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## UNIT 3 LINEAR THEORIES OF UNDERDEVELOPMENT\*

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### 3.0 OBJECTIVES

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After studying this Unit, you should be able to:

- outline the theory behind economic underdevelopment;
- discuss the evolution of classical theories of economic underdevelopment;
- analyse the implications of the Linear Theories [viz. Marx's Stages of Growth, Rostow's Linear Stages of Growth, Kuznets' Theory and Harrod-Domar Model];
- state the limitations of the Linear Theories of underdevelopment and
- explain the policy implications of the linear theories.

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### 3.1 INTRODUCTION

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Economic progress is an essential component of every country. Development is not purely an economic phenomenon. It encompasses more than the material and financial side of people's lives. It is, therefore, perceived as a multidimensional process involving the reorganization and reorientation of entire economic and socio-political systems. In addition to improvements in incomes and output, it typically involves radical changes in institutional, social and administrative structures as well as popular attitudes, customs and beliefs. The first idea that

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emerged was that all major countries have a potential for development i.e. those that have not developed, but can, are underdeveloped. With respect to this, two questions came up and were answered by economists worldwide. One is how is the level of development measured? The second is, compared to which desirable characteristics of development, the backward countries are classified as underdeveloped? In answers to these two questions, it was agreed that the standard of living and per capita income are the measures of development and the level of development of advanced or developed countries would be the benchmark for their relative comparison. As a result, the idea of underdevelopment equilibrium gained acceptance. This was followed by the theories of Balanced and Unbalanced Growth.

Development theory is a collection of theories on how desirable change in society is best achieved. If we explore the historical and intellectual evolution of development, we come across four development theories. These offer valuable insights and a useful perspective on the nature of development process. The post-World War II literature on economic development dominated the four major schools of thought. These are:

- 1) The Linear Stages of Growth Model
- 2) Theories and Patterns of Structural Change
- 3) The International-Dependence Revolution
- 4) The Neoclassical Free-Market Counter-Revolution

The 1950's and 1960's saw the economic theorists viewing the process of development as a series of successive stages of economic growth through which all countries must pass. It primarily focused on the right quantity and mixture of 'Savings, Investment and foreign capital'. This was considered necessary to enable the developing countries to proceed along an economic growth path that had historically been followed by most developed countries.

This Linear-Stages approach was largely replaced in the 1970's by two competing schools of thought. The first of these focused on Theories and Patterns of Structural Change. It used modern economic theory and statistical analysis to portray the process of structural change needed by a growing country to experience sustained rapid economic growth. The second, the International-Dependence Revolution was more radical and political. It explained underdevelopment in terms of: (i) international and power relationships, (ii) institutional and structural economic rigidities, and (iii) the resulting proliferation of dual economies. Dependence theories emphasized on the external and internal institutional and political constraints on economic development. These, thus, placed emphasis on the need for policies to eradicate poverty, to create employment opportunities and to reduce inequalities.

Throughout the 1980s and 1990s, the fourth approach of neoclassical/neoliberal counterview prevailed. It focused on the beneficial role of free markets, open

economies and the privatisation of inefficient public enterprises. According to this theory, failure to develop is the result of too much government intervention and regulation of the country instead of exploitative external and internal forces.

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## 3.2 LINEAR THEORIES

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When interest in the poor countries of the world materialized following the Second World War, economists in the industrialized countries were caught off-guard. They had no experience to analyze the process of economic growth for countries which were mainly agrarian and lacked modern economic structures. They had the recent experience of Marshall Plan, under which massive amounts of U.S. financial and technical assistance enabled the war-torn countries of Europe to rebuild and modernize their economies. Thus, came the Stage Theory. This approach came to be known as 'Capital Fundamentalism' as it emphasized on the role of accelerated capital accumulation.

### 3.2.1 Marx's Stages of Growth

Karl Marx's theory combines economics and sociology to view economic development as a continuous change in the social, cultural and political life of a society. In Marx's analysis, economic systems reach higher stages through the strained relations that run between the dynamic forces of production and the slowly-evolving social and political organization which permits production. According to Marx, there are five stages of capitalist economic development viz., (i) primitive-communal society (ii) feudalism (iii) capitalism (iv) socialism and (v) communism. The stages of development spans out from the beginning of the evolution of medieval feudalism to 'industrial capitalism'. The most advanced stages of capitalism which features international imperialism carries the seeds of its own destruction. Periodic crises wreck the international capitalist system to a point of its eventual decay leading to the formation of a socialist state. The class struggle propels this transformation. Workers and capitalists represent domestic class struggle that spreads internationally in advanced capitalism to become imperialism at world level. Marx predicted that growing conflicts between workers and owners/capitalists would eventually lead to a violent revolution in which capitalism would be transformed to socialism. This has not come true in case of advanced industrial economies. In fact, the Marxian theory gives an important insight into the problem faced by today's Least Developed countries. Many of them have attempted to achieve rapid development by concentrating investment in the modern industrial sector. However, what could be seen is growing inequality and social instability in these economies similar to the mid 19<sup>th</sup> century Europe.

