

v) The Role of State: J S. Mill was an ardent supporter of *laissez faire* and advocated a minimum role for the state in economic affairs. Mill was in favour of free trade, and against protectionism. He prescribed protection only for infant industries. In his view, the government has an important role to civilize citizens by providing educational facilities. However, he did not consider education as an investment in capital which stimulates economic growth.

- vi) **The Stationary State:** The stationary state is a stage where there could be no increase in either population, or in the stock of capital. Profit becomes minimal. However, there would still be a rise in the standard of living because of improvements in the life style, and increased leisure through technical progress. According to J.S. Mill the stationary state is imminent. He supported the stationary state as it leads to improvement in income distribution, and large remuneration for labour.

Now that you are familiar with the classical theories of economic growth and development, try and answer the following questions in *Check Your Progress-2*.

Check Your Progress 2

Note: a) Write your answer in about 50 words.

- b) Check your answer with possible answers given at the end of the unit.

1. Discuss the key features of Ricardian theory.

.....

2. What are the important constituents of Mill's theory of Development?

.....

1.4 AN OVERVIEW OF THE CLASSICAL THEORY OF ECONOMIC GROWTH AND DEVELOPMENT

In the previous section we discussed the views of Adam Smith, Ricardo and J S Mill on the process of growth in capitalist economies. We have also explained the process in which a growing capitalist economy would reach stationary state. On several issues, there is little consensus among these economists. Therefore, it gives an impression that it may not be proper to give a single synthesized model and name it as the Classical Model.

However, it is clear that the classical economists had explained growth process in terms of rate of technological progress and population growth. In their view, technological progress continues for some time, but finally slows down and the falling rates of profits further prevent capital accumulation. It is at this stage that the economy slumps into stagnation. Some of the broad features of classical theory follow.

The classical theorists have postulated production, which can be written as:

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

K = Capital

N = Labour Force

L = Land

T = Level of Technology

Classical and Neo-Classical Theories

The output depends on the stock of capital, labour force, and level of technology. Technological progress is constrained by capital accumulation. Classical economists are of the opinion that, the process of technological progress was capital absorbing and therefore capital accumulation is a prerequisite for a steady advance of technology.

Investment depends on profit. Classical economists opined that productive activities are motivated by profit, and thus, any productive investment is guided by the profit motive.

The labour supply and technological progress determine the level of profit.

$$R = f(L, T)$$

R = Profit

L = Labour Supply

T = Technological Progress

According to classical economists, the level of profit is determined by the supply of the labour force, the population growth, and technological progress.

The size of labour force is constrained by the size of the Wage Fund.

$$L = f(W)$$

L = Labour force

W = Wage fund

The classical economists asserted that it is the amount of money that is available to pay the wage bill that determines the population growth.

The wage fund is determined by the level of investment

$$W = f(I)$$

W = Wage fund

I = Investment

The wage fund is defined as the amount of money available for paying wages to hired workers. It constitutes working capital, and is created out of savings.

According to classical economists, an increase in profits brings an increase in investment. This augments the capital stock, which, in turn, permits technological progress, and raises the wage fund. Increased wages lead to population growth, which raises labour costs (through diminishing returns to labour on land), and reduces profits. This circular process continues. As a result of reduced profits, investment falls, technological progress is retarded, wages decline, population growth slows, returns to labour on land increase, labour costs fall, and profits rise, and so on. In the long run, the classical economists envisaged a stationary, or stagnant state. In a mature economy, diminishing returns tend to outrun technological progress. Eventually, profits fall to such a low level that further investments stop, and wages and population cease to grow. This is termed the stationary state.

The circularity that we outlined above is even more apparent when we have the whole system before us. Let us look at a system of equations and its logic.

1)	Production	$Q = f(L, K, S, T)$
2)	Technology	$T = T(I)$
3)	Investment	$I = \Delta K = I(R)$
4)	Profit	$R = R(T, L)$
5)	Employment	$L = L(W)$
6)	Wages	$W = W(I)$
7)	Total Output	$Q = R + W$
8)	Wage rate	$W = wL$

In order to understand the mechanism of the growth process, let us start with profits which are regarded as the prime movers of an economy. The cause and effect process proceeds as follows:

$$\Delta R \rightarrow \Delta I \rightarrow \Delta K \rightarrow \Delta T \rightarrow \Delta W \rightarrow \Delta L \rightarrow \Delta R$$

An increase in profits brings an increase in investment. It permits capitalists to take advantage of the steady flow of improved techniques, and raises the wage fund. This leads to accelerated population growth, which, in turn, causes decreasing returns to labour on the land, thereby raising labour costs, and reducing profits. Contrarily, reduced profits mean reduced investment, retarded technological progress, a diminished wage fund, and the slowing down of population growth.

According to the classical school, when a population is relatively small, returns on land will be high, perhaps even increasing. However, as a population grows, it encounters rapidly diminishing returns. Technological progress takes place at a steady rate, provided enough capital is forthcoming to exploit the opportunities. Thus, in an advanced economy, diminishing returns to land, and the consequent rise in labour costs will outrun effective technological progress. Profit falls, and then investment drops, technological progress is retarded, the wage fund ceases to grow, and so population also ceases to grow. Thus, the classical concept of the stationary state is a historical phase, and not just an analytical model. It is essentially a concept of a mature economy. Stagnation results from the natural tendency of profits to fall, and the consequent decline of capital accumulation. The end result of capitalist development is stagnation.

1.5 THE RELEVANCE OF CLASSICAL THEORIES TO UNDERDEVELOPED COUNTRIES

The classical theories of growth are limited in scope and specific in approach. They developed in England at the time of the Industrial Revolution, and suggested policy measures are particularly suited to the problems of that period. Coincidentally, classical analysis is found to be useful in examining the growth problems of the present day underdeveloped countries. In fact, no other traditional theory of economic growth has so much relevance to the problems of the underdeveloped countries as classical theory. Most underdeveloped countries, today, experience the classic symptoms of economic stagnation, i.e. population growth, higher labour-land ratio, and low wages. The Lewis' Model of Dualism is an offshoot of classical theory. It is applicable

to an underdeveloped economy with two sectors: a subsistence sector, and a capitalist sector. The distinguishing feature of the subsistence sector is the existence of disguised unemployment, which implies zero, or even negative, marginal productivity. Average productivity is very low. The capitalist sector is an advanced sector where capitalists use reproducible capital, and employ wage labour in the productive process in order to earn profits.

As the capitalist sector expands, it draws labour from the subsistence sector. It is assumed that the subsistence sector is the source of unlimited supply of labour. In other words, there are more workers who are willing to work than are demanded at the existing wage rate. The actual wage rate in the capitalist sector is determined by what the workers earn in the subsistence sector. Workers are paid in the subsistence sector with wages that are equal to their average productivity. The producers in the capitalist sector pay higher wages as an incentive for them to leave their traditional areas of work in the subsistence sector. The process of expansion continues until all surplus labour in the subsistence sector is absorbed in the capitalist sector.

1.6 A CRITICAL APPRAISAL OF CLASSICAL THEORIES

The following are the criticisms of classical theories

- 1) It is a static model as it does not exhibit any sequence. While it looks like a growth model, in a real sense it is not really a growth model.
- 2) The classical model does not emphasize the role of entrepreneurs, who really bring about innovations that lead to capital formation.
- 3) The classical theory is based on the unrealistic assumption of perfect competition. However, free and fair competition is never found anywhere.
- 4) It ignores the role of the state. State non-action is a highly impractical policy. In today's complex society, state intervention is indispensable.
- 5) It ignores the significant role played by the middle class in modern society. It only recognizes two classes: the capitalist, and the labour class.
- 6) It neglects the significant contribution made by technological advancement and modern technical know-how.
- 7) Currently, technological modernization raises labour productivity and total factor productivity. Wages rise, according to the rise in labour efficiency.
- 8) It is wrong to say that capital accumulation leads to secular stagnation. In reality, it raises the demand for consumer goods, and the share of wages and profits.
- 9) The Malthusian theory of population and the Ricardian theory of diminishing returns have no relevance in the capitalist or socialist countries that have modern technology.
- 10) The wage fund theory is absurd. Wages are never fixed or reducible as the classicists believe. Mill related the wage fund to capital, not national dividend.
- 11) A stationary state is not a likely reality, either for developed countries, or for underdeveloped countries. The stationary state is not necessarily

undesirable. Rather, it is a pleasant social stage when people enjoy leisure, luxury, and peace with economic security.

- 12) Smith also failed to distinguish between the conditions of a static society and those of a dynamic society.
- 13) Ricardo's real interest was in the theory of distribution, and not in the theory of growth. He did not analyze the problems of employment and cyclical fluctuations.

You have read about the classical theory of growth and development, its relevance to underdeveloped countries and criticisms of classical theories. Now, try and answer the following questions given in the *Check Your Progress-3*.

Check Your Progress 3

Note: a) Write your answer in about 50 words.

b) Check your answer with possible answers given at the end of the unit.

- 1) Explain, briefly, the Classical Theory of Economic Growth.

.....

.....

.....

.....

- 2) Write three important criticisms of classical theory.

.....

.....

.....

.....

1.7 LET US SUM UP

In this unit, we explained the classical theory of economic growth. We studied Smith's model, Ricardo's model and J.S. Mill's theory of development separately. We made a critical appraisal of classical theory, and examined its relevance to the developing countries.

1.8 REFERENCES AND SUGGESTED READINGS

Adelman, I. (1961), *Theories of Economic Growth and Development*, Stanford University Press, California.

Dixit, A.K. (1976), *Theory of Equilibrium Growth*, Oxford University Press, Oxford.

Eltis, W. (2000), *The Classical Theory of Economic Growth*, 2nd Edition, Palgrave Macmillan.

Higgins, B. (1999), *Economic Development*, Universal Books, New Delhi.

Kindlberger, C. P. (1984), *Economic Development*, Mac Graw Hill, Singapore

Kuznet, S. (1971), *Economic Growth of Nations*, Harvard University Press, Cambridge.

Mark, B. (1987), "Classical Economics," *The New Palgrave Dictionary of Economics*, Vol. 1, pp. 414-45.

