UNIT 16 CLASSICAL THEORIES OF DEVELOPMENT

Structure

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 is 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 advance 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 is development. This is a serous 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 there by leading to capital formation.

5) **Unrealistic Assumption of Stationery State**: Smith is of the view that the end result of a capitalist economy is the stationery 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 dev. 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

Classical Growth. David Ricardo (1817) modified it by including diminishing returns to land.

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 is 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.

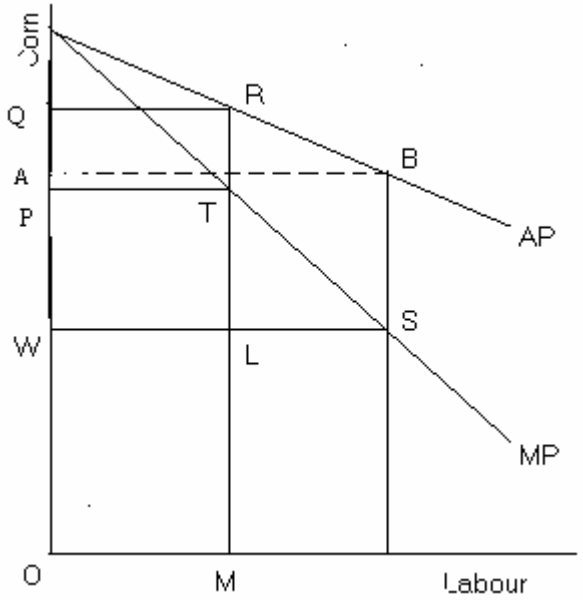
iii) **Declining profits in other industries** – The profits of the farmer regulate the profits of all other trades. Therefore the money rate of profit earned on capital must be equal both in agriculture and industry. If profit rate declines in the agricultural sector it will also decline is the manufacturing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

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 land lords 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 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.



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. OM_1 labour is employed, total output is $OABM_1$, 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 recognise 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 is 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. I 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 that 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.

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2) Critically evaluate the strengths and weaknesses of Smith's theory of development.

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

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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, Hungry, 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

$$O = R + W \qquad \text{Where } R = \text{Profit}$$

$$\text{Or} \quad R = O - W \qquad W = \text{Wages}$$

$$O = \text{National output}$$

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,

$$\mathbf{R = (I + C_c + C_w) - C_w = I + C_c} \qquad \because \mathbf{O = I + C_c + C_w}$$

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 is 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 is 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 indusial sector.

$$O_i = a \,.\, Q_i$$

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 ration for the sector. Differentiating the above equation with respect to time

$$\delta O_i/\delta t = a \,.\, \delta Q_i/\delta t + Q_i \,.\, \delta a/\delta t \quad \text{where a is constant}$$

$$\cdot\ \delta O_i/\delta t = a \,.\, \delta Q_i/\delta t$$

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.

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2) Describe J.S. Mills's theory of economic development and briefly state his views on the business cycles.

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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 not 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:

$r = s/(v + c)$

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:

$r = (s/v)(v/(v+c)))$

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 mat 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

Constant Capital	**:**	Circulating capital, such as raw material.
Diminishing Returns	**:**	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
Organic composition of Capital	**:**	The ratio of constant to variable capital.
Variable capital	**:**	Advances to labour, that is, the wage fund
Lassiez-faire	**:**	A policy which seeks to let people be free to pursue their own self- interest

16.9 SOME USEFUL BOOKS

Chaudhury, Pramit 1989, *The Economic Theory of Growth*, Harvester Wheatsheaf. London, UK

Dobb, Maurice. (1982). *Theories of Value and Distribution since Adam Smith* (Indian Reprint) Vikas, New Delhi.

Morishima, Michio (1973). *Marx's Economics: A Dual Theory of Value and Growth*. Cambridge University Press, Cambridge.

Rostow, W.W. 1990, *Theories of Economic Growth from David Hume to the Present Day*. Oxford University Press, Oxford and New York

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.

UNIT 17 SCHUMPETER AND CAPITALISTIC DEVELOPMENT

Structure

17.0 OBJECTIVES

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

- Discuss how Schumpeter's views of the capitalistic economy differed from that of the classical and neo-classical economy;
- Explain how Schumpeter's theory of growth can be viewed as a description and model of evolutionary growth;
- State the meaning of 'innovation' and 'creative destruction'; and
- Describe and analyse some recent growth models that draw upon Schumpeterian ideas.

17.1 INTRODUCTION

Joseph Alois Schumpeter (1888-1952) is an important economist in the history of economic thought. In the previous unit you studied the theories of several economists who are considered "Classical" economists. Schumpeter's theory, as we shall soon see, shares the perspective of, and approach to, economic development of many of these economists, but his methods of analysis were different, as were his ideas about what causes development in a capitalist economy. Schumpeter, like some of the classical economists painted a gloomy and dismal picture abut the future of capitalism.

Schumpeter is important for other reasons as well. You have read in your course on microeconomics that perfect competition ensures efficiency and is Pareto-optimal. Monopolies lead to 'deadweight losses', which are losses for both producer and consumer. Price is higher, and equilibrium output is lower than under perfect competition. Hence economists generally consider perfectly competitive markets as the ideal, the best situation. Schumpeter differed with this view. He extolled monopolies, and what is called monopolistic competition, because here the business skill of the firm is on view. Perfect competition does not throw up winners and losers. He is perhaps best known today for his defence of monopoly, which he developed in conjunction with his view that the success of capitalism was largely attributable to the freedom it allowed for innovation and entrepreneurial activity.

In this unit we study the view of Schumpeter on development of a capitalistic economy. In such an economy the means of production are privately owned and there

is free enterprise and voluntary exchange. The state plays a role but does not largely participate in production. The next section confines itself to Schumpeter's views on the dynamics of a capitalist economy in general terms. The following section discusses Schumpeter's theory as a theory of growth. This theory emphasises the evolutionary process of the economy. The subsequent section discusses some new theories that are in the same spirit as Schumpeter's but suggest extension to his theory while drawing on it.

17.2 SCHUMPETER'S THEORY OF CAPITALISTIC DEVELOPMENT THROUGH INNOVATIONS

In the previous unit, you read about the theories of several economists belonging to what is called the Classical school. All these theorists were interested in the development of the economy over a period of time and not merely on resource allocation. The classical theorists focussed on the supply side of the economy. Most of the classical thinkers looked at some element on the production side, which leads to economic change and progress. Schumpeter too focussed on the supply side.

But there was one crucial difference between the way Schumpeter looked at capitalistic progress and the way the classical economists had viewed it. For the classical economists, capitalist economic development was led by capital accumulation, while for Schumpeter, the engine of development was 'innovation'. It is important here to grasp the meaning of the concept of innovation. In Schumpeter' scheme of things it is not the same as invention or scientific discovery. It means rather the ability of the entrepreneurs to use the new ideas or invention to create a new combination of production methods to increase their profits. This ability, or the process by which the new ideas are used is called innovation, and it is carried out by a specific group in society, namely the entrepreneurs. It is true that many economists prior to Schumpeter had focussed on the capitalists and their behaviour. But they had looked at different aspects. For instance, it was the working of the 'invisible hand' or freedom of enterprise along with division of labour that provided the impetus for economic growth and social development. For Marx capital accumulation was the source of growth of the economy. Of course, Marx posited that capital accumulation took place along with exploitation of workers and generation of surplus value, which was appropriated by capitalists. Marx thought that capital accumulation, and the incessant desire of the capitalists to find and exploit ever new markets kept the profits coming in for the capitalists.

For Schumpeter, it was not so much accumulation of capital as constantly finding newer and fresher methods of production that led to making of profits. He felt that innovation by entrepreneurs was a constant process. Innovations come about mainly through investment in research and development (R and D). Innovations can be of several types: (a) introduction of a new good or a better-quality good, (b) introduction of a new method of production, (c) exploiting a new market, (d) the use or control of a new source of supply of raw material. It can even be (5) the designing of a completely new organisation of the firm or producing unit. Innovations implied that there was continually a process of 'creative destruction' going on. Schumpeter called his theory of 'creative destruction a process of "industrial mutation, of an "incessant revolutionary change from within". An example of creative destruction is the evolution of recorded music from phonograph vinyl records to audio cassettes and finally the compact disc. Another classic example is the advances in home computer as well as software. Each new creation has the effect of rendering previous versions or vintages obsolete. Yet another example, from electronics, is the introduction of transistors to replace the vacuum tube.

