B.A. PART-III **ECONOMICS – PAPER-I**

SEMESTER-V **ECONOMICS OF DEVELOPMENT**

UNIT NO. - 2

Department of Distance Education

Punjabi University, Patiala

LESSON NO. :

B. A. PART-III **ECONOMICS : PAPER-I**
ECONOMICS OF DEVELOPMENT

LESSON NO.2.1 **AUTHOR : DR. HARVINDER KAUR**

THEORY OF BALANCED GROWTH

2.1.1.INTRODUCTION

There has been a controversy among economists who think that development is best stimulated by comprehensive simultaneous investment in complementary fields of production known as balanced growth and those who argue that such a programme is neither possible nor desirable and suggest that unbalanced investment is a better policy. The argument between these two groups relates mainly to the optimum allocation of investment. The two theories of balanced and unbalanced growth should not be treated as exclusive, but as complementary. Supporters of balanced growth theory are Fredrick List, Ragner Nurkse, Rosenstein Rodan, W. Arthur Lewis, Scitovsky, Meier, Baldwin and Allyn Young. Thesis of unbalanced growth has been supported by H. W. Singer, C. P. Kindleberger, W. W. Rostow, A. O. Hirschman and Paul Streeton.

2.1.2. OBJECTIVES

After having gone through this lesson, you should be able to

— define the concept of balanced growth.
— discuss various versions of the theory of balanced growth.
— critically examine the balanced growth theory.
— explain the relevance of balanced growth theory in underdeveloped countries.

2.1.3.THEORY OF BALANCED GROWTH

The balanced growth theory is related to the big push theory which envisages a large investment to achieve industrialisation for rapid and sustained economic development. The main constraint on rapid economic development of LDCs is their limited or small markets. Expansion of the market is, therefore, an essential condition for development of industries and for achieving higher level of income and further economic development in such countries. The balanced growth theory stresses the need for simultaneous investment in a number of industries producing different goods required by the people. The creation of such a system of industries would lead to large scale industrialisation. Balanced growth of different sectors of the economy does not mean equal percentage growth in output or equal amount of resources allocated to different sectors, but it does mean that different sectors of the economy should grow in a harmonious manner.

2.1.3.1. Meaning

The concept of balanced growth is capable of various interpretations. The main proposition of the doctrine of balanced growth is that, there should be simultaneous investment in a variety of enterprises, and there should be harmonious growth of the different parts of the economy. Balanced growth, therefore, requires balance between different consumer goods industries, and between consumer goods industries and capital goods industries. It also implies balance between industry and agriculture, and balance between import and export sectors. Further, it supports balance between social and economic overhead capital and directly productive activities, and between vertical and horizontal external economies which can bring about balance in demand and balance in supply. The supply side requires simultaneous development of all inter-related sectors which help in increasing the supply of goods. On the other hand, demand side emphasises the need of larger employment opportunities and increasing incomes which help in increasing demand for goods and services. Balanced growth doctrine advocates a harmonious process of economic development through state direction and planning. According to Alak Ghosh, "Planning with balanced growth indicates that all sectors of the economy will expand

in the same proportion, so that consumption, investment and income will grow at the same rates." This definition stresses that the balanced growth can occur when the growth rates of consumption, investment and income are equal to each other. They can be expressed as $\frac{\Delta C}{C} = \frac{\Delta I}{I} = \frac{\Delta Y}{Y}$

In the words of W.A. Lewis, "In development programmes, all sectors of economy should grow simultaneously so as to keep a proper balance between industry and agriculture ; and between production for home consumption and production for exports..... the truth is that all sectors should be expanded simultaneously".

Balanced growth theory, argues that as, a large number of industries develop simultaneously, each generates a market for one another.

2.1.3.2 Evolution of the Theory

The theory of balanced growth is the outcome of certain influences. The theory is the result of the growing awareness of the problems of underdeveloped countries. It provides an answer to the problem of breaking the vicious circle of poverty in these countries. It is also the off-shoot of the Keynesian Revolution of 1930s. Keynesian policies for recovery and stabilisation in developed economies were adopted to develop the theory of balanced growth.

The theory of balanced growth has been mainly advocated and developed by Rosenstein Rodan, Ragnar Nurkse and Arthur Lewis.

Self - Check Exercise – 1

Q.1. Define the concept of balanced growth strategy.

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Q.2. 'All sectors of economy should grow simultaneously'. Do you agree with this statement?

Ans. _____

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2.1.3.3. Main Versions of the Theory of Balanced Growth

(i) Rosenstein Rodan's Version :

The earliest version of the theory comes from P.N. Rosenstein Rodan. Rodan's 'big push' theory advocated a massive effort (large amount of investment) for a developing country to industrialise itself for achieving rapid economic development instead of piecemeal efforts of developing one or two industries. It is necessary to undertake large amounts of investment to bring growth and development. He is of the view that due to smallness of the market, an underdeveloped country cannot develop just by establishing a single factory. Even though it uses the most efficient method of production, it cannot find the market for its output and would ultimately fail. What is required is the simultaneous setting up of a number of industries producing different consumer goods. They would create enough new employment and purchasing power to secure a sufficiently large market for each other.

Rosenstein Rodan gives an example of a shoe factory. Suppose, 20000 unemployed workers are employed in a large shoe factory. If these workers spend all their wages earned from the shoe factory on buying shoes only, then there would be a market for the total output of the shoes factory and there would be no problem. But the fact is that the workers do not spend all their wages on shoes. They do not live by shoes alone. A large part of shoe production would remain unsold. The factory would fail. However, instead of putting workers in one shoe factory, if several industries are established and thousands of workers are employed in a series of industries producing different kinds of goods on which workers would spend their wages, a wide market for products of all such industries would be created. Here, he mentions the importance of external economies.

In addition to the lack of demand, Rodan mentions two difficulties on the supply side. (i) Lack of infrastructure makes other investments uneconomic and huge capital required to build these infrastructure is not available. (ii) In addition, the absence of ability to save is another limitation.

To tackle these problems on the demand and supply sides, Rodan favours a comprehensive investment programme. This will cause an overall rise in demand which will make all projects profitable. At the same time, infrastructure facilities will be made available for the use of industries. This investment programme must of course be carried out by a central planning authority. It will ensure the investors regarding the execution of the investment programme. These are grounds of justification of the balanced growth strategy, according

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1. Alak Ghosh, New Horizons in Planning, second ed.

to P.N. Rosenstein Rodan.

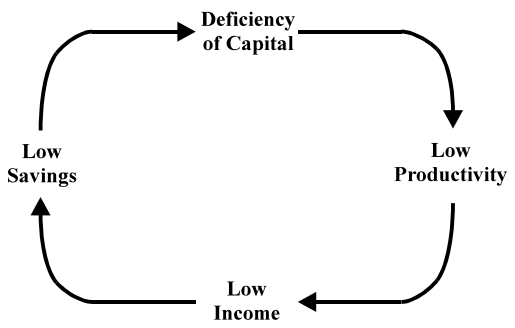
(ii) Ragner Nurkse's Version :

The balanced growth strategy is strongly advocated by Ragner Nurkse in his book "Problems of Capital Formation in Underdeveloped Countries" published in July 1952. According to him, the lack of economic development of an underdeveloped country is due to the vicious circle of poverty. The vicious circle of poverty exists both on supply side and the demand side of capital formation.

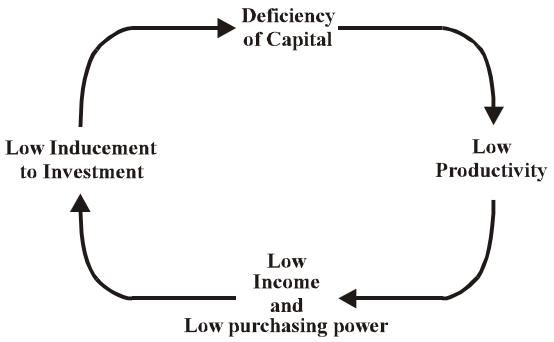
On the supply side, the deficiency of capital is due to the small capacity to save. The small capacity to save is due to low income level. The low income level shows low level of productivity which is due to the deficiency of capital which is the result of low level of savings resulting from small capacity to save. The circle is complete.

On the demand side, the vicious circle refers to low inducement to invest which is due to small purchasing power resulting from low income level. The low level of income is due to low productivity. Low productivity is caused by the small amount of capital in production which is due to low inducement to invest. The circle is again complete.

Supply Side



Demand Side



To break the vicious circle, Nurkse favours a more or less synchronised application of capital to a wide range of different industries. This will lead to an overall enlargement of the market, better division of labour, better supply of skill and raw materials, better utilisation of economic and social overhead capital and vertical and horizontal integration of industries. Balanced demand and balanced supply will be able to take the full advantage of complementaries and external economies. Investment in physical capital and in human capital should be undertaken simultaneously, for investment in the former would be useless without a corresponding investment in education, health and skill of

the people.

Nurkse believes that a frontal attack - a wave of investments in a number of different industries - is the balanced growth strategy for economic development of a backward underdeveloped country. His justification for it lies in existence of the small size of the market in an underdeveloped country which must be widened through the balanced growth of a number of different industries.

The balanced growth strategy would lead to increase in productivity and expansion of domestic trade, and along with this there would be change in the composition of imports and exports. The total value of external trade is bound to grow and the country concerned would be benefited further.

(iii) W.A. Lewis' Version :

Prof. Arthur Lewis gave his version of balanced growth in his book, "The Theory of Economic Growth." He was pragmatic in his approach. He gave two reasons for balanced growth :

(1) There is every possibility that sector prices in one sector may be different from prices in some other sectors for lack of balanced growth. This may cause hardship to some other sectors. Balanced growth simultaneously ensures expansion of the whole system such that the relative prices of the produce in different sectors would remain unchanged.

(2) As the economy expands, there are likely to develop severe bottlenecks in the growth of different sectors which is not in accordance with the income elasticities of demand for different products. Balanced growth to ensure growth in accordance with the income elasticities of demand is, therefore, necessary to prevent such bottlenecks in some sectors.

He illustrated that agriculture, industry and export should grow in a balanced way in order to generate demand and supply. Lewis recognises the role of the State, especially in an underdeveloped country. He was in favour of piecemeal planning than detailed central planning.

2.1.3.4. Different Sets of Balanced Relations

The three versions have stressed the need for :

— balance within industrial sector i.e., simultaneous setting up of a number of industries producing different consumer goods;

— balanced growth between socio-overhead capital and investment in the factories producing consumer goods;

— balance within industrial sector i.e., investments in all the

three types of industries simultaneously viz. investment in consumer goods industries and also in capital goods industries.

— balance between agriculture and manufacturing industry;

— balance between investment in human capital and physical capital; and

— balance between domestic trade and foreign trade.

13.3.5. Advantages of Balanced Growth

— When the development of all the sectors is taken up, it will pave way for the balanced regional development.

— The simultaneous development of different sectors will help in the production of variety of goods which, in turn, would lead to the expansion of demand and enlargement of the market.

— The wide extent of the market leads to a greater division of labour which not only helps in raising the level of output, but improving the quality of the product too.

— Balanced growth leads to the emergence of external economies.

— Another advantage of balanced growth is the creation of social overhead capital or social and economic infrastructure.

Self - Check Exercise – 2

Q.1. Write down three sets of balanced relations recommended for balanced growth.

Ans.

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Q.2. Give three advantages of balanced growth.

Ans.

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13.3.6. Critical Assessment of Balanced Growth Theory

The doctrine of balanced growth has been severely criticised by

Hirschman, Kurihara, Singer, H. Myint, Kindleberger and others on the following grounds :

1. **Resource Constraints :** Resources are inadequate in developing economies. There is a paucity of capital and lack of technical and managerial personnel to undertake wide investment projects. Hirschman points out, balanced growth requires huge investments in both the agriculture and industrial sectors and it is beyond the capacity of underdeveloped countries to raise such resources.
2. **Balanced Growth not Essential for the Enlargement of Market :** According to Kurihara, "Balanced growth is not, as Nurkse supposes, to be desired to induce private investment but to be desired for its own sake." However, the purchasing power of people can be increased through autonomous public investments.
3. **Disproportionality in Factors of Production :** Balanced growth theory supposes that not only various factors are available, but they are also available in proper proportions. In some underdeveloped countries labour is in abundance, but capital and entrepreneurial skill are scarce. This is a great hindrance to the practical application of the concept of balanced growth.
4. **Wrong assumption of Increasing Returns :** The doctrine of balanced growth pre-supposes the need for balanced investment to provide a growing demand and the existence of increasing returns. Simultaneous investment in all fields will create shortage of factors and raw material and will raise the cost of production. This will lead to decreasing returns.
5. **The Doctrine of Balanced Growth Applicable to Developed Countries:** Singer observes that the balanced growth doctrine is applicable to the underemployment situation of advanced countries. In underdeveloped countries, economic activity is static, so this strategy cannot be effective.
6. **This may lead to Harmful Excessive Inflation :** Balanced growth strategy by generating large money incomes, builds an inflationary pressure in the economy since production of wage-goods does not keep pace with investment in lumpy capital goods.
7. **Priorities Essential :** Underdeveloped countries have to accord priorities to the strategic sectors due to inadequacy of resources and hence balanced growth proposition gets lost.
8. **Scarcity provides Stimulus to Growth :** According to Paul Streeten, historically, it was not balanced growth but scarcities and bottlenecks

that provided the stimulus to the inventions. Had the world depended on balanced development it would have reduced or even eliminated the incentives for discoveries. Thus, the economic development of advanced countries is the result of unbalanced growth rather than balanced growth.

Self - Check Exercise – 3

Q.1. Write down four grounds on which the balanced growth theory is criticised.

Ans.

2.1.4. SUMMARY

Rosenstein-Rodan, Ragner Nurkse, and Arthur Lewis have made a strong case for adopting the strategy of balanced growth. They stress the need for simultaneous investments in a number of industries producing different goods, which would achieve enlargement of market and inducement to invest as a balanced growth strategy. Different versions have stressed the need for balance between different consumer goods industries, balance between social overhead investment and directly productive activities, and balance between both in consumer and capital goods sectors, balance between public and private sector, balance between agriculture and manufacturing industry, balance between investment in human capital and physical capital and balance between domestic trade and foreign trade. There should be simultaneous and harmonious development of the different sectors of an economy so that all sectors grow in unison.

2.1.5 QUESTIONS FOR YOUR PRACTICE

1. Explain in detail the theory of balanced growth.
2. Critically examine the theory of balanced growth.
3. What are different sets of balanced relations in balanced growth doctrine?
4. What is the meaning of concept of balanced growth? Give main versions of the theory of balanced growth.
5. Write short answers on the following questions :
   (i) Define concept of balanced growth.
   (ii) How vicious circle of poverty can be broken by balanced growth?

(iii) What are Lewis' views on balanced growth?

(iv) Which type of balanced relations are suggested by Rosenstein Rodan ?

(v) Balanced growth doctrine may lead to harmful inflation situation. How ?

(vi) Which type of different sets of balanced relations are suggested in balanced growth theory?

2.1.6 SUGGESTED READINGS

1. P.N. Rosenstein Rodan, "Notes on the Theory of the Big Push," Ellis (ed.) Economic Development for Latin America, 1951.
2. R. Nurkse, "Problems of Capital Formation in under – developed countries," 1952, Ch.1.
3. M.L. Jhingan : "The Economics of Development".

LESSON NO.2.2 **AUTHOR : DR. HARVINDER KAUR**

THE UNBALANCED GROWTH THEORY

2.2.1. INTRODUCTION

Emphasis on resource allocation as a means to promote economic growth has led to two different views – as to whether growth should be balanced or unbalanced. You have studied in the preceding lesson that Balanced Growth Theory emphasises on the simultaneous investment in many sectors. On the other hand, the Unbalanced Growth Theory recommends that the proper investment policy in underdeveloped countries should be to concentrate on a few sectors or industries which have great growth potentialities. Unbalanced growth implies that rather than developing all the sectors of the economy simultaneously, there should be concentration of investment in strategically selected industries.