Myrdal, G. (1968), *Asian Drama*, Pantheon, New York. Samuel H. (1987), *Classical Economics*, Oxford: Blackwell.

1.9 CHECK YOUR PROGRESS - POSSIBLE ANSWERS

Check Your Progress 1

1. The doctrine of *laissez-faire* upholds the idea of economic liberalism. That is, let the natural forces of the economic system work independently, and they will produce results beneficial to both the individual, and to society. Guided by his philosophy of naturalism and optimism, Smith advocated a policy of economic liberty. This policy has both negative and positive arguments. Negative arguments are set against government interference in economic activities, while positive arguments demonstrated the desirability of free trade.
2. Smith gave two arguments in support of the doctrine of *laissez-faire*:
 - i) Economic liberty allows for full and free working of the mechanism of the invisible hand in a competitive economy, which ensures the maximum national wealth
 - ii) Economic liberty facilitates setting in forces which are responsible for the growth of the wealth of a country over a period of time.

Check Your Progress 2

1. According to Ricardo, capital accumulation increases the demand for labour by pushing up market wages. Rising wages lead to the growth of population which, in turn, brings wages to the equilibrium level of subsistence minimum. The marginal product (or, total product less-rent) of capital and labour fall as a consequence of the law of diminishing returns. The relative share of labour (wages) increases and the relative share of capital (profits) falls. In the Ricardian analysis, two more forces determine the pattern of development. They are: the law of population and the law of diminishing returns. The process of growth will continue until profits fall to zero. At this stage, capital accumulation stops, and an economy reaches a stationary state.
2. The important constituents of Mill's theory of development are
 - i) control of population growth
 - ii) a wage fund
 - iii) The role of capital accumulation
 - iv) rate of profit
 - v) The role of the state
 - vi) The stationary state

Check Your Progress 3

1. According to classical economists, an increase in profits brings an increase in investment. This augments the capital stock, which, in turn, permits technological progress, and raises the wages fund. Increased wages lead

to population growth, which raises labour costs (through diminishing returns to labour on land), and reduces profits. The cause-and-effect process is circular, and proceeds as follows:⁴⁵⁴

$$\Delta R \rightarrow \Delta I \rightarrow \Delta K \rightarrow \Delta T \rightarrow \Delta W \rightarrow \Delta L \rightarrow \Delta R$$

2. The following are three important criticisms of classical theories
 - i) It is a static model as it does not exhibit any sequence. While it looks like a growth model, in a real sense it is not really a growth model.
 - ii) The classical model does not emphasize the role of entrepreneurs, who really bring about innovations that lead to capital formation.
 - iii) The classical theory is based on the unrealistic assumption of perfect competition. However, free and fair competition is never found anywhere.

UNIT 2 NEO-CLASSICAL THEORIES

Structure

- 2.1 Introduction
- 2.2 The Early Neo-classical Thoughts
- 2.3 Harrod-Domar Model
- 2.4 Solow's Model
- 2.5 Let Us Sum Up
- 2.6 References and Suggested Readings
- 2.7 Check Your Progress – Possible Answers

2.1 INTRODUCTION

The classical theories revolved mainly around the role of markets in the economy. The classical economists propounded that if the markets worked freely then the economy would prosper. They were of the opinion that any imperfections in the market need to be dealt with by the government. These are mainly the works of the economists in the 18th and the 19th century. The works of the classical economists were subsequently updated by the modern economists and the theories developed hence were termed as neo-classical theories. The term was originally introduced by Thorstein Veblen in his 1900 article 'Preconceptions of Economic Science'. The neo-classical theory became popular in 1970s. The World Bank also shifted from its Basic Needs approach to Neo-classical approach in 1980. The Neo-classical theory maintains that economic growth can be attained by increase in saving and investment and by improvement in technology. The theory sees underdevelopment as a result of inefficient utilization of resources by the government and state intervention in the market through regulation of prices. This unit gives you a brief of the basic theories from which the neo-classical theory has its origin. It also discusses in detail Solow's theory which is the most important Neo-classical theory. After reading this unit you will be able to:

- Discuss the thoughts of early neo-classical economists
- Explain the Harrod and Domar's model
- Discuss Solow's theory and its implications in short and long run

2.2 THE EARLY NEO-CLASSICAL THOUGHTS

With the economic thought shifting from Classical to Neoclassical, the central theme of economics changed from the growth of national wealth to the marginal principle in the aspects of production and consumption. The theory of rational production propounded by the neoclassical economists believed that the inputs are substitutable i.e. capital (machines) can be substituted for labour (human workers) and that production is efficient only if a given quantity of output cannot be produced with less or fewer inputs.

Alfred Marshall (1842-1924) from England saw producer as the allocator of capital among various factors of production in such a way that the marginal product of each factor was proportional to its price. Marshall

believed that there was increasing returns to scale of production i.e. Increased production reduced the per unit cost of the produce. According to him if several firms operate in a single location, it offers pooled market for workers with specific skills, ensures less unemployment for workers and less labour shortages for firms, improved efficiency as a result of information spillovers etc. Marshall saw economy as a well balanced system always tending towards equilibrium. According to him the economic changes occurred through smooth and continuous adjustments and all the forces acting on an economy generate reactions that would tend to push the economy towards optimal state in long run. Eg. A shortage of any good or service will increase its price which in turn would call for more resources being diverted to produce that good, thus creating a greater supply and hence reduction in prices.

Austrian Economist, Carl Menger (1818-1882), considered as the individual to be the ultimate unit of analysis and thought that goods are valued for their specific utility and not because of the amount of labour used in producing them as thought by the Classical economists. The value of labour is in turn derived from the value of goods it produces. People then exchange what they value less for something they value more. Thus both sides gain in exchange.

Leon Walras (1834-1910) from Lausanne, Switzerland developed marginal utility from the concept of scarcity and the degree of utility finally determines the amount of value for each product. According to Walras, for each product, there is a demand function which depends on its price, the price of related goods and consumer's income and taste. Also for each product there is a supply function which depends on cost of production, price of productive services and the level of technical knowledge. In the market, for each product, there is a point of equilibrium at which one price will satisfy both the consumers and the producers. Equilibrium in one market also depends on what happens in other markets. Thus a general equilibrium in an economy involves simultaneous determination of partial equilibria in all the markets. Thus, according to Walras, if all the markets in an economy are in equilibrium, then any specific market should also be in equilibrium. Similarly, if markets for goods are in equilibrium, the markets for labour will also be in equilibrium. Vifredo Pareto (1848-1923) gives mathematical conditions under which Walras's general equilibrium might achieve optimal economy, also called Pareto Optimality.

Thus in nutshell, the neoclassical economists believe that under perfect competition, markets yield a long term set of prices that equilibrate the demand and supply of all commodities in production and consumption. Given the consumer preferences, technology and factors of production, the market forces of supply and demand allocate resources efficiently such that in long run, costs are minimized and consumer utility is maximized. All the factors of production thus receive income commensurate with the efforts they put in. Thus economic growth resulted from the efficiencies produced by rational producers and consumers interacting in self-regulating markets.

2.3 HARROD- DOMAR MODEL

Another model which is in line with the Neo Classical theories of development is the Harrod Domar model. In this section we will learn about

these models and their limitations from the standpoint of less developed economies.

The Harrod and Domar models are the result of their interest in working out the rate of income growth which would be necessary for a smooth and uninterrupted working of the economy. Both the models emphasize on the dual characteristics of investment. Firstly it creates income (demand effect of investment) and secondly it increases the capital stock (supply effect of investment), thereby increasing the productive capacity of the economy. At full employment equilibrium, the real income in an economy expands at the same rate as the productive capacity of the capital stock. Any divergence leads to excess or idle capacity, forcing entrepreneurs to curtail their investment expenditure. This further leads to lowering of income and employment and moving the economy off the equilibrium path of steady growth. Hence to maintain full employment, net investment should expand continuously. This further requires growth in real income at a rate sufficient enough to ensure full capacity use of growing stock of capital. This required rate of income growth is called 'the full capacity growth rate' or the warranted rate of growth.

2.3.1 Assumptions of Harrod Domar models

The Harrod and Domar models are based on the following assumptions:

1. Initial full employment equilibrium level of income
2. Absence of government interference
3. Closed economy and absence of foreign trade
4. No lags in adjustments between investment and creation of productive capacity
5. The average propensity to save is equal to marginal propensity to save
6. Marginal propensity to save remains constant
7. The capital coefficient or the ratio of capital stock to income is assumed to be fixed.
8. Capital goods are assumed to possess infinite life and there is absence of depreciation of the same
9. Savings and investment relate to income of the same year.
10. General price level is constant ie. The money income and real income are the same.
11. There are no changes in interest rates
12. There is a fixed proportion of capital and labour in the production process
13. Fixed and circulating capital both together constitute the capital
14. There is only one type of product

2.3.2 The Domar Model

Domar's model is a result of his probe into the question that ... At what rate investment should increase so as to make increase in income equal to increase in productive capacity, so that full employment is achieved.

Let I = annual rate of investment

s = productive capacity per dollar of newly created capital

Therefore, productive capacity of I dollar invested = $I.s$

It is also true that the new investment would be at the expense of old. The new investment will compete with the old for labour and other factors of production. Hence the output of old plants will be curtailed and the increase in productive capacity or annual output of the economy will be less than $I.s$.

Let the net potential increase in output of the economy be $I\sigma$

Where $\sigma = \Delta Y/I$ (1)

(ratio of annual increase in income to annual rate of investment)

According to Domar this is the increase in output which the economy can produce and it is the supply side of our system.

Domar's explanation of the demand side

Domar explains the demand side by the Keynesian multiplier.

Let the annual increase in income be = ΔY

Annual increase in investment = ΔI

Propensity to save (α) = $\Delta S/\Delta I$

According to Keynes, increase in income will be multiplier times increase in investment.

$$\Delta Y = \Delta I \frac{1}{\alpha} \quad \dots\dots\dots (2)$$

Equilibrium: To maintain full employment level of income, aggregate demand should be equal to aggregate supply.

From Equations (1) and (2)

$$\Delta I \frac{1}{\alpha} = I\sigma$$

Solving the equation,

$$\alpha I\sigma = \Delta I$$

$$\frac{\Delta I}{I} = \alpha\sigma$$

The above equation shows that to maintain full employment, the growth rate of investment should be equal to the Marginal Propensity to Save times productivity of capital. If investment grows at this rate then there would be a steady growth of the economy at full employment.