It is important here to grasp the Schumpeterian notion of competition. He genuinely thought of competition as being characterised with fierce rivalry, which almost always produced winners and losers. However, unless there are innovations, excess profits will not exist in d any sector of the economy or in any market since there will

be no quality difference after a point, or no novelty in methods and techniques of production. When excess profits are eliminated, the economy reaches a stationary state. Here average revenue will equal average cost and no excess profits will be made, as just mentioned. Nevertheless, Schumpeter did feel that the capitalist economy would continually see innovations by entrepreneurs due to changing demand conditions or production conditions. Entrepreneurs constantly seek to increase their profits through innovations. Notice that Schumpeter is not directly talking of entrepreneurs trying to capture a larger share of the market, or get bigger profits through resorting to price-cutting. It is innovation that is the engine, and due to innovations, it may be possible for one entrepreneur to reduce the price of his product.

For the classical economists from Adam Smith to Marx, capital accumulation comes about mainly through mobilisation of savings, much of which is supposed to be provided in their schema, by the capitalists themselves. This is another area where Schumpeter disagreed with his classical predecessors. According to him, innovations performed by the entrepreneurs entail taking of risk. Therefore, and also independently, entrepreneurs often obtain funds for investment through credit. This credit is provided more and more by large banks and financial institutions as the economy evolves through time. Hence Schumpeter accorded a lot of importance to finance capital and its role in the capitalist system.

Schumpeter's theory can be considered to be a type of endogenous growth theory, but it differs from the AK theory of growth which you studied in the unit on endogenous growth, and which is a theory of capital accumulation emanating from private savings. The nature of technology is different. Schumpeter's theory is also an endogenous growth theory but which views capital accumulation as a social process through the working out of a conflicting type of competition in which some are losers and some others are winners. So Schumpeter did not set great store by perfect competition of neo-classical economics in which competition actually is without rivalry. Let us elaborate a bit on the differences of Schumpeter and the neo-classical economists.

According to neo-classical economists, that competition is perfect where there are no extra normal profits. Thus paradoxically, there is no rivalry and everyone produces homogeneous products. You have read in an earlier unit that there are two theorems that say that a competitive economy is pareto optimal and conversely, a pareto optimal state can be realised in a competitive economy if certain conditions are met. Thus we see that Schumpeter's notion of competition differs from that of the neoclassical economists. Another way in which Schumpeter's theory differs from that of the neoclassical economists is that the latter considered the short-run and provided a static analysis, which means an analysis that considers the situation of a moment in time, as it were. Dynamic analysis is analysis that considers time duration. Growth theory is dynamic theory. Thus neo-classical theory, which is much of what you studied in your microeconomics course, is largely static. In the next section we elaborate on Schumpeter's analysis as a dynamic one, which looks at the growth of the economy as it evolves through time.

In the introduction, we had mentioned that Schumpeter painted a gloomy picture of capitalistic development, and the time has come to elaborate on this and explain why exactly he thought capitalism would eventually wither away.

According to Schumpeter, two forces would be at work to undermine capitalistic development. First, there would be according to him, a rising tide of intellectualism, which would be hostile to the entrepreneurial spirit. Politically, more and more there would be the rise of social democrat parties. Thus the culture would shift against the entrepreneurial risk-taking activities. But it is the second reason that Schumpeter provided that is more significant in this regard. Schumpeter felt that as capitalism progressed, innovations and the activities that accompany them would become a matter of technique, and thus mechanical. These innovative activities in R and D, technological progress and designing better products would be carried out by paid specialists and not by the entrepreneurs themselves. Things would become

calculative, and thus the romance of the entrepreneurial, risk taking activities would disappear. The importance of the entrepreneur would diminish.

The startling conclusion that Schumpeter drew from these was that capitalism would eventually give rise to socialism because the spirit of capitalism, entrepreneurial risk-taking activities would no longer be attractive, and these would be carried out in a mechanical, routine and bureaucratic manner. Schumpeter did not feel happy at the coming turn of events as he saw it. He felt his position was similar to that of the doctor who declares that her patient does not have much longer to live, but does not at all feel happy to make such a statement.

Check Your Progress 1

1) What do you mean by the process of creative destruction? How is it related to investment in research and development?

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2) How is Schumpeter's vision of competition different from that of the neoclassical economists? What justifications did Schumpeter provide for tolerating monopolies in the economy?

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17.3 SCHUMPETER'S THEORY AS A MODEL OF EVOLUTIONARY GROWTH

In the previous section, we saw how Schumpeter viewed the capitalist system as a dynamic process operating over time. We looked at his theory where the entrepreneur is given pride of place and Rand D and 'creative destruction' are the main engines of growth. Schumpeter was concerned with the evolution of the economy over time rather than with studying the properties of a static economy. He was more interested in studying how wealth was created rather than on analysing the efficient allocation of resources at a point of time.

Schumpeter as an economist did not have much use for the applying mathematics to solve problems of economics. He did not have great faith in formal modelling, and thought that models require restrictive assumptions. He gave a grand narrative type of theory. Schumpeter also weaved in sociological analysis with his economic theorising.

Schumpeter gave a theory of business cycles which are recurrent ups and downs in the course of capitalist development. These cyclical movements involved shifts over time of periods of boom and periods of depression. The study of these required the use of non-linear dynamical systems analysis in mathematics, which was not very developed then, and hence Schumpeter could not use these fruitfully.

Schumpeter's theory of development and growth is evolutionary in nature because, for one thing, he postulated that capitalism will eventually evolve into socialism. He also considered innovations to be constantly taking place and new methods of production and newer variety of goods constantly replacing the older ones.

Although Schumpeter did talk of creative destruction where the old is somehow endogenously replaced by the new, it is not necessarily true always. There may be

cases where the old is not necessarily replaced by the new. For example, even with the advent of the credit card, cheques continue to be used. The coming of mobile phones has not completely rendered landlines obsolete.

Schumpeter's vision was historical, just like Karl Marx's. He took a long period analysis. He did speak of an equilibrium but his equilibrium was of a dynamic nature and not the static Marshallian variety. Schumpeter also believed that money has a central role to play in the economic system and is not merely a veil. Here he is similar to Keynes and differs from the monetarists. But he was critical of Keynes for not taking an evolutionary view and not considering the basic structural changes in the economy.

Check Your Progress 2

1) Provide a critique of Schumpeter's theory of development.

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2) In what way can Schumpeter's theory be considered a theory of evolutionary growth?

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17.4 SOME NEO-SCHUMPETERIAN MODELS

In this section we take a look at some models of the last twenty years or so, which draw upon, or build upon and extend Schumpeter's view on how the capitalist economy develops over time. These models fall broadly in the class of endogenous models. We discuss them here because they have an affinity with the Schumpeterian model in giving pride of place to new inventions and products, to the R and D process. They also look at a competitive process where competition works with innovation.

We shall study two main models here. These models model growth as an endogenous process. These models thus are part of the same family that you read about in block 3. The two models that we study here are by Grossman and Helpman, and by Aghion and Howitt. The Romer model that you studied about in block 3 is also actually neo-Schumpeterian in spirit as that model saw technical change as the mainspring of growth, and moreover modelled technical change as an endogenous process. The main point on which these neo-Schumpetrian models differ from each other lies in the way the new technology is depicted or how the technology makes an appearance – whether in new consumer goods or in new processes of production. Let us begin with the Grossman-Helpman model.

In the Grossman-Helpman model growth occurs though innovation. But the innovation comes about through an expanding variety of consumer goods. This is combined with, and also brought about by, an accumulation of knowledge. The way they model consumer goods is as follows. They adopt the formulation of product diversity under monopolistic competition in a 1977 paper by Avinash Dixit and Joseph Stiglitz. Dixit-Stiglitz had formulated the presence of several types of consumer goods by looking at the behaviour of a typical consumer. Supposing there are N different consumer goods, and a typical consumer consumes them in amounts $y_1, y_2, \ldots y_n$. This household's utility function is:

$U = \sum_{i=1}^{N} y_i^{\alpha}$ with α is between 0 and 1.

We can illustrate this by considering only three goods y_1, y_2, and y_3. Then utility is:

$U = y_1^{\alpha} + y_2^{\alpha} + y_3^{\alpha}$

To go back to our N goods case, suppose the consumer faces the prices of these N goods as p_1, p_2, ….p_n Let his budget be M. Then

$\sum p_i y_i = M$

The first-order conditions for maximising utility on the budget set are:

$\alpha y_i^{\alpha-1} = \lambda p_i$ where λ is the Lagrange multiplier.

Grossman and Helpman extend this formulation on the supply side and bring in dynamic optimisation and optimisation over time as we had seen in the unit in block 3. A monopoly firm in their formulation seeks to maximise the stream of returns over time. Next, Grossman and Helpman look at the costs of the firms and look at the cost of innovation which is the cost of creating a new good. The present value of the profits cannot be larger than the cost of creating a monopoly because if it did, there will be entry by new firms.

