UNIT 16  CLASSICAL THEORIES OF DEVELOPMENT

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16.0  OBJECTIVES

After going through this unit, you will be able to:

- Discuss the classical theories of economic development;
- Distinguish among the theories of several classical economists like Smith, Ricardo, Malthus, Mill and Marx;
- Compare the analytical devices and the visions about society that these classical economists had; and
- Critically examine the strengths and weaknesses of each of these theories.
16.1 INTRODUCTION

The Classical School of economic thought was formalised by Adam Smith, Malthus, Ricardo, Mill and Say, who developed the classical theory of development. However, there are distinctions in terms of the emphasis laid by each thinker to the classical theory of development. While Malthus and Mill emphasised the demand side, Smith, Ricardo and Say proposed a supply side growth models. In the present unit, we discuss the models propounded by Smith, Ricardo, Mill and Malthus. We go further and include Marx’s ideas on development who also gave us the stages of economic development. We now discuss all these models one by one.

16.2 ADAM SMITH’S THEORY OF ECONOMIC DEVELOPMENT

Adam Smith is regarded as the foremost classical economist. His monumental work, *An Enquiry into the nature and Cause of Wealth of nations* published in 1776, was primarily concerned with the problem of Economics of Development. Though he did not expound and systematic growth theory, yet a coherent theory has been constructed by later day economists.

Smith posited a supply-side driven model of growth. Succinctly we can set out the story via the simplest of production functions:

\[ Y = f(L, K, T) \]

where \( Y \) is output, \( L \) is labour, \( K \) is capital and \( T \) is land, so output is related to labour and capital and land inputs. Consequently output growth (\( g_Y \)) was driven by population growth (\( g_L \)), investment (\( g_K \)), land growth (\( g_T \)) and increases in overall productivity (\( g_f \)). Succinctly:

\[ g_Y = \phi(g_f, g_K, g_L, g_T) \]

16.2.1 Assumptions

Smith proposed that

a) Population growth, in the traditional manner of the time, was endogenous. It depended on the sustenance available to accommodate the increasing workforce.

b) Investment was also endogenous; determined by the rate of savings (mostly by capitalists);

c) Land growth was dependent on conquest of new lands (e.g. colonisation) or technological improvements of fertility of old lands.

d) Technological progress could also increase growth overall; Smith's famous thesis that the division of labour or specialisation improves growth was a fundamental argument.

e) Smith also saw improvements in machinery and international trade as engines of growth as they facilitated further specialisation.

f) He also assumed the existence of perfect competition.

16.2.2 Main Features

**Natural law – lassiez-faire and self interest leads to Development.**– Adam Smith believed in the doctrine of ‘Natural law’ in economics affairs. He regarded every person as the best judge of his own interest who should be left to pursue it to her own advantage. In furthering her own self interest she/he would also further the common good. In pursuance of this, each individual was led by an ‘invisible hand’. “It is not to the benevolence of the baker but to his self-interest that we owe our bread”, said Smith. Since every individual if left free will seek to maximise his own wealth, therefore all individuals, if left free, will maximise aggregate wealth. Smith was naturally opposed to any government interventions in industry and commerce. He
was a staunch supporter of free trade and advocated the policy of laissez-faire in economics affairs. The “invisible hand” – the automatic equilibrating mechanism of the perfectly competitive market tended to maximise national wealth.

**Division of Labour** – Division of labour increases productivity which depends upon the *size of the market*. Division of labour is the starting point of Smith’s theory of economic growth. It is division of labour that results in the greatest improvement in the productive powers of labour. The attributes of this increase in productivity are (i) the increase in the dexterity of every worker; (ii) the saving in time to produce goods; and (iii) to the inventions of large number of labour saving machines. The last cause to increase in productivity stems not from labour but from capital. Therefore in Smith’s scheme; it is improved technology that leads to division of labour which, however, depends on the size of the market.

**Process of Capital Accumulation** – *Division of labour leads to capital accumulation and capital accumulation leads to economics of development* – Smith, however, emphasised that capital accumulation must precede the introduction of division of labour. He wrote “As the accumulation of stock must, in the nature of things, be previous to the division of labour, so that labour can be more and more sub-divided in proportion only as stock is previously more and more accumulated”. Like the modern economists, the classical economists regarded capital accumulation as a necessary condition for economics of development. Hence the problem of economics of development was largely the ability of the people to save more and invest more in a country. As Smith said, “that portion which a person annually saves is immediately employed as a capital.” But since almost all saving resulted from capital investments or the renting of land; only capitalists and landlords were held to be capable of saving. The labouring classes were considered to be incapable of saving. This belief was based on the ‘Iron Law of Wages’. The classical economists also believed in the existence of ‘wages fund’. The idea was that ‘wages’ tend to equal the amount necessary for the subsistence of the labourers. If the total wages fund at any time becomes higher than the subsistence level, the labour force will increase, competitions for employment will become keener and wages will come down to the subsistence level.

**Why do capitalists make investment?** – *Investment is made to earn profits* – According to classical economists, investment were made because the capitalists expected to earn profits on them; and future expectations with regard to profits depended on the present climate for investment as well as actual profit. But what is the behaviour of profits during the development process? Smith believed that *profits tend to fall with economic progress* when the rate of capital accumulation increases. Increasing competitions among capitalists tends to lower profits. Thus with the growth of economy’s capital stock, competition among entrepreneurs for scarce labour tends to bid up wages and thereby lowers profits.