2.3.3 The Harrod Model

The Harrod Model is based on three distinct rates of growth: the actual growth rate, the warranted growth rate and the natural growth rate. Let us see each one of these in detail.

I) **The Actual Growth Rate:** Basic equation of Harrod model is

$$GC = s \quad \dots\dots\dots (1)$$

Where G = rate of growth of output in a given period of time ($\Delta Y/Y$)

C = net addition to capital or the ratio of investment to increase in income ($I/\Delta Y$)

s = average propensity to save (S/Y)

Substituting these equations in (1),

$$\frac{\Delta Y}{Y} \times \frac{I}{\Delta Y} = \frac{S}{Y}$$

$$\text{or } \frac{I}{Y} = \frac{S}{Y}$$

$$\text{or } I = S$$

This restates that ex-post savings equals ex-post investment.

II) *The Warranted Rate of Growth:*

This growth rate is related to behavior of businessmen. At this rate of growth, the demand is high enough for businessmen to sell what they have produced and continue to produce at the same rate of growth. Given the propensity to save, this is the path on which the supply and demand for goods and services will remain in equilibrium. Mathematically,

$$GwCr = s \quad \dots\dots\dots (2)$$

Gw = warranted rate of growth or full capacity rate of growth of income which will fully utilize the growing stock of capital ($\Delta Y/Y$)

Cr = Amount of capital needed to maintain the warranted rate of growth or the required capital output ratio ($I/\Delta Y$)

s = average propensity to save (S/Y)

From Eq. (2),

$$Gw = s/Cr$$

This equation therefore states that if the economy has to grow at a steady rate of growth that will fully utilize its capacity, income must grow at the rate of s/Cr per year.

III) *Long run disequilibrium:* For full employment, the actual rate of growth must be equal to the warranted rate of growth ($G=Gw$) and the actual capital goods (C) must be equal to the required capital goods for steady growth (Cr). If G and Gw are not equal then there would be a disequilibrium in the economy. If G exceeds Gw , then C will be less than Cr . In such circumstances there would be insufficiency of goods and equipments leading to secular inflation as the actual income grows at a faster rate than that allowed by productive capacity of the economy. There would be further deficiency of capital goods and the aggregate production would fall short of aggregate demand leading to chronic inflation.

On the other hand if G is less than Gw , then C is greater than Cr . Such situation leads to secular depression because, actual income grows more slowly than required by the productive capacity of the economy

leading to excess of capital goods and the aggregate demand falls short of aggregate supply. This results in fall in output, employment and income and there would be chronic depression.

- IV) **The Natural Rate of Growth:** The natural rate of growth is one that the population and technological improvements allow. It is the rate of increase in output at full employment as determined by a growing population and the rate of technological progress.

$$G_n C_r = s$$

- V) **Divergence of G , G_w and G_n :** For full employment $G_n = G_w = G$. However if there are divergences from this state then secular inflation or secular stagnation may occur. If $G > G_w$, investment increases faster than savings and income rises faster than G_w . On the other hand if $G < G_w$, saving increases faster than investment and rise of income is less than G_w . If $G_w > G_n$, secular stagnation will develop. In such situation G_w is also greater than G . When G_w exceeds G_n , $C > C_r$ and there is excess of capital goods due to shortage of labour. The shortage of labour keeps the rate of increase in output to a level less than G_w . There is excess capacity and this dampens investment, output, employment and income. The economy will be gripped by chronic depression and in such situations, saving is a vice.

In another situation where $G_w < G_n$, G_w is also less than G and there is a tendency to develop secular inflation in the economy. When $G_w < G_n$, $C < C_r$. There is a shortage of capital goods and labour is in abundance. Profits are high and businessmen have a tendency to increase their capital stock. This will lead to secular inflation and in such a situation, saving is a virtue as it allows G_w to increase.

2.3.4 Limitations of Harrod and Domar Models from the Standpoint of Less Developed Countries

The Harrod Domar models are more relevant to capitalist economies and cannot be applied in less developed countries due to the following reasons:

1. **Different Conditions:** Harrod Domar models evolved with the intention to prevent advanced economies from the possible effects of secular stagnation and hence cannot be used to guide industrialization programmes in less developed countries.
2. **Saving Ratio:** Harrod and Domar growth models are characterized by high saving ratio and high capital output ratio whereas people in less developed countries lead a subsistence life and not many are in a position to save.
3. **Capital-output ratio:** According to Hirschman, the predictive and operational value of models based on propensity to save and capital output ratio is low and hence would be far less useful in underdeveloped economies.
4. **Structural Unemployment:** When the population grows faster than accumulation of capital as is the case in less developed countries, structural unemployment arises due to lack of capital equipments. Harrod Domar model is more suited to solve the problem of Keynesian unemployment arising out of deficiency of effective demand than that

of structural unemployment which is more likely to be the case of less developed countries

5. Disguised Unemployment: These models start with a full employment level of income which is nonexistent in underdeveloped countries. These countries are marred by the problem of disguised unemployment, the solution to which cannot be found using Harrod Domar models.
6. Government Intervention: Harrod Domar models assume the absence of government intervention which is not the case in less developed countries. In such countries the state plays an important role in starting large industries and in regulating and directing the private enterprise.
7. Foreign Aid and Trade: Harrod Domar model assumes a closed economy whereas less developed countries are rather open economies where foreign trade plays an important role in economic development.
8. Price Changes: These models assume constant prices whereas in less developed countries, price change is inevitable with development.
9. Institutional Changes: Institutional factors are assumed to be given in these models whereas as far as less developed countries are concerned, economic development is not possible without institutional changes.

Due to the above mentioned reasons, Harrod Domar models have lesser suitability to developing and less developed countries. As an alternative explanation for these countries, Solow model was developed.

2.4 SOLOW'S MODEL

As an alternative to Harrod Domar's model of growth, Noble Laureate Professor R. M. Solow built his model by assigning diminishing returns to labour and capital separately and constant returns to these factors jointly. Technological progress was thought to be the factor explaining long term growth and its level was assumed to be determined exogenously i.e. independent of all other factors.

2.4.1 Solow built his model on the following assumptions:

1. One composite commodity is produced.
2. Output is considered as net output after making allowances for depreciation of capital.
3. There are constant returns to scale in the long run.
4. Labour and Capital are the two factors of production and they are paid according to their diminishing marginal productivities.
5. Prices and wages are flexible
6. There is full employment of labour
7. There is also full employment of available stock of capital
8. Labour and capital can be substituted for each other
9. There is neutral technical progress
10. The savings ratio is constant

2.4.2 Solow's Model:

A typical solow's growth model has a mathematical representation similar to Cobb Douglas kind of production function.

$$Q = A K^a L^b \quad \dots\dots\dots(1)$$

Where

Q = Gross domestic product

K = Stock of capital (both human and physical capital)

L = Labour

A = Productivity of labour which grows over time at an exogenous rate

In this model, **a** and **b** are less than one, indicating diminishing returns to inputs K (investment) and L (labour) in short run, and **a + b = 1** , indicating constant returns to scale in long run.

Or

$$Q = F(K, L) \quad \dots\dots\dots 2$$

Representing Eq. 2 in per worker terms by dividing both sides with L

$$Q/L = f(K/L, 1) \quad \text{or} \quad q = f(k) \quad \dots\dots\dots 3$$

(representing per worker terms in small case)

$$\text{Or } q = A k^a \quad \dots\dots\dots 4$$

Equation 4 states that the output per worker is a function that depends on the amount of capital per worker. The more the capital with which each worker has to work, the more the output that worker can produce. The total stock of capital grows when there are more savings than depreciation but the capital per worker grows when savings are greater than what is needed to equip new workers with the same amount of capital as existing workers have.

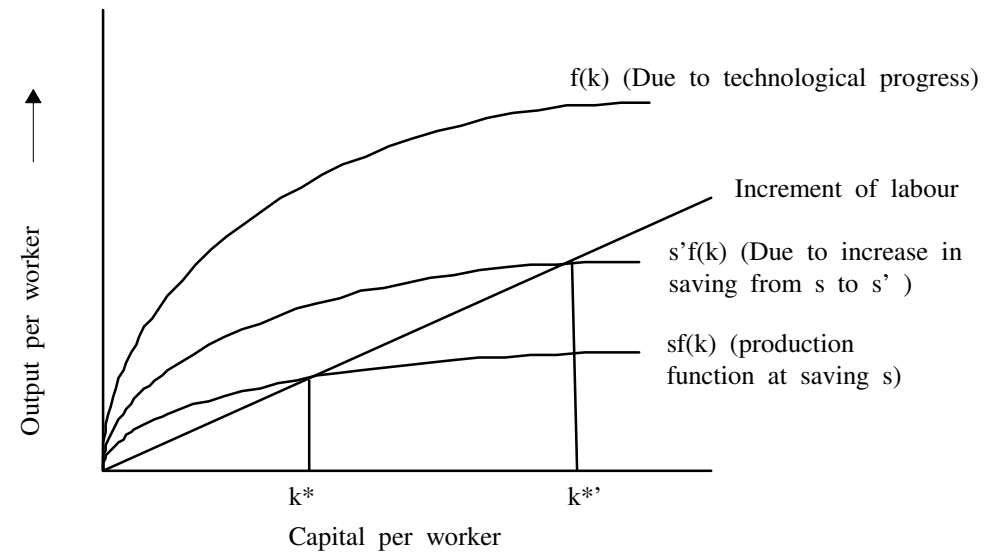


Fig. 1: Solow's growth model

According to Solow, when there is an increase in k by increasing the rate of saving, a temporary increase in the rate of output growth is realized. Eventually we return to the steady state growth rate at a higher level of

output per worker. The increase in savings will not increase growth in long run. It will only increase the equilibrium k^* . After the economy has time to adjust, the capital labour ratio and the output labour ratio increases but not the rate of growth. An increase in savings from s to s' does raise the equilibrium output per person from k^* to k^{**} which is also a significant contribution to development, but it does not raise the equilibrium rate of growth. The increase in growth rate is only temporary as the economy moves up towards the higher equilibrium capital per worker.