Aghion and Howitt's theory builds upon Grossman and Helpman's model and they bring in uncertainty into the picture. They also incorporate uncertainty into the R and D process. They take a model without capital accumulation and full employment. They consider a simplified economy with one good and one factor of production, labour. So final output is a function

$Q = Af(x)$. Some labour is devoted to R and D. Innovations take place over time and is conatantly taking place. Firms earn 'interest' on the value of innovation which is equal to current income plus expected capital gains. Their model is slightly different from the Schumpeter's formulation in that theirs is a simplified model in which uncertainty is brought into the picture.

Both the Grossman-Helpman model as well as the Aghion-Howitt model has the feature of technical progress as *quality ladder*. This basically means that the models try to portray the process of creative destruction by positing that when new products are introduced, the firm that introduces the improved method of production, or better-quality product will enjoy extra-normal profit, and may also get a larger market share. Then the other firms try to imitate the new consumer good or new method of production, or even produce still better consumer goods or methods of production. As they introduce newer blueprints or prototypes, the earlier ones may be rendered obsolete.

Check Your Progress 3

1) Describe the basic Grossman-Helpman model of economic growth.

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2) Discuss Aghion and Howitt's model of growth through creative destruction. In what way does their model differ from Schumpeter's theory?

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17.5 LET US SUM UP

In this unit we looked at the theory of growth and development of a very important contributor to the theory of economic development and a distinguished economist, Joseph Schumpeter. Schumpeter wrote with a broad sweep and combined theoretical and institutional analysis. We saw that Schumpeter set great store by the entrepreneurial zeal of capitalists engaged in competition. Schumpeter envisaged competition not as perfect competition as understood say in microeconomics, but as monopolistic competition with a lot of rivalry. Each capitalist trying to outdo the other will want to innovate, and innovation rather than invention Schumpeter thought to be the main engine of growth in a capitalistic economy. Innovations are likely to be brought about by monopolistic firms and often take the form of "creative destruction". However, Schumpeter feared that with the rise of the professional managerial class in capitalist economies, the spirit of the capitalists' entrepreneurial and risk taking abilities will suffer. Hence Schumpeter thought that capitalism will eventually give way to socialism.

Schumpeter's theory can be said to anticipate and contain some germs of the endogenous growth and technical change theory that you studied in block 3. Evolutionary change and the portrayal of an evolving economy were at the heart of Schumpeter's view of capitalistic development. Schumpeter's theory can be considered as an example of growth theory that is not merely theoretical but also took into account the historical and social developments

The unit finally went on to discuss some recent theories of economic growth and development which are in the spirit of Schumpeter's theory. The unit described two main neo-Schumpeterian theories: Grossman and Helpman and Romer's theory

17.6 KEY WORDS

Creative Destruction : It is a process by which new products or techniques of production render the existing one obsolete. The creation of the new destroys the old.

Evolutionary Growth : Growth where each situation or stage depends on earlier ones, where, as growth takes place, the economy also evolves

Technology : anything that raises the amount of output that can be produced with a given amount of labour and capital.

R and D : It stands for research and development.

17.7 SOME USEFUL BOOKS

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17.8 ANSWERS / HINTS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress 1

1) Read section 17. 2 and answer.
2) Read section 17.2 and answer.

Check Your Progress 2

1) Read section 17.3 and answer.
2) Read section 17.3 and answer.

Check Your Progress 3

1) Read section 17.4 and answer.
2) Read section 17.4 and answer.

UNIT 18 THEORIES OF UNDERDEVELOPMENT

Structure

18.0 OBJECTIVES

After reading this unit you shell be able to:

- Describe the working of the vicious circle of poverty and how it involves circular causation;
- explain the sectors contribute to underdevelopment;
- explain the role of surplus labour in initiating the process of economic growth in underdeveloped economy; and
- state the role of rural-urban migration in economic transformation of an

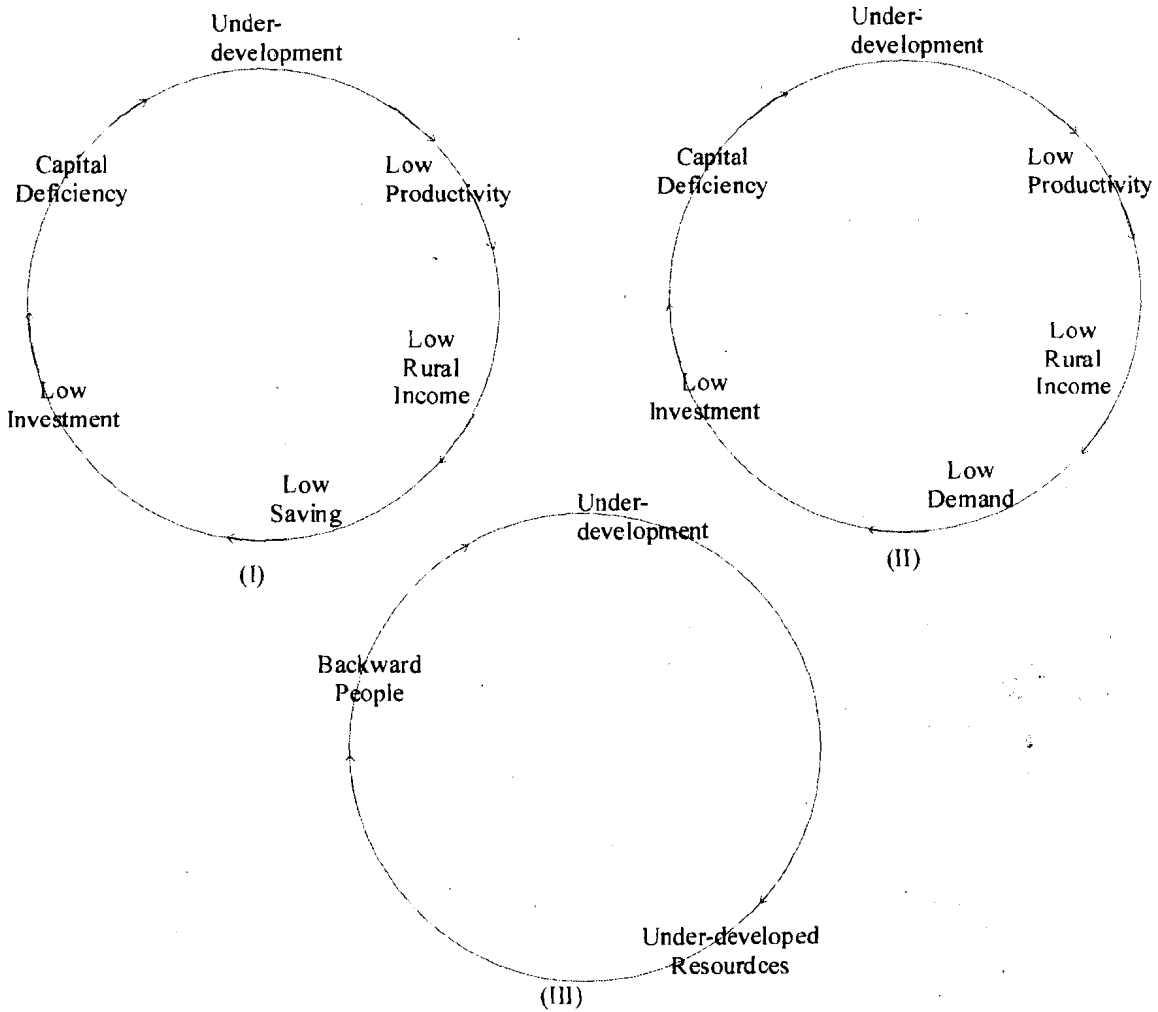
18.1 INTRODUCTION

In the wake of sectorisation of the post world war II period and consequent liberation of a host of nation, the focus of growth theory shifted to the problems of the underdeveloped nations. A whole mass of literature addressing itself to the problems of underdeveloped countries emerged during the fifties and the sixties of the 20th century. Ragnar Nurkse set the balling rolling with his path breaking exposition of the vicious circle of poverty. The clue was picked up by a whole host of economists. The real problem came to be identified as: how to break the vicious circle? Notable contributions came to be made by Rosenstein-Rodan (The Big Push Theory), Leibenstein (Critical Minimum Effort Thesis) Nelson (Low Level Equilibrium Trop) Boeke (Sociological Dualism), Higgins (Technological Dualism), etc. A number of models that focused on structural transformation of subsistence economy come to be propounded. Among these the pioneer work was done by Arthur W. Lewis. The model was later modified, normalised and extended by John Fei and Gustav Ranis. Another model of development based on rural-urban migration was formulated by Michael P. Todaro, which explains the apparently paradoxical relationship of accelerated rural-urban migration in the context of rising urban employment.