The followers of Marx have extended the scope of Marxist theory to encompass the international dimension on the role of capital in economic development. According to them, the international capitalist system, which has led to great inequalities between the rich and poor countries, has increased the dependence of

the least developed countries on the industrial capitalist countries for their basic economic needs. Paradoxically, this has resulted in a lot of capital and other resources being transferred from poor to rich countries. This is the phenomenon of International Dependence that needs to be restructured to transform the nature of relationship between the poor and the rich countries.

### Check Your Progress 1

**Note:** i) Use the space given below for your answers.

ii) Check your progress with those answers given at the end of the unit.

1) Specify the evolution of classical theories of underdevelopment.

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2) State the Marxian views on economic development.

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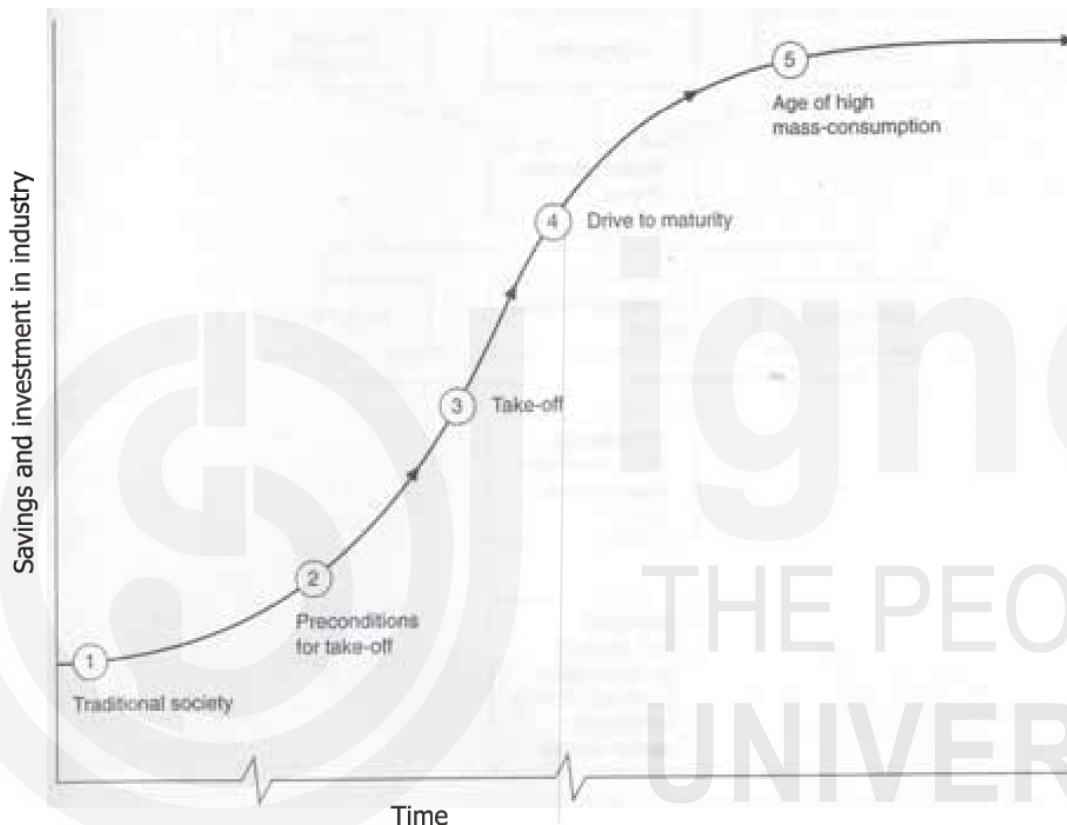
### 3.2.2 Linear Stages of Growth Model – Rostow

American Economic Historian Walt W. Rostow (1960) came up with his Stages of Growth model. According to him, the transition from underdevelopment to development can be described in terms of a series of steps or stages through which all countries must pass. They are:

- i) **The Traditional Society:** This is the stage defined by a society that is primitive with a large agricultural sector and hierarchical social structure. It is characterized by the backward nature of its technology and thus possesses a low ceiling of attainable output per head.
- ii) **The Pre-conditions for Take-off:** This is the stage related to application of modern science to agriculture. There must be entrepreneurs in the society and investors who can offer financial support to new ideas. This involves slow changes in attitudes and organization, and, sharp break from traditional rigidity towards mobility.
- iii) **The Take-off:** As the economy overcomes resistances to growth and change, rate of investment jumps. This gives rise to substantial and rapid growth of manufacturing industries. A political, social and institutional framework emerges that is favourable to sustained growth. Rostow called this stage as Industrial Revolution.
- iv) **The Drive to Maturity:** This movement from take-off to maturity is the stage of spread of technical change for improved efficiency from the leading sectors of the economy to the other sectors. Rate of growth of income

outstrips the rate of growth of population to raise the per capita income. In this stage, according to Rostow, "an economy demonstrates that it has technological and entrepreneurial skill to produce not everything, but anything it chooses to produce".