If the rate of saving and hence investment is positively related to the rate of technological progress, the growth of A depends on growth of s . Any change in technology over time leads to upward shift in the production function leading to more output being produced with the same input. In case of no technological change, there is a limit in terms of the total income that can be achieved by varying the use of one of the inputs say K , assuming L to be constant. Solow noted that any increase in Q could come from one of three sources:

1. an increase in L . However, due to diminishing returns to scale, this would imply a reduction in Q/L or output per worker.
2. an increase in K . An increase in the stock of capital would increase both output and Q/L
3. an increase in A or in multifactor productivity could also increase Q/L or output per worker.

2.4.3 Implications of Solow's Model in Short Run

1. Changes in savings rate affect only the short run growth rates while the economy converges to a new steady state level of output.
2. The rate of growth is determined by the rate of capital accumulation.
3. Capital accumulation is determined by the savings rate and the rate of capital depreciation.

2.4.4 Implications of Solow's Model in the Long Run

The long run rate of growth is exogenously determined. Given a constant savings rate, the economy will always converge to a steady state which depends on rate of technological progress and rate of labour force growth. The model predicts that poor countries will grow at a faster rate if they increase their share of output they invest in capital. Since there are limits to the share of output that can be invested, the savings rate will stabilize. When this happens, the economic growth will converge to a steady state rate determined by technological progress.

2.4.5 Criticisms of Solow's Model

Some of the criticisms of Solow's Model are as follows:

1. The theory does not explain about the direction and pace of technological progress.
2. Solow's model has been criticized for its marginal productivity theory of distribution on which he has based his theory.
3. Solow's theory assumes variable capital and labour ratio. However, due to technological progress, capital labour ratio are often fixed. Eg. Six men cannot share two computers at the same time.

4. There is no investment function which depends upon rate of profit.
5. Solow's model has also been criticized for its empirical validity.

Till now you have read about, the Harrod Domar model and Solow's model. Now try and answer the questions given in *Check Your Progress – 1*.

Check Your Progress 1

Note: a) Write your answer in about 50 words.

- b) Check your answer with possible answers given at the end of the unit.

1. Give any three criticisms to Harrod Domar model.

.....

.....

.....

.....

2. What are the long run implications of Solow's model?

.....

.....

.....

.....

2.5 LET US SUM UP

In this unit you have studied about the Neo Classical Theories of Development. You have also read about the Harrod Domar model which was build up on the Keynesian theory. However, since both these theories are more suited for capitalist economies and do not have much relevance to the less developed countries, the Neo Classical Theory by Solow was developed. In this unit you have also read about the Solow model and its implications in long run and short run.

2.6 REFERENCES AND SUGGESTED READINGS

Jhingan, M.L. (1997), *The Economics of Development and Planning*, Vrinda Publications (P) Ltd.

Solow R.M. (1956), "A contribution to the theory of economic growth," *Quarterly Journal of Economics* 70 (1956): 65–94.

2.7 CHECK YOUR PROGRESS – POSSIBLE ANSWERS

Check Your Progress-1

1. The Harrod Domar models are more relevant to capitalist economies and cannot be applied in less developed countries due to the following reasons:
 1. Different Conditions: Harrod Domar models evolved with the intention to prevent advanced economies from the possible effects of secular stagnation and hence cannot be used to guide industrialization programmes in less developed countries.

Classical and Neo-Classical Theories

2. **Saving Ratio:** Harrod and Domar growth models are characterized by high saving ratio and high capital output ratio whereas people in less developed countries lead a subsistence life and not many are in a position to save.
 3. **Capital-output ratio:** According to Hirschman, the predictive and operational value of models based on propensity to save and capital output ratio is low and hence would be far less useful in underdeveloped economies.
2. The long run rate of growth is exogenously determined. Given a constant savings rate, the economy will always converge to a steady state which depends on rate of technological progress and rate of labour force growth. The model predicts that poor countries will grow at a faster rate if they increase their share of output they invest in capital. Since there are limits to the share of output that can be invested, the savings rate will stabilize. When this happens, the economic growth will converge to a steady state rate determined by technological progress.

UNIT 3 MARXIAN THEORY

Structure

- 3.1 Introduction
- 3.2 Marxian Philosophy
- 3.3 The Marxian Economic System
- 3.4 The Marxian Model of Economic Development
- 3.5 A Critical Appraisal of Marxian Theory
- 3.6 Let Us Sum Up
- 3.7 References and Suggested Readings
- 3.8 Check your Progress - Possible Answers

3.1 INTRODUCTION

In the previous units, you studied the classical and neo-classical theories of development. In this unit, we concentrate on the Marxian theory of development. It was propounded by Karl Marx. Karl Heinrich Marx is among the most influential thinkers, writers, philosophers, and economists of the 20th century. He is the celebrated author of *Das Capital*. Marx's approach to understanding the economy is intellectually independent of his advocacy of revolutionary socialism. Adherents of Marxian theory consider Marx's economic theories to be the basis of a viable analytic framework, and an alternative to more conventional neo classical economics. Marx was the first person to predict the inevitable doom of capitalism. He said, capitalism is destined to collapse, not because of population growth, diminishing returns, or stagnation, but due to sociological reasons, i.e., the class struggle. The concept of socialism entered the main currents of economic doctrines because of Marx. The Marxist school of thought challenged the foundations of classical theory.

After studying this unit you should be able to:

- explain Marxian philosophy and the Marxian theory of capital accumulation;
- narrate the Marxian theory of economic development;
- illustrate the theory of surplus value; and
- give a critical appraisal of Marxian theory.

3.2 MARXIAN PHILOSOPHY

Before going into the Marxian theory of development, it is essential to know about Marxian philosophy. Marx's philosophy is known as Dialectical Materialism. According to his philosophy, matter is the driving force of all historical changes. By matter, he meant man's relationship to nature as characterized by the mode of production. Thus, Marx gave an economic interpretation of history which can be summarized in two propositions:

- i) The basic factor in the historical evolution of society is the mode of production. It is the mode of production that explains the whole superstructure of ideas and institutions.

- ii) Society develops in accordance with the dialectical principle inherent in its structure. Marx maintained that, historically, social change takes place in a regular pattern.

The sequence of the Marxian stages of social evolution is: primitive communism, slavery, feudalism, capitalism, and socialism. Marx attempted to explain how contradictions in the capitalist system will lead to the downfall of this system which will be replaced by socialism.

The two important constituents of Marxian philosophy are

- i) Dialectical Materialism and
- ii) Historical Materialism.

These are discussed below.

i) Dialectical Materialism

Marxian philosophy is termed Dialectical Materialism. Marx's philosophical disposition was greatly influenced by, and at the same time vigorously opposed by, the German philosopher, Hegel. The influence of Hegel is clear in Marx's adoption of Hegel's Dialectical Method. Dialectical Method assumes a definite logical position which maintains that we reach a higher concept by negative judgments, which, because of the negation, is richer than the original one. Any finite concept, when considered as a predicate of reality (thesis) will lead us to its opposite (antithesis). But as the contradiction is repulsive to the original, the cycle does not stop there. Society moves to the third stage, synthesis, which reconciles the mutually opposed concepts, and provides a better description of reality. Thus, in the dialectical process, the thesis and the antithesis do not cancel each other, but are preserved and enriched in the synthesis.

According to Hegel, the world is in the process of continuous development and development takes place according to the dialectical formula. In this respect, Marx, agrees with Hegel. However, he differs on the question of the motive force of development. For Hegel, the motive force is a mystical entity, i.e., spirit, which causes human history to develop according to the dialectical process. Hegel's philosophy was Dialectical Idealism. Marx, on the contrary, evolved a philosophy of Dialectical Materialism in which he considered matter, and not spirit, as the driving force of historical development. It is this philosophy of dialectical materialism on which Marx based his materialistic interpretation of history.

ii) Historical Materialism

Now, let us discuss the historical materialism put forward for consideration by Marx. Marx applied his philosophical ideas to society and gave an economic interpretation of history. Historical materialism is the study of society and the laws of its development. Historical materialism, as a philosophy has the following features

- i) It is a philosophical study which deals with objective laws of social development. These laws are independent of man's consciousness. Like the laws of nature, they are knowable and are applied by man in his practical activity.
- ii) It deals with social laws as distinct from the laws of nature. The laws of nature reflect the operation of spontaneous forces, while the laws of

social development are always manifested through people who act as intelligent beings. As society is inseparable from men, social laws manifest themselves only through human activity.

- iii) It studies the general objective laws governing the development of society. It investigates the most general phases of world history and the objective causes of their appearance and disappearance.
- iv) It is more than a method of investigating social phenomena. It explains historical tendencies. History proceeds from lower to higher forms of social organization. The change to higher forms is inevitable, because the old forms stand in the way of further progress.

The subject matter of historical materialism includes the study of

- the mode of production
- the dialectics of the mode of production
- the historical evolution of society.

a) The Mode of Production

- The mode of production has logic of its own. According to Marx, the production of material wealth is the basis of human existence, and the mode of production of wealth is the determining factor of social development. Society as a distinct entity is a part of nature. It is inseparable from the rest of nature, and constantly interacts with it. People cannot exist without food, clothing, shelter, and other necessities of life. Nature, however, does not provide things readymade. Thus, people must work to produce these things. Labour, or productive activity, is, therefore, the basis of social life.
- The mode of production, which determines the economic structure of society, has two aspects: (i) the forces of production, and (ii) the relations of production.

i) The forces of production: This refers to

- the organization, skill and status of labour
- the techniques and traditions of production
- the geographical conditions and degree of knowledge to utilize materials and resources.

The forces of production determine the relationship between man and nature. Regardless of the form of society, the interaction between man and nature consists in the unity of three elements

- i) labour
- ii) the objects of labour
- iii) the means of labour.