18.2 VICIOUS CIRCLES OF POVERTY

A vicious circle of poverty implies a circular constellation of forces tending to act and react upon another in such a way as to keep a poor country in a "state of poverty". More technically speaking, vicious circles are a set of interlocking equilibrium circumstances that reinforce each other.

Three such vicious circles can be identified as followed:



i) The first of these vicious circles concerned the supply of capital. In the underdeveloped countries, because of underdevelopment and backwardness, the total output is low and that after consumption needs are fulfilled, little remains as a surplus for capital accumulation. The capital deficiency leads to less investment and a resultant is low level of income. Thus, underdevelopment is explained by capital deficiency that acts both as a cause and consequence of a low level of real income.

ii) A low level of real income may also act in another way to perpetuate itself. This time it will act on the *demand side* of capital. The low level of real income in the economy presents only limited market opportunities for the entrepreneurs, and hence there generates only a little demand for investment purposes, resulting in low investment and perpetuation of underdevelopment and low income equilibrium.

iii) A third vicious circle encompasses underdeveloped resources and the backward people. The development of natural resources depends upon the character of human productive resources. The more economically backward the people are the less developed will be the natural resources. Through illiteracy, lack of skills, deficient knowledge and factor immobility, the resources will remain unutilised, causing underdevelopment to perpetuate itself.

It would be seen that the vicious circled obstruct a widening of economy. The widening of the economy involved the introduction of new factors, new commodities, new production techniques, organisational changes, and sizeable structural changes. The outward movement of the underdeveloped countries has been rendered impossible becomes of the operation of the vicious circle. If such an economy is to grow, it is necessary that concerted efforts may be made to break these vicious circles.

18.3 METHODS TO BREAK THE VICIOUS CIRCLE

Economic, and social, solution of under developed countries is possible only after that successfully break through the vicious circle. How to do that?

There are, broadly speaking, two schools of thought. One school of thought advocates a 'gradual approach' to economic development; the other school advocates a 'big push' to economic development.

18.3.1 The Gradual Approach

The gradual approach to development places little, it any, emphasis on deliberate industrialization, limits the degree of specific planning, relied mainly on the market mechanism and private effort, and approaches development problems in a step-by-step fashion. It advocates that an economy, in the initial stages, should concentrate on agricultural improvements, the social overhead capital, and the establishment of small scale industry.

The advocacy of a gradual approach to development is based on the belief that the growth of industry is ultimately to be induced by expansion in other sectors of the economy rather that by deliberate governmental efforts in the industrial sector. Income is to be initially raided in the agricultural sector, partly by more efficient methods of production and partly by such projects as saws, irrigation systems not roads. These projects are designed not only to increase agricultural production but also to facilitate the flow of commodities between rural and growing urban areas. At first, the industrial development may simply complement agriculture. But this will only be the beginning. The ultimate goal is to establish and promote manufacturing activity. As the level of agricultural income increases, agricultural works will have a

higher effective demand for non-agricultural products, in particular, for manufactures consumption goals. This will in turn, increase the demand for capital goods to make the manufactured goods.

18.3.2 The Big Push Approach

The advocates of the big push approach feel that if a development programmes is to gather sufficient momentum to be successful, it must operate rapidly and extensively throughout the economy, "insistence on 'slow' evolution ---is defeatist, and indeed dangerous because it is precisely slow evolution that cannot succeed in the face of all the obstacles". Unless the programmes involved big changes, it is believed that the development process will never be able to become self-generating and cumulative: "If the race is to be run at all, certain minimum speed is necessary."

The advocated of the big push approach can be broadly classified into two categories. Some economists look upon economic development as a relation "between the rate of growth in per capita income and the rate of growth in population, and emphasise that while a small increase in per capita income would be swallowed by the population increase induced by it, large increase in per capita income created by a development programme exceeding a certain "critical minimum effort" would enable the economy to escape the gravitational pull of population increase. In short, large investments are needs so that the rate of increase in output may be significantly greater than the rate of population growth. To this category belong the theories like Leibenstein's **'Critical Minimum Effort Thesis'** and Nelson's **Theory of the Low-Level Equilibrium Trap.**

The second group of economists believes that since the vicious circle of poverty is due to the smallness of the market and low purchasing power of the people, it is possible to break the vicious circle by increasing the purposing power and size of the market. These writers also emphasis the indivisibilities and interdependence of capital investment required for economic development. This type of approach has been developed by Nurkse, whose Theory of Balanced Growth advocates simultaneous large-scale investments over a wide range. Hirschman's Theory of Unbalanced Growth and Rosenstein Rodan's Theory of **'Big Push'** are also based on this approach.

18.4 THE BIG PUSH THEORY

The Big push Theory was formulated by Prof. Paul N. Rosenstein Rodan in 1943. According to this theory, a "big push" or a large comprehensive programme is needed in the form of a high minimum amount of investment to overcome the obstacles to development in a developing country and to launch it on the path to growth. Rosenstein Rodan believed that isolated and small efforts will not make a sustaining impact on economic growth. To quote him, "*Launching a country into self-sustaining growth is a little like getting an aeroplane off the ground. There is a critical ground speed which must be passed before the craft can become airborne. Proceeding ' bit by bit' will not add up in its effort to the sum-total of the single bites.*" If the process of development is to be initiated, a big push in investment is initiated.

Rodan has based his Theory on four kinds of indivisibilities, viz., (i) indivisibility in the production function, (ii) indivisibility of demand, (iii) indivisibility in the supply of savings; and (iv) psychological indivisibilities.

i) **Indivisibility in the production function**

Indivisibilities of inputs or factors lead to increasing returns. The most important form of these indivisibilities is the social overhead capital like power, transport and communications. The basic characteristics of social overhead capital are:

- It is irreversible in time, i.e., investment in social overhead capital must precede investment in directly productive activities.
- It has a minimum durability.
- It has a long gestation period
- It has an irreducible minimum industry mix of different kinds of public utilities.

These indivisibilities of supply of social overhead capital are the major obstacle to economic development, and to be removed require large initial lump-sum investment.

ii) **Indivisibility of demand**

Capital investment in underdeveloped countries is limited by the fact that these provide only small markets to producers. The small size of markets generates uncertainties, which deter prospective investors. If, instead, a large number of industries, which work as complementaries to each other, are set up simultaneously, these will create demand for each other's products and thus provide the necessary incentives to investors. In other words, indivisibility of demand requires simultaneous large investment in a number of industries.

iii) **Indivisibility in the supply of savings**

A large quantum of investment requires a large volume of savings, which is difficult to achieve in an underdeveloped economy because of its low levels of income. Small increases in income, consequent upon small additional investment, are likely to be consumed. Therefore, what is required is a large lump of investment which may produce large additional incomes, a large part of which may take the form of savings.

iv) **Psychological indivisibilities**

Rodan also talks about a fourth kind of indivisibility, which he refers to as 'psychological indivisibilities'. According to him "isolated and small efforts may not add up to a sufficient impact on growth – and atmosphere of development effervescence may also arise with a minimum speed or size of investment".

These indivisibilities make it imperative that a large lump of investment is undertaken, only they would it be possible to reap the various external economies that have made the development of underdeveloped countries of the yester-year possible.

18.4.1 Criticisms of the Theory

The theory of big push has been criticized mainly on the plea that the theory creates more problems than it solves.

One, Hla Myint has argued that this theory stresses the need for big efforts and large quantum of investment, but it neglects the problem of shortages. In underdeveloped countries there is less availability of dynamic entrepreneurs, skilled labour, domestic capital, etc. The variables could create problems in the implementation of big push programmes.

Two, H.E. Ellis has pointed out this theory ignores the shortage of saving and risk involved in the investment. A large quantum if investment might not yield desired results due to market imperfections and structural obstacles.

Three, the theory assumes that simultaneous development would create indivisibilities or external economies in the form of training and skilled labour in the long run. But there could be a possibility that in the short run each firm might pay

each other. The possibility of external diseconomies has, perhaps, not been visualised in the theory.

Four, the theory emphasises on the lumpiness of investment in different industries such as capital-goods industries, consumer goods industries and social overhead capital, etc. But it ignores the development of agriculture. It should be remembered that agriculture and industry are complementary to each other. It is difficult to raise the superstructure of industrialization on depressed agriculture.

Five, Hla Myint is of the view that it is very difficult to coordinate various complex development plans started under the banner of big push. At times the problems of coordination may be beyond the competence of strong and efficient administrative machinery. Governments are likely to face difficulties not only in drawing up of development plans, but also in the execution of various development projects. In the execution of various development projects, there are possibilities for the revision of original plans, delays and departures from the original time frame.