- v) **High Mass Consumption:** This stage characterizes the movement of an economy from maturity to high mass consumption such that consumer durable goods become accessible. In addition, the economy, via its political process, expresses willingness to allocate increased resources to social welfare and security.



Overall, the above diagram represents the Rostow's stages of growth discussed here. In his work, Rostow admits that his theory and the stages are not merely descriptive or factual, but is based on logic and continuity. He suggested increase in savings and investment for economic growth and "capital constraint" as main obstacle to the path of development.

### 3.2.3 Kuznets' Theory

Simon Kuznets developed an approach to the analysis of economic growth over long historical periods which he called as "economic epochs". Each economic epoch is characterized by innovation. He elaborated the idea of **Modern Economic Growth** (MEG). He defined a country's economic growth as "a long-term rise in capacity to supply increasingly diverse economic goods to its population. This growing capacity is based on advancing technology and the institutional and ideological adjustments that it demands." The following three components of the definition are crucial.

- i) While the sustained rise in national output is a clear manifestation of economic growth, the ability to provide a wide range of goods is a sign of economic maturity.
- ii) Modern technology provides the basis or preconditions for continuous growth.
- iii) To realize the potential for growth inherent in new technology, institutional, ideological and other adjustments must be made.

MEG is characterized by a rapid growth in per capita production, higher rates of capital formation than previous epochs and extensive use of science-based technology. Kuznets identified the following characteristics of economic growth of every developed nation:

- 1) **High Rates of Growth of Per Capita Output and Slowing Down of Population Growth:** From around 1770, all contemporary developed countries experienced high rates of growth of both per capita output and population. Kuznets also highlighted the trend of slowing down of the rate of population growth.
- 2) **High Rates of Increase in Total Factor Productivity (TFP):** TFP is the output per unit of all inputs. It shows the efficiency with which all inputs are used in the production process. High rate of rise in TFP constitutes MEG.
- 3) **High Rates of Structural Transformation of the Economy:** MEG is characterized by a high rate of structural and sectoral change inherent in the growth process. The changes include: (i) a gradual shift away from agriculture to non-agricultural activities and towards services; (ii) a significant change in the scale or average size of productive units; and (iii) a corresponding shift in the spatial location and occupational status of the labour force away from rural to urban sector.
- 4) **High Rates of Social and Ideological Transformation:** The major structural changes in an economy have to be accompanied by transformation in attitudes, institutions and ideologies. These are termed broadly as “modernization”.
- 5) **The Propensity of Economically Developed Countries to Reach out to the Rest of the World for Markets and Raw Materials:** Kuznets had observed the ongoing propensity of rich countries to reach out to the rest of the world for primary products and raw materials, cheap labour and lucrative markets for their manufactured products. This was made feasible by the growing power of modern technology especially in transport and communications.
- 6) **The Limited Spread of Economic Growth to only one-third of the World’s Population:** Kuznets observed that the increase in world output was enjoyed by only 33% of the world’s population. Two-thirds of the people in the third world continued to live in poverty.

Kuznets had expressed that the six characteristics he laid out were inter-related and mutually reinforcing. However, it all included mass application of technological innovations. Most of the poor countries do not benefit because 90% of research and development happens in rich countries. The poor countries lack in resources and institutions vis-a-vis rich countries.

In his Nobel Lecture in 1971, Simon Kuznets laid out his observations as follows: “whatever the weight of the several factors in explaining the failure of the less developed countries (to take advantage of the potential of modern economic growth), backwardness of the native economic and social framework lends itself to the factual findings. At present, about two-thirds or more of world population is in the economically less developed group. Even more significant is the concentration of the population at the low end of the product per capita range. In 1965, the last year for which we have worldwide comparable product estimates, the per capita GDP (at market prices) of 1.72 billion out of a world total of 3.27 billion, was less than \$120, whereas, 0.86 billion in economically developed countries had a per capita product of some \$1900. Even with this narrow definition of less developed countries, the intermediate group was less than 0.7 billion, or less than 20 percent of world population. The preponderant population was thus divided between the very low and the rather high level of per capita economic performance. Obviously, this aspect of modern economic growth deserves our greatest attention, and the fact that the quantitative data and our knowledge of the institutional structures of the less developed countries are, at the moment, far more limited than our knowledge of the developed areas, is not reason enough for us to ignore it”.