2.2.2. OBJECTIVES

After going through this lesson, you should be able to :

— define unbalanced growth strategy,
— justify and explain the unbalancing process,
— describe the path to development, and

— explain the process of development in an underdeveloped economy through investment in socio-overhead capital and in direct productive activities and through linkage effects.

2.2.3. THE UNBALANCED GROWTH THEORY

An alternate approach to the theory of growth, as the industrialisation strategy, is known as Unbalanced Growth Theory. Economists like H. W. Singer, C. P. Kindleberger, W. W. Rostow have expressed their views in favour of the unbalanced growth doctrine. However, A.O. Hirschman and Streeton have propounded the doctrine of unbalanced growth in a systematic manner.

2.2.3.1 Meaning of the Concept of Unbalanced Growth

According to this concept, investment should be made in selected sectors rather than simultaneously in all sectors of the economy. No underdeveloped country possesses capital and other resources in such quantities as to invest simultaneously in all sectors. The economy progresses through a process of deliberately created disequilibrium. At any point of time in an economy, some industries may be expanding while other remain stationary. The doctrine of unbalanced growth takes note of the shortages and bottlenecks in the economy and accordingly concentrates activities in some priority lines by neglecting others. This will lead to disequilibrium, creating scope for new investment opportunities, and, thus, this would create inducement to investment. One disequilibrium calls for development which leads to another disequilibrium and then to the next one and so on. This is the path of development according to the proponents of unbalanced growth theory. They considered that State support was important to initiate large scale investment in a leading sector. This would create the necessary external economies to induce supplying and client industries which would, in turn, stimulate a secondary wave of investment and enterpreneurship.

Hirschman's Views :

Prof. Hirschman outlined the theory of unbalanced growth in his book, "The Strategy of Economic Development". According to him, in general, development policy must keep alive rather than eliminate the chain of disequilibria of which profits and losses are symptoms of competitive economy. If the economy is to be kept moving ahead, the task of development policy is to maintain tensions, disproportion and disequilibrium, that in turn leads to a new disequilibrium. Hirschman considered that balanced growth was not a process, but a goal to be achieved through a series of imbalances over a period of time.

Paul Streeten's Views :

Streeten argues that unbalanced growth would result in a higher rate of development than balanced growth. This is attributed to the indivisibilities and dynamic complimentary investment process. Unbalanced growth would

promote innovational investment. Streeten favours effective unbalanced growth through effective state planning.

2.2.3.2 Justification for Unbalanced Growth Strategy

According to Prof. Hirschman, "A deliberate unbalancing of the economy, in accordance with a pre-designed strategy is the best way to achieve economic growth." Unbalanced growth strategy is justified on the following grounds :

(i) A.O. Hirschman points out that underdeveloped countries suffer from lack of resources and absence of necessary infrastructure. Hence they cannot invest in a number of industries simultaneously. Investment in certain strategically selected industries or sectors of the economy creates new investment opportunities which create conditions for further growth.

(ii) Hirschman stresses that the will of decision makers (those who take investment decisions), is also a great obstacle to development. This obstacle can be overcome only through unbalanced growth through investment in one or two leading sectors of the economy.

(iii) Hirschman points out that historically the development of industrialised countries has been on the pattern of unbalanced growth. The history of economic development of the United States between 1850 and 1950 shows that things did not grow simultaneously throughout the country.

Self - Check Exercise – 1

Q.1. What do you mean by unbalanced growth?

Ans.

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Q.2. What are the grounds on which unbalanced growth strategy is justified?

Ans.

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2.2.3.3. The Unbalancing Process : Hirschman's Strategy

Hirschman firmly believes that development is favoured by a chain of disequilibrium and advancement is a change from one disequilibrium to a new disequilibrium. According to him, development necessarily follows an unbalanced path. Investments in an economy can be broadly classified into two categories (i) investment in social overhead capital (SOC), and (ii) investment in directly productive activities (DPA). The economy can be unbalanced either by concentrating investment on social overhead capital or on directly productive activities. According to Hirschman, unbalancing the economy with SOC can give better results than unbalancing it by DPA.

(i) Unbalancing the Economy with Social Overhead Capital (SOC) : SOC has been defined as "Comprising those basic services without which primary, secondary and tertiary productive activities cannot function." A concentration of investment on SOC will lead to the development of education, public health, power, transport and other public utility services. The creation of all these facilities will encourage private investment in directly productive activities. For example, large investment by the government in electricity generation will cheapen the supply of electricity which will stimulate new projects and industries in DPA.

(ii) Unbalancing the Economy with Directly Productive Activities (DPA): An imbalance can also be created via DPA. A government might directly or indirectly invest in DPA instead of investing in SOC. But in that case shortage of SOC facilities would raise the production costs substantially. As a result, political pressure would ultimately stimulate investment in SOC also.

Thus, in the first process, profit expectations generate DPA via SOC, and there is cumulative development. In the second process, political pressures generate SOC via DPA, and there is further cumulative development.

2.2.3.4 The Path to Development

Unbalanced growth strategy stresses growth from SOC to DPA or from DPA to SOC, by creating various imbalances in both the processes. Hirschman calls the first sequence (from SOC to DPA) "development via excess capacity of SOC" and the second sequence (from DPA to SOC) "development via shortage of SOC." The development path, according to Hirschman, via SOC is smooth and continuous. It is "self-propelling." This is called "development via excess capacity" as excess capacity is created in SOC resulting in availability of cheap supply of basic infrastructural services. Let us illustrate these paths with the

help of figure - 1.

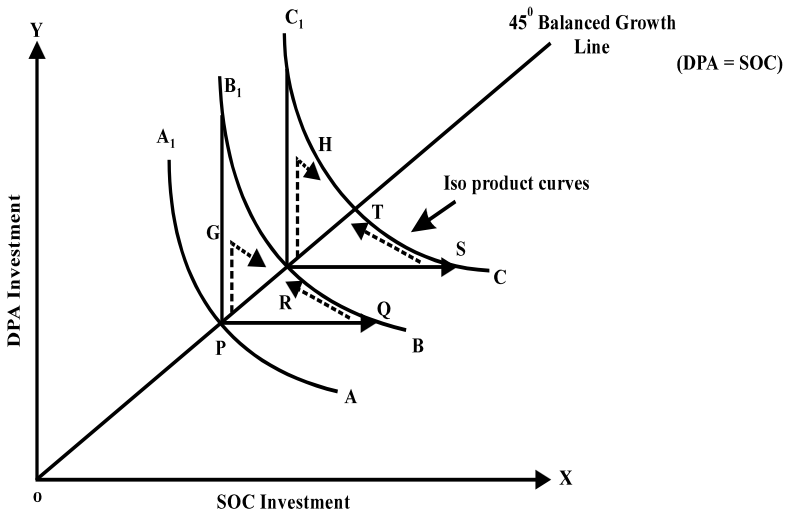


Fig.1

There are two assumptions made by Hirschman :

(i) SOC and DPA investments cannot be expanded simultaneously.

(ii) that sequence of investment expansion should be adopted (whether SOC first or DPA first), which maximises induced decision making.

In figure 1, AA_1 BB_1 and CC_1 are isoquants representing total output resulting from various SOC and DPA investments. At any point of an isoquant, gross national product is the same with any other point on it. Higher isoquant means higher national product. SOC is measured horizontally and DPA vertically. 45^0 line connects here the optimal points of each isoquant and thereby shows the balanced growth between DPA and SOC.

Hirschman observes that an underdeveloped economy, due to scarcity of resources, cannot afford to choose the path of balanced growth. Since resource constraint does not permit the simultaneous expansion of both DPA and SOC, it is necessary to choose the sequence of expansion that will maximise induced decision making.

If the path to development is followed via excess capacity of SOC, then the path would be P to Q, Q to R, R to S and S to T (PQRST). When PQ level of SOC investments are undertaken, excess SOC capacity is created. DPA investments are consequently encouraged, and expand from P to G, until

the balance is restored at R. Further, SOC investment from R to S will further create excess capacity and encourage DPA from R to H until the balance is restored at T. The points R and T are on the higher isoquants showing the whole economy at a higher level of output. This is development via excess capacity of SOC.

If the path of development via DPA is followed, then the path would be P to G, G to R, R to H and H to T (PGRHT). DPA investments from P to G, will create shortage of infrastructural services and pressurise SOC investments from P to Q. Balance is restored at R. Further DPA investments from R to H will create shortage of basic services and pressurise SOC from R to S, balance being restored at T. Every new point balancing DPA and SOC will be on a higher isoquant showing that the whole economy produces higher level of output. This is development via shortages.

Self - Check Exercise – 2

Q.1. Define socio-overhead capital.

Ans.

Q.2. Define direct productive activities?

Ans.

Q.3. Draw a diagram showing path to development by creating imbalances?

Ans.

2.2.3.5 Linkage Effects

Unbalanced growth theorists argue that sufficient resources cannot be mobilised by Government to promote widespread, co-ordinated investments in all industries. Therefore, Government planning or market intervention is required in few strategic industries. Those with the greatest number of backward and forward links to other industries are prioritised. Unbalanced growth, thus, recognized both backward (inputs create demand for other products) and forward (inputs to other industries) linkages.

According to Hirschman, there are two linkage effects – Backward and Forward within the directly productive activities (DPA). Backward Linkage effect means that setting up of a particular non-primary strategic industry induces entrepreneurs to establish an industry to produce domestically the inputs of the industry.

For example, the backward linkage effect of a cement manufacturing industry is the creation of "multi-wall bags manufacturing" companies.

Forward Linkage effect means that the setting up of an industry induces entrepreneurs to utilise its output as input in some new activities. For example, the setting up of a cement industry would induce entrepreneurs to establish a cement block manufacturing industry – where cement output of the industry producing such linkage effect is used as major input.

The task is to find out the industry that has the greatest possible total linkage. The projects with greatest linkage effect can vary from country to country and from time to time. These can be found out with the help of input-output tables through empirical evidence. According to Hirschman, iron and steel industry has the highest combined linkage score. But many developing countries would suffer due to lack of inter-dependence and linkages. To cite Hirschman, "It is interesting to note that the industries with the highest combined linkage score is iron and steel. But the industrial development clearly cannot be started

everywhere with an iron and steel industry just because the industry maximises linkages, the reason being lack of inter-dependence and linkage in underdeveloped countries."

2.2.3.6 Process of Development through Linkage Effects

Hirschman opines that an underdeveloped country should set up "last industries first." "Last stage" industries are known as import enclave industries. These industries create backward linkage effects of wide range and depth. Such effects are very important from the point of view of industrial development. In the course of time, the demand for last stage commodities increases so much that it becomes advantageous to produce them at home. At this stage, tax concession should be granted. Export enclave industries have a great difficulty in producing forward linkage effect and in breaking out the enclave. Import substituting industries are easier to handle and comparatively more beneficial. Hirschman recommends subsidies or protection to import-replacing industries. In underdeveloped countries export industries are not given the due importance. But there is no real alternative between export promotion and import substitution. The former is very helpful in achieving the latter. Hirschman sums up his strategy of economic development as follows :

"Economic development typically follows a path of uneven growth, balance is restored as a result of pressure incentives and compulsion, the efficient path towards economic development is somewhat disorderly and it will be strewn with bottlenecks and shortages of skills, facilities, services and products. Industrial development will proceed largely through backward linkage i.e., will work its way from the last touches, to intermediate and basic industries."

2.2.4 CRITICAL APPRAISAL

The theory of unbalanced growth as propounded by Hirschman can be very useful in accelerating the rate of economic development in underdeveloped countries. It is very realistic as it takes into consideration all the aspects of developmental planning. It has the great merit of including attitudes and institutions and in particular the investment incentives.

The analysis of backward and forward linkage effects of strategic industries that are set up and their role in industrialisation is certainly the major contribution of Hirschman. Moreover, the suggestion that the government should concentrate on SOC in order to encourage investment in DPA can be very useful in pulling an economy out of underdevelopment equilibrium. Despite these merits, the doctrine of unbalanced growth has been criticised on following grounds :

(i) According to Streeton, the unbalanced growth theory underplays obstacles which come into being because of imbalances. Shortages create vested interests. They give rise to monopoly gains. Mal-distribution of output may take place.

(ii) According to Professor Meier and Streeten, the crucial question is not whether to create imbalance, but what is the optimum degree of imbalance, where to unbalance and how much, in order to accelerate growth. Such questions are not given due attention in this theory.

(iii) If investment is concentrated to the creation of social overhead capital, inflationary pressure would generate because of (a) long gestation period involved in such type of investment and (b) shortage of wage goods.

(iv) Another defect of the doctrine of balanced growth is that it concentrates on stimuli to expansion, and tends to neglect or minimise resistances, caused by unbalanced growth.

(v) From consumer's point of view unbalanced growth process is not justified because its main emphasis is on setting up heavy capital goods industries at the expense of consumer goods industries.

(vi) The inadequate expansion and development of consumption goods industries may lead to the scarcity of consumption goods and cause inflation. Linkage effects of import enclave or last stage industries are unrealistic and dangerous. Countries from where imported goods come try to exert economic and political pressures on domestic government. They would not allow any backward linkages.

2.2.5. BALANCED GROWTH Vs UNBALANCED GROWTH

We have discussed both balanced growth and unbalanced growth strategies. The balanced growth aims at the simultaneous development of all the sectors of the economy, whereas unbalanced growth suggests the development of only leading and growing sectors of the economy. The implementation of balanced growth requires a huge amount of investment as different sectors are to be developed simultaneously. On the contrary, the implementation of unbalanced growth requires less amount of capital as only the leading sectors are to be developed on the priority basis. Both strategies have advantages and disadvantages. No strategy by itself is fool proof. As asserted by many supporters of unbalanced growth doctrine, the scarcity of resources necessitates unbalanced growth and on the other hand, the supporters of balanced growth doctrine assert that market limitations due to various rigidities calls for balanced growth. Many critics assert that backward and

forward linkages may not take place substantially due to scarcity of decision making which cannot be removed just by unbalanced growth. A most suitable strategy of development should combine the strong points of both the doctrines.

It is possible to attain the fastest rate of growth if one of the basic postulates of balanced growth dealing with the balance between demand and supply is adopted within an overall framework of unbalanced growth. Balanced and unbalanced growth need not be mutually conflicting and an optimum strategy of development should combine some elements of balance as well as unbalance strategy. Gerald Meier says, "Instead of seeking to generalise either approach, we should more appropriately look to the conditions under which each can claim some validity. While a newly developing country should aim at balance as an investment criterion, this objective will be attained only by initially following in most cases a policy of unbalanced investment."

Self - Check Exercise – 3

Q.1. Differentiate forward and backward linakge effects.

Ans.

Q.2. Write down three shortcomings of unbalanced growth theory.

Ans.

2.2.6. SUMMARY

The theory of unbalanced growth was developed by Albert Hirschman and Paul Streeten. According to this theory, "deliberate unbalancing" of the economy in accordance with a pre-designed strategy is the best way to achieve economic growth. This is possible by the investment either in social overhead capital (SOC) or in directly productive activities (DPA). Hirschman calls the first sequence from SOC to DPA 'development via excess capacity

of SOC' and the second sequence from DPA to SOC 'development via shortage of SOC'. Of the two processes, Hirschman is in favour of the former (SOC to DPA). Any particular investment can have both effects called the 'forward linkage' and 'backward linkage.' Those projects should be chosen which would have the greatest total linkage. In the case of underdeveloped countries, backward linkage is more reliable than the forward linkage. Hirschman advocates the establishment of import enclave industries (i.e. last stage industries). Though there are certain advantages of the unbalanced growth theory, yet it is criticised on the grounds of probable dismal investments in the economy, inappropriate attention to the degree of imbalance, inflationary pressure etc. After comparing balanced growth strategy and unbalanced growth strategy the conclusion is that these two techniques are not anti-thesis to each other; the two techniques reinforce and support each other.