Labour is productive human activity that is aimed at transforming natural objects to satisfy human wants. The objects of labour are the things to which human labour is applied. In the earth, all raw materials, is the universal object of labour. The means of labour are the things used by man to act upon objects of labour. They include all instruments of labour such as, machines,

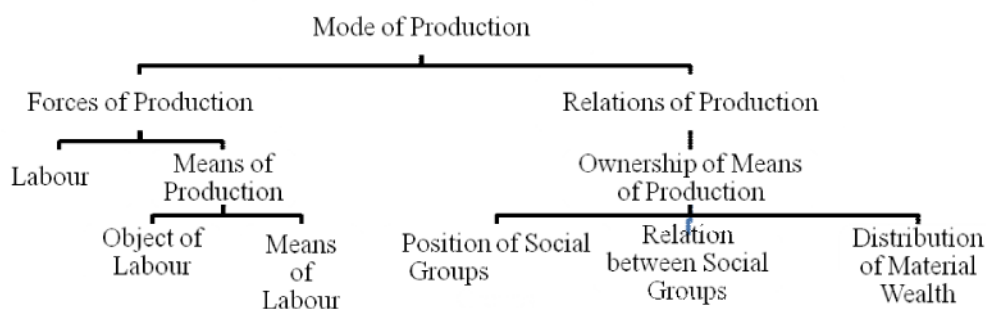
tools, buildings, transport, etc. Objects and means of labour together are called means of production. The means of production refers to the sum total of material conditions, without which production is impossible.

- ii) The Relations of Production** This refers to a particular set of property relations which determines the nature of society's class structure. The relations of production, or the economic relations between people, determine the relation between man and machine. These relations are called production relations. According to Marx, production relations are based on the form of ownership of means of production.

The form of ownership depends on

- the position (dominating, or subordinate) of various social groups in production
- their relations (exploitative, or cooperative) in the production process
- the distribution of wealth, i.e., mutual exchange of their activity.

The components of the mode of production are summarized in the following chart



b) Dialectics of the Mode of Production

Society develops in accordance with the dialectical principle inherent in its structure. This means that the mode of production has a logic of its own. The mode of production changes because of inherent necessity, and is not due to any external force. The working of the mode of production is governed by three laws:

- The Law of Unity:** This law states that the productive forces and the production relations, taken together, determine the mode of production of material wealth. They are linked by an inner unity, i.e., a specific level of productive forces requires specific production relations.
- The Law of Correspondence:** This law states that production relations tend to correspond to productive forces. The changes in the productive forces induce adjustment in the production relations. The correspondence of production relations to productive forces operates only as an economic tendency. It imposes no rigid mechanical dependence of the former on the latter. It is not a 'law of obligatory correspondence'.
- The Law of Conflict:** This law states that conflict stems from the intrinsic nature of the two sides of the mode of production, i.e., the forces of production, and the relations of production. This conflict is not accidental. It is inherent in the mode of production. It brings development in the mode of production.

c) Historical Evolution of Society

The relations of production form the economic basis of the society, while political and legal views, and ideology and institutions make up its superstructure. The superstructure is determined by, and acts on, economic basis. The historical sum total of productive forces, economic basis, and the superstructure make up the socioeconomic system. The totality of production relations (property, peoples' relations, and distribution of wealth) constitutes the economic basis of a society. The economic basis plays an important role in the society. It serves as the real foundation of social superstructure, which includes political, legal, philosophical, moral, religious, artistic, and their corresponding relations, institutions, and organizations. Thus, the economic basis is that aspect of the mode of production which directly moulds the face of society, its ideas, and institutions. The superstructure plays a very significant role in social development. According to Marx, the history of society consists of the history of the sequence of socioeconomic formations, or the replacement of one mode of production by another.

According to him there are five different stages of social evolution

- i) primitive communism
- ii) slavery
- iii) feudalism
- iv) capitalism
- v) socialism.

Class relations do change with the change in the socioeconomic structure of each stage.

In this section you have read about Marxian Dialectical Materialism and Historical Materialism. Now answer the questions given in *Check Your Progress-1*.

Check Your Progress 1

Note: a) Write your answer in about 50 words.

- b) Check your answer with possible answers given at the end of the unit.

- 1) What are the main features of Dialectical Materialism?

.....

.....

.....

.....

.....

- 2) What are the dialectics of the mode of production?

.....

.....

.....

.....

3.3 THE MARXIAN ECONOMIC SYSTEM

In this section, you will study the Marxian economic system in the context of development. The Marxian economic system is composed of four components

- a) The capitalist economic system
- b) The labour theory of value
- c) The theory of surplus value
- d) The theory of capital accumulation.

a) The Capitalist Economic System.

According to Marx, capitalism is an economic system with the following elements

- i) A capitalistic society is divided into two classes: the capitalists, and the workers. The capitalists own the means of production, while the workers do not. The workers sell their services, i.e., labour power, to the capitalists for wages.
- ii) A commodity forms the unit of production in a capitalistic society. A commodity is defined as the carrier of use-value (utility) and exchange-value (with other commodities).
- iii) The growth of capitalism is based on the exploitation of labour. Labour produces surplus value which is appropriated by the capitalist.
- iv) All commodities are produced with a profit motive and the exchange equation is $m-C-M$. The capitalist purchases commodity, C, (labour power) with money, m, with an intention to sell it (after production) for profit, M.
- v) The motive force behind capitalism is profit. The capitalist always reinvests the profit in his business to upgrade technology.
- vi) Capitalists adopt labour saving machinery which creates a 'reserve army of the unemployed'. It results in growing the misery of the working class.

b) The Labour Theory of Value.

According to Marx, the value of a commodity is determined by the quantity of labour required to produce it. One commodity has both use-value and exchange-value. When commodities represent use-values, they are qualitatively different due to the different forms of useful labour used in them. Marx was an advocate of the labour theory of value and believed that all production belongs to labour, because workers produce all value within society. Marx predicted that capitalism would produce growing misery for workers as competition for profit leads capitalists to adopt labour-saving machinery. The Marxian 'industrial reserve army' concept is another way of looking at 'technological unemployment'. It is not a biological law, but is an essential feature of the capitalist system. For Marx, a surplus population was largely the consequence of capitalistic tendencies of capital accumulation, labour displacing technological change, and the concentration of capital. The following points explain how the capitalistic process of production leads to the creation of an ever increasing population.

- i) Economic development under capitalism depends upon the accumulation of capital, which in turn, depends upon surplus value (or, profits). As long as there is profit, there will be continuous re-investment in the production process.
- ii) In static conditions, capitalists accumulate capital and reinvest it to expand production, and to reap further profits. Since all round expansion in production results in an increase in demand for labour (i.e., higher wages), the surplus value has a tendency to fall. It provides additional reason to accumulate more capital.
- iii) Under dynamic conditions, the greater amount of surplus value goes to those producers who are capable of producing advanced technology in production. Technological progress, according to Marx, means adoption of capital intensive and labour-replacing technology. Hence, the race for capital accumulation among the capitalists raises the capital output ratio, which reduces profits. Ultimately, the capitalist suffers.

c) The Theory of Surplus Value

Labour power has the unique characteristic of being capable of producing more than its own value when it is put to productive use. The excess of value produced by labour power over its own value is called surplus value. The aim of the capitalist is to, always, increase this surplus value. Surplus value refers to the extra labour of the worker, for which he receives nothing from the producer or employer. It is appropriated by the capitalist. This implies exploitation of labour. It is the only cause of class conflict, or class struggle. Marx's theory of surplus value can be explained by the following set of equations.

$$i) Y = C + V + S$$

$$ii) s = S/V$$

$$iii) k = C/(C+V)$$

$$iv) \pi = S/(C+V) = s(1 - k)^*$$

Where: Y= total income, C= constant capital, V= variable capital, S = surplus value, s = rate of surplus value, k = organic composition of capital (capital intensity) and π = rate of profit.

This equation shows that π is directly related to s, and inversely related to k. It means that the profitability of the producer depends, directly, on his capacity to exploit labour, and, indirectly, on the organic composition of capital. Due to severe competition, the capitalist tries to raise productivity. Therefore, the degree of automation rises, and, in turn, the organic composition of capital grows. It means that the rate of profit increases with the rise in exploitation of labour, and falls with the rise in constant capital. Therefore, the capitalist suffers from continual reduction of his profit and profitability. Capitalism has a built in doom. It will meet its natural death, eventually, in the long run.

$$* \text{ Proof: } \pi = S / (C+V) = SV / V(C+V)$$

$$= \frac{SV + SC - SC}{V(C+V)} = \frac{S(C + V) - SC}{V(C+V)}$$

$$= \frac{S}{V} - \frac{SC}{V(C + V)} = \frac{S}{V} \left\{ 1 - \frac{C}{C+V} \right\} = s(1 - k)$$

d) The Theory of Capital Accumulation

Marx propounded the theory of capital accumulation. Marx contends that under static conditions capitalists are compelled to accumulate due to two reasons

- i) The emergence of surplus value in capitalist production induces the capitalist to accumulate, and to re-invest.
- ii) The mass effect of this all round expansion of production is an increase in the demand for labour, rise in wage rates, and reduction in surplus value, because surplus value is simply the excess of total produce over the subsistence produce. This provides another reason for an individual capitalist to accumulate.

A capitalist society is marked by continuous change. Under dynamic conditions, the larger share of surplus value goes to those producers who are able to introduce the most advanced and efficient technology in production. The race for capital accumulation among the capitalists', compel them to adopt new technology and gain huge profits. Capital accumulation depends upon the ability of the capitalists to raise the surplus value. Surplus value can be increased in three ways

- i) by reducing the wage rates
- ii) by extending the working hours
- iii) by increasing the productivity of labour.

The first method cannot be pursued for a long time as it curtails labour supply. The second method can be relied upon only temporarily. Thus, Marx put more emphasis on the third method of increasing productivity of labour. This involves technological improvements. Capital intensive techniques increase the total output produced by a given labour force and, thus, increase surplus value. Capital accumulation and technological progress leads to the following three tendencies

1) The Concentration of Capital

Competition compels capitalists to reduce the price of their commodities. This is done by increasing the productivity of labour through capital intensive technology. But the small capitalists fail in this competition, so they are compelled to exit from their business. Marx terms it as "expropriators are expropriated".

This tendency of concentration has three effects

- i) it results in a larger scale of production
- ii) the polarization between capitalists and workers is more sharpened
- iii) the capitalist production becomes social in nature, though in its property relations, it is still private.

An individual worker is now a part of a large social productive process, and an individual capitalist is the trustee of the society.