Several preliminary findings, or rather plausible impressions, may be noted. **First**, the group of less developed countries, particularly if we widen it (as we should) to include those with a per capita product somewhat larger than \$120 (in 1965 prices), covers an extremely wide range in size. This is in terms of the relationship between population and natural resources. This is also in terms of the past impact upon them of the developed countries (coming as it did at different times and from different sources). There is a striking contrast in terms of population size, between the giants like Mainland China and India, on the one hand, and the scores of tiny states in Africa and Latin America. Furthermore, the remarkable institutions by which the Asian civilizations produced the unified, huge societies, that dwarfed in size any that originated in Europe until recently, bore little resemblance to those that structured the American Indian societies or those that fashioned the numerous tribal societies of Africa.

Generalizations about less developed countries must be carefully and critically scrutinized in the light of this wide variety of conditions and institutions. To be sure, their common failure to exploit the potential of modern economic growth means several specific common features: a low per capita product, a large share of agriculture or other extractive industries and a generally small scale of

production. But the specific parameters differ widely. Because the obstacles to growth may differ critically in their substance, they may suggest different policy directions.

**Second**, the growth position of the Less Developed countries today is significantly different, in many respects, from that of the presently developed countries on the eve of their entry into modern economic growth. This is with the possible exception of Japan. The Less Developed areas that account for the largest part of the world population today are at much lower per capita product levels than were the developed countries just before their industrialization. The latter at that time were economically in advance of the rest of the world, not at the low end of the per capita product range. The very magnitudes, as well as some of the basic conditions, are quite different. No country that entered modern economic growth (except Russia) approached the size of India or China, or even of Pakistan and Indonesia. No currently developed country had to adjust to the very high rates of natural increase of population that have characterized many Less Developed countries over the last two or three decades. Particularly, before World War I, the older European countries, and to some extent even Japan, were relieved of strains of industrialization by a substantial emigration of the displaced population to areas with more favourable opportunities. Such an avenue was closed to the populous Less Developed countries today. However, the stock of material and social technology that can be tapped by Less Developed countries today is enormously larger than that was available in the nineteenth and even early twentieth centuries. But it is precisely this combination of greater backwardness and seemingly greater backlog of technology that makes for the significant differences between the growth position of the Less Developed countries today, and that of the developed countries when they were entering the modern economic growth process.

Despite the tremendous accumulation of material and social technology, the stock of innovations most suitable to the needs of the less developed countries is not too abundant. Even if one were to argue that progress in basic science may not be closely tied to the technological needs of the country of origin, the applied advances are a response to the specific needs of the country within which they originate. This was certainly true of several major inventions associated with the Industrial Revolution in England. Illustrations abound of necessity as the mother of invention. To the extent that this is true, and that the conditions of production in the developed countries differed greatly from those in the populous less developed countries today, the technology that evolved in the developed countries may not supply the needed innovations. Nor is the social technology that evolved in the developed countries is likely to provide models of institutions or arrangements suitable to the diverse institutional and population-size backgrounds of many less developed countries. Thus, modern technology with its emphasis on labour-saving inventions may not be suited to countries with a plethora of labour but a scarcity of other factors. Such factors include land and



water, modern institutions, etc. They would not be suited to the more traditional life patterns of the agricultural communities that predominate in many less developed countries.

### Check Your Progress 2

**Note:** i) Use the space given below for your answers.

ii) Check your progress with those answers given at the end of the unit.

1) What is the concept of Modern Economic Growth (MEG) given by Kuznets? How do the countries across the world differ when it comes to the characteristics of MEG?

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2) State the Rostow’s Stages of growth to explain underdevelopment in poor countries.

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### 3.2.4 Harrod –Domar Model

Ever since the end of Second World War, interest in the problems of economic growth has led economists to formulate growth models of different types. These models deal with and lay emphasis on the various aspects of growth of the developed economies. They constitute in a way alternative stylized pictures of an expanding economy. A feature common to all of them is that they are based on the Keynesian saving-investment analysis. The first and the simplest model of growth—the Harrod-Domar Model—is the direct outcome of projection of the short-run Keynesian analysis into the long-run.

The HD model is based on capital as the crucial factor of economic growth. It concentrates on the possibility of steady growth, through an adjustment of supply of demand for capital. It assumes substitution between capital and labour and a neutral technical progress. This in the sense that technical progress is neither labour saving nor results in substituting labour for capital. That is, both the factors are used in the same proportion with the technical change taking place playing a neutral role.

Although the Harrod and Domar models differ in details, they both are similar in substance. One may call Harrod’s model as the English version of Domar’s model. Both these models stress the essential conditions of achieving and maintaining steady growth. They both assign a crucial role to capital accumulation in the process of growth. In fact, they emphasize the dual role of capital accumulation in the following sense.