2.2.7. QUESTIONS FOR YOUR PRACTICE

1. Explain Hirschman's strategy of economic development.
2. Define the concept of unbalanced growth. Can economy progress through a process of deliberately created disequilibrium?
3. Critically examine the unbalanced growth theory.
4. Explain the path to development with the help of investment in SOC and DPA.
5. Distinguish between balanced growth and unbalanced growth strategies. Which strategy is better?
6. Explain the process of development through linkage effects as explained by Hirschman.
7. Write short answers on the following questions :
   - (i) Define unbalanced growth strategy
   - (ii) What is justification for unbalanced growth strategy?
   - (iii) Unbalancing the economy via SOC investment.
   - (iv) What are backward and forward linkage effects?
   - (v) What are shortcomings of Unbalanced Growth Theory?

2.2.8. SUGGESTED READINGS

1. Albert Hirschman : The Strategy of Economic Development.
2. G.M. Meier : Leading Issues in Development Economics.
3. Benjamin Higgins : Economic Development.
4. D. Bright Singh : The Economics of Development.

LESSON NO. 2.3 **AUTHOR : DR. HARVINDER KAUR**

THE CRITICAL MINIMUM EFFORT THESIS
Harvey Leibenstein

2.3.1 INTRODUCTION

In lesson no. 14 and 2.3, you have gone through the strategies of economic development advocated for the less developed countries viz., the balanced growth and the unbalanced growth. The Critical Minimum Effort Thesis also supported 'Theory of Big Push.' This thesis was developed by Harvey Leibenstein (1922-1994) in his book "Economic Backwardness and Economic Growth" in 1957. One of the main arguments of this thesis is that in order to achieve sustained secular growth, it is necessary that the initial stimulant to development be of a certain critical minimum size. The thesis is based on the concept that backward economies are kept down to their low levels of per capita income by vicious circle of poverty and to break this vicious circle of poverty, a certain critical minimum effort is necessary. Leibenstein has estimated the size of critical minimum effort in terms of quantum of investment required.

2.3.2 OBJECTIVES

Having gone through this lesson carefully you should be able to :

- define critical minimum effort in terms of quantum of investment required.
- know the necessity/importance of minimum effort
- describe the role of shocks in depressing the growth process and the role of stimulants in bringing economic growth
- explain diagrammatically critical minimum effort thesis given by Leibenstein.

2.3.3 LEIBENSTEIN'S CRITICAL MINIMUM EFFORT THESIS

Prof. Harvey Leibenstein has propounded his thesis of critical minimum effort, as an attempt to provide a lasting solution to the problems of development faced by underdeveloped countries. The main problems of underdeveloped countries are the vicious circle of poverty and population pressure which create an atmosphere of intertia in the economy. Because of such an atmosphere, the development variables (income, employment, saving, investment etc.) move in the backward direction and, thus, reverse the process of development. Any piecemeal or gradual attempt to introduce economic development by successive steps would be of no use because of this inertia. Only a massive alround development programme simultaneously pushing ahead over a wide front can be expected to break the vicious circle. A small increase in per capita income will be eaten by the increase in population induced by such increase in income.

It is, therefore, necessary to increase the per capita income beyond a certain minimum level by a development programme.

Leibenstein has expressed the idea in these words : "In order to achieve the transition from the state of backwardness to the more developed state, where we can expect steady secular growth, it is necessary, though not always a sufficient condition, that at the same point or during the same period, the economy should receive a stimulus to growth that is greater than a certain critical minimum size." The word 'critical' indicates the fact that the level of investment should at least be of such order which could raise per capita income to achieve desired growth. Thus, critical minimum effort is the most important method to break the vicious circle of poverty and to release the forces of growth in underdeveloped economies.

Self - Check Exercise – 1

Q.1. What is critical minimum effort ?

Ans.

2.3.3.1 The Necessity of Critical Minimum Effort

(i) Prof. Leibenstein states that every economy is under the influence of two forces : (1) 'Shocks' and (2) 'Stimulants'

Shocks :- Shocks refer to those forces which reduce the level of output,

income, employment, investment etc. In other words, shocks dampen and depress the development forces. They are also referred to as "income depressing forces" which reverse the wheels of development. The depressing forces operating below the critical minimum rate of growth include :

(a) population growth and the reduction in capital per worker,
(b) a rise in the incremental capital-output ratio,
(c) insufficient stimulus to entrepreneurial activity, and
(d) resistance to new ideas, technical progress and non-productive conspicious consumption

Stimulants :- On the other hand, stimulants refer to those forces which raise the level of income, output, employment, investment etc. In other words, stimulants impress and encourage the development forces. They are "income generating forces" which lubricate the wheels of development.

While the shocks go to reduce per capita income, the stimulants try to raise it. Income depressing forces are evil forces and income generating forces are known as good factors. These two not only co-exist, but interact on each other. It usually happens that evil forces are strong in the initial stages, but ultimately the good forces come out victorious.

According to Leibenstein, only a critical minimum effort in development plan can sufficiently stimulate the income raising factors which, in turn, by more than off setting the income depressing forces ultimately lead the economy towards rapid progress.

(ii) Leibenstein is of the opinion that the rate of population growth is related to the level of per capita income. Population is an increasing function of income up to a certain level of income, but beyond that point it is a decreasing function of income. Thus, a critical minimum per capita income level after a stage helps to reduce the rate of growth of population and, thus, stimulates the process of sustained economic development.

(iii) The optimum degree of specialisation is low in underdeveloped countries. Various indivisibilities of factors of production give rise to internal and external diseconomies of scale. There are also structural rigidities and cultural and institutional barriers. All these factors are income depressing. They cannot be depressed by the increase in income at subsistence level. Therefore, what is required to generate a sustained process of economic growth is a critical minimum size of investment which should be much above the subsistence level of income.

(iv) The favourable conditions are created in the path of development by "The Growth Agents". These agents may be the entrepreneurs, the investors, the savers, the innovators and discoverers.

These people can accumulate wealth and invest it. The expansion or contraction of growth agents will depend upon the incentives and upon the actual results of anticipated activities.

According to Leibenstein, there are two types of incentives :

(i) Zero-sum incentives - refer to those activities which exercise zero effect on economic growth which do not result in expansion of national income. They have mainly been responsible for keeping the less developed economies in a state of backwardness. Some of the zero-sum activities which retard economic development are (a) traditional conservative attitude of the people rejecting new ideas and knowledge, sticking to old knowledge and old ideas (b) use of resources for unproductive, conspicuous consumption leading to low capital formation, (c) Growth of population creating a large surplus labour, reducing the amount of capital per worker.

(ii) Positive-sum incentives which result in raising the national income that lead to economic development. These activities include the productive investment. These are conducive for growth as they change the attitudes, motivations and aspirations of people.

But a backward country is surrounded by the zero-sum activities. These activities do not add to aggregate resources of the community. These are mere transfers of liquidity without any addition to real national income. Positive-sum activities are lacking in a backward country in the absence of a proper environment necessary for undertaking such activities. The initial minimum effort which is sufficiently large can create a favourable environment for stimulating the positive-sum incentives and at the same time for counter-acting the zero-sum incentives. Raising of national income and investment of a critical minimum rate can ensure the favourable expansion of the growth agents and of the positive-sum entrepreneurial activities by enlarging the prospect of profits.

The critical minimum effort would achieve the following :

(i) Expansion of Growth agents.

(ii) Removal of conservative attitude and other depressing forces. In the intial stages of development the impact of shocks is stronger than that of stimulants. This process can be reversed only by minimum effort.

(iii) Increase specialisation and rapid growth of secondary and tertiary sectors.

(iv) Development of an atmosphere conducive to economic and social change, eventually leading to fertility decline and a decline in rate of population growth, and

(v) Promotion of economic and social mobility through proper environment and social conditions.

Self - Check Exercise – 2

Q.1. What do you mean by shocks ?

Ans.

Q.2. What is the role of stimulants ?

Ans.

2.3.3.2 Explanation of the Thesis

In order to break the vicious circle of poverty and to achieve a sustained secular growth, it is necessary condition that at some point of period, the economy should receive a stimulus to growth that is greater than a certain critical minimum size. According to the approach formulated by Harvey Leibenstein, there is a critical minimum level of per capita income which must be reached in order for sustained growth to take place. At a low level of income, a small rise in per capita output brings into play forces tending to push down the level of income to an equilibrium point which has been characterised by Nelson as the 'low-level' equilibrium trap. To escape the low level equilibrium trap, per capita income must rise to a critical level or there must be in the language of Leibenstein, a 'critical minimum' effort to raise per capita income to a point where the growth inducing forces overcome the growth depressing forces.The development programme above a certain critical minimum effort is necessary to raise the per capita income level beyond a certain minimum level, where the income generating forces are so strong that they enable the economy of an underdeveloped country to achieve sustained growth leading to the path of expansion of per capita income.

The 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. Leibenstein's thesis is, however, based on the empirical evidence that the rate of population growth is a function of the level of per capita income. It is closely related to the different stages of economic development. At the subsistence equilibrium level of income, fertility and mortality rates are maximum consistent with the survival rate of population. If the per capita income is raised above the subsistence equilibrium position, the mortality rate declines but fertility rate does not fall and it results in an increase in the growth rate of population. But this happens only up to a limit. Beyond that the increase in per capita income lowers the fertility rate which leads to a declining rate of growth of population.

The above argument is based on Dumont's "Social-capillarity thesis," which states that "with the increase in per capita income, the desire to have more children to supplement parental income declines. Increased specialisation following rising income levels and the consequent social and economic mobility make it a difficult and costly affair to rear a large family. Therefore, the growth rate of population becomes constant and then starts declining gradually as the economy advances toward the path of sustained development, as has happened in the case of Japan and Western countries." According to Leibenstein, there is a biologically determined maximum growth rate of population between 3 and 4 per cent. In order to check this high growth rate of population, the necessary critical minimum effort should be large enough. This is explained with the help of fig.1.

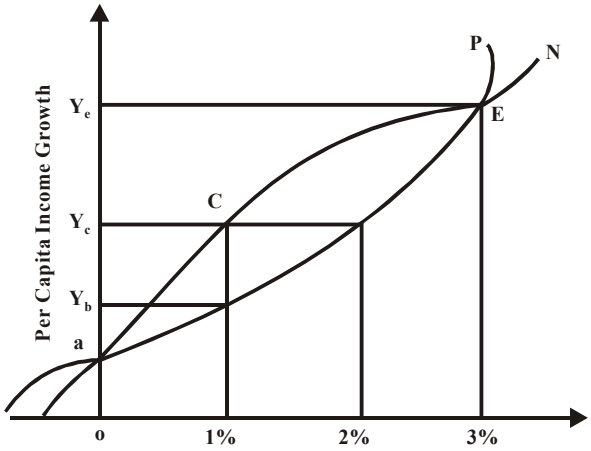


Fig.1

The curve N measures the level of per capita income which generates

a level of national income growth equal to the growth rate of population. The curve P indicates the rate of growth of population at each level of per capita income. At the level of subsistence equilibrium (a) growth of population and income is absent. If the per capita income is raised to Y_b the rate of growth of population and income is at 1%. At the higher income (as compared to subsistence level) Y_c, the rate of growth of population (2%) is higher than the rate of growth of national income (1%). At Y_e level of income, the rate of growth of population declines. This has been possible because of higher level of per capita income (Y_e). This critical minimum per capita income level, by reducing the rate of population growth, helps the process of economic development.

The rate of population growth acts as an income depressing factor, while the rate of increase in per capita income acts as an income increasing factor.

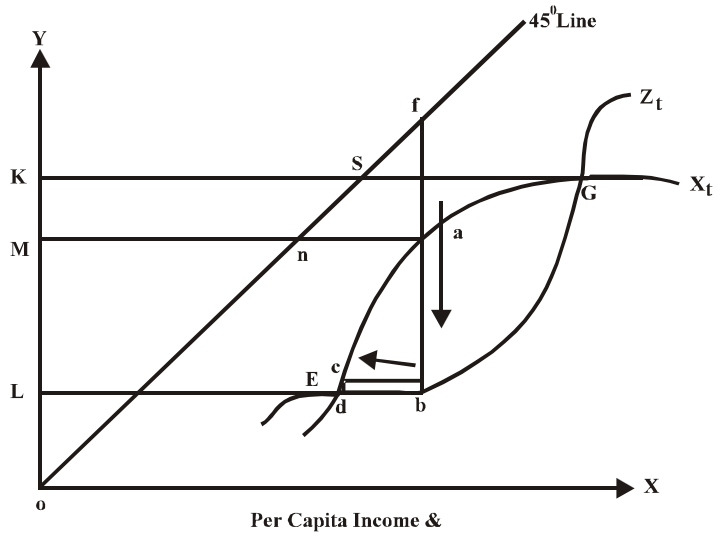
It is quite conceivable that a country having an income growth over the rate of population growth at 3 per cent may face declining trends in the growth rate and stagnate at a later stage and it may generate the process of sustained economic development.

According to Prof. Leibenstein, the critical minimum effort need not be made all at a time and it may be broken into series of small efforts and have to be related to time dimension. Leibenstein points out that every country is subject to the influence of 'Shocks' and 'Stimulants'. **Shocks** are referred to as 'income depressing forces.' **Stimulants** are 'income-generating forces; Magnitude of 'shocks' and 'stimulants' are different in different countries. In underdeveloped countries, the magnitude of 'shocks' is larger due to a number of factors and these countries find themselves in the grip of backwardness. Therefore, in the case of backward underdeveloped countries, the critical minimum efforts are necessary to stimulate the income generating factors much greater than the income depressing factors to put their economies on the path of development.

Leibenstein thesis is explained with the help of fig

Z_t : Income Depressing Curve

X_t : Income Raising Curve



Per Capita Income &
Induced Income Growth
Fig. 2

In fig.2, the struggle between the two opposing forces - the per capita income raising forces (X_t) and per capita income depressing forces (Z_t) - has been shown. The 45° line measures the induced increases and decreases in per capita income. E is the original low level equilibrium of per capita income of OL at which level both the forces are in balance. If the stimulants (Some investment in initial period) raise per capita income from the equilibrium level OL to OM. The induced income growth will be na. But at this level the income depressing forces 'bf' are greater than the income raising forces 'af'. Hence a downward path abcd will be generated until the path eventually reaches the original equilibrium point E.

But if per capita income is pushed to OK level (which is critical minimum effort), an induced income growth will be SG and it will follow a path of endless expansion of per capita income that is the path of sustained growth. G is, thus, the critical minimum effort point. Any attempt to raise per capita income less than OK, will reverse the process backward to the original low level equilibrium 'E'.

Leibenstein, thus, shows that an underdeveloped country in the above situation has no other alternative but to undertake the minimum level of investment which can push the per capita income above the OK level.

Self - Check Exercise – 3

Q.1. Explain Leibenstein's thesis of critical minimum effort with the help of figure.

Ans.

2.3.4 A CRITICAL APPRAISAL

(i) The main weakness of critical minimum effort thesis is its assumption that rate of population growth is a function of the level of per capita income. Critics do not accept the relationship between per capita income and population growth formulated by Leibenstein. The impact of socio-cultural factors in reducing fertility has been ignored. The population problem is a complicated socio-cultural problem in underdeveloped countries. Leibenstein has also not taken into consideration the possibility of state undertaking family planning measures to bring down the rate of population growth.

(ii) Secondly, the thesis does not take into consideration the influence of external factors including foreign capital and foreign trade in the matter of per capita and national income growth. With the help of foreign capital it may be possible for these countries to attain a higher level of savings and investment and thereby a higher growth rate without first attaining a higher level of per capita income.

(iii) Prof. Myint observes that Leibenstein's theory does not take into account the time dimension that is required for suitably moulding the institutions and productive organisations for ensuring a successful growth.

(iv) Finally, critics feel that the functional relationship between the level of per capita income and the rate of growth of total income is a complex process. Leibenstein's approach is oversimplified.