2) Immiserization of the Proletariat

Capital accumulation results in the growing misery of the working class. The process of immiserization (i.e., increased unemployment, and reduction in wages) of the proletariat operates in the following two ways

- i) Capitalism produces an industrial reserve army, or surplus toiling class. In other words, the capitalist system discards workers at a faster rate

than it hires them. This is because of two reasons

- a) Under dynamic conditions, when labour saving technology is adopted widely, the industrial reserve army has a tendency to grow
 - b) Due to the concentration of capital, larger capitalists prey on small capitalists. Thus, small producers who cannot face the competition from big producers also join the industrial army.
- ii) The condition of the few workers who remain employed also deteriorates because
- a) Growing unemployment enables capitalists to reduce the wages to subsistence levels
 - b) Capitalists also lengthen the working day and hours for more surplus
 - c) Capitalists resort to hiring women and children at still lower wages than men.

3) The Falling Rate of Profit

Capital accumulation results in immiserization for the workers and falling rate of profits for the capitalists. According to Marx, the falling rate of profit is the consequence of two other basic tendencies:

- i) Extensive use of capital intensive technology tends to increase capital per man, or the organic composition of capital (k). With capital accumulation, capitalists try to get maximum production at minimum costs through the use of capital intensive technology; and
- ii) Marx assumes constant rate of surplus value (s). These two tendencies lead to the third eventuality, *i.e.*, the falling rate of profit. This can be easily understood with the help of a fundamental equation, $\pi = s(1 - k)$. This equation implies that the rate of surplus value, the rise in organic composition of capital (k) reduces the rate of profit.

After having read this section, now you are familiar with the Marxian Economic System. On the basis of your understanding of this concept, answer the following questions in *Check Your Progress-2*.

Check Your Progress 2

Note: a) Write your answer in about 50 words.

- b) Check your answer with possible answers given at the end of the unit.

- 1) What are the features of capitalism?

.....

.....

.....

.....

- 2) Explain the essence of the Marxian theory of surplus value.

.....

.....

.....

.....

3.4 THE MARXIAN MODEL OF ECONOMIC DEVELOPMENT

In this section, you will study the Marxian model of economic development. According to Marx, secular economic growth at full employment is a contradiction. There is a class struggle due to the impoverishment of the toiling class. Capital accumulation results in an ever increasing capital-output ratio, and declining profits. This economic development path is self destructive. Marx's theory of economic development is essentially an analysis of capital accumulation, and its effects. According to Marx, in order to reap greater profits, and to ensure their existence in the competitive economy, the capitalist producers tend to accumulate more and more capital, and to introduce mechanization in the process of production.

This tendency of capital accumulation and technological change has three effects

- i) it leads to the concentration of capital in the hands of a few entrepreneurs, and to the elimination of small entrepreneurs
- ii) it leads to the growing pauperization of the working class, and to the expansion of the industrial reserve army
- iii) it leads to the tendency of falling rates of profit.

All these effects are collectively responsible for the eventual breakdown of the capitalist system.

Marx has contributed to the theory of economic development in three ways

- i) he formulated the materialistic interpretation of history
- ii) he specified the motivating forces for economic development
- iii) he suggested an alternative path for planned economic development

Symbolically, the Marxian theory of economic development can be summarized by the following equation:

- 1) Total output (Q) depends on the size of labour force (L), amount of land (R), stock of capital (K), and technological progress (T).
$$Q = f(L, K, R, T),$$
- 2) Technological progress (T) depends on investment (I).
$$T = T(I)$$
- 3) Investment (I) depends on the rate of profit (π).
$$I = I(\pi)$$
- 4) The rate of profit (π) is the ratio of surplus value and capital.
$$\pi = S / (C+V)$$
- 5) Wages (W) depend on the level of investment and employment.
$$W = W(I, L)$$
- 6) Labour employment depends on the level of investment.
$$L = L(I)$$
- 7) Consumption Expenditure (E) depends on wage bill (W).

$$E=E(W)$$

- 8) Profits are determined by the level of technology and consumption.
 $\Pi=\Pi(T,E)$
- 9) Total output (Q) is equal to profits (Π) plus wages (W). $Q=\Pi+W$
- 10) The economy has two sectors: consumer goods and producer goods sectors. So, the total output is the sum of consumer goods and producer goods

$$Q = Dg+Kg=E+I$$

The equation is determinate, because the number of equations and unknowns are equal. Let us have a look at the system of equations in the Marxian model.

1	Production	$Q = f(L,K,R, T)$
2	Technology	$T=T(I)$
3	Investment	$I=I(\pi)$
4	Profit	$\Pi=\Pi(T,E)$
5	Employment	$L =L(W)$
6	Wage	$W=W(I,L)$
7	Total Output	$Q = Cg + Kg$
8	WageBill	$W=wL$
9	Rate of Profit	$\pi = S/(C+ V)$
10	Total Income	$Y= C+V+S$
11	Capital	$K=C+V$

Where: E = consumption expenditure, Π = profit, π = rate of profit, K= Capital, W= wage bill, w = Wage rate, Dg= consumer good, Kg= capital goods, C= Constant capital, V= Variable capital, S= surplus value, L = Employment

We can observe the circularity of the Marxian model. Let us start with profit as the prime mover of the capitalist system.

High profit $\rightarrow$ Competition $\rightarrow$ Capital Intensive Technology $\rightarrow$ Capital-Output ratio $\rightarrow$ Profit fall. An increase in profits brings an increase in investment, and in the stock of capital, which permits capitalists to take advantage of the steady flow of improved technology. Intense competition leads to unemployment and a rise in the capital output ratio, and reduced profits.

In order to remain in the competitive race, capitalists must continually introduce technological improvements, which means accumulating more and more capital, and using more and more capital intensive techniques. As a result, capital stock (K) increases relative to output. Under these conditions, the only way to maintain the prevailing rate of profit (π) is to increase the difference between output per man (q) and the wage rate (w). This objective can be achieved in the following ways

- Reduce the wage rate to the bare minimum level
- Add more labour saving techniques which raises q and keeps w at the minimum level

- Increase hours of work, which raises q without increasing w
- Strengthen the monopoly position, which raises prices without raising wages.

According to Marx, all these measures to maintain the rate of profit prove self defeating. In the short run, they produce economic fluctuations. In the long run, these factors lead to the breakdown of the capitalist system. This is illustrated in the diagram below. The OY axis represents income and the OX axis represents time periods.

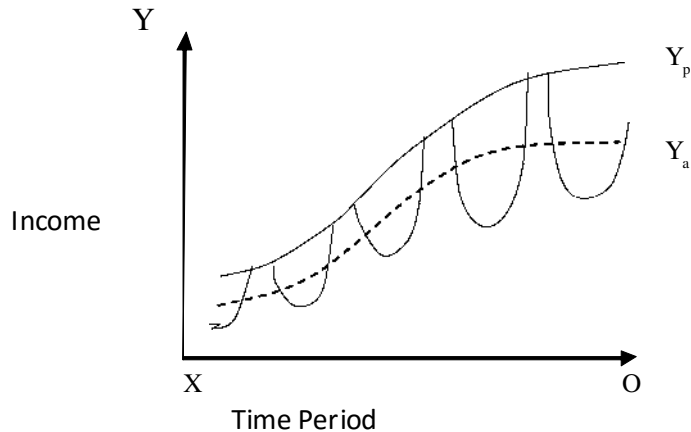


Fig. 3.1: Marxian Model

The classical economists were not concerned with the gap between potential and actual income. For them, the potential income would stagnate due to population growth. But, according to Marx, the picture of capitalist growth would be as shown in Fig. 2.1. There is growth in income until the downfall of capitalism through a revolution of the working classes. The figure shows that Y_p is the upper limit of the growth process. It is stable, but Y_a is unstable. The gap appears between the trend of potential GNP and the trend in actual GNP. But, this gap is the product solely of increasing amplitude of cycles. Since the national income, in real terms, cannot rise above full employment levels, the increasing amplitude of fluctuations in real terms means increasingly severe downswings, which brings the trend of actual income further and further below the trend of potential income. In the short term, they produce economic fluctuations. In the long term, they lead to the breakdown of the capitalist system. Marx asserts that the capitalist system will ultimately collapse because of the following reasons,

- the falling rate of profit
- over production (market glut) due to high technology
- under consumption (low purchasing power) due to the immiserization process
- capital-intensive (labour-displacing) automations
- class struggle (conflict) due to rising income inequality

The economic crises, according to Marx, will have the secular effect of producing deeper and deeper depressions, and shorter and weaker booms. Despite the best efforts made by the capitalists, the rate of profit will continue to decline. During a boom, capital accumulations temporarily create full employment conditions and bring a temporary increase in wages. An increase

in wages causes the rate of profit to fall, which leads to reduced investment and to depression. Everything that the entrepreneurs do to maintain profits, increases the misery of the working class. Eventually, Marx predicts, the workers will not bear it, and, by sheer strength of their number, they will overthrow the capitalist system through revolution.

Marx, however, refers to a number of offsetting factors which arrest the general law of the falling rate of profit. These factors are

- i) technological progress may reduce the cost of constant capital
- ii) the capitalist keeps constant profit by increasing the rate of exploitation
- iii) intensified activities where weaker capitalists are expropriated

But, Marx firmly believed that these counteracting forces are temporary in nature and do not nullify the general tendency towards economic collapse. Ultimately, the expropriators are expropriated. The internal contradictions in the capitalist system bring about its own collapse. Eventually, the success of capitalism is not sustainable.

Having read the Marxian model of economic development in detail, now try and answer the following questions in *Check Your Progress-3*.

Check Your Progress 3

Note: a) Write your answer in about 50 words.

- b) Check your answer with possible answers given at the end of the unit.

- 1) How has Marx contributed to the theory of economic development?

.....

.....

.....

.....

- 2) What is the essence of Marxian Development Model?

.....

.....

.....

.....

3.5 A CRITICAL APPRAISAL OF MARXIAN THEORY

Marx's theory of economic development has been criticized on both theoretical and empirical grounds, as follows

- 1) Marxian theory makes a static analysis. Capitalist countries face different types of problems, which are not discussed by Marx. His analysis of crisis is outdated.
- 2) The theory of the falling tendency of profit is not correct. Competition raises capital productivity and improves efficiency which thwarts the tendency of declining profit.