On the one hand, new investment generates income through multiplier effect. On the other hand, it increases the productive capacity of the economy by expanding its capital stock. You should note here that classical economists emphasized the productivity aspect of investment, taking for granted the income aspect. Keynes had done the opposite i.e. he had given due attention to the problem of income generation but neglected the problem of productive capacity creation. Harrod and Domar took special care to deal with both the problems generated by investment in their models. Let us now note down the general assumptions of the HD model first.

General Assumptions: The main assumptions of the Harrod-Domar models are as follows:

- i) A full-employment level of income already exists.
- ii) There is no government interference in the functioning of the economy.
- iii) The assumption of “closed economy” holds. In other words, government restrictions on trade and the complications caused by international trade are ruled out.
- iv) There are no lags in adjustment of variables i.e., the economic variables such as savings, investment, income, expenditure adjust themselves completely within the same period of time.
- v) The average propensity to save (APS) and marginal propensity to save (MPS) are equal to each other. That is  $APS = MPS$ . This is written in symbols as:  $S/Y = \Delta S/\Delta Y$
- vi) Both the propensity to save and “capital coefficient” (i.e., capital-output ratio) are given and is constant. This amounts to assuming that the law of constant returns to scale operates in the economy because of fixed capital-output ratio.
- vii) Income, investment, savings are all defined in the net sense, i.e., they are considered over and above the depreciation. Thus, depreciation rates are not included in these variables.
- viii) Saving and investment are equal in ex-ante as well as in ex-post sense i.e., there is accounting as well as functional equality between saving and investment.

These assumptions were meant to simplify the task of growth analysis which could be relaxed later. Harrod’s growth model raised the following three issues:

- i) How can steady growth be achieved for an economy with a fixed capital-output ratio (capital-coefficient) and a fixed saving-income ratio?
- ii) How can the steady growth rate be maintained? Or what are the conditions for maintaining the steady uninterrupted growth?
- iii) How do the natural factors put a ceiling on the growth rate of the economy?

In order to discuss these issues, Harrod adopted three different concepts of growth rates: (i) the actual growth rate,  $G$ , (ii) the warranted growth rate,  $G_w$  and (iii) the natural growth rate,  $G_n$ . The Actual Growth Rate is the growth rate determined by the actual rate of savings and investment in the economy. In other words, it can be defined as the ratio of change in income ( $\Delta Y$ ) to the total income ( $Y$ ) in the given period. Thus, if the actual growth rate is denoted by  $G$ , then  $G = \Delta Y/Y$ . The actual growth rate ( $G$ ) is determined by saving-income ratio and capital-output ratio. Both the factors have been taken as fixed in the given period. The relationship between the actual growth rate and its determinants was expressed as:

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

where  $G$  is the actual rate of growth,  $C$  represents the capital-output ratio  $\Delta K/\Delta Y$  and  $S$  refers to the saving-income ratio  $\Delta S/\Delta Y$ . This relationship states the simple truism that saving and investment (in the ex-post sense) are equal in equilibrium. This is clear from the following:

Since

$$G = \frac{\Delta Y}{Y}$$

$$C = \frac{\Delta K}{\Delta Y} = \frac{I}{\Delta Y} \quad [\because \Delta K = I]$$

Because

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

Substituting the value of  $G$ ,  $C$ , and  $s$  in equation (1), we get

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

or

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

or

$$I = S$$

The above relationship explains that the condition for achieving the steady state growth is that ex-post savings must be equal to ex-post investment. “**Warranted growth**” refers to that growth rate of the economy when it is working at full capacity. It is also known as Full-capacity growth rate. This growth rate, denoted by  $G_w$ , is interpreted as the rate of income growth required for full utilisation of a growing stock of capital, so that entrepreneurs would be satisfied with the amount of investment actually made.

Warranted growth rate ( $G_w$ ) is determined by capital-output ratio and saving-income ratio. The relationship between the warranted growth rate and its determinants can be expressed as:

$$G_w C_r = S$$

where  $C_r$  shows the needed  $C$  to maintain the warranted growth rate and  $S$  is the saving-income ratio. According to Harrod, the economy can achieve steady growth when  $G = G_w$  and  $C = C_r$ . This condition states two things. Firstly, that actual growth rate must be equal to the warranted growth rate. Secondly, the

capital-output ratio needed to achieve  $G$  must be equal to the required capital-output ratio in order to maintain  $G_w$ , given that the saving co-efficient is  $S$ . This amounts to saying that actual investment must be equal to the expected investment at the given saving rate.

We have stated above that the steady-state growth of the economy requires an equality between  $G$  and  $G_w$  on the one hand and  $C$  and  $C_r$  on the other. In a free-enterprise economy, these equilibrium conditions would be satisfied only rarely, if at all. Therefore, Harrod analyzed the situations when these conditions are not satisfied. That is:

(i) If	$G > G_w$	(ii) If	$G < G_w$
then	$C < C_r$	then	$C > C_r$

We first analyze the situation where  $G$  is greater than  $G_w$ . Under this situation, the growth rate of income being greater than the growth rate of output, the demand for output (because of the higher level of income) would exceed the supply of output (because of the lower level of output) and the economy would experience inflation. This can be explained in another way when  $C < C_r$ . Under this situation, the actual amount of capital falls short of the required amount of capital. This would lead to deficiency of capital, which would in turn adversely affect the volume of goods to be produced. Decline in the level of output would result in scarcity of goods and hence inflation. Thus, under this situation, the economy will find itself in the quagmire of inflation.