Despite these shortcomings, the theory of critical minimum effort has been very popular with the economists of underdeveloped countries. They have

regarded it as a prescription for combating economic backwardness. The Leibenstein's thesis is considered to be more realistic than Rosenstein Rodan's 'Big Push' theory. Giving a big push to the programme of industrialisation all at once is impracticable in underdeveloped countries. Whereas critical minimum effort can be properly timed and broken up into a series of smaller efforts to put the economy on the path of sustained development. The thesis of critical minimum effort has also got the merit of being consistent with the idea of democratic planning which is very popular in underdeveloped countries.

2.3.5. SUMMARY

Harvey Leibenstein has presented a thesis called critical minimum effort thesis. According to this thesis, a critical minimum effort (means a minimum level of investment) is the only way to break the vicious circle of poverty and to release the forces of growth. An underdeveloped country is caught in a vicious circle and it has a low per capita income. Sustained growth is possible only when a certain minimum effort is made to raise the per capita income. According to Leibenstein, every economy is under the influence of shocks and stimulants. In underdeveloped countries the impact of shocks (which are income depressing factors) like population growth is greater than that of the stimulants (which are income raising forces).

According to Leibenstein, the rate of population growth is an increasing function of income up to a certain level of income and beyond that it is the decreasing function of Income. Thus, the critical minimum effort should be much above the subsistence income level to generate the path of sustained economic development.

The relationship between per capita income and population growth formulated by Leibenstein has been criticised by many economists. But some economists and planners in underdeveloped countries regard this thesis as a prescription to cure economic backwardness.

2.3.6 QUESTIONS FOR YOUR PRACTICE

1. Define critical minimum effort. What is the necessity of critical minimum effort in bringing economic growth?
2. Explain in detail Harvey Leibenstein's thesis to break the vicious circle of poverty.
3. Critically examine the thesis of critical minimum effort propounded by Harvey Leibenstein.
4. Explain the incentives which can expand or contract the 'growth agents'. How critical minimum effort can ensure expansion of 'growth agents'?
5. Explain the importance of critical minimum effort in order to check

high growth rate of population.

6. Write short answers of the following questions :
   (i) Define critical minimum effort ?
   (ii) Explain two forces (a) shocks and (b) stimulants.
   (iii) What is the role of growth agents?
   (iv) What critical minimum effort can achieve?
   (v) Differentiate zero-sum incentives and positive-sum incentives?
   (vi) What is Dumont's social capillarity thesis?
   (vii) What are the main points of criticism of critical minimum effort thesis?

2.3.7 SUGGESTED READINGS

1. Harvey Leibenstein : Economic Backwardness and Economic Growth, New York, Johnwiley and Sons, 1957.
2. M.L. Jhingan : The Economics of Development.
3. Y.S. Brenner : Theories of Economic Development and Growth.

LESSON NO.2.4 **AUTHOR : DR. HARVINDER KAUR**

THEORY OF BIG PUSH

2.4.1 INTRODUCTION

In the lesson no. 14 & 15 we have discussed two strategies, namely, balanced growth and unbalanced growth, the chief concern of these strategies was to suggest suitable pattern of investment over various sectors, but how the strategy regarding size of investment is to be determined is not clear. The Critical Minimum Effort Thesis (discussed in lesson 2.4) and The Theory of Big Push discuss the determination of the size of the total investment.

In order to launch the economies of underdeveloped countries on a path of self-sustained growth, the thesis of big push is considered to be the best by many economists. The thesis is that 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 an under-developed economy and to put them on a path towards progress. It suggests that proceeding "bit by bit' will not be of great help.

2.4.2 OBJECTIVES

The main aim of this lesson is to acquaint you with the theory of Big Push given by Rosenstein Rodan. After having gone through this lesson you will be able to:

— explain the importance of a high minimum amount of investment to put the underdeveloped country on a path of

successful development.

— distinguish three kinds of indivisibilities.

— know Rodan's view that the process of development cannot be initiated by piece-meal efforts and

— understand the role of big push to overcome the indivisibilities and discontinuities found in an economy.

2.4.3 ROSENSTEIN RODAN'S THESIS : MAIN PROPOSITIONS

The theory of 'BIG PUSH' is associated with the name of Professor Paul N. Rosenstein Rodan. He builds up a case for giving a big push to an underdeveloped economy in order to put it on the path of successful development. It is only a big push that can release these economies from the inertia of underdevelopment. Prof. Myrdal supporting a 'Big Push' thesis, observes that "Backwardness and poverty naturally make it difficult for a country to mobilise enough resources for a big plan, but these are precisely the reasons why the plan has to be big in order to start development, and that market forces by themselves can not do it, implies the thesis of big push."

The development process by its very nature is a series of discontinuous jumps. It is because of this that underdeveloped countries have suffered from long period of stagnation. To come out of this stagnation the economy needs a very large dose of investment or 'big push'. Economists recommend that Governmental initiaties are vital and important for their nation's development.

According to Rosenstein Rodan, small isolated efforts cannot put these economies on the path of economic development. To stress his argument, he quotes an analogy from an MIT study that, 'There is a minimum level of resources that must be devoted to.....a development programme, if it is to have any chance of success. Launching a country into self-sustaining growth is a little like getting an airplane off the ground. There is a critical ground speed which must be passed before the craft can become airborne". A minimum quantum of investment is a necessary though not sufficient condition of success. What we can draw from this is that a minimum quantum of investment is necessary condition of success. Small doses of investment will not bring the desired results.

The term 'big push' refers to the transitional output expansion that may occur in a less developed economy when various manufacturing sectors expand output simultaneously, thereby increasing demand for each other's products and shifting the economy to high production equilibrium. He introduced the idea of simultaneous expansion of various sectors of the economy and co-ordinated investments in order for a country to get out of the trap of no-industrialisation.

Main features of the theory of Big Push :

1. **Massive investment :** The theory of big push recommends massive investment at the very outset to start the process of growth.
2. **Investment in different sectors :** The theory envisages the need for investment across different channels of growth.
3. **Planned industrialisation :** The theory stresses the need for planned industrialisation of underdeveloped countries.

Self - Check Exercise – 1

Q.1. What implies the thesis of big push ?

Ans.

2.4.3.1 Justification of the Big Push : The main basis upon which the Big Push theory of investment is justified has been the possibility of obtaining external economies. According to Rosenstein Rodan, the emphasis upon external economies is a major mark of difference between static theory and a theory of growth. In static theory, external economies are relatively less important but in a theory of economic growth they have got special significance.

According to the Big Push Theory, "A development programme must be at least of a certain size, or called 'critical minimum', to reduce indivisibilities and discontinuities in the economy and to overcome the diseconomies of scale." This theory stresses the need for obtaining external economies which arise from the simultaneous establishment of technically interdependent industries. Thus, big push is necessary to overcome the indivisibilities and discontinuities found in an economy and for attaining external economies of scale. Unless these indivisibilities are overcome, economic development cannot become a self-sustaining process.

2.4.3.2 Indivisibilities and External Economies : Rosenstein Rodan explains difference between three different kinds of indivisibilities which need high amount of investment and, in turn, obtain external economies :

(i) Indivisibility of the Production Function (lumpiness of captial).

(ii) Indivisibility of Demand (Complementarity of demand)

(iii) Indivisibility (kink) in the Supply of Savings.

(i) Indivisibility of the Production Function :

The production function in underdeveloped countries may have several

indivisibilities like indivisibilities of input, output and process of production etc., but the indivisibility in the supply of the social overhead capital is the most important. Because of its indivisibility, this sort of investment can be a great source of external economies and increasing returns. The creation of social overheads like power, transport, communication, etc. requires huge initial investments. These are lumpy investments requiring long gestation period. They create infrastructure and provide investment opportunities in other industries. Its services cannot be imported.

The investment in social overhead capital must precede the quickly yielding directly productive activities. Rosenstein Rodan points out, "In addition, there is also an irreducible minimum industry mix of different public utilities so that an underdeveloped country will have to invest 30-40 percent of its total investment in these channels."

Rosenstein Rodan further emphasises four indivisibilities of social overhead capital :

— Investment in social overhead capital is indivisible and irreversible in time. It cannot be reversed. It must precede other types of investment, for example, directly productive investment. Since its services cannot be imported so it must be created within the economy.
— It has a particular minimum durability.
— Its gestation period is long.
— It has minimum industry-mix which cannot be reduced.

The indivisibility of social overhead capital is a great obstacle in the development of underdeveloped countries. A high initial investment in 'infrastructure' (another common term for social overhead capital) or a 'big push' is a pre-condition for creating proper climate for productive investments in the economy.

(ii) Indivisibility of Demand :

Indivisibility of demand refers to complementarity of demand. Workers do not spend all their wages on a single product, but they spend their wages on a number of products. In an underdeveloped economy, the market is small due to low level of income. Since the market is small, few investments are made. Complementarity of demand necessitates expansion of markets. Investment in a number of industries simultaneously would create large demand for various products and, thus, the market expands, giving further stimulus to investments.

Rosenstein Rodan explains this issue with the help of an example:

"If a hundred workers who were in disguised unemployment (i.e., with

marginal productivity of their labour equal to zero) in an underdeveloped country were put into a shoe factory, their wages would constitute additional income. If the newly employed workers spent all of their additional income on shoes they produce, the shoe factory, would find a market and would succeed. In fact, however, they would not spend all of their additional income on shoes; these are no 'easy' solution of creating in this way an additional market. The risk of not finding a market reduces the incentive to invest and the shoe factory investment project will probably be abandoned. Let us vary the example : instead of a hundred (unemployed) workers in one shoe factory. Let us put ten thousand workers in one hundred factories (and farms) who will produce the bulk of such (wage) goods on which the newly employed workers will spend their wages. What was not true in case of one single shoe factory will become true for the complementary system of one hundred factories."

In simple words, if a hundred workers are removed from agriculture where their productivity is zero, and employed in a shoe factory, their wages would be additional income which they would like to spend on a number of goods and not just on shoes. Hence the shoe factory will not find a market for its product. A large part of shoe production would remain unsold.

In such a condition, there will be little incentive to invest. However, instead of putting workers in one shoe factory, if several industries are established and thousands of workers are employed in a series of industries producing different kinds of goods, these workers will spend their additional wages for purchasing different products. In this way, the workers in different factories will become customers of each other.

J.B. Say's 'Law of Markets' will come into operation, viz., "supply creates its own demand." Risk of not getting a market will, thus, be reduced and there will be more incentive to invest. In other words, investment decisions are interdependent or indivisible. Unless there is assurance that complementary investments will be forthcoming, individual investment decisions will be highly risky and they may not be undertaken.

Thus, a large scale investment programme is necessary to ensure complimentary investments and to make possible individual investments.

(iii) Indivisibility in the Supply of Savings :

The indivisibility in the supply of saving is also put forward as an argument in favour of 'Big Push' in underdeveloped countries. Investment in a number of industries simultaneously requires a large number of savings. However, underdeveloped countries suffer from a vicious circle of low savings and low incomes. The supply of savings are highly

price-inelastic, but are highly income elastic. There are indivisibilities in the supply of, savings. The supply of savings would increase only when additional resources are mobilised through new investments. The income level will increase in the first stage. Through proper mechanism, it should be ensured that the marginal rate of savings is very much higher than the average rate of saving in the second stage.

Prof. Rosenstein Rodan states this problem as 'a high minimum quantum of investment requires a high volume of saving which is difficult to achieve in low income underdeveloped countries. The way out of this vicious circle is to have first an increase in income and to provide mechanisms which assure that at the second stage the marginal rate of savings be very much higher than the average rate of savings.

Thus, the third type of indivisibilities are in the supply of savings which demands sacrifice on the part of the people to save more from the additional income.

Because of these indivisibilities, small efforts may not lead to a sufficient impact on growth. An atmosphere of development is only created when investment of a minimum size is made within an underdeveloped country.

Self - Check Exercise – 2

Q.1. Name the indivisibilities mentioned by Rodan in his Big Push Theory?

Ans.

2.4.4 CRITICAL ASSESSMENT

Prof. Rosenstein Rodan's theory of 'Big Push' can be regarded as superior to the traditional static equilibrium theory in several respects. This theory maintains that development process is a series of discontinuous jumps which seems to be correct. The theory is all realistic in its assumption about the indivisibilities of the production function. It examines the path towards equilibrium and not merely the conditions at a point of equilibrium.

But despite of all these merits, the 'Big Push" theory has been criticised on the following grounds :

(i) In Big Push theory, huge investment in social-overhead capital is justified on the basis of external economies. Thus, the basic

concept of the theory is not Rosenstein's own. The concept of external economies is an old concept.

(ii) Jacob Viner points out that developing countries realise substantial economies from world trade independently of home investment. Rodan has recognised this fact, but keeps silent over the reality that in the newly developing countries investment for export and for marginal import substitutes occupies a large chunk of total investment. But these types of investments produce negligible external economies. Hence the external economies argument for Big Push loses its significance.

(iii) One important point of criticism against this theory is that while it emphasises the importance of massive investment in capital goods and consumer goods industries and economic and social overheads, it does not recognise the importance of stepping up investment in agriculture and primary industries. In agriculture oriented underdeveloped economies, a 'Big Push' of large investment in irrigation, transportation facilities, land reforms and in improving agricultural practices through better tools, fertilisers etc. are as important as investment in other sectors.

(iv) This theory emphasises the need of a high minimum amount of investment on social overhead. Overhead capital has a high capital-output ratio and a very long gestation period. An under developed economy with scanty financial reforms finds it difficult to bear such a huge cost.

(v) Big Push theory is also not supported by the history of development of advanced countries. The economic development of most of the advanced countries scarcely seem to be the result of crash programme. Historically, the presence or absence of a Big Push has not been a distinguishing feature of growth anywhere.

2.4.5 SUMMARY

The theory of Big Push is propounded by Prof. Paul N. Rosenstein Rodan. He stresses the need for giving a big push to the economies of underdeveloped countries in order to put them on a path of self-sustained growth.

According to this theory, investment in a developing country must be of a certain critical minimum size to reduce the indivisibilities and discontinuities in the economy. The theory states that proceeding bit by bit will not take the economy on the path of successful development rather a minimum amount of investment is a necessary condition for this.

According to Rodan, through big push of investment external economies can be obtained.

The economic argument of the theory is based on three kinds of indivisibilities and external economies :

(i) Indivisibility in the production function-indivisibility of the social overhead capital is the most important.

(ii) Indivisibility of demand-or the complementarity of demand requires simultaneous setting up of inter-dependent industries.

(iii) Indivisibility in the supply of saving-this indivisibility arises because of the fact that investment in a number of industries simultaneously requires a large number of savings and it is only after a certain level of income has been achieved that there can be a significant increase in savings.

Because of these indivisibilities, small efforts may not be helpful in bringing growth. An atmosphere of development is only created when investment of a minimum size or speed is undertaken in an underdeveloped economy. This theory is criticised on many grounds.

Self - Check Exercise – 3

Q.1. Write down three grounds on which the theory of Big Push is criticised.

Ans.

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2.4.6 QUESTIONS FOR YOUR PRACTICE

1. Critically examine Rosenstein Rodan's theory of Big Push.
2. How external economies can be obtained with the help of Big Push ?
3. Write short answers of the following questions :
   - (i) Explain in nutshell the theory of Big Push ?
   - (ii) Indivisibilities in the production function require a sizeable initial amount of investment. How ?
   - (iii) Explain indivisibility of demand.
   - (iv) What is role of big push ?
   - (v) Explain indivisibility in the supply of savings?
   - (vi) What are external economies ?

2.4.7 SUGGESTED BOOKS

(i) P.N. Rosenstein Rodan : *Notes on the Theory of the Big Push, Cambridge Massachusetts*, 1957.

(ii) Gerald M. Meier : *Leading Issues in Economic Development.*

(iii) Y.S. Brenner : *Theories of Economic Development and Growth.*

LESSON NO. 2.5 **AUTHOR : DR. HARVINDER KAUR**

ROSTOW'S STAGES OF ECONOMIC GROWTH

2.5.1 INTRODUCTION

The process of economic growth can be studied by classifying economies in various stages in historical perspectives. The classification of the process of economic development into different stages can help us to understand as to how nations develop. Many economic historians are of the opinion that a country passes through different stages during the course of its development and hence the process of development can be divided into specific stages of economic development.