**Interest** – Regarding the role of interest in economics of development, Smith wrote that with the increase in prosperity, progress and populations the rate of interest falls and as a result the supply of capital is augmented. The reason being that with the fall in interest rate the moneylenders will lend more to earn more interest. Thus the quantity of capital for lending will increase with the fall in the rate of interest. But when the rate of interest falls considerably the moneylenders are unable to lend more in order to earn more to maintain their standard of living. Under the circumstances they will themselves start investing and become entrepreneurs. Thus even with the fall in the rate of interest there is increase in capital accumulation and economic progress.

**Agents of Growth** – According to Smith, farmers, producers and businessman are the agents of progress and economic growth. The functions of these three are, however, interrelated. To Smith, development of agriculture leads to increase in construction works, and commerce. When agricultural surplus arises as a result of economics of development, the demand for commercial services and manufactured articles rises. This leads to commercial progress and the establishment of
manufactured industries. On the other hand, their development leads to increase in agricultural productions when farmers use advanced production techniques.

**Shortage of natural resources stops growth** – According to Smith, the process of growth is cumulative. When there is prosperity as a result of progress in agriculture, manufacturing industries and commerce, it leads to capital accumulations, technical progress, increase in population expansions of markets, division of labour and rise in profits continuously. But this process is not endless. It is the scarcity of natural resources that finally stops growth. Competition among businessmen would bring profits as low as possible. Once profits fall, they continue to fall. Investment also starts declining and the end result of capitalism is the stationary state. When this happens capital accumulation stops; populations becomes stationery, profits are the minimum; wages are at the subsistence level; there is no change in per capita income and production, and the economy reaches the state of stagnation.

### 16.2.3 A Critical Appraisal

Smith’s model has the great merit of pointing out ‘how economic growth came about and what factors and policies impede it’. In particular, he pointed out the importance of parsimony in saving and capital accumulation; of improved technology, division of labour and expansion of market in production; and of the process of balanced growth in the interdependence of farmers, traders and producers. Despite these merits, it has certain weaknesses.

1) **Rigid division of Society**: Smith’s theory is based on the socio-economic environment prevailing in Great Britain and certain parts of Europe. It assumes the existence of a rigid division of society between capitalists (including land lords) and labourers. But the middle class occupies an important place in modern society. Thus, this theory neglects the role of middle class.

2) **One sided saving base**: According to Smith, capitalists, landlords and money lenders save. This is, however, a one-sided base of saving because it did not occur to him that the major source of savings in our advanced society was the income receivers and not the capitalists and landlords.

3) **Unrealistic assumption of perfect competition**: Smith’s whole model is based upon the unrealistic assumption of perfect competition. The laissez-faire policy of perfect competition is not to be found in any economy. Rather, a number of restrictions are imposed on the private sector, and on internal and international trade in every country of the world.

4) **Neglect of Entrepreneur**: Smith neglects the role of entrepreneur in development. This is a serious defect as his theory. The entrepreneur is the focal point of development, as pointed out by Schumpeter. It is the entrepreneur who organizes and brings about innovations thereby leading to capital formation.

5) **Unrealistic Assumption of Stationary State**: Smith is of the view that the end result of a capitalist economy is the stationary state. It implies that there is change in such an economy but around a point of equilibrium. There is progress but it is steady, uniform and regular like a tree. But this explanation of the process of development is not satisfactory because development takes place by ‘fits and starts’ and is not uniform and steady. Thus the assumption of stationary state is unrealistic.

### 16.3 RICARDIAN THEORY OF ECONOMIC DEVELOPMENT

Ricardo presented his view on Economic Development in an unsystematic manner in his book *The Principles of Political Economy and Taxation*. Like Smith, Ricardo never propounded any theory of development; he simply discussed the theory of distribution. However, Smith’s model of growth remained the predominant model of
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1.3.1 Assumptions

The assumptions of his model included: a) all land is used for production of corn, b) law of diminishing returns operates, c) supply of land is fixed, d) demand for corn is perfectly elastic, e) labour and capital are variable inputs, f) state of technical knowledge is given, g) all workers are paid a subsistence wage, h) supply price and labour is given and constant, i) demand for labour depends upon accumulations, j) capital accumulation results from profit and k) there is perfect competition.

16.3.2 Main Features

The Ricardian model is based on the interrelation of three groups in the economy. They are landlords, capitalists and labourers among whom the entire produce of land is distributed.

Rent, Profit and Wages – (a) rent is that portion of the produce of earth which is paid to the landlord for the use of original and indestructible powers of the soil. It is the difference between average and marginal product. If all the land had the same properties of unlimited in supply and uniform in quality, no charge would make for its use. (b) The wage rate is determined by wage fund divided by number of workers employed at the subsistence level. According to the model, out of the total corn produced rent has the first right and the residual is distributed between wage and profit while interest is included in profit.