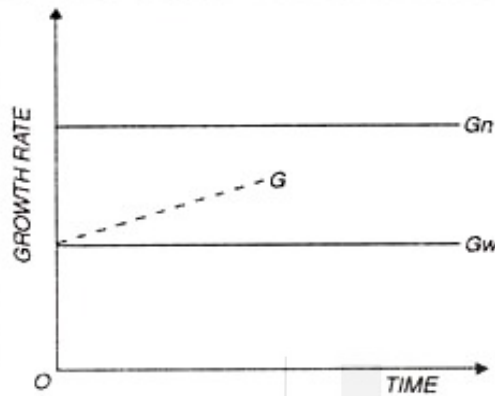
On the other hand, when  $G$  is less than  $G_w$ , the growth rate of income would be less than the growth rate of output. In this situation, there would be excess goods for sale. But the income would not be sufficient to purchase those goods. In Keynesian terminology, there would be deficiency of demand and consequently the economy would face the problem of deflation. This situation can also be explained when  $C$  is greater than  $C_r$ . In this situation, the actual amount of capital would be larger than the required amount of capital for investment. The larger amount of capital available for investment would dampen the marginal efficiency of capital in the long run. Secular decline in the marginal efficiency of capital would lead to chronic depression and unemployment. This is the state of secular stagnation.

From the above analysis, it can be concluded that steady growth implies a balance between  $G$  and  $G_w$ . In a free-enterprise economy, it is difficult to strike a balance between  $G$  and  $G_w$  as the two are determined by altogether different sets of factors. Since a slight deviation of  $G$  from  $G_w$  leads the economy away from the steady-state growth path, it is called 'knife-edge' equilibrium.

$G_n$ , the natural growth rate, is determined by natural conditions such as labour force, natural resources, capital equipment, technical knowledge, etc. These factors place a limit beyond which expansion of output is not feasible. This limit

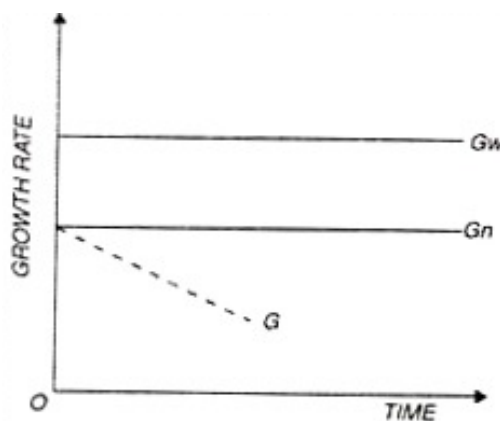
is called Full-Employment Ceiling. This upper limit may change as the production factors grow, or as technological progress takes place. Thus, the natural growth rate is the maximum growth rate which an economy can achieve with its available natural resources.

The third fundamental relation in Harrod's model showing the determinants of natural growth rate is  $G_n C_r$  is either  $= S$  or  $\neq S$ .



**Fig. 3.1: Interaction of  $G$ ,  $G_w$  and  $G_n$**

Comparing the second and the third relations about the warranted growth rate and the natural growth rate given above, we can say that  $G_n$  may or may not be equal to  $G_w$ . In case  $G_n$  happens to be equal to  $G_w$ , the conditions of steady growth with full employment would be satisfied. But such a possibility is remote because of the variety of hindrances that are likely to intervene making the balance among all these factors difficult. As such, there is a definite possibility of inequality between  $G_n$  and  $G_w$ . If  $G_n$  exceeds  $G_w$ ,  $G$  would also exceed  $G_w$  for most of the time (as is shown in the Fig. 3.1 above). Thus, there would be a tendency in the economy for cumulative boom and full employment. Such a situation will create an inflationary trend. To check this trend, savings become desirable as it would enable the economy to have a high level of employment without inflationary pressures. If, on the other hand,  $G_w$  exceeds  $G_n$ ,  $G$  must be below  $G_n$  for most of the time and there would be a tendency for cumulative recession resulting in unemployment (See Fig. 3.2 below).