The German Historical School in particular presented the transition in the economy along the different stages. Marx also provided his most popular theory regarding the change in economic institution-from feudalism to capitalism and finally to socialism. In addition-writers like Fredric List, Hilderbrand, Bucker and Ashley also provided their views on different stages of transition. But Prof. W. W. Rostow formulated a comprehensive analysis of the stages of economic growth in his book, The Stages of Economic Growth, (1960). It attempts to analyse the process of economic development as a direct counter to the Marxist theory of capitalist development.

W. W. Rostow has laid much emphasis on social and institutional factors as vital agents of economic development. The non-economic factors play a major role in process of economic development.

2.5.2 OBJECTIVES

The main aim of this lesson is to explain the process of economic growth as given by W.W. Rostow. After having gone through this lesson you should be able to :

— know the importance of non-economic factors along with economic factors in determining the process of growth.

— explain various stages of growth in historical prospective.

2.5.3 ROSTOW'S GROWTH MODEL

Professor W.W. Rostow has adopted a historical approach in his analysis of the process of economic growth. Rostow develops his theory of economic growth by recognising the influence of non-economic factors like social and institutional factors. These factors affect the nature of economic activities guided by economic motives. He refers to three sectors-primary, supplementary and derived growth sectors.

In the primary growth sector, the opportunities for innovation or for exploitation of new resources influence the rate of growth. In the supplementary growth sector, development takes place as a direct response to the growth in the primary sector. In the derived growth sector, development takes place at a stable rate due to the growth of real income, population and industrial output.

Stages of Growth

If we look at the economic history of developed countries like Britain, USA, France, Germany, Canada or Australia then it is found that these countries have passed through the various stages of growth at different time periods. W.W. Rostow states, "It is possible to identify all societies, in their economic dimensions as lying with in one of the five categories :

18.3.1. The Traditional Society
18.3.2. The Pre-conditions for Take-off Stage
18.3.3. The Take-off Stage
18.3.4. The Drive to Maturity
18.3.5. The Age of High Mass Consumption

2.5.3.1 The Traditional Society :

W. W. Rostow described traditional society "as one whose structure is developed within limited production functions based on Pre-Newtonian science and technology and Pre-Newtonian attitudes towards physical world."

Such a society has old production functions, based on pre-Newtonian science and technology. These are societies which have pre-scientific understanding of gadgets and believe that God or spirits facilitate the procurement of goods, rather than man and his own ingenuity. Such a

society is mainly agricultural and there is no vertical mobility. In this stage, almost unchanging technology and lack of scientific attitude place a ceiling on the level of attainable output per head. This does not mean that there is little economic change in such societies. In fact, more land can be brought under cultivation, the scale and pattern of trade can be expanded, manufacturers can be developed and agricultural productivity can be raised. It does not lack in inventive or innovating spirit, but it lacks in the necessary tools, equipment and outlook towards the improved physical world of the post-Newtonian age.

2.5.3.2 The Pre-Conditions for Take Off Stage :

According to W. W. Rostow, "the second stage of growth embraces societies in the process of transition, this is the period when the pre-conditions for take-off are developed."

This is a period in which pre-conditions for development are created. This is the time necessary to transfer a traditional society to enable it to apply modern science to its productive activity and enjoy fruits of development. The process of creating the pre-conditions of take-off is a slow process because it requires not only the changes in the economic and social structure, but also a change in the outlook of the people. Rostow describes the process of creating the pre-conditions of take off stage as follows :

"The idea spreads not merely that economic progress is possible, but that economic progress is a necessary condition for some other purpose, judged to be good, be it national dignity, private profit, the general welfare or a better life for the children. Education, for some at least, broadens and changes to suit the needs of modern economic activity. New types of enterprising men come forward-in the private economy, in government or both-willing to mobilise savings and to take risks in pursuit of profit or modernisation. Banks and other institutions for mobilising capital appear. Investment increases, notably in transport, communication and in raw material. The scope of commerce, internal and external, widens. And, here and there, modern manufacturing enterprise appears, using the new methods."

Thus, during this transitional period, with the spread of education, a new class of entrepreneurs is created both in private sector and in the government. Savings are mobilised, banks and other financial institutions are developed for resource mobilisation. This change proceeds slowly alongwith traditional conditions, old methods, old social structure and old values of life.

In brief, this period is characterised by following changes :

(i) Agriculture moves more toward market orientation in which

food and raw materials become available to other sectors of the economy. The agricultural sector develops beyond subsistence with production for the market. Change of employment from agriculture to industry, trade, communication and services.

(ii) Social overhead capital, especially transport, is build-up. The expansion of transport helps in the flow of goods and services from one place to another and helps to maintain economic stability.

(iii) Self-sufficient life of region comes to an end and changes over to trade (national and international) and commerce.

(iv) Income from a few rich people shifts to those who spend it on roads and railways and factories, schools etc. instead of on ornaments, temples, houses etc.

(v) People are valued not by their birth or association with a particular class, but by their individual abilities to perform certain specialised functions.

It was UK which was the first among the Western European states to develop fully the pre-conditions for take off by the end of eighteenth century. This was because of the favourable conditions, favourable geographical, social and political structure, plenty of natural resources and extension of international trade.

2.5.3.3 The Take Off Stage :

Rostow refers to the stage of self-sustaining growth as the take-off stage. "Take off is an industrial revolution, tied directly to radical changes in methods of production having their decisive consequences over a relatively short period of time. It is also called a great watershed in the life of modern societies." He defines the take-off stage "as the interval during which the rate of investment increases in such a way that the real output per capita rises, and this initial increase carries with it radical changes in production techniques and the disposition of income flows which perpetuate the new scale of investment, and perpetuate thereby the rising trend in per capita output."

In this take-off stage, the proportion of investment to national income rises from 5 percent to over 10 percent. Assuming low capital- output ratio, there is a definite increase in real per capita income.

The take-off stage, according to W.W. Rostow, is characterised by three necessary conditions :

(i) An increase in the rate of productive investment from about 5 percent to over 10 percent of national income or net national product.

(ii) Take off then occurs when sector led growth becomes common. The rapid

development of one or more sizeable leading sectors with a high rate of growth. There are generally three sectors of an economy:

(a) **Primary growth sectors**:- where possibilities of innovation lead to a higher growth rate. The cotton textiles of Great Britain in the early stages of growth fall in this category.

(b) **Supplementary growth sectors** :- where rapid growth takes place due to development in primary growth sectors. For example, the development of railways leads to the expansion of iron, coal and steel industries.

(c) **Derived growth sectors**:- where growth takes place "in some fairly steady relation to the growth of total income, population, industrial production or some overall modestly increasing variable. For example, the production of food and the construction of houses in relation to population."

(iii) The quick emergence of a political, social and institutional framework which exploits the situations for expansion in various fields.

Briefly, the take-off stage is a period of most rapid overall industrial growth. In the words of Rostow, "During the take-off, new industries expand rapidly, yielding profits, a large proportion of which is reinvested in new plants, and these new industries, in turn, stimulate through their rapidly expanding requirements for factory workers, the services to support them and for other manufactured goods, a further expansion in urban areas and in other modern industrial plants."

Rostow has given several historical examples of the occurrence of take-off in several countries of the world. In Great Britain, France, Belgium and the U.S.A. the take-off occurred in the period covering the last quarter of the 18th century and the first half of the 19th century. The take-off occurred in Germany, Sweden and Japan in the latter half of the 19th century and in Russia and Canada before the out-break of the First World War. In each of these countries, the initial momentum for growth came from one particular sector of the economy. For example, the introduction of railways initiated the take-off in countries like the U.S.A., Germany and Japan. The development of the Cotton Textile Industry marked the advent of the take-off in Great Britain. The enlargement and modernisation of armed forces greatly contributed to the take-off in Russia.

At present, Indian economy fulfils all the conditions necessary for take-off as mentioned by Prof. Rostow.

According to Rostow, the take-off period covers about 20 to 30 years. The take-off period is then followed by state of economic maturity.

2.5.3.4 The Drive to Maturity :

After the take-off stage, there is a continuous and sustained progress in all economic activities. After take off, a country will take as long as fifty to one hundred years to reach maturity. The drive to maturity refers to the need for the economy itself to diversity. This diversity leads to greatly reduced rates of poverty and rising standards of living. Modern technology is spread to all sectors.

In the words of W.W. Rostow, "Some 10-20 percent of the national income is steadily invested, permitting output regularly to outstrip the increase in population. The make-up of the economy changes increasingly as techniques improve, new industries accelerate and older industries level-off. The economy finds its place in the international economy. Goods formerly imported are produced at home. New import requirements develop, and new export commodities to match them."

Development in this stage shifts to more refined and technologically more complex process. There is transition from coal, iron and heavy industries to machine tools, chemicals and electrical equipment. There is a great shift from unskilled to skilled labour, there is tremendous increase in the number of highly trained technicians and professionals.

Rostow has given the following tentative take-off dates for technological maturity with respect to advanced countries of the world :

Great Britain	1850	Sweden	1930
United States	1900	Japan	1940
Germany	1910	Russia	1950
France	1910	Canada	1950

2.5.3.5 The Age of High Mass Consumption :

In this stage, the attention of society shifts from supply to demand and from production to consumption and welfare. These forces tend to increase welfare : (i) the pursuit of national policy towards increasing power and influence beyond national frontiers. (ii) Welfare state distributes income more equitably through progressive taxation, social security and amenities to the working force. (iii) decisions to create new commercial centres and leading sectors like cheap automobiles, houses and innumerable electrically operated household devices etc.

In the post maturity stage, real income per head rises to a very high level. People begin to enjoy durable consumer goods and various other services in large quantities in this period. Features of High Mass Consumption :-

(i) There is enormous increase in national and per capita income.
(ii) The living standard of the people goes up as the consumption level of people goes up.
(iii) The rate of investment goes up to the tune of 20% or more.
(iv) There is substantial improvement in the employment opportunities.
(v) The labourers organise and form unions.
(vi) The foundation of a welfare state is laid down.
(vii) Consumer sovereignity increases.
(viii) The tendency of migration of population from villages to the cities.
(ix) Consumption of comforts and luxuries rises.

The USA was the first to move to this stage. Western Europe and Japan have also entered this phase.

2.5.4 CRITICAL APPRAISAL

It is evident from the above discussion that Rostow's approach to the problem of economic growth is basically different from other growth models. Unlike classical and neo-classical models, Rostow's analysis is not presented in a mathematical form. Rostow is the first economist who made a scientific attempt to incorporate institutional and social factors into the theory of economic growth. The growth models of Harrod, Domar, Mrs. Robinson and Meade do not include non-economic factors influencing economic growth. It should be remembered that economic growth is a complex phenomenon, determined by economic as well as non-economic factors.

No doubt, Prof. Rostow's analysis of 'Stages of Economic Growth' is quite useful in understanding the nature of the process of economic development, but at the same time it suffers from serious limitations.

— The stages of economic growth mentioned by Rostow are not mutually exclusive and they may overlap each other. The characteristics of earlier stages are often found mixed up with the characteristics of later stages.

— Empirical coverage of Rostow's analysis is narrow and inadequate. His model is based on American and European history and aspiring to American norm of high mass consumption. The generalisations dream on such a narrow statistical base cannot be very reliable.

— Stages may be skipped. It is not essential that a country must pass through the first stage. A number of nations such as United States, Canada, New Zealand and Australia did not pass through the traditional stage.

— It is also not necessary that the pre-conditions must precede the take-off stage. Agricultural revolution or accumulation of social overhead capital may not take place before take-off, but can very well continue along with take-off. This happened in New Zealand and Denmark.

— The most controversial stage is the take-off. The line of demarcation between (i) the pre-conditions of take off and take-off stage, and (ii) the take-off stage and self-sustained growth is not very clear. Economic historians are doubtful about the take- off dates suggested by Rostow.

— The concept of self-sustained growth is misleading. According to Prof. Kuznets, no growth is purely self-sustained at any stage. Some critics have pointed out that the rise in rate of investment to over 10 percent or 20 percent of national income is arbitrary.

2.5.5 SUMMARY

W. W. Rostow adopts a historical approach to explain the process of economic growth. He has emphasised the necessity of a dynamic theory of production. He has linked social and institutional factors with economic factors determining growth. Rostow refers to five stages of economic growth:

(1) The traditional society which refers to static equilibrium until it is disturbed by some mechanism.

(2) The pre-conditions for take-off, this is a stage which involves slow change especially in attitude and organisation.

(3) The take-off stage is a watershed in the life of a society. It involves a rapid increase in the rate of investment.

(4) The drive to maturity stage is period of sustained growth.

(5) The age of high mass consumption-during this period, the leading sectors of the economy shifts towards the durable consumer goods and a large share of the population acquires a high level of living.

The main criticism of Rostow's analysis is that stages mentioned by Rostow are mutually exclusive and it is not essential that a country must pass through all of these five stages.

2.5.6 QUESTIONS FOR YOUR PRACTICE

1. Critically examine Rostow's stages of economic growth.
2. "Rostow's approach is different from other growth models." How?
3. Explain process of economic growth with help of Rostow's analysis.
4. Explain the importance of institutional and social factors in the theory of economic growth as described by Rostow.
5. Write short answers on the following questions :

(i) What are the features of traditional society?
(ii) Importance of investment in leading sectors.
(iii) How a country can attain take-off stage?
(iv) The age of high mass consumption.

2.5.7 SUGGESTED READINGS

1. W.W. Rostow : The Stages of Economic Growth
2. G.M. Meier : Leading Issues in Development Economics.
3. M.L. Jhingan : The Economics of Development and Planning.
4. R. K. Lekhi : The Economics of Development and Planning.

LESSON NO. 2.6 **AUTHOR : PROF. R.K. BANSAL**

THEORY OF PLANNING IN DEVELOPING COUNTRIES : (NEED, OBJECTIVES, STRATEGIES AND PROBLEMS OF PLANNING)

2.6.1 INTRODUCTION

There is no agreement among economists with regard to the meaning of the term 'Economic Planning.' The term has been used very loosely in economic literature. It is often confused with communism, socialism or economic development. Any type of state intervention in economic affairs has also been treated as planning. But the state can intervene even without making any plan. What then is planning? Economic planning is a process under which attempts are made to achieve given targets of economic development within a specified period of time.

2.6.2 OBJECTIVES OF THE LESSON

The main objective of the lesson is to give you an idea about the operation of planning in a developing country. You will also know how the developing countries can achieve desired targets with the help of planning. Need, objectives, strategies and problems of planning will also be discussed in the chapter.

2.6.3 ECONOMIC PLANNING

2.6.3.1 Meaning

Even though there is no unanimity of opinion on the subject, yet economic planning as understood by the majority of economists implies deliberate control and direction of the economies by a central authority for the purpose of achieving definite targets and objectives within a specified period of time.

One of the most popular definitions is given by Dickinson who defines planning as "the making of major economic decisions what and how much is to be produced how, when and where it is to be produced; to whom it is to be allocated, by the conscious decision of a determinate authority, on the basis of comprehensive survey of the economic system as a whole."

According to Dr. Dalton, "Economic planning in the widest sense is the deliberate direction by persons incharge of large resources of economic activity towards chosen ends."

According to Rodan, "Economic planning is rational, deliberate, consistent and co-ordinated economic policy."

According to the World Bank's narration, "Planning is the technique of development programming. It consists an essence of making an inventors of the sum total, of resources available to each economy and then deciding the order in which various development projects should be undertaken within the limits of available resources. The main instrument of all development is accelerated capital formation." From the above definitions one can easily make out the idea that planning is a systematic programme to encompass a gamout of economic activities in a country over a specific time. It is like a deliberate control and direction of the economy by a central authority for the purpose of achieving definite targets.