Six, Jacob Viner has pointed out indivisibilities, or external economies, generally result in reducing the cost rather than expanding the output. In a development theory, expansion of output is as important as the reduction of cost. The theory should have explained both the aspects of development. It, however, explains the cost-reduction aspect and ignores the aspect of output expansion.

Seven, J. H. Adler has criticized the theory on the ground that it ignores the importance of small investment. His statistical analysis of economic development reveals that a relatively low level of investment 'pays off' well in the form of additional investment. The possibility of small push has not been explored by Rodan.

Notwithstanding the various limitation, big push is necessary for transforming the socio-economic set-up which is essential pre-requisite for meeting the needs of development.

18.5 THEORY OF CRITICAL MINIMUM EFFORT

The theory of critical minimum effort is associated with the name of Harvey Leibenstein. The theory is based on the relationship between the three factors, viz. (i) per capita income, (ii) population growth, and (iii) investment. Leibenstein identified population as an income-depressing factor (or a '*shock*'), whereas investment is an income-generating factor (or a '*stimulant*').

Growth in an economy is possible is economy is possible when the income-generating factors turnout to be more powerful than the income-depressing factors. A small additional investment may generate a small income. The additional income would be eaten up by the additions to the population which may come in the wake of the additional income, and hence the effort may fail to generals a cumulative process of growth. What is required is an initial substantially large volume of investment that may create conditions which should outweigh the growth of population, i.e., if necessary it is necessary that the initial effort or the initial series of efforts must be above a certain minimum magnitude.

Leibenstein believes that *it is not necessary to make critical minimum effort in a single stroke.* It can be split up into a series of smaller efforts provided these are optimally times. This can be explained with the help of Fig. 18.1.

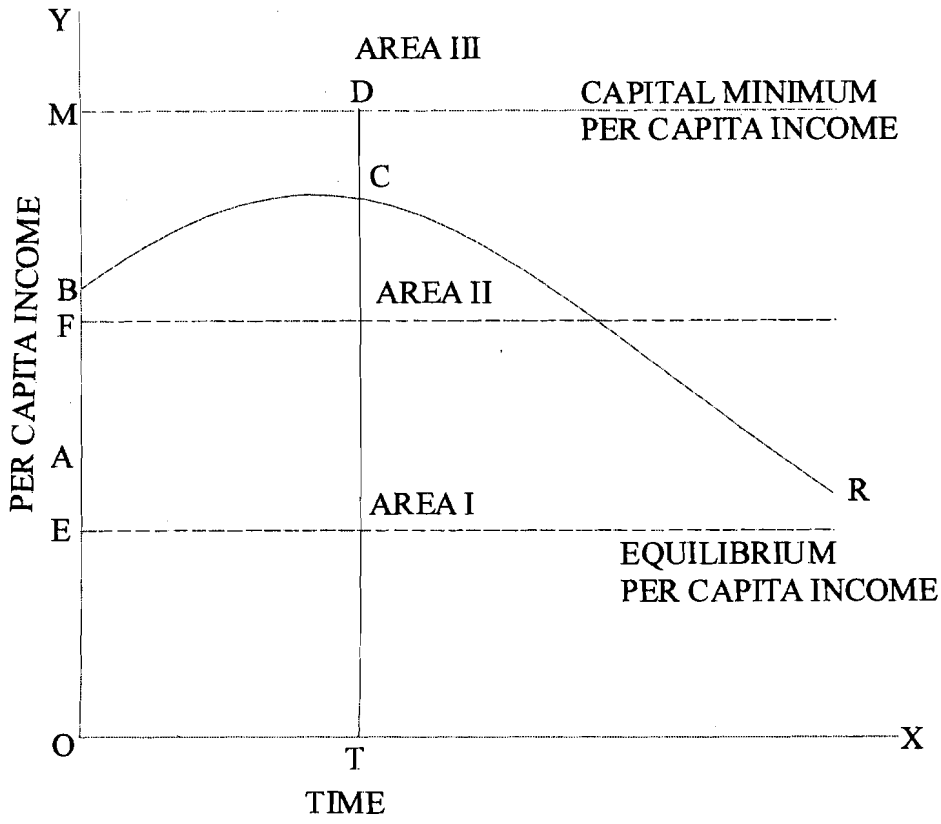


Fig. 18.1

In Fig.18.1, time is shown on horizontal axis and per capita income on vertical axis. OE is the equilibrium per capita income and OM is the critical per capita income.

Suppose the level of per capita income is OA. This level is low as compares to the critical minimum level it would fail to take the economy out of stagnation forced would be strong in relation to the effect of income depressing forces would be strong in relation to the effect of income-generating forces. When level of income is raised to OB, the growth curve will follow the path BCR. It is evident that per capita income is rising up to point C, and thereafter the per capita income is declining. It means, OB level of income is insufficient to generate the growth momentum in the economy. If sufficient investment is infected into the system to raise per capita income to OM, sustained growth will occur and effort of stimulants would be relatively strong than that of shocks. There, any level of investment lower that the critical cannot ensure stained growth.

The term 'critical' is indicative it the fact that the investment should at least be of such a level which could raise per capita income to OM for achieving sustained growth. However, it would be with convenient and cheaper to make the effort in two doses. The initial infection of investment might be enough to raise per capita income to OB. Then at time T, the second dose of investment could be infected to raise per capita income to OM, thereby taking the economy to the critical minimum level of income required for sustained growth.

Reasons for critical minimum effort

Critical minimum effort, in Lebensteins opinion is necessitated by the following factors:

One, some of the factors of production are indivisible, so that unless they are used in full or in minimum amount, they will lead to internal diseconomies. To overcome these diseconomies, some minimum critical investment may be necessary.

Two, there is a sort of mutuality and interdependence between a number of firms and industries. As these develop, there emerge external economies. Apparently, there economies can be reaped only when there are at least that minimum number of industries operating which make these economies possible. In their absence, these economies may not arise at all absence, these economies may not arise at all.

Three, at any time the economy may be subjected to autonomously generated income depressing factors and at the same time be subject to depressants induced by some aspect of the process of growth. A certain minimum investment is necessary to overcome there and to initiate sustained growth.

Four, there are some attitudes which are to be developed for growth. Among those, more important are: (i) "Western Market Incentives" implying a strong profit incentive, (ii) a willingness to accept entrepreneurial risks, and (iii) an eagerness to promote scientific and technical process. These attitudes come in only when the economy undertakes same level of investment.

The above factors make it necessary that some minimum level of investment is undertaken in an economy to make it possible for the growth promoting forces to set in. The investment must be made in sizeable lump, and not through marginal increments that result from a set of unrelated individual decisions.

18.5.1 Criticisms of the Theory

The theory is more realistic that Rosenstein-Rodan's "big push" theory because critical minimum effort can be broken up into a series of smaller efforts which can be properly times to put the economy on the path of sustained growth. However, the theory is open to criticisms on the following grounds:

One, Leibenstein assumes that population increases as the income rises above the subsistence level. Beyond a particular level of income, population declines. This assumption implies that rise in income has a direct bearing on the growth of population. But, in reality, this relation is not so simple. Growth of population is influenced by social attitudes, customs traditions of the people, and not merely by the per capita income.

Two, according to Myint, the functional relation between per capita income and income growth rate is not as simple as assumes by Leibenstein. It is complex and has two stages. In the first stage, the level of per capita income influences the rate of saving and investment which, in turn, depends on the pattern of income distribution and the effectiveness of financial institutions in mobilising saving. In the second stage, the relation between investment and resultant output depends upon the economic and social system of the country. The relationship can be improved through innovations. The meaningful innovation is possible when updated technology, skilled labour and necessary infrastructure in the country. However, these are not available in the initial phase of development, and the critical minimum runs into difficulties.

Three, in underdeveloped countries external forces play an important role in the initial stages of development. This theory does not explain clearly the role of external forces like foreign capital, foreign trade, international economic relations, etc. These forces exert a vital impact on development and these factors play an important role in the development process.

Notwithstanding the above shortcomings, the theory shows the way for breaking visions circle of poverty. The path of sustained growth is not even and smooth. It is rather difficult and complex one. Minimum efforts are essentially required to overcome the difficulties and achieve sustained growth, which is the ultimate objective of a development strategy.

Check Your Progress 1

1) What do you mean by a visions circle of poverty? How is work?

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2) Distinguish between the gradual approach and the push approach to economic development.

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3) State the big push theory of growth. Also bring out its limitations.

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4) State the theory of critical minimum effort. Also bring out its limitations.

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18.6 THE LOW-LEVEL EQUILIBRIUM TRAP THEORY

The Theory of the 'Low–level Equilibrium Trap' (or what has also been called the Malthusian Trap) has been developed by R. R. Nelson in the mid-1950s. Basically, the theory, that as per capita income remains below a critical level, a population growth rate that exceeds the income growth rate will always bring the economy back to a ' Low-level Equilibrium Trap'.