- 3) The empirical evidence does not support Marx's predictions.
 - Contrary to Marx's prediction, industrial concentration has increased very little since the turn of the 20th century.
 - Undoubtedly, the capital intensity of production has increased, but, at the same time, the rate of capital accumulation has been very rapid. Technology does not create unemployment.
 - In the industrial capitalist world, the average real per capita income of the worker has increased, and the working conditions have greatly improved.
 - The cyclical fluctuations have not become severe and have not increased secularly.
- 4) Marx's analysis is more indicative rather than definitive. It is correct to say that technological change results in industrial concentration. However, we cannot say much, with certainty, about the generation of other tendencies.
 - It is uncertain that technical progress will increase the organic composition of capital.
 - It is uncertain that technological change will lead to growth in the industrial reserve army, or, to a fall in the rate of profit.
 - It is uncertain that both the growth of an industrial reserve army and the falling rate of profit will prevail at the same period of time.
- 5) Marx's theory of technological changes is not complete. He did not explain the response mechanism of the innovation process properly.
- 6) On the demand side, the excessive demand for capital during the capital accumulation process will make capital a relatively scarce factor. So, the producers seek every opportunity to save capital. Marx did not analyze capital saving technology.
- 7) It is wrong to assume a constant rate of surplus value along with a rising organic composition of capital (k). A rise in k means an increase in labour productivity, which results in a higher rate of surplus value.
- 8) It is wrong to conclude that a rise in the organic composition of capital (k) leads to a fall in profit. Any rise in k leads to an increase in productivity, and improvement in technology. Both these results tend to arrest the declining trend of profit.

3.6 LET US SUM UP

In this unit we have analyzed Marxian philosophy and the characteristics of the capitalistic economic system. We explained the Labour Theory of Value, the Theory of Surplus Value, and the Theory of Capital Accumulation. Finally, we studied the Marxian Model of Economic Development, and examined its validity today.

3.7 REFERENCES AND SUGGESTED READINGS

Adelman, I. (1961), *Theories of Economic Growth and Development*, Stanford University Press.

- Andrew, G. (1987), "Marxist Economics," *The New Palgrave: A Dictionary of Economics*, Vol. 3, pp. 390-95.
- Angus, M. (1982), *Phases of Capitalist Development*. Oxford University Press.
- Blaug, M. (1968), *Economic Theory in Retrospect*, Oxford University Press.
- Desai, M. (1974), *Marxian Economic Theory*, London: Gary-Mills Publishing Ltd.
- Dobb, M. (1973), *Theory of Value and Distribution Since Adam Smith*, Cambridge: Cambridge University Press.
- Gordon, R. J. (1990), "What Is New Keynesian Economics?" *Journal of Economic Literature*, 28 (3): 1115–1171.
- Hazlitt, H. (1959), *The Failure of the 'New Economics'. An Analysis of the Keynesian Fallacies*, Princeton, NJ: Van Nostrand.
- Higgins, B. (1959), *Economic Development*, Norton and Company, Inc., New York.
- Keynes, J. M. (2007), [1936], *The General Theory of Employment, Interest and Money*, Basingstoke, Hampshire: Palgrave Macmillan.
- Lenny, F. (2007), *Contradictions of Capitalism: An Introduction to Marxist Economics*, St Petersburg, Florida: Red and Black Publishers.
- Shipside, S. (2009), *Karl Marx's Das Kapital: A Modern Day Interpretation of a True Classic*, Infinite Ideas, Oxford, UK.
- Stein, J. L. (1982), *Monetarist, Keynesian & New Classical Economics*, Oxford: Blackwell.

3.8 CHECK YOUR PROGRESS – POSSIBLE ANSWERS

Check Your Progress 1

- 1) Answer: According to Marxian dialectical materialism, it is matter and not spirit which is the driving force of historical development. Marx wrote his materialistic interpretation of history on the basis of dialectical materialism.
- 2) Answer: Society develops in accordance with the dialectical principle inherent in its structure. This means that the mode of production has a logic of its own. The mode of production changes because of inherent necessity, and is not due to any external force. The working of the mode of production is governed by three laws:
 - i) The law of unity
 - ii) The law of correspondence
 - iii) The law of conflict.

Based on these laws it states that the mode of production changes because of inherent necessity, and not due to any external force.

Check Your Progress 2

1. According to Marx, capitalism is an economic system which has the following characteristics
 - a capitalistic society is divided into two classes: the capitalists and the workers
 - the growth of capitalism is based on the exploitation of labour
 - the motive force behind capitalism is profit for reinvestment
 - capitalists adopt capital intensive technology which creates the 'reserve army'
 - capitalism results in class struggle due to immiserization of the working class.
2. Surplus value is the excess of value produced by labour power over its own value. It refers to the extra labour of the worker for which he receives nothing from the producer. It is appropriated by the capitalist. The theory of surplus value says that the rate of labour exploitation is

$$(s) = S/V, \text{ and the rate of profit } (\pi) = S/(C+V) = s(1 - k)$$

where: C = constant capital, V = variable capital, S = surplus value, k = organic composition of capital.

This equation implies that the profit of the producer directly depends on his capacity to exploit labour, and indirectly on the organic composition of capital.

Check Your Progress 3

1. Marx has contributed to the theory of economic development in three ways
 - i) by giving a materialistic interpretation of history
 - ii) by specifying the motivating forces of economic development
 - iii) by suggesting an alternative path of planned economic development.
2. Marx's model says that capitalism grows on the profit motive. It leads to the concentration of economic power. In the short run, this tendency produces economic fluctuations. In the long run, it leads to the breakdown of the capitalist system. The capitalistic system collapses because of
 - a) the falling rate of profit
 - b) overproduction (market glut), due to advanced technology
 - c) under-consumption (low purchasing power), due to the immiserization process
 - d) capital intensive (labour displacing) automations
 - e) class struggle (conflict), due to rising income inequality.

UNIT 4 SCHUMPETER THEORY

Structure

- 4.1 Introduction
- 4.2 Features of Schumpeter Theory of Development
- 4.3 Critical Appraisal of Schumpeter Theory
- 4.4 Let Us Sum Up
- 4.5 References and Suggested Readings
- 4.6 Check your Progress Possible Answers

4.1 INTRODUCTION

Schumpeter is an illustrious votary of capitalism and his book “The Theory of Economic Development” is still one of the most famous and influential books in the entire field of economics. He is very well known as the “Prophet of Innovations”. As Richard Swedberg wrote that from “all the theories of entrepreneurship that exists, Schumpeter’s theory is still, to my mind, the most fascinating as well as the most promising theory of entrepreneurship that we have”. The Schumpeter theory of economic development presents a holistic symbiosis between economic, historical, political, social and all other elements of the process of the functioning and development of the capitalist world. In essence, Schumpeter theory gives an in depth account of dynamics of capitalist system.

After reading this unit, you will be able to:

- Explain the features of Schumpeter theory of development
- Describe the various criticisms of Schumpeter theory of development.

4.2 FEATURES OF SCHUMPETER THEORY OF DEVELOPMENT

The two important contributions to theory of economics development by Schumpeter are “entrepreneur” the actors of development and “innovation” the actions of development. The three key features of Schumpeter theory of economic development are: (i) Circular Flow; (ii) Innovation; (iii) Role of Entrepreneur; (iv) Role of Profit; (v) Cyclical Development Process and; (vi) Decay of Capitalism.

- (i) **Circular Flow** – Schumpeter triggered off his analysis of economic development process by introducing the concept of circular flow. The circular flow is based on the premises that economic development is a continuous process, where economic activities produce continuously at constant rate through time. According to Schumpeter “development in our sense..... is change in the channels of the flow as opposed to that movement. It is displacement of the equilibrium state as opposed to the movement towards an equilibrium state”. While supporting the role of circular flow in development, Schumpeter told “development in our sense is a discrete phenomenon, entirely foreign to what may be observed in the circular flow or in the tendency towards equilibrium. It is spontaneous and discontinuous change in the channels of the flow disturbance of equilibrium, which forever alters and displaces the

equilibrium state previously existing". The economic activities are essentially repetitive and subject to change in a routine manner. The firms working in the economic system are in a state of competitive equilibrium. All the producers know the aggregate demand for goods and adjust the supply of output accordingly. The equilibrium state circular flow occurs in a static setting. According to Schumpeter, development begins with the breaking up of circular flow by the innovative entrepreneurs with an innovation in the form of a new product.

- (ii) **Innovations** – Innovation is the kingpin of Schumpeter theory of economic development. The development process remains dynamic and vibrant because of innovations. Innovation is defined as a change in existing production system to be introduced by the entrepreneur with a view to make profits and reduce costs. According to Schumpeter innovation covers five aspects:
- (i) The introduction of new good-that is one with which consumers are not yet familiar;
 - (ii) The introduction of new method of production – that is one not yet tested by experience in the branch of manufacture;
 - (iii) The opening of a new market – that is a market into which the particular branch of manufacture of the country in question has not previously entered;
 - (iv) The conquest of a new source of supply of raw materials or half-manufactured goods;
 - (v) The carrying out of the new organization of any industry like the creation of a monopoly.

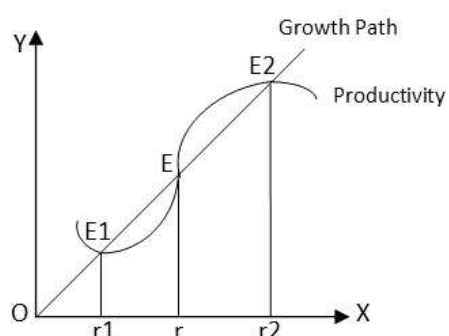
The combination of these factors are essential for facilitating development. To Schumpeter, "innovation" means "doing things differently in the realm of economic life". Innovators are the actors of development who are different from capitalists. In order to perform innovations, the innovators have to overcome socio-psychological barriers, besides economic barriers of financing the innovation. Therefore, these group of development actors have to possess the quality of leadership. Sweezy has remarked that "Schumpeter's analysis is designed to show that without entrepreneurs we have a stationary economy."