**Fig. 3.2: Cumulative Recession**

The Domar Model: The Domar model bears a certain resemblance to the Harrod model. In fact, Harrod regarded Domar's formulation as a rediscovery of his own version after a gap of seven years. Domar's theory was just an extension of Keynes' General Theory, particularly on two counts as stated below:

- 1) Investment has two effects i.e. (a) an income-generating effect and (b) productivity effect by creating capacity. The short-run analysis governed by Keynes ignored the second effect.
- 2) Unemployment of labour generally attracts attention as one feels sympathy for the jobless. But unemployment of capital attracts little attention. However, unemployment of capital inhibits investment and hence reduces income. Reduction of income brings about deficiency in demand and unemployment. Thus, the Keynesian concept of unemployment misses the root cause of the problem.

Domar wanted to analyze the genesis of unemployment in a wider sense. The main points of the Harrod-Domar analysis are summarized below:

- 1) Investment is the central variable of stable growth. It plays a double role; on the one hand, it generates income and on the other, it creates productive capacity.
- 2) The increased capacity arising from investment can result in greater output or greater unemployment depending on the behaviour of income.
- 3) Conditions concerning the behaviour of income can be expressed in terms of growth rates i.e.,  $G$ ,  $G_w$  and  $G_n$ . Equality between the three growth rates can ensure full employment of labour and full-utilization of capital stock.
- 4) These conditions, however, specify only a steady-state growth. The actual growth rate may differ from the warranted growth rate. If the actual growth rate is greater than the warranted rate of growth, the economy will experience cumulative inflation. If the actual growth rate is less than the warranted growth rate, the economy will slide towards cumulative deflation.
- 5) Business cycles are viewed as deviations from the path of steady growth. These deviations cannot go on working indefinitely. These are constrained by upper and lower limits i.e. the 'full employment ceiling' acts as an upper limit and effective demand (composed of autonomous investment and consumption) acts as the lower limit. The actual growth rate fluctuates between these two limits.

It can be seen from the above that: (i) the three growth rates ( $G$ ,  $G_w$  and  $G_n$ ) vary from country to country depending on their inherent socio-economic conditions, and hence, (ii) HD's results are useful for cross country comparison.

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### 3.3 LIMITATIONS OF LINEAR THEORIES

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The mechanisms of development embodied in the theory of Stages of Growth do not always work. The key weakness of these models lies in their simplified assumptions. A single production function is simply assumed for all countries. Every economy is assumed to have the same necessary conditions and that they would pass through the same phases, stage by stage. But such an economic growth path, which historically had been followed by the more developed countries, is not the only pathway. The development process is actually highly nonlinear. Hence, countries would pursue their own distinct development paths. Economies may miss stages, or become locked in one particular stage, or even regress depending on many other complementary factors (such as managerial capacities, and the availability of skilled labour for a wide range of development projects). Overall, therefore, the criticism or the limitations of Linear Theories highlights the following:

- 1) Although savings is regarded as highly significant, modern growth theory takes into account a broad set of growth factors.
- 2) General weakness in terms of the unrealistic assumptions of these models, such as perfect knowledge, stable exchange rates and constant terms of trade do not exist.
- 3) Most analysis are based on the reconstruction of Europe after World War II. But most developing countries do not have Europe's institutions, attitudes, financial markets, levels of education, etc.
- 4) Modern Theory tends to see savings as a necessary but not a sufficient condition for growth.

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### 3.4 STATE INTERVENTION AND RELATED POLICY IMPLICATIONS

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There are several implications for the growth problems of the less developed countries. As Kuznets highlighted, "a substantial economic advance in the less developed countries may require modifications in the available stock of material technology, and probably even greater innovations in political and social structure". It will not be a matter of merely borrowing existing tools: material and social. Nor is it a matter of directly applying the past patterns of growth, or merely allowing for the differences in parameters.

The innovational requirements are likely to be particularly great in the social and political structures. It would be an oversimplification to argue that these innovations (in the social and political structures) were made primarily in response to the strain between economic backwardness and the potential of modern economic growth. For whatever reasons, the struggle for evolved political and social organization is a response, once it has been achieved, the results significantly shape the conditions under which economic growth can

occur. It seems highly probable that a long period of experimentation and struggle (for achieving a viable political framework compatible for adequate economic growth) lies ahead for most less developed countries of today. This process will become more intense and acute as the *perceived* gap between what is attained and what is attainable with modern economic growth widens. The most distinctive feature of modern economic growth is the combination of a high rate of aggregate growth with disrupting effects giving rise to new problems. The high rate of growth is sustained by the interplay between mass applications of technological innovations on the one hand (based on the stock of knowledge) and further additions to that stock on the other. The disrupting effects are those that are imposed by the rapid rate of change in economic and social structure. The problems are the unexpected and unforeseeable results of the spread of innovations. All these, pose a range of problems for the slow spread of economic growth in the less developed countries. The less developed countries have a long history of separation and relative isolation from the conditions within which modern economic growth has originated in the developed economies. Further, concurrent with the remarkable positive achievements of modern economic growth, there are also unexpected negative results even within the developed countries. The less developed countries have to therefore struggle in their attempt to use the modern technology in order to assume their role in the interdependent world from which they cannot withdraw even if they wished to do so.