This can be illustrated diagrammatically with the help of Fig. 18.2

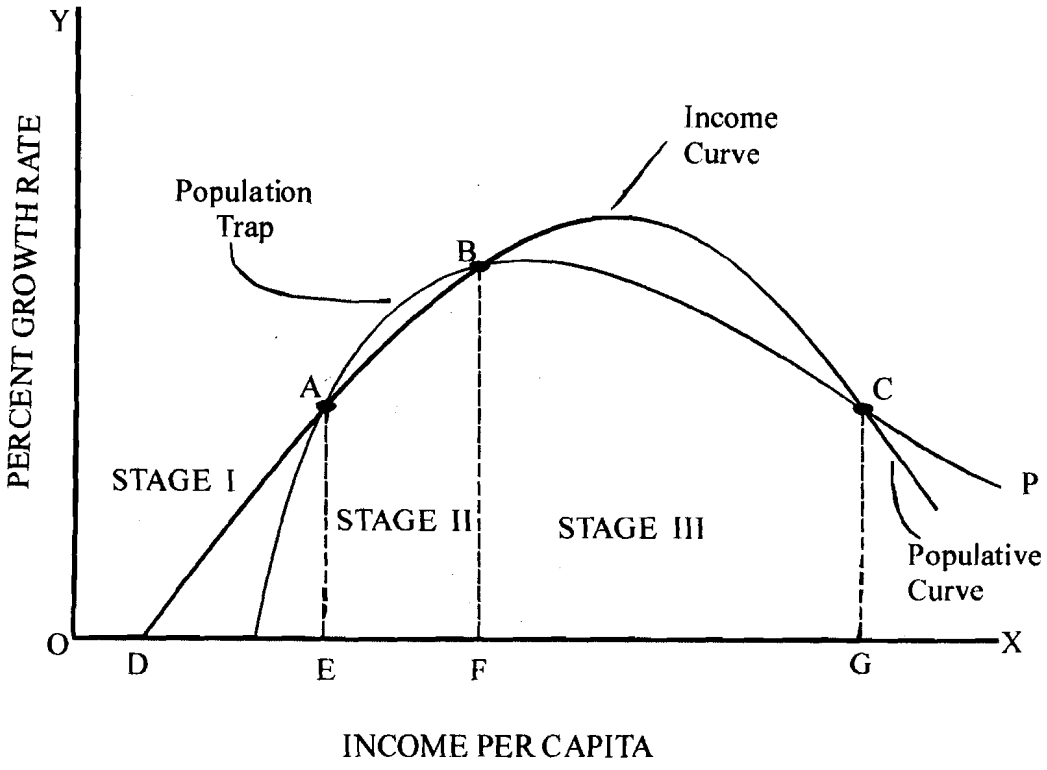

Fig. 18.2

In Fig. 18.2, it would be seen that high fertility and high mortality rates cancel out each other and population remains stables at very low levels of per capitals income (OD), and this a situation dose not change until point A is crossed, when, largely due to declining mortality roles, population grows at a faster rate than income. Subsequently, when point B is crossed, that is at income level beyond OF, the rate of growth of income exceeds that of population, largely due to a decline in fertility rates, until point C representing a stable equilibrium is reached. Nelson mentions four social and technological conditions which may bring about the trap they are:

- A high correlation between the level of per capita income and the rate of population growth,
- A low propensity to direct additional per capita income to increasing per capita investment,
- Scarcity of uncultivable arable land,
- Inefficient methods of production.

Nelson also points towards two other factors, viz. (i) cultural inertia, and (ii) economic inertia. These two are caught in a vicious circle, and faced on each other.

The strength of the trap depends on the degree of the force of the factors that act to trap an economy.

Escape from the low-level equilibrium trap is possible either by increasing the rate of growth of income, or by lowering the rate of growth of population, or by both, so that the diagram of economic-demographic development looks as in Fig. 18.3

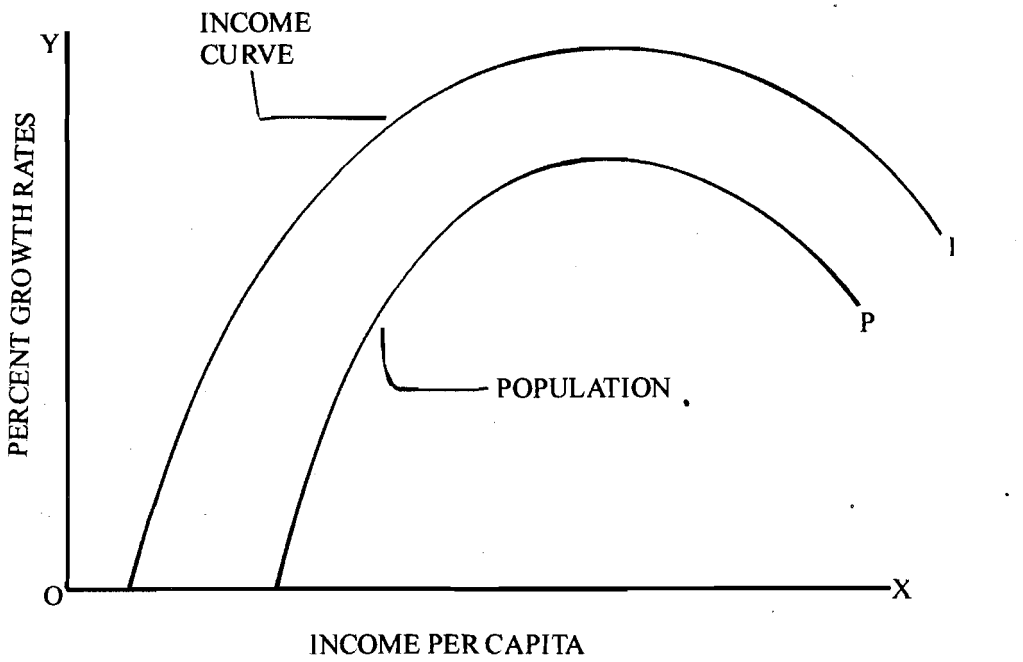

Fig. 18.3

Nelson suggests several ways of escaping the low-level equilibrium trap and many of there are to be used simultaneously. Among these, the more important are as followed:

- There should be a favourable socio-economic environment in the country.
- The social structure should be changed by laying a greater emphasis on thrift and entrepreneurship. Greater produce more and to limit the size of the family.
- Measures should be adopted to change that distribution of income, at the same time enabling accumulation of wealth by investors.
- There should be an all-perverting government investment programme.
- Income and capital should be used to utilise existing resources more fully so that income is increased from the given inputs.

Getting out of the trap required increasing the rate of growth of income to levels higher than the rate of increase in population. A jump must be made to the point which is above a certain minimum per capita income so that a sustained growth may take place, without further government action until a high level of per capita income is reached.

18.6.1 Criticisms of the Theory

The theory has been criticised on the following grounds:

One, the Theory assumes that an increase in per capita income up to a point leads to an increase in rate of population growth via decline in death date. But decline in death rate in underdeveloped countries is more due to improvements in public health and medical facilities then due to increase in per capita income levels.

Two, the functional relation between level of per capita income and the rate of total income growth is not as simple as is assumed in the Theory.

Three, the theory assumes a set of timeless functional relationships. The timeless approach fails to make any distinction between short-run economic activities of the developed countries and long-run economic activities of underdeveloped countries.

Four, theory has ignored the rate of state in controlling the population growth. It is believed that an increase in per capita income above subsistence level is bound to increase the rate of growth of population till the latter reaches 3 per cent and so it is very difficult to break the trap. But the empirical evidence is contrary to it. Many governments have take well-directed steps to force down the growth rates of population.

All the same, the basis truth of the theory cannot be contested that persistent efforts are required to control the population on one hand and raise the national income on the other. This is the way to escape time the low equilibrium trap.

18.7 THEORY OF SOCIAL DUALISM

J. H. Boeke developed a general theory of economic and social development of underdeveloped economies, and called it the theory of social dualism. Boeke maintained that there are three characteristics of a society in the economic sense. These are (i) the social spirit, (ii) the organisational forms, and (iii) the technique dominating it.

A society is homogeneous where only one social system prevails. But a society may have two or more social systems simultaneously. It is then a dual or plural society.

The term 'dual society' refers to societies showing a distinct cleavage of tow synchronic and full grown social styles which in the normal, historical evolution of homogenous societies are separated for each other by transitional forms, as, for instance, per-capitalism and high capitalism by early capitalism. Such a dual society is characterised by the existence of an advanced imported western system and an indigenous pre-capitalist agriculture system.