Capital Accumulation – According to Ricardo capital accumulation is the outcome of profit because profit leads to saving of wealth which is used for capital formations. Capital formation depends upon will to save and capacity to save which is more important. The larger the surplus i.e. profit, the larger will be capacity to save.

i) The Profit Rate - The rate of profit is equal to the ratio of profit to capital employed. But since capital consists of only working capital, it is equal to the wage bill. So long as the rate of profit is positive, capital accumulation will take place. In reality, profits depend upon wages, wages on price of corn and the price of corn depends upon the fertility of the marginal land. So there is an inverse relation between wages and profits. When due to improvement in agriculture, production increases, the price of corn falls and subsistence wages also fall and profits will increase leading to capital accumulation. This will raise demand for labourers raising wage rate and reducing profits.

ii) Increase in Wages – The wage rate increases when the prices of commodities forming the subsistence of the workers increase. As the demand for food increases, less fertile land is brought under control and more labourers are needed raising wage rate. Thus wages would rise with the increase in the price of corn. In a situation rent also increases, with the decline of capitalists’ profit capital accumulation also declines.

iii) Declining profits in other industries – The profits of the farmer regulate the profits of all other trades. Therefore the money rate of profit earned on capital must be equal both in agriculture and industry. If profit rate declines in the agricultural sector it will also decline is the manufacturing industry.

Other Sources of Capital Accumulation: According to Ricardo economic development depends upon difference between production and consumption. Capital may be increased by an increased production or by a diminished unproductive consumption. However, the productivity of labour may be increased through technological changes and better organisation. It is in this way that capital accumulation can be increased. But the use of more machines employs less workers leading to unemployment. So Ricardo regards technological conditions as given and constant.
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a) **Taxes:** Taxes are a source of capital accumulation in the hands of government. According to Ricardo, taxes are to be levied to reduce conspicuous consumption. Otherwise the imposition of taxes on capitalists, landlords, and labourers will transfer resources from these groups to the government, adversely effecting investment. So he does not favour the imposition of taxes.

b) **Free Trade:** Ricardo is in favour of free trade. The profit rate can be saved from declining by importing corn. The capital accumulation therefore continues to be high. In this way the resources of the world can be used more efficiently through trade.

**Stationary State:** According to Ricardo there is a natural tendency for the rate of profit to fall in the economy so that the country ultimately reaches the stationary state. When capital accumulation rises, with increase in profits, production increases which raises the wage fund, population increases, which raise the demand for corn and its price. Inferior grades of land are cultivated. Rents on superior land increase and reduce the share of the capitalists and labourers. Profits decline and wages fall to subsistence. The process of rising rents and falling profits continues till the output from the marginal land just covers the wages of labour employed and profits are zero. There is no accumulation of capital, no increase in population and wage rate but rent is extremely high and there is economic stagnation. In figure 16.1, AP and MP represents average product and marginal wage bill is OWLM at the subsistence level.

![Graph](image)

Total profits are WPTL. Product OM labour is employed OQRM corn is produced. Share of rent is PQRT and total output increases with economic development. This leads to increase in wage fund leading to increase in amount of labour. Demand for corn goes up raising price of corn. OM1 labour is employed, total output is OABM1, and there are no profits. Share of rent has increased.

**16.3.3 A Critical Appraisal**

Though weak in some situations, Ricardo’s theory is of great importance. He emphasized the importance of agricultural development in economic growth because industrial development depends upon it. He emphasizes the importance of high rate “of profit for economic development because capital accumulation depends upon it. Modern economists also recognize this fact.

Saving must be there for higher capital accumulation. He has also given importance to foreign trade. He was against colonial trade because it depresses the industry of all other countries.
He has given us a dynamic theory which analyses the effects of change in different variables on economic development such as population, wage, rent, profit etc.

Ricardo's portrait however, is somewhat more pessimistic than Smith's. The ultimately dismal portrait, however, was painted by T.R. Malthus (1796) with his famous claim that population growth was not so easily checked and would quickly outstrip growth and cause increasing misery all around. John Stuart Mill improved little upon Ricardo, perhaps only to emphasize the need for control of population growth to put a brake on declining growth and his view of stationary states as wonderful things to achieve.

Despite this the theory has certain weaknesses also.

1) **Neglects the impact of technology**: Ricardo pointed out that improved technology in industrial field leads to the displacement of labour and other adverse consequences. But Ricardo failed to visualize the impact that science and technology had on the rapid economic development of the new developed nations.

2) **Wrong Notion of Stationary State**: The Ricardian view that the system reaches the stationary state automatically is baseless because no economy attains the stationary state in which profits are increasing, production is rising and capital accumulation is taking place.

3) **Baseless Notion of Population**: The Ricardian view that wage rate can (does) not rise above the subsistence level is wrong. In western countries there has been rise in wage rate but population has decreased.

4) **Unnecessary Importance to the law of Diminishing Returns**: Ricardian theory is primarily based on the law of diminishing returns but the rapid increase of farm produce in advanced nations has proved that Ricardo under-estimated the potentialities of technological progress is counteracting diminishing returns to land.

5) **Impracticable laissez-faire Policy**: According to this theory there should be no government interference and the economy will operate automatically through perfect competition. In reality no economy is free from government interference and in which perfect competition prevails.

6) **Neglects Institutional factors and Interest-rate**: Institutional factors have been assumed as given but they are crucial in Economic Development and cannot be overlooked. It neglects rate of interest also the does not regard the interest rate as an independent reward of capital but includes it in profits. He does not distinguish between capitalist and entrepreneur.