2.6.3.2 NEED FOR PLANNING

One of the principal objectives of planning is to increase the rate of economic development. In the words of D. R. Gadgil, "Planning for economic development implies external direction or regulation of economic activity by the planning authority which is, in most cases, identified with the government of the state. It means increasing the rate of capital formation by raising the levels of income, saving and investment. The rationale for planning also arises in developing countries to improve and strengthen the market mechanism. A large part of the economy comprises the non-monetised sector. The product, factor, money and capital markets are not organised properly. To remove market imperfections, to mobilise and utilise efficiently the available resources, and to overcome structural rigidities, the market mechanism is required to be perfected in these countries through planning.

The need for planning in developing countries is further stressed by the necessity of

removing widespread unemployment and disguised unemployment in such economies. Capital being scarce and labour being abundant, the problem of providing gainful employment opportunities to an ever-increasing labour force is a difficult one. It is only a centralized planning authority which can solve this problem. In the absence of sufficient enterprise and initiative, the planning authority is the only institution for planning the balanced development of the economy. For rapid economic development, developing countries require the development of the agricultural and the industrial sectors, the establishment of social and economic overheads, the expansion of the domestic and foreign trade sectors in a harmonious way. All this requires simultaneous investment in different sectors which is only possible under development planning.

The need for developing the agricultural sector along with the industrial sector arises from the fact that agriculture and industry are interdependent. Re-organisation of agriculture releases surplus labour force which can be absorbed by the industrial sector. Development of agriculture is also essential to supply the raw material needs of the industrial sector.

The agricultural and industrial sectors cannot, however, develop in the absence of economic and social overheads. The building of canals, roads, railways, power stations, etc., is indispensable for agricultural and industrial development. But private enterprise in developing countries is not interested in developing the social and economic overheads due to their unprofitability. It, therefore, devolves on the state to create social and economic overheads in a planned way.

The planning for development is indispensable for removing the poverty of nations. For raising national and per capita income, for reducing inequalities in income and wealth, for increasing employment opportunities and for all-round rapid development, planning is the only path open to these countries.

2.6.3.3 FEATURES OF ECONOMIC PLANNING

Economic planning has been adopted in different parts of the world for various reasons. In less developed countries or in developing countries, it is favoured to overcome the bottlenecks and for bringing all round development. Salient features of economic planning are as under :-

(i) Central Planning Authority

The existence of a central planning authority is a significant feature of economic planning. All economic decisions like, what to produce, how much to produce, for whom to produce and how to produce are taken by it. This authority surveys physical and human resources of the country and formulates a comprehensive plan to achieve desired objectives.

(ii) Definite Objectives

Economic planning has some definite objectives. Planning means conscious and deliberate undertaking for a definite objective. These objectives may be : rapid industrialization, raising of the standard of living of the people, full employment, reduction in the inequalities of wealth and income, etc. Generally, the main objective of economic planning is to maximize national and per capita income.

(iii) Government Control

Economic planning is done under government control. Planning authority prepares the plan and presents the same to the government. Government has control over every economic activity, namely production, exchange, distribution, consumption, investment, prices, foreign exchange etc.

(iv) Comprehensiveness

Another important feature of economic planning is its comprehensiveness in scope. As central planning authority takes all decisions regarding production, consumption and distribution, thus, it must cover the entire economy which must be comprehensive in nature. A comprehensive draft of each sector of production is prepared, outlay on each project and its production capacity are determined well in advance.

(v) Technical Co-ordination

While framing the plan, it is essential to take into account the amount of output, that one sector gives to the other and also receives from the other. According to the principle of input - output, proper co-ordination among different sectors of the economy is a must.

(vi) Complete Development

All sectors like agriculture, industry, trade, transport, power etc. are sought to be developed through economic planning. Since all sectors are inter-dependent, balanced growth can be achieved by developing all these sectors.

2.6.3.4 OBJECTIVES OF PLANNING

The objectives of economic planning can be classified into three main categories :

a. Economic Objectives
b. Social Objectives
c. Political Objectives

a. Economic Objectives

Each plan has the following economic objectives.

(i) Rapid Economic Development

Rapid economic development of a country is a foremost objective. In the words

of Prof. D. R. Gadgil, the problem of the rapid economic development of underdeveloped areas of the world, has assumed great importance. The vicious circle of poverty can only be broken by the rapid development in agriculture, industry and infrastructure. In order to break the "vicious circle of poverty" prevailing in these countries it becomes necessary to have balanced growth of the economy.

(ii) Proper Utilisation of Available Resources

Main objective of economic planning is full utilization of country's natural resources. Every country is endowed with large number of natural resources. To utilise these resources fully, large financial and human resources are required. Thus full and proper use of the available resources is possible by the government through the mechanism of economic planning.

(iii) Increase in National Income and Per Capita Income

In order to increase output and national income, economic planning aims at developing different sectors of the economy like agriculture, industry etc. Simultaneously it seeks to reduce the growth rate of population so that per capita income is increased. Increase in per capita income leads to increase in investment which will cause the production to increase.

(iv) To Reduce Inequalities in the Distribution of Income and Wealth

In poor and less developed countries, there exists inequalities and disparities in income and wealth. There is a great gap between the poor and rich which is a threat to the sovereignty of a nation. Economic growth with social justice is, therefore, an important objective of economic planning.

(v) Full Employment

Another objective of economic planning is to augment the opportunities of employment. Full utilization of manpower is a desirable and possible target of each country. Every plan seeks to provide employment to maximum number of people.

(vi) Economic Stability

In a planned economy, the development of one sector is co-ordinated in such a way with other sector so that a balanced and smooth development may take place. Similarly, there are less chances of occasional fluctuation and uncertainty which affect development adversely.

(vii) Price Stability

To attain stability in the price level is also other vital objective of economic planning. The occurrence of trade cycles has been associated with capitalism which is full of severe evils. Economic planning is the only effective alternative for this evil of capitalism.

(viii) Self Sufficiency

Almost all countries of the world are inter-dependent. But too much dependence on other countries can be harmful. Hence, one of the objectives of economic planning is to attain self-sufficiency in economic sector. Economic planning also aims at achieving favourable balance of payments.

(ix) More Far-Sightedness

Economic planning is a slow but gradual process which keeps a close awareness all round. It foresees the difficulties which an economy is likely to face in the future. In a planned economy, central authority takes account of shortage of raw material and wastage of natural resources. In this regard, planned economy is more farsighted which not only looks about present benefits but also concerned for the future.

(x) Rapid Capital Formation

The less developed countries have the basic problem of less capital formation. Prof. Nurkse has stated in his book "Problem of Capital Formation in Underdeveloped Countries" that the main cause of poverty is low rate of capital formation and they need a large scale accumulation of capital.

b. Social Objectives

Many objectives of planning are related to social welfare. Main social objectives of the planning are :

(i) Social Justice

Another major objective of planning is to provide social justice to the common man and weaker section of the society. Economic planning seeks to establish socialistic pattern of society in the country. This society refers to a system based on equality whereas minimum needs of the people are fulfilled and there is no exploitation of man by man.

(ii) Social Equality

Economic planning also aims at providing social equality to the people. Because of social equality every citizen enjoys equal opportunities for his or her development and progress. Through economic planning the state adopts necessary measures to attain social and economic equality so as to maintain peace and law and order in the country.

(iii) Social Security

In capitalist countries poor and resourceless people are haunted by the feeling of social insecurity. They live under the fear of unemployment, uncertainty, disease etc. One of the main objectives of economic planning is to provide social security to the poor and exploited class of the society. To achieve this objective social insurance and social assistance programmes are introduced.

c. Political Objectives

The political objectives include (i) Defence, (ii) Offence and (iii) Peace. They are discussed below :

(i) Defence

One of the main objectives of economic planning is to strengthen the defence and freedom of the country. Economic planning, development and defence are treated as supplementary to one another. Economic planning helps in making country strong economically and self-sufficient in matters of defence.

(ii) Offence

To achieve superiority of power or to expand the territories of nation or to make use of natural resources available in other regions, the offensive attitude of different countries led to plan their economies accordingly. At present several nations are involved in similar types of strategic planning of their economies with 'offence' as the basic objective.

(iii) Peace

Another aim of economic planning is establishment of peace. It is now a common belief that poverty in any part of the world constitutes a major threat to the prosperity in other parts of the world. Developed countries are therefore offering large assistance to underdeveloped countries to remove poverty, unemployment, backwardness etc. This type of planning is based on the assurance of collaboration of many nations on an organized basis particularly through some common agency or an institution.

Self-Check Exercise–I

1. Define Economic Planning.

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2. Give the Economic Objectives of Planning.

2.6.3.5 TYPES OF PLANNING

Economic planning can be of the following types

(i) General or Comprehensive and Partial Planning

General Planning refers to planning of all activities in an economy. All sectors

of the economy, namely, agriculture, industry, transport, irrigation, power, social services etc. are brought under its scope. Partial planning refers to the planning of a particular sector of the economy. If planning in any country is confined only to agricultural sector, it is partial planning. Under it, only a part of the total investment is studied.

(ii) Centralised and Decentralised Planning

Under centralised planning, plan is framed, directed and controlled by a Central Planning Authority. Preparation of the plan is the exclusive responsibility of this authority. On the other hand, under Decentralised Planning, responsibility lies with local, regional and individual organisations. In other words, this planning starts from the grass roots.

(iii) Functional and Structural Planning

Functional Planning refers to that planning which seeks to remove economic difficulties by directing all the planning activities within the existing economic and social structure of the country. Thus functional planning brings no change in the economic and social set up. Whereas structural planning causes good deal of changes in the social and economic framework of the country. In this type of planning the present social and economic structure is changed and a new structure emerges.

(iv) Physical and Financial Planning

Physical planning is that where targets or objectives are fixed in terms of real physical resources. Plans are also formulated on the basis of real resources of the economy, i.e. the availability of natural, human, raw material and capital resources. On the basis of these resources, the output targets are fixed. By financial planning is meant the allocation of resources in terms of money. Rate of growth of national income is decided under this kind of planning. Besides, decisions are also taken regarding the rate of savings and investment and the total outlay on different sectors of production like agriculture, industry etc. Finance is the basic key to economic planning. Without financial resources, physical targets cannot be achieved.

(v) Planning by Inducement and Planning by Direction

In planning by inducement the government tries to achieve its objectives by influencing investment decisions of the entrepreneurs by offering them necessary incentives. Under this kind of planning, private sector is induced to produce, consume, distribute, invest etc. according to the set targets through the medium of price-mechanism. In order to achieve its objectives government imposes control over market and prices and thereby exercises control over entrepreneurs indirectly. Planning by direction refers to that type of planning

wherein government directly intervenes in economic affairs. Therefore, it implies complete centralised planning with no features of a private economy. Under planning by direction, planning authority takes charge of the productive resources and use them in accordance with social priorities. Planning by direction is comprehensive and embraces the entire economic life of the country.

(vi) Prospective and Perspective Planning

Prospective Planning refers to short-term planning. Under this type of planning, targets to be achieved in the near future are determined. Perspective planning refers to long-term planning based on the existing and short-term economic conditions and requirements. But a perspective plan can not mean one plan for the complete period. In a true sense, broader objectives are to be achieved in a fixed period by dividing the perspective plan in to short-run plans of 4 to 6 years.

(vii) Democratic and Totalitarian Planning

Democratic Planning refers to that plan which is prepared by the consent of the people's representatives. Such a planning enjoys full support and co-operation of the people. At no stage of planning any pressure is exerted by the state on the people. In India we have democratic planning. Under totalitarian planning all economic activities are conducted by the government. Main means of production are controlled by the state. All heavy and basic industries are in public sector. Freedom of the consumers is restricted by the system of rationing and controls.

2.6.3. STRATEGIES OF PLANNING

In the context of development planning, strategy refers to a basic long term policy to realise certain objectives. Resources in these countries being scarce, development work can not be started in all the backward sectors. First leading sectors have to be identified and all resources are to be mobilised to these sectors. So before launching a plan, the planning authority has to take some bold decisions regarding the development strategy. Development strategy means taking decision regarding factors determining growth, viz., investment, prices, labour, monetary and fiscal policies to achieve desired objectives. Thus, planning strategy refers to the detailed action which is to be taken to achieve definite objectives. Main factors accounting for development in planning are as under :

(i) Saving and Investment

The aim of economic planning is to determine the rate of savings and investment. In an economy investment depends on various factors. Further, under excess labour force, labour intensive techniques should be followed.

On the contrary, in labour scarce countries capital intensive techniques should be followed. Thus keeping in view the above facts planning authority has to decide what should be the real level of investment and savings which may help to accelerate the pace of economic development.

(ii) Priorities in Planning

The planning authority has also to decide that how much investment has to made. Pattern of investment depends on priorities Generally, the resources are scarce and it becomes essential to determine the priorities as all the sectors in underdeveloped countries, cannot be developed simultaneously. In the developing countries, we should also give priority to consumer goods and to heavy industries. In these countries, priorities should also be given to social overhead capital to provide infrastructure. In social overhead capital, health, education, roads, etc. should also be given due priority.

(iii) Co-Ordination between Public and Private Sectors

In economic planning, we are also required to decide what type of economic activities fall under public sector. Similarly, it has also to be decided what type of industries are to be kept under the priority sector. So, all those activities which are beyond the control of private sectors, should be undertaken by the public sector. As a matter of fact, all welfare oriented activities should be undertaken by the public sector. The economic planning should also be clear about the restrictions which have to be imposed on the private sector.

(iv) Allocation of Resources

The objective of economic planning is to use scarce resources in an optimal manner. In order to achieve this, strategy of economic development should be such that economic resources are fruitfully distributed among different sectors of the economy. At the same time, it must ensure price stability. No doubt in the initial stages of economic development some price rise is indispensable. But in case prices rise beyond a particular limit, it can prove to be harmful. Therefore, efforts should be made to check sharp fluctuations.

(v) Monetary and Fiscal Policies

In determining development strategy, monetary and fiscal policies play a crucial role. Monetary policy is a deliberate attempt on the part of a Central Bank of a country to change its money supply in such a way so as to achieve pre-designed economic objectives like full employment, economic growth, price stability and exchange stability. On the contrary, fiscal policy is an attempt on the part of the government to change its policies of taxation, expenditure, public debt and deficit financing in order to achieve pre-designed objectives.

Self-Check Exercise–II

1. What is meant by planning by inducement ?

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2. What do you mean by financial planning ?

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3. Explain in brief the strategy of planning.

2.6.3.7 PROBLEMS OF PLANNING

(i) Reliable Statistical Data

Success of the plan is pre-conditioned by the availability of reliable statistical data pertaining to the different sectors of the economy. In fact, success of the plan depends to a large extent on the availability of reliable statistical data.

(ii) Efficient and Honest Administration

The administrative machinery with a high degree of honesty and efficiency plays very pioneer role in the formulation and implementation of plans. Even the best plans fail due to corrupt, inefficient, in active and lethargic administration. According to Prof. W. A. Lewis, secret of successful planning is efficient and honest administration. But such a strong, efficient and honest administration does not exist in underdeveloped countries.

(iii) Political Stability

The success of economic planning also depends on the strong and stable government with a high degree of authority. Political stability imparts continuity to the process of planning. Absence of political stability results in frequent changes in the process of planning and the same will not be implemented properly. Planning process is in danger in many countries due to frequent change in their government.

(iv) Backward Agriculture

It has been noticed that in an underdeveloped country, depressed agriculture is the crux of the problem. As agriculturists are illiterate and backward, rapid economic progress may not be possible. Another problem faced by agricultural economies is the small size of holdings. Agricultural progress is not possible unless the country goes through an agrarian revolution which contains work on large holdings with machinery.

(v) Mobilisation of Resources

The success of planning, in fact, is based on the proper mobilisation of financial resources of the country. In an underdeveloped country resources are inadequate and irregular and are not mobilised to the required extent. Due to the lack of financial resources, economic planning cannot be implemented properly.