In general, therefore, if we look at state intervention, the following points need to be considered:

- Common concerns include raising national savings rate; balancing growth in different sectors of the economy; managing the demographic and economic shifts that go along with the transition from a rural, agrarian society to an urban, industrial one; managing monetary policy so that foreign investors will invest in the country and trust the national currency, etc.
- Very often, the state has to raise huge amounts of capital by borrowing in the international lending markets. The government itself need to intervene in shaping industrialization. For example, the South Korean government acted as an entrepreneur, a banker, and a shaper of industrial structure. It deliberately adjusted its economy through subsidies, protection, price controls (food, etc.), and restrictions on foreign direct investment.

There is, thus, no one formula that works equally well for all countries. Each of the models or strategies discussed above will or won't work depending upon historical contingencies, government structure, geopolitical positioning, environmental resource endowments, etc. In this, the international organizations of the global economy (in terms of how they make rules, regulate and evolve over time) will determine how any one strategy will fare in the global market.



Nonetheless, though each country has its own set of circumstances that facilitate its economic development path, all countries and their economies are linked to the global economy. One way to learn therefore is to investigate global commodity chains (also known as the “global assembly line”) that produce our everyday products.

### Check Your Progress 3

**Note:** i) Use the space given below for your answers.

ii) Check your progress with those answers given at the end of the unit.

1) How does the Harrod-Domar model help to explain economic growth across countries?

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2) State the limitations of Linear Growth theories.

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3) Specify the areas of state intervention needed in developing countries in the light of linear theories of growth.

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### 3.5 LET US SUM UP

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Development theory is a conglomeration of theories about how desirable change in society is best achieved. One of the key development models is the ‘linear stages of growth model’. This is heavily inspired by the Marshall Plan of the US which was used to rehabilitate Europe’s economy after the Post-World War II Crisis. The linear stages of growth models are the oldest and the most traditional of all development models. It was an attempt by economists to come up with a suitable concept as to how underdeveloped countries of Asia, Africa and Latin America can transform their agrarian economy into an industrialized one.

In this Unit, we have introduced the schools of thought that emerged in the post-World War II era to explain economic growth and the factors responsible for it. The beginning of this study was the core idea of Marx and his followers. This helped us understand the evolution of these growth theories. We studied the most popular of the linear stage models - Rostow’s Stages of Growth Model and the Harrod-Domar Growth Model. Also, we took an insight of Kuznets’ ideas on

Modern Economic Growth and the important characteristics that help us to distinguish between developed and underdeveloped countries.

We could understand the working of these models and their broad limitations. Overall, we could conclude that developed and underdeveloped countries behave differently and so all models based on the experience of present-day advanced countries (viz. The Linear Stages models of growth) do not work the same way as they did or could then. The Marxian prediction of growing class conflicts due to increasing inequality in capitalist systems, and an eventual violent revolution that would end capitalism paving the way for socialism, has not come true in case of advanced industrial economies.

The less developed countries are grappling with underdevelopment and other correlated struggles. The basic reason is not because more Saving and Investment is not the necessary condition for accelerated rates of growth. It rather is because it is not a sufficient condition. The Marshall Plan worked for Europe because the European countries receiving aid possessed the necessary structural, institutional and attitudinal conditions to convert new capital effectively into higher levels of output. The Rostow and Harrod-Domar Model implicitly assumed the existence of same attitudes and arrangements in underdeveloped countries. Yet, they actually lack in many such basic factors, and complementary factors, like managerial competence, skilled labour, ability to plan and administer a wide assortment of development projects, to name a few. Kuznets' MEG approach explained how it works for the advanced countries but such a concept is meaningless given the state of the underdeveloped world. All the structural characteristics explained by him show the light to the polarized world of which we are all so much a part of.

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### **3.6 HINTS TO CHECK YOUR PROGRESS EXERCISES**

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#### **Check Your Progress 1**

- 1) Linear Stages of Growth, Patterns of Structural Change, International Dependence, Free Market.
- 2) Capitalist imperialism leading to wider inequality and socialism.

#### **Check Your Progress 2**

- 1) A growth characterised by rapid growth in per capita production, TFP and capital formation.
- 2) Rostow specifies five stages through which a country has to transit to become a developed country from being an underdeveloped country.

### Check Your Progress 3

- 1) By linking the behaviour of income in terms of growth rates in  $G$ ,  $G_w$  and  $G_n$  i.e. actual rate of growth, the warranted growth rate and the natural growth rate respectively.
- 2) It assumes for all countries: (i) a single production function and (ii) same necessary conditions to prevail.
- 3) (i) Raising national Savings rate, (ii) balancing growth in different sectors of the economy, (iii) managing the demographic and economic shifts, (iv) borrowing from international lending markets, etc.