7) **Distribution rather than growth theory**: The Ricardian model is not a growth theory but a theory of distribution which determines the share of workers, landlords and capitalists. Even is this he regards the share of land as primary and the residual as the share of labour and profit. He did not determine the share of each factor separately.

8) **Land also produces goods other than corn**: Ricardo believes that one product corn is produced on land. But this is an old notion because land produces a variety of products other than corn.

9) **Capital and labour not fixed co-efficients**: The Ricardian assumption that capital and labour are fixed co-efficients of production is not correct. This assumption is invalid.

Check Your Progress 1

1) Give the assumptions of Adam Smith’s theory of economic development, and describe its main features.
2) Critically evaluate the strengths and weaknesses of Smith’s theory of development.

3) State the assumptions of Ricardo’s theory of development. Compare the Ricardian model with Adam Smith’s theory of development.

16.4 MALTHUSIAN THEORY OF ECONOMIC DEVELOPMENT

Malthus showed more appreciation than most of his contemporaries of the importance of a distinct and systematic theory of growth. Book I of his Principles of Political Economy was concerned with value and distribution; book II with “The Progress of Wealth”.

In his famous work, Malthus posited his hypothesis that (unchecked) population growth always exceeds the growth of means of subsistence. He argued that while population rises geometrically, food supply increases arithmetically. Actual (checked) population growth is kept in line with food supply growth by "positive checks" (starvation, disease and the like, elevating the death rate) and "preventive checks" (i.e. postponement of marriage, etc. that keep down the birth rate), both of which are characterised by "misery and vice".

Malthus's hypothesis implied that actual population always has a tendency to push above the food supply. Because of this tendency, any attempt to ameliorate the condition of the lower classes by increasing their incomes or improving agricultural productivity would be fruitless, as the extra means of subsistence would be completely absorbed by an induced boost in population. As long as this tendency remains, Malthus argued, the "perfectibility" of society will always be out of reach.

He defines the problem of development as explaining any difference between potential gross national product ("Power of Producing riches") and actual gross national product (actual riches).

There is nothing automatic about economic growth, Malthus warns. To say that population growth by itself is enough to bring economic advance is absurd. In the first place, population growth—despite the strength of the psychological and physiological forces tending to bring it down—is an end product of the whole economic process; “an increase of population can not take place without a proportionate or nearly proportionate increase of wealth”. As evidenced, that the
natural tendency toward population growth is no guarantee that either population or income will grow, he cites examples of Spain, Portugal, Hungary, Turkey, “together with nearly the whole of Asia and Africa and the greatest part of America”.

Secondly, mere increases in numbers do not provide a stimulus to economic expansion; population growth encourages development only if it brings an increase in effective demand. “A man whose only possession is his labour is, or is not, in demand by those who have the disposal of produce”. And the demand for labour, in turn, depends on the rate of capital accumulation.

16.4.1 Effective Demand

In elaborating his theory of effective demand and its relations to savings and investment, Malthus anticipated some of the basic ideas of such modern writers as Keynes and Kalecki. He flatly repudiated ‘Say’s law’, which said in effect that supply creates its own demand and that savings are just a demand for capital goods. Saving in the sense of planned or ex-ante saving or abstinence, means not consuming; and not consuming in itself brings a decline in effective demand, profits and investment.

Malthus drew attentions to a circularity of a kind quite different from the one spelled out by the other classical economists, which has been restated more systematically by Kalecki and others. We have national income (or output) equal to profits plus wages. As we know that

\[
O = R + W
\]

Where \( R = \text{Profit} \)

Or

\[
R = O - W
\]

\( W = \text{Wages} \)

\( O = \text{National output} \)

Since workers, as a class are too poor to save, they spend all their income on consumption. Let us denote workers’ consumptions as \( C_w \). Capitalists (\( C_c \)), however, do save; these savings create income in so far as they are invested. So we may write,

\[
R = (I + C_c + C_w) - C_w = I + C_c \\
\therefore O = I + C_c + C_w
\]

National income or output is generated by investment, capitalists’ consumption and workers’ consumption. Profit are national income less wages; wages equal worker’s consumption – and so according to Malthus, profits are equal to investment plus capitalists’ consumption.

16.4.2 Role of Capital

Malthus, does not, of course, deny the need for saving and investment for economic growth. But he suggests a concept of ‘optimum propensity to save’. Up to a certain point saving is needed to finance (without inflation) the investment for which profitable opportunities exist. Beyond that point, however, saving will reduce. Consumer spending to such an extent that investment too will be discouraged. High rates of growth do not occur with high levels of ex-ante saving (abstinence) on the part of the upper income groups, but with high levels of ex-post (realized) savings and investment, which are in large degree the result of growth, and do not require reductions in consumer spending.

Like Smith and Ricardo, Malthus also believed in free enterprise and considered that the wealth effects of free trade are very high.