The former is under western influence and supervision, which used advanced techniques and where the average standard of living is high. The latter is native with low levels of technique, economic and social welfare.

There are certain characteristics of the eastern sector of a dualistic society which distinguish it from a western society.

- The needs of an eastern society are limited. People are satisfied when their immediate needs are met. This is because people are influenced more by social rather than economic goods.
- Goods are evaluated according to their prestige value rather value-in-use. It is, therefore, not surprising that eastern economies are characterised by backward-sloping curve of effort and risk-taking.
- Native industry has practically no organisation, is without capital, technically helpless and ignorant of the market.
- People indulge more in speculative activities rather than in regular profit-giving enterprises. They do not believe in capital investments attended by risks. They lack initiate and organisational skill characteristic of the western sector of the society.
- People are reluctant to leave the village community. Migration within the country and immigration take place through state intervention. Urban development takes place at the cost of rural life.
- Export is the main objective of foreign trade in eastern society as distinct from a western society where it is only the means which makes imports possible.

Boeke has suggested that because of the differences between the eastern and the western economies, the western economic theories are not applicable in underdeveloped countries. In view of this, he explained that economic development is generally hampered by the limited wants of the eastern society. The increased supply of goods creates glut of commodities in the market. This results in fall in prices, which consequently leads to recession and fall in investment. His suggestion was that industrialization process or agricultural improvement should be a gradual and steady and that could suit the framework of a dualistic economy. The rapid or radical changes in the structure of dualistic economy for the purpose of economic development might prove counter-productive. He, therefore, advised for gradual approach to economic development of dualistic economies.

18.7.1 Criticisms of the Theory

Boeke's theory has been criticised on the following grounds:

One, the assumption of limited wants is neither consistent with the human nature nor relevant in the context of economic development.

Two, it ignores the role of trade unions. The trade unions fight for labour's rights and participate actively in the development activities and welfare programmes.

Three, it is difficult to agree with Boeke's view that rural workers are immobile and always stick to the agricultural occupations and they have no desire to migrate to urban areas.

Four, the phenomenon of social dualism is not only peculiar to underdeveloped countries, it is found in developed countries also.

To sum up, the important problems faced by an underdeveloped country are that of unemployment and scarcity of capital. The solution of these problems has been sought by Higgins through his theory of technological dualism, which is considered an improved version of Boeke's theory.

18.8 THEORY OF TECHNOLOGICAL DUALISM

The theory of technological dualism has been developed by Benjamin Higgins.

Technological dualism implies the use of different production functions in the advanced sector and the traditional sector of an underdeveloped economy.

The existence of such dualism has aggravated the problem of structural or technological unemployment in the industrial sector and disguised unemployment in the rural sector.

The theory of technological dualism has been built around two goods, two factors of production and two sectors with their factor endowment and production function. The two sectors are: (i) The industrial sector, and (ii) The rural sector.

The *Industrial sector* is engaged in plantations, mines, oil fields, refineries or large-scale industries. It is capital-intensive and in characterised by fixed technical coefficients. In other words, there is no technical substitutability of factors which are combined in fixed proportions.

The *rural sector* is engaged is producing foodstuffs and handcrafts or very small industries. It has variable technical coefficients of production so that it can produce the same output with a wide range of techniques and alternative combinations of labour and capital including improved land.

How technological dualism aggravates unemployment and disguised unemployment? Higgins explains the process as follows of the two sectors, the industrial sector develops and expands with the aid of foreign capital. Thus industrialization leads to the growth of population much is excess of the role of capital accumulation in the industrial sector. Since this sector uses capital-intensive techniques and fixed technical coefficients, it is not in a position to create employment opportunities at the same rate at which population grows. Rather industrialization may even bring a relative decline in the proportion it total employment in that sector. Thus the surplus labour has no other alternative except to seek employment in the rural sector.

In the beginning no factor is relatively scarce or abundant in the rural sector. With the growth of population, it may e possible to bring more land under cultivation so as to keep the ratio of labour to land relatively constant. As land is the only form of capital available, the amount of land that can actually be cultivated by one family in any case will be limited. Though for a short period the optimal combination of labour and capital may be possible as output rises, but eventually the land would because relatively scarce and labour a relatively abundant sector. Since technical coefficients vary in this sector, production process would become more and more labour intensive. Finally, a point would be reached when all available land would be cultivated with highly labour-intensive techniques. Consequently, marginal productivity of labour would fall to zero and disguised unemployment would appear.

In short, the technological dualism aggravates the problem of unemployment due to fixed factor proportion is industrial sector and growing population in rural sector.

18.8.1 Criticism of the Theory

The following limitations of the theory may be indicated:

One, It is improper to assume fixed technical coefficients in the industrial sector without any empirical verification.

Two, Factor prices do not solely depend on factor endowments. There are many other factors that influence factor prices.

Three, There are many institutional and psychological factors that also influence factor proportions which have been neglected in the Theory.

Four, The theory neglected the possibility of the use of production techniques that are labour absorbing.

Five, Higgins does not clarity the nature of disguised unemployment in the rural sector and excess labour supply in the industrial sectors. Nor does he refer to the actual extent of the disguised unemployed resulting from technological dualism.

Check Your Progress 2

1) State and explain the theory of low-level equilibrium trap. Also bring out its limitations.

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2) State and explain the theory of sociological dualism. Also bring out its limitations.

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3) State and explain the theory of technological dualism. Also bring out its limitation.

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18.9 LEWIS'S MODEL

W. Arthur Lewis propounded his theory of development in the mid-1950s. It focused on the structural transformation of primary subsistence economy. The theory was later modified by Gustav Ranis and John Fei. The Lewis two-sector model becomes the general theory of the development process in labour-surplus underdeveloped economies.

The model works as follows:

1) In underdeveloped countries there exists large reservoirs of labour whose marginal productivity is negligible, zero, or even negative. It is available in unlimited quantities at a wage equal to the subsistence level of living plus a margin sufficient to overcome the friction of moving from the 'subsistence sector' to the 'capitalist sector', which may be called "subsistence- plus" wage.

2) As the supply of labour is unlimited, the new industries can be set up and the existing ones can be expanded without limit at the ruling wage rate. The capitalistic sector also needs skilled workers. But Lewis maintains that skilled labour is only a temporary bottleneck and can be removed by providing training facilities to unskilled workers.

3) Since the marginal productivity of labour in the capitalistic sector is higher than the market wage rate, There accrues a surplus with the entrepreneurs. This surplus is reinvested when makes possible employment of more people from the subsistence sector the increase in investment raises the marginal productivity of labour which induces employers to increase their labour force till the marginal productivity labour because equal to the wage rate. The process goes on till the capital-labour ratio rises to the point where the supply of labour becomes inelastic.

4) Capital is created not only out of profits but also out of bank credit. It will expand output and employment. As the process of capital formation goes on, output and employment expand and so do profits. As large profiles lead to a large

volume of saving, a stage is reached when savings increase to such an extent that new investment can be finances without resort to bank credit.

5) The process of growth cannot continue indefinitely. It must come to an end. It is affected by any of the following factors:

- If the continuous process of capital formation leaves no surplus labour.
- If the expansion in the capitalist sector is so fast that it leads to an absolute decline in population in the subsistence sector which results in an increase, in the average productivity of labour in the latter sector and thereby to a rise in the wage rate in the capitalist sector.
- If the faster expansion of the capitalist sector relatively to the subsistence sector turns the terms of trade against the former as a result of the rise in the prices of raw materials and foods, the capitalists will have to pay higher wages to the workers.
- If the subsistence sector adopts improved techniques of production, real wages would ride in the capitalist sector that would lead to reduction in the capitalist sector.
- If the workers in the capitalist sector imitate the capitalist way of living and agitate for higher wages and if they succeed in getting a rise in wages, the capitalist surplus and the rate of capital formation will decline.

In short, the capitalist sector does not expand indefinitely. It comes to a halt when surplus labour is completely exhausted and wages begin to rise above the subsistence level.

18.9.1 Criticism of the Model

The major limitations of the model are as follows:

One, the model is based upon unrealistic assumptions, like (i) existence of proportional relation between capital accumulation and job creation, (ii) existence of rural surplus labour, and (iii) existence of competitive modern sector labour market that ensures the continued existence of constant real urban wages up to the point where the supply of rural surplus labour is exhausted.

Two, there are several leakages in the process which fail to convert disguised unemployment into saving potential. These leakages restrict the operation of multiplier in under-developed countries with the result that expansion process fails to gear the development activities.

Three, the migration of labour from the subsistence to the capitalist sector is not as easy as visualised by Lewis in his model.

Four, payment of subsistence wage to the workers tantamount to exploitation with which welfare states might not reconcile. Thus, the real wages level cannot remain constant at subsistence level.