2.6.4 SUMMARY

Economic planning implies deliberate control and direction of the economy by a central authority for the purpose of achieving definite targets and objectives within a specified period of time. The planning for development is indispensable for removing the poverty of nations. Planning is the only path open to these countries for raising national and per capita income, for reducing inequalities in income and wealth and for all round rapid development. Salient features of economic planning are : central planning authority, definite objectives, government control and comprehensiveness etc. The objectives of economic planning can be classified with three main categories; economic, social and political. In the context of development planning, strategy refers to a basic long term policy to realise certain objectives.

2.6.5 REFERENCES

1. M.L. Jhingan : The Economics of Development and Planning
2. M.L. Seth : Theory and Practice of Economic Planning

2.6.6 SUGGESTED QUESTIONS :

1. Essay Type Questions :

(i) Explain the need and objectives of planning in developing countries.

(ii) Discuss the political, social and economic objectives of economic planning.

(iii) Describe the various problems in the way of economic planning.

2. Short Answer Questions :

(i) What is Economic planning ?

(ii) What is the need of planning ?

(iii) What do you mean by strategy of planning ?

LESSON NO. 2.7 **AUTHOR : DR. R.K. BANSAL**

PRICE MECHANISM AND PLANNING

2.7.1 Introduction :

There is difference of opinion among the economists on the question whether operation of price mechanism under economic planning is possible or not. Many economists like Gorsen, Cannon are of the view that in case of economic planning, operation of price mechanism is not possible. Price mechanism is a special characteristic of free market economies. On the contrast, many economists like Taylor, Oscar Lange are of the view that operation of price mechanism is possible under economic planning. Before arriving at any conclusion it is necessary to know what is price mechanism.

2.7.2 Objectives :

The main objective of the lesson is to give you an idea whether price mechanism is in operation under planning or not. You will also know about the forms of price mechanism and the superiority of planned price mechanism.

2.7.3 Price Mechanism and Economic Planning :

2.7.3.1 Meaning of Price Mechanism : Price mechanism refers to the determination of prices of all goods and services by the interaction of the forces of demand and supply without any external interference. Generally, sellers of commodity sell more at a higher price. On the other hand, buyers of a commodity are ready to buy more quantities at low price. The price will be determined in the market at that point where demand for the commodities is equal to its supply. Such a price is called equilibrium price.

The main function of price mechanism is to maximise production or productive capacity by establishing equilibrium between demand and supply of goods and services. Price mechanism acts as a regulator of economic activities and with its help, allocation of resources will be optimum. Price mechanism is based on certain assumptions like, existence of perfect competition in factor market and product market, maximization of producers' profit, freedom to take decisions and lack of government interference.

2.7.3.2 Whether Price Mechanism works under Economic Planning :

On the question of whether price mechanism works under economic planning or not, there are different views which differ mutually. In this respect, the economists have the following two view points :

(A) Price Mechanism is not operative in Economic Planning :

In the opinion of economists, like Prof. H.H. Gosen, Keynes, Hayek, Mises, etc. operation of price mechanism is not possible under economic planning. In the words of Mises, “a free price system, of course, would not work in a planned economy”. In a planned economy, the price mechanism is not allowed to operate freely and is not given an important place as it has under capitalism. Price mechanism is the characteristic of a free market economy while in a planned economy price mechanism has got little-importance. Under economic planning various elements of price mechanism (costs, prices and profits) are planned and they are determined by the planning authorities according to plan targets. In a planned economy, price mechanism is not allowed to work freely and hence it fails to perform its allocative function. The various assumptions under which the price mechanism operates do not fit with planning hence it has got secondary role to play in a planned society. The reasons for non-working of price mechanism in a planned economy are given below :

(i) Absence of Basic Conditions :

Operation of price mechanism is based on certain conditions which are not found in economic planning. Under economic planning, elements of price mechanism such as cost, prices, profits etc. are controlled by the planning commission. Hence, under planned economy, operation of price mechanism is not possible.

(ii) Absence of Economic Calculations :

Economic calculations are conspicous by their absence under economic planning. In the words of Mises, "Without economic calculations there can be no economy. Hence in a planned economy wherein the pursuit of economic calculation is impossible, there can be no means of determining what is rational and it is obvious that production would never be directed by economic consideration."

(iii) Absence of Private Ownership :

Operation of price-mechanism is possible under the condition of private ownership. In a planned economy, all economic activities are under the ownership of the central authority and there is absence of private ownership. Hence, there is no place for individual interest and profit motive.

(iv) Absence of Free Competition :

There is absence of free competition in the economy due to economic planning and there is no perfect knowledge about the economic interest of consumers and producers.

(v) Absence of Relative Forces of Demand and Supply :

Equilibrium of demand and supply is possible only under free market economy. As against it, under planned economy relative forces of demand and supply are not independent but controlled and prices of the factors as well as the commodities are also determined by the central planning authority.

To conclude we can say that price mechanism is the special feature of free economy. Hence free functioning of price mechanism is impossible under planned economy.

(B) Price Mechanism is operative in Economic Planning :

There are economists like Taylor, Lerner, Lange and many others who have shown that how price mechanism can work efficiently under economic planning. The various arguments put by these economists are given below :

(i) Possibility of Proper Allocation of Resources :

It is not correct to say that in case of economic planning, economic decisions are taken by the planning authority in an arbitrary manner. Rational allocation of resources is possible even in a planned economy but such process will be very complicated. Lerner is of the view that accounting prices have proved or equilibrium prices can be determined by price mechanism.

(ii) Trial and Error Method :

Trial and error method may be used for the purpose of price determination and rational allocation of the resources. Trial and error method refers to that method with whose help the value of each factor of production is determined in terms of money by the planning authority. The planning authority, by trial and error method, will find out easily the correct accounting price by making a fresh evaluation of the factor concerned.

(iii) Oscar Lange's View Point :

Prof. Oscar Lange does not agree with the contention that in the absence of competitive market there is not practical method of finding out the correct values. According to Lange, the process of price determination in a planned economy is quite like that in a competitive economy. The Central Planning Board performs the functions of the market. It enables the planned economy to ascertain the relative importance of the factors of production and to make a rational allocation of resources. In a planned economy raw materials, machines and other inputs are sold by public enterprises at prices which are equal to their marginal cost of production. So, pricing in a planned economy is based on marginal cost pricing like that in a capitalist economy. Thus, according to Lange, "The rules of consistency of decisions and of efficiency in carrying them out in planned economy are exactly the same as those that govern the actual behaviour of entrepreneurs on purely competitive market."

3. Forms of Price Mechanism in Economic Planning

Pricing process in a planned economy can be of two forms as explained below :

(i) Competitive Price System :

In case of economic planning, Planning authority may enforce price system based on marginal principle. This system is called competitive pricing system. Under it planning authority takes into consideration people's willingness and power to work, selection of occupation, leisure and wants relating to consumption. In other words, this price system expresses individual preferences of the people. It can be explained by an example. Supposing, at any given time, there is shortage of a commodity. Under such circumstances, the Planning Authority will raise its price to such an extent as make its demand and

supply equal. On the contrary, if a commodity is in surplus, then the Planning Authority will lower its price to such an extent as to make its demand and supply equal. This type of system adopted by the Planning Authority is called competitive pricing system. Thus, under economic planning-competitive prices are fixed by the Planning Authority, while under free market economy-competitive prices are determined by the forces of demand and supply without any external interference. It may however be noted that competitive pricing system can be enforced successfully only when people have freedom in economic matters.

(ii) Authoritative Pricing System :

Authoritative pricing system refers to that system where Planning Authority fixes the prices on the basis of public scale preferences in place of individual preferences. No doubt, the Planning Authority keeps in mind individual preferences but relatively more importance is given to the preferences of the entire society. While determining prices, due importance is shown to the political, social and economic factors relating to the economic development of the country. This system is absolutely different from price mechanism.

Under economic planning both these pricing systems should be used jointly. Maximum care should be taken by the planning authority to strike a balance between individual interests and public interests. By doing so that real problem will-be not of a choice between competitive pricing system and authoritative pricing system but rational mixture of both systems in the national interests.

4. Superiority of Planned Price Mechanism

Planned price mechanism is superior to competitive price mechanism of capitalism in several respects.

(1) Comparative stability in price :

Pricing system under economic planning is less affected by changes than price mechanism under free market economy. Price stability is that force which provides security to society, guarantees growth to the country and creates inspiration in the planners.

(2) More flexible :

Price-mechanism under economic planning is more flexible than price mechanism under free market economy. Because planned price-mechanism is controlled by the government and it is possible to introduce changes in it according to circumstances.

(3) Proper utilisation of scarce resources :

Another merit of price mechanism under economic planning is to make optimum use of scarce resources and discourage their wasteful use. By raising the prices of scarce raw materials, their consumption can be reduced.

(4) Encouragement for the use of improved methods of production :

Planned price mechanism can also be utilised for encouraging the use of improved technique of production. It is found that in the construction of houses, use of steel is better in place of iron, the relative prices of iron and steel are so determined as to encourage the use of steel and discourage the use of iron.

(5) Better distribution system :

Price mechanism under economic planning helps to maintain a proper distribution system of necessary consumer goods and helps to supply these goods through rationing and price control. It is not possible for price mechanism under free market to maintain such a system.

(6) Control over unnecessary consumption :

To reduce the consumption of unnecessary goods, especially the luxuries, the prices are raised very high by price mechanism under economic planning.

(7) More useful during war :

Planned price mechanism is more useful under conditions of war. Under it, scarce resources can be used more appropriately.

(8) Stimulate economic development of underdeveloped countries :

Price mechanism under economic planning reduces inflationary pressure in under-developed economies and stimulates their economic development.

2.7.4 Summary

Price mechanism refers to the determination of prices of all goods and services by the interaction of the forces of demand and supply without any external interference There is difference of opinion among the economists on the question whether operation of price mechanism under economic planning is possible or not. Under economic planning, price mechanism can be of two forms viz., competitive pricing system and authoritative pricing system. Operation of price mechanism is possible under economic planning. Planning Authority can make use of it in an appropriate way. On the one hand, it serves as a means of evaluating production and cost of production based on accounting prices and cost. On the other hand, it motivates the people to work according to the targets of the plan. So, price mechanism is effective under planned economy in several respects.

2.7.5 QUESTIONS

1. What is the role of price mechanism in a planned economy ?
2. What is meant by competitive price system ?
3. Write short answers of the following questions :
   - (i) Define economic planning.
   - (ii) Define price mechanism.
   - (iii) Competitive Price system.
   - (iv) Authoritative pricing system.
   - (v) How planned price mechanism is superior to competitive price mechanism of capitalism ?

Suggested Books

1. G.M. Meier : Leading issues in Economic Development (Ed.) London.
2. W. Arthur Lewis : Development Planning London, 1971.
3. M.P. Todaro : Development Planning, Nairobi, 1971.
4. M.L. Jhingan : The Economics of Development and Planning, 3rd Edition, Delhi, 1997.

LESSON NO. 2.8 **AUTHOR : DR. VIPLA CHOPRA**

INPUT-OUTPUT ANALYSIS

Structure :
I. Introduction
II. Features
III. Assumptions
IV. Input-Output Table
V. Input-Output Model
(a) The Static Leontief Model
(b) Dynamic Input-Output Model
VI. Importance
VII. Limitations

I. Introduction

Input-output is a novel technique invented by Professor Wassily W. Leontief in 1951. It is used to analyse inter-industry relationship in order to understand the interdependencies and complexities of the economy and thus the conditions for maintaining equilibrium between demand and supply. Before analysing the input-output method, let us understand the meaning of the terms, 'input' and 'output'.

According to Professor Hicks, an input is 'something which is bought for the enterprise while an output is 'something which is sold by it. An input is obtained but an output is produced. The sum of the money values of inputs is the total cost of a firm and the sum of the money values of the output is the total revenue.

II. Features :

There are three important features of input-output analysis :

(i) Firstly, input-output analysis emphasizes on general equilibrium phenomenon. It is not applicable to a partial equilibrium phenomenon It investigates the interdependence among various sectors, sub-sectors, or industries in the economy.

(ii) Secondly, the analysis deals entirely and exclusively with production activities. Demand theory plays no role in the analysis, i.e., the problem is technological.

(iii) Thirdly, it is based entirely on empirical investigation which distinguishes it from the theoretical approach of Walras and later general equilibrium theorists.

As this technique deals with facts, it is both simplified and narrow in scope as compared to the usual general equilibrium theory.

III. Assumptions

The input-output analysis is based on the following assumptions :

1. The whole economy has been divided into a number of sectors. In general, it assumes that there are n-sectors and n-commodities in the economy.
2. Each industry produces only homogeneous output. No two products are produced jointly. But, in case there arises such a situation, it is assumed that they are produced in fixed proportion.
3. An industry usually assumes linear homogeneous production function.
4. The production technology is assumed to remain static over time.
5. Production relations are assumed to be linear.
6. Labour is the only scarce factor-input.
7. Input-output analysis assumes the existence of constant returns to scale in the economy i.e. if.

   $X=f(y_1, y_2, ——— y_n)$ then

   $Kx = Kf(y_1, y_2 ——— yn)$

   $Kx = f(Ky_1, Ky_2 ———, Kyn)$

   i.e. input co-efficients remain fixed.

IV. Input-Output Table

An input-output table shows the flow of goods and services from each branch (called sectors) of the economy to different branches of the economy over a specified period of time (usually a year). For producing the output in any branch of the economy, different types of raw material inputs and capital equipment along with labour are required. The output produced may be utilised both for intermediate and final use. The part of the total gross output used as input for further production of goods and services may be termed as intermediate. The remainder of gross output is directly utilised by final users. The output produced by each branch are thus distributed to the other branches that use them as input into their production process and to final consumer. A systematic description of this inter-dependence among different branches in the economy is provided by the input-output table.

The economy is divided into a number of homogeneous sectors each of which is represented in -the Table-1 by a row and a column. The row corresponding to the sector gives the use pattern of the total supply of sector while the column gives the details of the inputs absorbed by the sector. The entry into

the cell of the row and column is the quantity of output of sector consumed as input by sector J and is generally denoted by Xa. The output of sector J is denoted as Xi.

The input-output table consists of four quadrants. The first quadrant gives the distribution of that part of the output which is absorbed by the producing sectors of the economy. This quadrant is the most important and the largest part of the table. The second quadrant gives the consumption by the final consumer. Its components are the private consumption expenditure, government current expenditure, gross fixed capital formation, changes in inventories, competitive imports and exports. Quadrants I and II together allocate the total output of each sector in the economy. The third quadrant consists of the primary inputs (not being produced) utilized by the different producing sectors. The primary inputs consist of the factor payments to labour and capital, indirect taxes, non-competing imports, depreciation, etc. Quadrant I and III together show the total inputs used in production by each sector of the economy. The fourth quadrant records the primary inputs into final demand sectors. Imports consumed directly by the final consumers are recorded in this quadrant in cases where imports are shown by means of primary row. The imports are shown as a column with negative entries, then the imports by final consumers will be shown along with other domestically produced goods.

The schematic arrangement of the input-output table is given in Table 1, Xij is the amount of the output of ith sector utilized as input for the production of jth sector. F1, is the amount of the final demand of the output of the sector and is equal to.

$$Ci+Gi+Ii+Fi-Mi+Si$$

Where these components of final demand are Ci = private consumption, Gi = Government consumption, Ii = investment, Fi = exports, Mi = imports and Si = changes in inventories.

Table 1

CONSUMING SECTORS

Producing Sectors	1	2	3		N	Final	Output Demand
1.	X_{11}	X_{12}	X_{13}	——-	X_n	F_1	X_1
2.	X_{21}	X_{22}	X_{23}	——-	X_n	F_2	X_2
3.	X_{31}	X_{32}	X_{33}	——-	X_n	F_3	X_3
n	X_{n1}	X_{n2}	X_{n3}	——-	X_{an}	F_n	X_n
Primary Inputs							
	V_{11}	V_{12}	V_{13}	——-	V_{1n}		$V_{1.n+1}$
	V_{21}	V_{22}	V_{23}	——-	V_{2n}		$V_{2.n+1}$
	V_{k1}	V_{k2}	V_{k3}	——-	V_{kn}		$V_{k.n+1}$
Output	X_1	X_2	X_3	——-	X_n		

Vij i=l,2, —— , j=l,2 —— n are the different primary input rows.