16.4.3 Structural Change

Malthus also noted the phenomenon which much later Colin Clark has stressed; economic development entails structural change of a sort which diminishes the relative importance of agriculture in the economy. He argued that technological progress tends to increase employment and that tapering-off of the growth of income and output causes unemployment. He suggested land reform as one means of expanding output. Malthus envisaged the economy as consisting of two major sectors: industrial and agriculture- the latter triggers the growth of the former.
The Malthusian picture of economic development seems to have been one in which capital was invested in agriculture until all the arable land was brought into cultivation, stocked and improved; after that there were no more opportunities for profitable investment in that sector, and investment opportunities existed only in the industrial sector. Diminishing returns to increased employment on the land could be avoided only if technological progress in the industrial sector was rapid enough, and if enough investment took place, to absorb most of the population growth in the industrial sector and to reduce the cost of living of workers on the land, permitting reductions in their corn (goods) wage rates.

Let us assume once again that the rate of technological progress in the industrial sector depends only on the amount of capital available for utilising the steady flow of improvements. Malthus explicitly recognised the possibility of unemployment arising from inadequate investment, so the level of industrial employment can also be treated as a function of investment. Thus we can regard industrial output as depending solely on the amount of capital invested in the industrial sector.

\[ O_i = a \cdot Q_i \]

Where \( O_i \) is the output of industrial sector, \( Q_i \) is the amount of capital in industrial sector, and \( 1/a \) is the capital-output ratio for the sector. Differentiating the above equation with respect to time

\[ \frac{\delta O_i}{\delta t} = a \cdot \frac{\delta Q_i}{\delta t} + Q_i \cdot \frac{\delta a}{\delta t} \]

where \( a \) is constant.

If technological progress is ‘neutral’, the capital output ratio can be considered as constant and the second term drops out. The trend of industrial output through time depends only on the rate of capital accumulation (investment) in the industrial sector the rate of investment in turn depends upon the level of profits, as we already know; and in this model, the rate of profits will depend on the wage rate (which is turn depends upon the cost of producing wage goods, especially food stuffs) and effective demand, which depends on capitalists’ consumption and investment.

Malthus also, makes some suggestions about sectoral interaction in underdeveloped areas, which help to explain why they remain underdeveloped. First, he points out that each sector constitutes the market for the output of the other sector (in the absence of international trade). Thus failure of either sector to expand acts as a drag on the growth of the other; ‘balanced growth’ is necessary if we are to have growth at all. The development of the industrial sector of underdeveloped countries is limited by the poverty of the agricultural sector.

The continuing poverty of the peasant agriculture sector does not arise from scarcity of fertile land; poverty persists because large land owners have no incentive for more intensive cultivation with the present limitations of the marker, where as the peasants lack capital that would be needed for efficient cultivation, which alone would permit them to pay enough to induce land lords to rent some of their land.

Thus the industrial sector (including large-scale agriculture) remains limited in total size. Because of its land-and-capital intensive nature it provides employment for relatively few people. The bulk of population, meanwhile, lives in poverty by means of labour-intensive peasant agriculture, which provides no effective demand for further growth.

### 16.4.4 A Critical Appraisal

There is no doubt that Malthus made a valuable contribution to the theory of economic growth. This repudiation of say’s law and emphasizing the importance of effective demand and its relation to saving and investment are indeed noteworthy for their modern touch. A great deal of what he wrote on the subject is applicable to an under-developed economy, especially relating to the theory of dualism.
16.5 J.S. MILL’S THEORY OF ECONOMIC DEVELOPMENT

J.S. Mill was an economist, concerned with the well being of men and women in society. He recognised the relevance of political economy to the outcome but judged its role to be limited. He was a more subtle and original political economist than just refining and updating Smith and Ricardo.

16.5.1 Mill’s Coherent Exposition of the Growth Process

Unlike his predecessors, Mill gave a very coherent exposition of the growth process. He defined in a very orderly way the three agents land, labour and capital followed by the degree of productiveness of his three production agents. Recognising the limited quantity and productiveness of land, he introduced the diminishing returns as the most important proposition in the political economy. However, innovations and inventions are given capable of exercising, “an antagonistic influence on the law of diminishing returns to agricultural labour”. Among innovations, he argued for the improved education of the working force, improved system of taxation and land tenure and more sold instruction for the rich classes that would increase their mental energy, generate feelings of public spirit in them and qualify them for constructive roles in society. Mill appears to draw a sharp line between production, determined by scientific principles and distribution, determined by law, customs and other human institutions.

16.5.2 Population and Working Force

There is a kind of paradox in Mill’s treatment of population. His basic position is rooted in Malthus and Ricardo; however, he puts to himself a question beyond: What permanently might avoid an ‘over-peopled state’ with its attendant marginally low wages, poverty, ignorance and degradation particularly acute for women? He favoured a sustained public policy to encourage smaller families, efforts in popular education and ultimately movement to a higher income per capita stationary state. Mill is known in demographic literature as a neo-Malthusian i.e. a believer in birth control. He argued so strongly for limitation of family size that one expects support for birth control to become explicit. In examining the forces that determine the productivity of the working force, he introduced the factors of production with which labour must combine i.e. the quality and availability of the soil and sources of raw materials, as well as the scale and quality of capital equipment. He went further ahead to question: What determines the capacity and willingness of labour to engage in ‘steady and regular bodily and mental exertion’? In what ways the workers differ with respect to skill, adaptability, and moral character? He also questioned on the future of the working classes: What can be the effect of the education and the movement of women towards equal rights on the size, quality and composition of the working force? What is the evidence on the relation between labour productivity and profit sharing schemes?