- (iii) **Role of Entrepreneurs** – Entrepreneur is the star of Schumpeterian drama of economic development. He/she is the central figure in Schumpeter's theory of economic development. He/she is the innovator who does innovation and initiates process of development in an economy and carries it forward. Entrepreneurs are not the capitalists; rather they work under the capitalists. The capitalists furnish the funds, while the entrepreneurs direct the use of these funds.

The two things which are critical to functioning of an entrepreneur to bring economic development are technical know-how and capital resources. Entrepreneurs need technical know-how for introducing new products and new combinations of production factors. Schumpeter considers that these production and production factors are always present in an economy. What an entrepreneur does is only streamline

these things. To Schumpeter “it is not part of his function to find or to create new possibilities. They are always present abundantly accumulated by all sorts of people.” The second essential thing which an entrepreneur needs is the capital resource which can enable him/her to have command over factors of production. He/she acquires capital in the form of credit from banks and other financial institutions. Thus credit and bank plays vital role in economic development. Schumpeter is of the opinion that the entrepreneur needs credit because credit promotes industrial development which in turn delivers new goods.

- (iv) **Role of Profit** - Profit is the main motivation factor for entrepreneur to go for innovation. Entrepreneurs innovate because they want to increase profit. According to Schumpeter “under competitive equilibrium, the price of each product just equals to its cost of production and there are no profits. Profits arise due to dynamic changes resulting from an innovation. They continue to exist till the innovation becomes general”. Entrepreneurial innovation is the major sources of all profits. However, as economic development progresses through innovations, the competition to progress among the entrepreneurs rises causing entrepreneurial profit to decline as the economy asymptotically heads towards a stable state.
- (v) **Cyclical Process of Development** – Schumpeter regards economic development as a dynamic, discontinuous and cyclical process. His concept of “creative destruction” where old economic structures of the society are being continually destroyed and new structures are being continually created reveals the cyclical nature of development. Schumpeter famously claimed that to discuss capitalism without mentioning the process of creative destruction would be like discussing the play Hamlet, without mentioning the Danish prince (Schumpeter, 1950). According to Diamond (2004) Schumpeter’s central message is that the process of creative destruction describes the form of competition in capitalism that is capable of dramatic improvements in the quantity and quality of our lives. To him the swarm like appearance of entrepreneurs is responsible for cyclical nature of economic growth. In this situation one entrepreneur follows the other and innovation in one field may induce other innovations in related fields. For example, the emergence of motor industry, may in turn, stimulate a wave of new investments in motor parts industries, tyre industries and petroleum product industries. Schumpeter believes that new units of production enjoy advantages over old units of production when new plants starts turning out production.



Entrepreneurs play key role in the Schumpeterian theory of economic development. They bring economic development in a spontaneous and discontinuous manner and “Cyclical saving are the cost of economic development under capitalism”, a permanent feature of its dynamic path.

- (vi) **Decay of Capitalism** – Schumpeter had a pessimistic view about the survival of capitalism. The capitalism will flourish as long as capitalists earn profit and innovations continue and the entrepreneurs are agile and continue innovation. Schumpeter has sighted three reasons for the downfall of capitalism: (i) the obsolescence of entrepreneurial function; (ii) destruction of institutional framework of capitalist and (iii) destruction of protecting the political strata. Schumpeter believed that the innovation carried out by the entrepreneurs will not continue for long and will be turned into routine activity through highly trained managers. This would reduce the position of entrepreneur in a society and undermine their functions and turn them into “warrior knight”. Another factor responsible for the downfall of capitalism is the weakening of its institutional framework. The tendency towards concentration and increase in the size of the production unit destroy capitalistic institutions like private property and freedom of contract. Finally, the destruction of the protecting political strata will give a big blow to capitalist system. With the rise of capitalism not only the institutional framework will crumble but also the political strata who would have protected capitalism at its early stage gets destroyed. The very success of capitalism is destroyed by the royal power. With the progress of capitalism the industrial units and merchants become more powerful and pose big threat to political class and virtually dominate them.

It can be well said that it is the rise of capitalism which brings its own death. The entire process of decomposition and disintegration in the capitalist system shows that capitalist process does not only destroy its own institutional framework but also creates conditions for another system i.e. socialism which may assume various forms. To end, it is pertinent to quote Higgins who wrote “According to Schumpeter, not the failures of capitalism but its very success, eventually leads to the slaughter of the goose that lays the golden eggs”. Therefore, Schumpeter is regarded as a prophet of doom of capitalism.

In this section you read about the features of Schumpeter theory of development and now answer the questions given in *Check Your Progress-1*.

Check Your Progress 1

Note: a) Write your answer in about 50 words.

- b) Check your answer with possible answers given at the end of the unit.

1. What is circular flow?

.....

.....

.....

2. Give three important reasons of downfall of capitalism.

.....

.....

.....

4.3 CRITICAL APPRAISAL OF SCHUMPETER THEORY

Some of the criticism leveled against Schumpeter theory of economic development is as follows:

- (i) The Schumpeter theory of economic development is being criticized on the ground that it has placed too much of emphasis on entrepreneurs and their role in innovations. They placed their argument that innovation is one of the factors of development like all other factors i.e. labour, capital and organizational efficiency. However, over a period of time innovation becomes a regular activity and entrepreneurs' glorified role is cut into size in the process of development.
- (ii) In Schumpeter theory of development, credit in general and bank credit in particular play an important role. The entrepreneurs undertake innovation activities with the help of bank credit. In the long run bank credit is not sustainable to promote investment unless and until it is backed by real saving, deficit financing and public borrowings. Thus it is commented that Schumpeter undermined the role of savings in the process of economic development. In present time, the sources of savings play a vital role in financing the development projects and innovations particularly in developing countries.
- (iii) Schumpeter's analysis has not taken into consideration the effect of population growth on economic development. In the developing countries population growth creates a hurdle in the process of development.
- (iv) Schumpeter's argument of downfall of capitalism and advent of socialism is not based on sound reasoning.

He has argued that it is the success of capitalism that brings its downfall. The success of capitalism does not depend only on the role of entrepreneur and innovations but on many other economic factors. It is therefore not convincing that capitalist process always works on the basis of rationality and disproportionate ideas (Leki, 1990).

In this section you read about the criticisms of Schumpeter theory of development and now answer the question given in *Check Your Progress-2*.

Check Your Progress 2

Note: a) Write your answer in about 50 words.

- b) Check your answer with possible answers given at the end of the unit.

1. Give two criticisms of Schumpeter theory of economic development

.....

.....

.....

4.4 LET US SUM UP

The Schumpeter theory of economic development presents a holistic symbiosis between economic, historical, political, social and all others elements of the process of the functioning and development of the capitalist world. In essence, Schumpeter theory gives an in depth account of dynamics of capitalist system. The key components of Schumpeter theory of development are entrepreneur, circular flow, rate of profit and innovations. Schumpeter theory still holds a lot of relevance in the contemporary world of globalization and development.

4.5 REFERENCES AND SUGGESTED READINGS

Lekhi, R K (1990): *The Economics of Development and Planning*, Kalyani Publisher, New Delhi.

Schumpeter JA (1911): *The Theory of Economic Development: An Inquiry into Profit, Capital, Credit, Interest and Business Cycle*, Translated from the German by Redvers Opie, New Brunswick (USA) and London(UK), Transaction Publishers.

Schumpeter JA (1934): *The Theory of Economic Development*, New Brunswick, NJ, Transaction.

Schumpeter, JA (1935): The 'orie de l' Evolution Economique Recherches sur le Profit le Cre'dt, l' interet et le cycle da la Conjoncture, Paris, Dalloz (quoted from Arena, Richard and Hagnaner, D C (ed.) *The contribution of Joseph A. Schumpeter to Economics* , Economic Development and Institutional Change, Rutledge, London, pp.110.

Schumpeter, J A (1939): *Business Cycle: A Theoretical, Historical and Statistical Analysis of the Capitalist Process*, Mc Graw-Hill, New York.

Schumpeter, J A (1942): *Capitalism, Socialism and Democracy*, Harper& Brother Ltd, New York.

Schumpeter, J A (1950): *Capitalism, Socialism and Democracy*, Harper& Brother Ltd, 3rd Edition, New York.

Schumpeter, J A (1954): *Economic Doctrine and Method. An Historical Sketch*, New York, Oxford University Press.

4.6 CHECK YOUR PROGRESS - POSSIBLE ANSWERS

Check Your Progress 1

1. The circular flow is based on the premises that economic development is a continuous process, where economic activities produce continuously at constant rate through time. According to Schumpeter "development in our sense is change in the channels of the flow as opposed to that movement. It is displacement of the equilibrium state as opposed to the movement towards an equilibrium state".
2. Schumpeter has sighted three reasons for the downfall of capitalism: (i) the obsolescence of entrepreneurial function; (ii) destruction of institutional framework of capitalist and (iii) destruction of protecting the political strata. Schumpeter believed that the innovation carried

out by the entrepreneurs will not continue for long and turned into routing activity through highly trained managers.

Check Your Progress 2

1. Firstly, the Schumpeter theory of economic development is being criticized on the ground that it has placed too much of emphasis on entrepreneurs and their role in innovations. However, over a period of time innovation becomes a regular activity and entrepreneurs glorified role cut into size in the process of development. Secondly, Schumpeter analysis has not taken into consideration the effect of population growth on economic development. In the developing countries population growth creates hurdle in the process of development.

MDV-101: INTRODUCTION TO DEVELOPMENT AND DEVELOPMENT THEORIES (6 CREDITS)			
Block	UnitNos	Unit Titles	
1	Development: An Overview		
	1	Development – Concept and Paradigms	
	2	Economic Development	
	3	Human Development	
	4	Political Development	
2	Classical and Neo-Classical Theories		
	1	Classical Theories	
	2	Neo-Classical Theories	
	3	Marxian Theory	
	4	Schumpeter Theory	
3	Developmentalist Theories		
	1	Balanced Development Theories	
	2	Unbalanced Development Theories	
	3	Rostow’s Stages of Economic Growth and Development	
	4	Developmental State Theory	
4	Heterogeneous Theories		
	1	Neo-Liberal Theories	
	2	Dependency Theory	
	3	Human Capabilities Theory	
	4	Gandhian Theory	