Five, the model is criticised on the ground that it perpetuates unequal distribution of income.

To sun up, though extremely valuable as an early conceptual portrayal of the development process of sectoral interaction and structural change, Lewis model required considerable modification in assumptions and analysis to fit reality of contemporary developing nations.

18.10 RANIS AND FEI MODEL

Another theory explaining the solution of surplus manpower has been developed by John C. H Fei and Gustav Ranis in 1964. The centre of gravity of development lies in the gradual shifting of surplus manpower from agriculture to industrial sector.

Ranis - Fei model makes the following assumptions:

- Existence of dualism, i.e., the economy is dualistic in nature with the presence of agricultural and industrial sectors.
- Transfer of surplus agricultural labour to non-agricultural sector.
- The marginal productivity of surplus labour in agricultural sector is Zero.
- Agriculture sector generates surplus to finance the development and growth of industrial sector.
- The industrial sector expands in such a way that it absorbs the maximum number of agricultural workers.

In this model, agricultural sector constitutes an important source of supply of manpower and saving for fuelling the expansions of industrial sector. Disguised unemployment in over-populated economies response to stimulants of economic growth by providing cheap labour at constant real wages for non-farm sectors. During this phase it is possible to improve agricultural productivity by relaxing the constant real wage assumption. The development of agriculture raises the rural purchasing power and provides a mass market for industrial goods and result in expansion of investment opportunities.

Thus, the mobility of labour from the farm to the non-farm sector is an essential condition of economic transformation as well development of agriculture.

18.10.1 Criticism of the Model

The model suffers from the following limitations.

One, the model assumes that migration of agricultural workers for rural to urban sectors paves the way for the solution of the surplus manpower. Such a migration, however, is not an easy process. It is constrained by various socio-economic factors.

Two, marginal productivity of workers has been assumed to be zero. Empirically, this assumption dies not hold much ground.

Three, the model assumes that with the migration of labour, the agricultural sector would be able to generate surplus for financing industrial development. The model fails to bring out the process by which this will happen.

Four, the model is based on the assumption of a closed economy. Closed economy is considered a matter of fact. Foreign inputs help in strengthening the fibre of development through interaction with outside world.

18.11 HARRIS –TODARO MODEL

The model if growth has been propounded by John R. Harris and Michael P. Todaro. The model explains the apparently paradoxical relationship of accelerated rural-urban migration in the context of rising urban employment.

The four basic elements of the Harris-Todaro model are as follows:

1) Rural-urban migration is stimulated by rational economic considerations of relative benefits and costs, mostly financial but also psychological

2) The decision to migrate depends upon expected rather than actual urban-rural real wage differentials where expected differential is determined by the interaction of tow variables, the actual urban-rural wage differential and the probability of successfully obtaining employment in the urban sector.

3) The probability of obtaining an urban is directly related to the urban employment rate and inversely related to urban unemployment.

4) Migration rates in excess of urban top opportunity growth rates are not only possible but also rational and even likely in the face of wide urban-rural expected income differential. High rates of urban unemployment are, therefore, inevitable outcomes of serious imbalance of economic opportunities between urban and rural areas in most developing countries.

18.11.1 Implications of the Model

The model provides an adjustment mechanism by which workers allocate them selves between rural urban labour markets. At the same time it suggests that there is a need for a comprehensive migration and employment strategy. The key elements of such a strategy can stated as follows:

1) **Creating an appropriate rural-urban economic balance**

The main thrust of the strategy should be on the integrated rural development, spread of small-scale industries, reorientation of economic activity and social investment in rural areas. The strategy based on this element would help mitigate urban and rural unemployment problem on one hand and discourage the migration on the other.

2) **Labour-intensive industries**

To slow down the face of rural-urban migration and to create employment opportunities in rural areas, stress should be on the labour-intensive industries. The expansion of small scale and rural industries can be accomplished directly by the government investment and incentives and indirectly through income distribution to the poor.

4) **Labour-intensive technologies of production**

The development experience of developing countries that in initial stages these countries have been almost dependence on labour technology. The technological dependence of developing nations on imported machinery and equipment from developed nations has been one of the main factors affecting the long run programmes of employment generation both in urban industry and rural agriculture. To reduce this dependence, domestic efforts should be made for the development of small scale, labour intensive and low cost methods for meeting the rural infrastructure needs including roads, irrigation, drainage, essential health and elementary education services.

5) **Eliminating factor price distortions**

Elimination of factor price distortions is necessary to create employment opportunities and to make better use of scarce capital. This can be done by eliminating various capital subsidies and curtailing the growth of wages through market based pricing how far and to what extent these policies succeed is a matter of debate correct pricing polices by themselves may prove insufficient to alter the employment situation.

6) **Linkage between education and employment**

Education and employment are the basic objectives of development. Education is

developing country to absorb modern technology and develop the capacity for self-sustaining growth and development. Education is fundamental to enhancing the quality of human life and ensuing economic and social progress. These benefits of education should be viewed as an instrument of employment generation. A system of education must be integrated with the employment prospects. A developing country should design education system in a way that it meets the needs of rural development and created employment opportunities for the prospective jobholders.

6) **Reducing population growth**

An employment generating policy must aim at reducing population growth through reduction absolute poverty and inequality, expanded provision of family planning and rural health services. The long run solution of employment and urbanisation problems required the lowering of high rates of population growth. Population and labour supply reductions constitute an essential ingredient for any policy to combat the severe employment problems that developing countries face now and likely in the future too.

7) **Role of local self-governments**

The role of local self-government has been suggested to minimise the flow of migration from rural to urban areas. Decentralisation of authority to municipalities and village *panchayats* is considered an essential step in improving the quality of public services at the local level. It is presumed that local officials have greater information and knowledge about local conditions, local people and their problems. Local officials play a key role when they are made accountable for their performance and service to local people. Decentralisation with increased authority of cities and villages has been a major international trend in the organisation of government.

18.11.2 Relevance of the Model

The model is relevant to developing countries even if the wage is not institutionally determined. Recent literature on rural-urban migration has confirmed that emergence of high modern-sector wage alongside unemployment can also result from market responses to imperfect information, labour turnover and other common features of labour market. While this model focuses on the institutional determinants of urban wags rates above the equilibrium wags, others have sought wage explain this phenomenon by focusing on the high cost of labour turnover in urban areas and the nation of an efficiency wage; an above-equilibrium urban wage enables employers to secure a high-quality work force and greater productivity on the job.

Check Your Progress 3

1) Critically examine Lewis model of economic growth.

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2) Critically examine Ranis and Fei model of economic growth.

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3) Examine the relevance and implications of the Harris-Todaro model.

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18.12 LET US SUM UP

While vicious circles of poverty present a self-explaining fact that underdevelopment is both a cause and effect of itself, new single explanation suffices to explain how to break this vicious circle. The fact that many underdeveloped countries of yesteryears have joined the ranks of advanced nations goes to show that an economy need not always be doomed to vicious circles. It has been possible to break free of them. How? There has not been a single answer. A number of different factors in different situations have been possible.

Several models were presented in this unit that dealt with theories that suggest ways to break the vicious circle of poverty. The unit went on to discuss theories seeking to describe and explain the presence and persistence of dualism, both social and technological. The unit then went on to discuss a couple of models – the Lewis model and Fei-ranis model – that give suggestions regarding the possible use of the surplus manpower available in rural areas in developing nations. Finally the unit discussed a model of migration that explains the migration in developing nations, from rural to urban areas: the Hariss-Todaro model.

18.13 KEY WORDS

Vicious Circle of Poverty : A circular constellation of forces tending to act and react upon one another in such a way as to keep a poor country in a state of poverty.

Social Overhead Capital : Also known as infrastructure, the supporting structure for production units engaged in production of goods and services.

Indivisibilities : Refer to the external economies of scale.

Shocks : Refer to those forces which tend to reduce output, income, employment and investment, etc.

Stimulants : Refer to those forces which help in raising the level of income, output, employment, investment, etc.

18.14 SOME USEFUL BOOKS

Bardhan, Pranab, and Udry, Christopher (1999) *Development Microeconomics.* Oxford University Press, Oxford.

Gillis, M., Perkins, D.H.,Roemer, M., and Snodgrass, D.R. (1992), *Economics of Development* (3rd edition). W.W.Norton, New York.

Meier, Gerald M. and Rauch, James E (eds.) (2000). *Leading Issues in Economic Development* (7th edition), Oxford University Press, Oxford.

8.15 ANSWER/HINTS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress1.

1) See section 18.2
2) See section 18.3
3) See section 18.4
4) See section 18.5

Check Your Progress 2

1) See section 18.6
2) See section 18.7
3) See section 18.8

Check Your Progress 3

1) See section 18.9
2) See section 18.10
3) See section 18.11