16.5.3 Investment and Technology

Mill starts his exposition of the role of capital in production with a distinction between fixed and working capital. In dealing with profits, he distinguishes three components: interest, insurance against risk and wages of superintendence and then considers the determinants of the minimum profit rates, variations and the tendency of the profit in various sectors towards equality. According to him there is possibility of a decline in unit labour costs with rising wage rates. Mill’s views on investment process were considered incomplete by economists like Schumpeter.

16.5.4 Business Cycles

Mill had more to say on business cycles. His concept of the business cycle was firmly anchored in a theory of irrational expectations. He believed that since the calculations of the producers and traders being imperfect, there are always some commodities
which are more or less in excess and some are in deficiency. The reason for this being the rising prices, which dupes the producers of riches. But when the illusion vanishes, the commodities are in excess supply and there is a glut of commodities. Thus Mill had a clear sense that an almost periodical cyclical process had been under way in which investment decisions made by individuals operating without full knowledge of the investment decisions of the others and acting in response to the same signals of future loss and profit.

16.5.5 The Stages of and Limits to Growth

According to Rostow, Mill has given a remarkable exercise in dynamic analysis, which can be defined in terms of cases. Case 1: population increases; capital and the arts of production stationary. Real wages decline and rents rise. Case 2: population stationary; capital increases and the arts of production stationary. Real wages rise, demand for food increases under conditions of diminishing returns, rents rise but profits fall. Case 3: population and capital increasing equally and the arts of production stationary. Real wages remain constant, profit rate will fall and rents rise. Case 4: population and capital stationary; the arts of production progress. Real wages rise, rents decline and profits are unchanged. Case 5: population, capital and the arts of production increase together. Here only rents would increase.

Thus Mill concludes that the economical progress of a society constituted of landlords, capitalists and labourers and leading to agricultural improvement tends to the progressive enrichment of landlords. Labourer’s subsistence tends to rise and profits to fall. In contrast to his predecessors Mill idea of stationary state was a virtue that had the possibilities opened up in general and the elevation of the intellectual and social position of the working class and by birth control.

In a nutshell, it was in an effort to stop economics from becoming a mish-mash of theories that John Stuart Mill (1848) wrote his famous textbook, restating the Ricardian Classical doctrines fully and explicitly and thereby contributing to the classical growth theory. Ricardo's system, however, was improved very little by his followers. Perhaps only Karl Marx (1867-94) added insights of any great weight.

Check Your Progress 2

1) Critically examine the contribution of Malthus to the theory of economic development.

2) Describe J.S. Mills’s theory of economic development and briefly state his views on the business cycles.
16.6 MARXIAN THEORY OF ECONOMIC DEVELOPMENT

Karl Marx (1867-1894) modified the classical picture once again. For "modern" growth theory, Marx's achievement was critical because he not only provided, through his famous "reproduction" schema, but he did so in a multi-sectoral context and, in the process, contributed critical ingredients such as the concept of a "steady-state" growth equilibrium. He explains how a particular capitalist economic system functions.

Marx's theory differed from the earlier classical economists in many ways. Firstly, unlike Smith or Ricardo, Marx did not believe that labour supply was endogenous to the wage. As a result, Marx had wages determined not by necessity or "natural/cultural" factors but rather by bargaining between capitalists and workers. This process however was considered to be influenced by the amount of unemployed labourers in the economy (the "reserve army of labour", as he put it). Marx also argued profits as the determinants of savings and capital accumulation.

16.6.1 Organic Composition of Capital, and Surplus Value

Like the classical economists, Marx believed there was a declining rate of profit over the long-term. The long-run tendency for the rate of profit to decline is brought about by competition increasing wages (as in Smith), nor by the diminishing marginal productivity of land (as in Ricardo), but rather by the "rising organic composition of capital".

Marx defined the "organic composition of capital" as the ratio of what he called constant capital to variable capital. It is important to realise that constant capital is not what we today call fixed capital, but rather circulating capital such as raw materials. Marx's "variable capital" is defined as advances to labour, i.e. total wage payments, or heuristically, \( v = wL \) (where \( w \) is wages and \( L \) is labour employed). Thus according to Marx, total value of output is

\[
y = c + v + s
\]

where \( y \) is output, ‘c’ constant capital, ‘v’ variable capital and ‘s’ surplus value.

The rate of profits, Marx claimed, is defined as:

\[
r = \frac{s}{v + c}
\]

where \( r \) is the rate of profit, \( s \) is the surplus, and \( v + c \) are total advances (constant and variable). Surplus, \( s \), is the amount of total output produced above total advances, or

\[
s = y - (v + c),
\]

where \( y \) is total output. It is important to note that for Marx only labour produces surplus value. This was to become a sore point of debate between the Neo-Ricardians like Sraffa, Pasinetti and Garegnani and the Neo-Marxians like Baran, Sweezy, Mandel, Amin, Frank, Levine, Prebisch, and Furtado, in later years. Marx called the ratio of surplus to variable capital, \( s/v \), the "exploitation rate" (surplus produced for every dollar spent on labour).

Marx referred to the ratio of constant to variable capital, \( c/v \), as the organic composition of capital (which can be viewed as a sort of capital-labour ratio). Notice that dividing numerator and denominator of \( r \) by \( v \) we obtain:

\[
r = \frac{s}{v}(\frac{v}{v+c})
\]

so the rate of profit can be expressed as a positive function of the exploitation rate \( (s/v) \) and a negative function of the organic composition of capital \( (c/v) \).
16.6.2 Declining Rate of Profit

Marx then argued that the exploitation rate \((s/v)\) tended to be fixed, while the organic composition of capital \((c/v)\) tended to rise over time, thus the rate of profit has a tendency to decline. Why?

The basic logic can be as follows. For simplicity, assume a static economy (no labour supply growth). As the surplus accrues to capitalists and, necessarily, capitalists invest that surplus into expanding production, then output will rise over time while the labour supply remains constant. Thus, the labour market gets gradually "tighter" and so wages will rise. Thus, \(v = wL\) or variable capital rises and \(r\) or profits fall.

But this decline in \(r\) is temporary. There are forces at work which will restore profit rate -- what are these forces? Marx argued, capitalists can boost their profit rate back up by introducing labour-saving machinery into production -- thereby leading to unemployment.

There are two effects of this. a) notice that \(v\) declines because of increasing labour (L). But, concurrently, the employment of machinery implies that constant capital, \(c\), rises. Thus, the introduction of labour-saving machinery does not seem to change anything: the fall in \(v\) from less labour is counteracted by the rise in \(c\), so it seems that \(c/v\) stays constant. b) the concurrent expansion in the unemployed -- the "reserve army of labour" -- will, by itself, influence the labour bargaining process and reduce wages down to subsistence. Thus \(v\) declines further. So, on the whole, the net effect of a labour-saving technology is to raise \(c/v\), i.e. to reduce the rate of profit.

But notice that \(v\) declines further because labour is released. So, both the \(w\) and the \(L\) part of \(v = wL\) declines. But, concurrently, the employment of machinery implies that constant capital rises, \(c\) rises. Thus, the fall in \(L\) is counteracted by the rise in \(c\), so that, on the whole, \(v\) declines. So, in sum, the organic composition of capital, \(c/v\), falls. Profits, consequently, are increased.

Thus, the \(L\) part of \(v = wL\) declines and so \(r = s/(v+c)\) comes back up. There is a double effect in that, of course, the release of labour is not automatically absorbed by higher investment so that a "reserve army of labour" is created. In this manner, at the bargaining table, firms will be at an advantage relative to their employees, so that wages decline (or at least are prevented from rising further).

But this is merely a temporary respite. Profits will be reinvested, output will grow again, labour markets will tighten once more and the whole process will repeat itself. The problem is that the second time around, there is less labour to lay off. Recall, \(L\) was already reduced in the first round. Introducing more machinery reduces \(L\) further -- and, via several rounds, further and further -- until there is hardly any more \(L\) that can be released. When the system gets to the point that there are no more labourers to be fired, then there is nothing to bring \(s/v\) back up. The profit rate declines and firms will begin going bankrupt.

The bankruptcy of firms means a sudden release of even more labour and capital into the market, depressing prices tremendously. Firms that remain active will thus be able to buy the bankrupt smaller firms and thus acquire more labour and capital at very cheap rates -- indeed, cheaper than their proper "value". The unemployed, thus, act as a "reserve army of labour" and bring wages back down to a manageable level.

However, the introduction of labour-saving capital and laying off of workers means that \(c\) rises while \(v\) falls, i.e. the organic composition of capital \(rises\). It is easy to notice that a constant \(s/v\) and a rising \(c/v\) will necessarily reduce the profit rate (to see this, just notice that \(r\) can be rewritten as: \(r = (s/v)(v/(v+c))\)).

16.6.3 Increasing Rate of Exploitation

Thus, there is a natural tendency for the rate of profit to fall. One way to prevent this decline in \(r\) would be to increase the exploitation rate in proportion to which variable
capital declines relative to constant capital. The manner of increasing the exploitation rate, Marx claimed, was up to the devilish imagination of the capitalist. Technological progress in the form of machinery or division of labour was not wholly beneficial way of improving growth either.

Marx took on Ricardo's idea that machinery is labour-saving and leads to a disproportional adjustment: the rate of release of labour does not accompany the rate of re-absorption of that labour, so that there tends to be permanent "technological" unemployment which can be used to bring down the wage. One does not even need to undertake it: technological improvement is also a way capitalists can increase their leverage over labour merely by threatening it with mechanisation. Whereas Marx contended that division of labour was a way of generating the "alienation" of the working classes and thus tie them more dependently to the production process - thereby, again, reducing the bargaining position of labour.

The issue of trade, another possible check to the decline in profit rate, was seen by Marx as an inducement to produce on an even greater scale - thereby increasing the organic composition of capital further (and reducing profit quicker). The connection between trade with non-capitalist economies to prevent of the decline in profit rate was for later Marxians like Rosa Luxemburg (1913) to propose in their theories of imperialism.

However, despite all their efforts, Marx claimed that there were social limits to the extent to which capitalists could increase the exploitation rate, while no such thing limited the growing organic composition of capital. Consequently, Marx envisioned that greater and greater cut-throat competition among capitalists for that declining profit. Then a crisis occurs: large firms buy up the small firms at cheaper rates (i.e. below, and thus the total number of firms declines. This will boost the surplus value as firms can now purchase capital

As capital becomes more concentrated in fewer hands, the increasing tendency for capital to be concentrated in fewer and fewer hands, combined with the greater misery of labour would culminate in ever greater "crises" which would destroy capitalism as a whole.

16.6.4 A Critical Appraisal

While Smith, Ricardo and Marx follow different explanations of economic growth; they come to the same conclusion that there is a tendency for the rate of profit on capital to decline with the accumulation of capital. In Ricardian model, the increasing cost of producing wage goods and the growing share of rent in total output leads to declining rate of profit and results in stationary state. In Marxian explanation, the changing organic composition of capital leads to the declining profits and ultimately to crises that threatens growth. The next obvious question is once growth stops what is the way out? Mill answers to this question in Ricardian framework. According to him, export of capital and interaction with other economies will help to maintain the rate of profits and thus growth. In Marxian context, the similar explanation is given to the averting of the crisis. In an advanced capitalist economy, there will be a continuous problem of maintaining high rate of exploitation of labour. As real wages tend to rise, partly due to improvement in productivity and partly due to better organisation of labour; the capitalists tend to export capital to such economies where labour is abundant and cost of reproduction of labour and real wages are lower. As the rate of exploitation is higher, the rate of profit is also higher here for the given rate of organic composition of capital. A crisis thus can be deferred if not averted that will benefit capitalist class.

Marx’s explanation is, however, subject to criticisms. For example

1) Once the assumption of diminishing returns has been abandoned, a fall in profit is possible but not inevitable.

2) Marx’s explanation of Rate of exploitation is limited by the length of working day, which is not a plausible assumption.
3) The constant capital or ‘c’ in Marx’s framework includes fixed capital (machinery) and other non-labour inputs. The increased use of machinery would not lead to rise in organic composition of capital, if the costs of other non-labour inputs fall.

4) Technological progress which is labour saving will also lead to more economically produced durable goods and this may not necessarily lead to rise in organic composition of capital.

Check Your Progress 3

1) Compare Marx’s theory of economic development with the Ricardian theory.

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2) Explain Marx’s theory of the increasing rate of exploitation and declining rate of profit in a capitalist economy.

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16.7 LET US SUM UP

This unit provided a detailed discussion of the theories of several classical economists. Adam Smith, who is often considered the father of modern economics, started the school of thought that we now call classical. These economists were not only laying the foundations of economic theory, but also giving an analysis of long-term development of society, or ‘the laws of motion of society’, as Marx put it. The classical economists combined economic analysis with moral philosophy and did not separate economic forces as a candidate explanation for development from social and political forces.

The unit presented the theories of development of some of the important classical economists. The unit discussed the theories of Smith, Ricardo, Mill, Malthus and Marx. We saw that these economists had by and large similar views and visions of the economy, one of which was the falling rate of profit, although the reasons why it was to eventually take place differed from economists to economist. For example, for Ricardo it was diminishing returns to land, for Malthus, it was the rate of growth of population which he thought would outstrip the rate of growth of food supply. For Marx, it was the increase in the rate of exploitation and a rise in surplus value. Since most of the classical economists predicted a dire picture of the economy, economics itself came to be called the ‘dismal science’.

The unit discussed the assumptions, characteristic features of each of the theories and also presented a critical appraisal of each of the theories. In the case of Mill, it discussed the concept of investment and business cycles that Mill provided in his theory. The unit discussed the importance accorded by Adam Smith to freedom of enterprise, free trade and the division of labour. It discussed Ricardo’s theory of development being actually a theory of distribution and how Ricardo put forward the theory of diminishing returns to land and his theory of rent. The unit finally discussed Marx’s critical analysis of capitalism, and how he put forward a theory of capitalist
development, a development process that he thought contained the seeds of its own destruction because of a rising rate of exploitation and falling rate of profit.

**16.8 KEY WORDS**

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Constant Capital</td>
<td>Circulating capital, such as raw material.</td>
</tr>
<tr>
<td>Diminishing Returns</td>
<td>The additional output produced by the addition of one more unit of a factor. Diminishing Returns says that after some time the additional output rises but by successively smaller amount and eventually it actually falls.</td>
</tr>
<tr>
<td>Organic composition of Capital</td>
<td>The ratio of constant to variable capital.</td>
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<tr>
<td>Variable capital</td>
<td>Advances to labour, that is, the wage fund.</td>
</tr>
<tr>
<td>Lassiez-faire</td>
<td>A policy which seeks to let people be free to pursue their own self-interest</td>
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**16.9 SOME USEFUL BOOKS**


**16.10 ANSWERS / HINTS TO CHECK YOUR PROGRESS EXERCISES**

**Check Your Progress 1**

1) See sub-section 16.2.1 and answer.
2) See sub-section 16.2.3 and answer.
3) See sub-section 16.3.3 and answer.

**Check Your Progress 2**

1) See section 16.4 and answer.
2) See section 16.5 and answer.

**Check Your Progress 3**

1) See sub-section 16.6.4 and answer.
2) See sub-sections 16.6.2 and 16.6.3 and answer.