$V_{1“n+1}$, $V_{1“n+2}$ —— V_{m+K} are the primary inputs converting into the final demands.

(If the table is in value terms and no imports are shown along primary rows, the sum of the primary rows gives the row of value added by different sectors). The last row as well as column of the table gives the output for different sectors.

V. Input-Output Model

Leontief's input-output model are of two types :

(i) The Static Leontief Model

(ii) Dynamic Input-Output Model

V (a) The Static Leontief Model

For understanding, a three sector economy is taken in which there are two inter industry sectors, agriculture and industry and one final demand sector, the household sector. Table 2 provides a simplified picture of such economy.

Table 2

	PURCHASING		SECTORS	
PRODUCING SECTOR	1 Input to Agriculture	2 Input to Industry	3 Final Demand	Total Output Or Total Revenue
Agriculture	50	150	100	300
Industry	100	250	150	500
Household	150	100	0	250
Total Input or Total Cost	300	500	250	1050

In this table, the total output of the industrial, agricultural and household sectors is set in rows and has been divided into the agricultural, industrial and final demand sectors. The input of these sectors are set in columns. The first row total shows that altogether the agriculture output is valued at Rs. 300 crores per year of this total. Rs. 100 crores go directly to final consumption, (i.e. household and government). The remaining output from agriculture goes as input Rs. 50 crores to itself and Rs. 150 crores to industry. Similarly, second and third rows show the distribution of total output of the industrial sector and household sector respectively.

The first column describes that agricultural output valued at Rs. 300 crores is produced with the use of agricultural goods worth Rs. 50 crores, manufactured goods worth Rs. 100 crores and labour or/and management services valued at Rs. 150 crores. Similarly, the second column explains the input structure of the industrial sector (i.e. Rs. 150+250+100 crores = Rs. 500 crores).

The input-output table is based upon a "transaction matrix". We can convert the input-output table 2 given in the form of transaction matrix.

Table 3

TRANSACTION MATRIX

Buying	Sector	Final Demand Sector	Total Output
X_{11}	X_{12}	D_1	X_1
X_{21}	X_{22}	D_2	X_2
X_{m1}	X_{m2}		

Here agriculture is represented as 1, industry as 2, and household services

as m. This can also be shown in the form of production functions.

$X_1 = F_1 (X_{11}, X_{21} —— X_{m1})$

$X_2 = F_2 (X_{12}, X_{22} —— X_{m2})$

X_1 and X_2 are total output, F_1 and F_2 are reproduction functions of industry 1 and 2 added column wise that is

$300=f_1 (50, 100, 150)$

and $500=f_2 (150, 250, 100)$

By adding row-wise, we know that

$X_1 = X_{11} + X_{12} + D_1$

$X_2 = X_{21} + X_{22} + D_2$

$X_m = X_{m1} + X_{m2}$

The technical coefficient' or "input coefficient" of the ith industry is denoted by

$$a_{ij} = \frac{X_{ij}}{X_j}$$

or $Xij = aij \times Xj$ —— (i)

Equation (i) is called a "structural equation".

The table showing input coefficients is called "technology matrix". Following is the technology matrix for Table 3.

Table 4

TECHNOLOGY MATRIX (Input Coefficient)

	Inputs of Agriculture	Inputs of Industry	Final Demand
Agriculture	.167	.300	.400
Industry	.333	.500	.600
Household	.500	.200	

These input co-efficients can be derived by dividing each item in the firs) column of Table 1 by first row total, each item in the second column by the second row and so on. In the technological matrix all transactions of input must add to 1.00. Fundamental assumptions are :

(i) Labour is the only factor-input.

(ii) The input-output coefficients are fixed.

Neither of these assumptions is valid or useful for short term plans for which

we are more interested. The important limitations of input-output analysis can be explained under the following points :

(i) In short term plans one of the fundamental problem is how to utilize the existing capacity. In making balancing adjustments planners must reckon with capacity limitations which limits the possibility of upward adjustments in balances.

(ii) The assumption of constant returns to scale will not hold for a long time.

(iii) The input-output analysis assumes input-output ratios to be constant. But in preparing material balances, planning technicians search for possibilities of increasing output without a proportional increase in all purpose. Thus, the approximation method allows balancing through coefficient modification and disproves the validity of the assumption of Leontief input-output analysis.

(iv) More-over the physical measurement units of different commodities are different. It creates a great difficulty in the formation of input-output tables and technical coefficients.

QUESTIONS FOR YOUR PRACTICE

1. Explain input-output analysis in detail.
2. Explain input-output analysis with the help of input-output table.
3. What is the importance of input-output analysis to analyse the inter-dependencies of the economy ?
4. Differentiate Static and Dynamic Leontief Models.
5. Write short answers of the following :
   (i) Define input
   (ii) Define output
   (iii) What are the features of input-output analysis ?
   (iv) What are the assumptions on which input-output analysis is based ?
   (v) What is the importance of input-output analysis ?
   (vi) Give three limitations of input-output analysis ?

Suggested Readings

1. Leontief Wassily : *Input-Output Economics*
2. Saluja, M.R. : *Input-Output Tables for India : Concept, Constructions and Applications.*
3. Mathur, P.N. : *Economic Analysis in Input-Output Framework.*
4. Todaro, Michael. P. : *Economic Development in the Third World.*
5. Kundu Amitab : *Input-Output Framework and Economic Analysis.*

LESSON NO. 2.9 **AUTHOR : DR. SANGEETA NAGAICH**

INVESTMENT CRITERIA

Structure

I Introduction
II The Rate of Turnover Criterion
III The Social Marginal Productivity Criterion
IV The Marginal Per Capita Reinvestment
V The Time Series Investment

I. Introduction

In developed countries, investors rely on market forces for decision making. It is generally assumed that decisions taken in this manner satisfy the efficiency criterion and thus maximize the social welfare. In underdeveloped countries, this may not happen on account of altogether different conditions prevailing in their markets. Therefore, in these countries, some kind of conscious investment planning that is, the investment criteria is required.

There are no simple technical criteria for the selection of sectors and projects in the field of investment planning. Instead investment decisions are very much a matter of judgement, because the optional capital allocation depends on the objective to be maximized and over what period of time it is to be done. The objective may be maximum gross national product, maximum real per capita income subject to the condition that income disparities do not increase or unemployment situation does not worsen. The problem of choice in investment planning becomes further difficult by the treatment of time. This, in fact, requires some discounting procedure whereby the present value of the target variable may be maximized.

II. THE RATE OF TURNOVER CRITERION

Also known as the minimum capital output ratio criterion, was suggested by Norman S. Buchanan and J.J. Polak, for investment planning in the context of Post World War II reconstruction in the developed countries. According to them, countries engaged in reconstruction or development should economise in the use of capital. This implies that the objective of any capital allocation exercise should be minimum $\frac{1}{\Delta O}$ and $\frac{\Delta O}{1}$ maximum $\frac{I}{}$ where $\frac{1}{\Delta O}$ – incremental

$\frac{I}{\text{capital-output ratio and}}$ $\frac{\Delta O}{I}$ = productivity of capital.

Limitations

The highest rate of turnover criterion is quite rational but its use is open to various criticisms. According to A.K. Sen, this criterion is very imperfect as a general guide to policy. In the first place, a high rate of turnover does not ensure a high rate of net output, because one cannot rule out the possibility of a high rate of depreciation. But this difficulty can be overcome by stating the criterion in terms of the net rate of turnover. The main defect of this criterion in Sen's opinion is that "it ignores the cost of employing labour in operating the capital when cost of employing labour in an economy is zero, a very good case can be made for the criterion of maximum addition to net output given the amount of capital investment. If, on the other hand, employment of labour involves some cost to society, we have to take that into account."

Secondly, the highest rate of turnover criterion ignores the factor of time. A project with a low rate of turnover may not be inferior to the one with a high rate of turnover in the long period, because the former may produce a total output over its relatively shorter life (the assumption in this case being that in terms of investment both the projects are of equal size). Moreover, it is not easy to overcome this weakness by referring the project with the lowest ratio of capital to lifetime turnover (output), because the present value of future output depends on the time pattern of that output. Therefore, the total output of a project lasting twenty years may be greater than the total output of project lasting only fifteen years but the present value of the future output of the project with shorter life may be still greater.

Lastly, the most serious criticism of the highest rate of turnover criterion has been made by A.E. Kahn. His objection to this criterion is that it is not concerned with the social returns or benefits of a particular form of capital resource allocation. Investment projects in all cases result in supplementary benefits to other economic activities. They may not be relevant from the point of view of private profitability but for assessing the social usefulness of the project, they should not be ignored.

However, the rate of turnover criterion is not altogether inappropriate. It is particularly useful in choosing projects within a given sector. In such cases the problem is to choose among alternative techniques, locations and factor combinations to perform similar economic functions, the economy of capital use is likely to be overriding.

III. THE SOCIAL MARGINAL PRODUCTIVITY (SMP) CRITERION

The social marginal productivity criterion was first advanced by A.E. Kahn. In general terms, social marginal productivity may be defined as the return to the private investor plus the net supplementary contribution of investment to the national product. The supplementary benefits from the project to the society are greater; or less than the extra costs that the society has to bear on account of that project. Social marginal productivity is thus the difference between the value of total output to the society (V) and social costs (C) expressed as the ratio of investment (I) i.e.

$$SMP = \frac{V - C}{I}$$

Whether the value of total output to the society will be greater or less than the value of output to private individuals will depend on externalities. Similarly, social costs may be greater or less than private costs depending on whether factor prices overvalue or undervalue, the use of productive resources from the point of view of the society. The SMP exceeds the private marginal product mainly in two cases : first, in all those cases where external economies exist, and second, when the opportunity cost for a particular factor of production is less than that which is actually being paid for it by the investor. The first situation may exist in all economies, whereas the second is to be found only in densely populated agricultural countries where plenty of disguised unemployment is believed to be existing. In all these countries labour's opportunity cost to the society is zero, yet employers pay a positive wage. Here costs refer to factor prices which actually prevail in the market, social costs refer to opportunity costs of the factors of production.

Application of the SMP criterion leads to a different result from that of the highest rate of turnover principle so long the social opportunity cost of labour is positive. But if the social cost of labour declines to zero on account of widespread unemployment the SMP criterion becomes equivalent to the highest rate of turnover criterion and we find Kahn arguing that in this case the Polak-Buchanan criterion is "particularly desirable". Thus, in an economy of this sort, that project is to be preferred which ensures the maximum rate of turnover.

In reality, the social cost of employing labour is generally not zero. But suppose for the sake of argument it is zero, the equivalence of the rate of

turnover criterion and the SMP criterion would still require that no supplementary benefits are attached to projects and thus the value of total output to the society is the same as the private product. It is difficult to envisage such a situation in a developing country. Investment in social overhead capital in developing economies always yields supplementary benefits and the gap between the private return on these infrastructural projects and the social return from them is often considerable.

Limitations

The SMP criterion has often been criticised on account of practical difficulties in its application. In developing countries many investments are made in infrastructure development and these do not yield supplementary benefits that can be estimated in quantitative terms. Supplementary benefits also arise in the case of projects which have a high degree of interdependence, but even here their estimation is to be ruled out because money values cannot be assigned to external economies. In case of extreme interdependence it is not considered necessary to estimate social product of each individual project separately, it is enough to programme an 'optional' sequence of projects. Secondly, the SMP criterion is static since the choice of variables belong to a single period. This approach may be considered appropriate by all those who wish to maximise immediate output and are not interested in the future at all. Obviously only the countries which have already achieved a very high level of development can take this position. The goal of developing countries in no case would be to maximise current social welfare with little regard to the future. Therefore, the SMP criterion in spite of its apparent appeal is not at all valid for the countries which are engaged in the task of long-term planning.

IV. THE MARGINAL PER CAPITA REINVESTMENT QUOTIENT CRITERION

This criterion has been given jointly by Walter Galenson and Harvey Leibenstein. Rejecting the SMP criterion as static they argue that to get the correct investment criterion the decision makers must determine the appropriate goal of the economy during the process of development. Galenson and Leibenstein argue that the appropriate goal should be the maximization of per capita output or average income, either over time, or at some time in future. Once this objective of economic development is agreed upon, then the correct criterion for allocating investment must be to choose for each unit of investment that alternative which will give each worker greater productive power than any other alternative. To achieve this result we must maximize (a)

the amount of capital per worker and (b) the quality of labour force, i.e. its skill, knowledge, energy and adaptability. This approach means the maximization of capital-labour ratio. The amount of capital per labour unit that would be available in the long run will broadly depend on two factors : (1) the amount of reinvestible surplus becoming available year after year from the product of initial investment, and (2) the increase in the size of the labour force. The decision makers should, therefore, take into consideration the initial investment plus all subsequent reinvestments divided by the labour force over the chosen time horizon. In this context, the marginal principle has to be applied. Galenson and Leibenstein assert, "The best allocation of investment resources is achieved by equating the marginal per capita reinvestment quotient of capital in its various alternative uses. The result of such a policy would be to maximize the per capita output potential at some future point in time." The meaning of the marginal per capita reinvestment quotient can be followed by considering the basic factors involved in its determination. These factors are : (1) gross productivity per worker; (2) 'Wage' goods consumed per worker; (3) replacement and repair of capital; (4) increments in output as a result of non-capital using innovation, such as, improvements in skills, health, energy, and discipline, etc., (5) decline in fertility; and (6) direction of reinvestment. The first five factors determine per capita reinvestible surplus that would be available period after period, and the last one is concerned with its allocation.

Galenson and Leibenstein are interested in the flow of net investment that would result from a unit of investment today. The rate of investment can be found as follows :

$$r = \frac{P - ew}{k}$$

where P = output (presumably net output) per machine.
e = the number of workers employed per machine.
w = wage rate
k = cost per machine

On the assumption that the whole of the profit is reinvested and the whole of wages are consumed, this actually turns out to be the capitalists rate of profit criterion.

Limitations

The Galenson-Leibenstein criterion makes certain questionable simplifying assumptions, e.g. all the profits accruing to the capitalists are reinvested, while all the wages are consumed, the alternative techniques required the

same gestation period and so on. But the theory is not invalidated on account of these assumptions as in actual calculations they can be taken care of, A.K. Sen, however, criticizes this approach on the following grounds :

First, the Galenson-Leibenstein criterion is based on the assumption that the initial amount of investment is fixed irrespective of the technique chosen. However, this assumption needs not be valid in all cases. Sen particularly mentions that in all those cases where the propensities to consume of the factors contributing to the respective investments differ, this assumption would not hold good.

Secondly, Galenson and Leibenstein seem to be indifferent to the balance of payments problems which may arise from the choice of a certain technique. They do not make any distinction between the costs of obtaining foreign goods and those incurred at home. Sen here argues that when one technique has a higher import content than another and when extra foreign aid is not specially available when the first is chosen, the balance of payments problem introduced by the adoption of the first technique has to be taken into account. The best way of measuring the additional cost of higher import content is to value the import at its export-equivalent which the Galenson-Leibenstein criterion does not consider.

Finally, the criterion favours the maximization of current growth rate at the expense of employment and the production of goods for current consumption. This may not be appropriate if a society values the present welfare more than the future welfare. In this case, a higher rate of immediate income and a lower rate of growth is to be preferred to a higher rate of growth in the present and for this one needs not look to the Galenson-Leibenstein criterion.

V. THE TIME SERIES CRITERION

This criterion is given by A.K. Sen and Maurice Dobb. Sen begins with the problem of an investment planner who has to make a choice between various techniques. This person has to start it with the estimates of real income flows corresponding to each technique. Let us consider only two techniques. If (m1/m2) is the ratio of reinvestment that would be possible when the investment planner choose the respective techniques, technique I will lead to a higher or lower rate of growth depending on whether ml rl is greater or less than m2r2. But this is not enough to make a choice between the two techniques, it is very much possible that a higher growth rate does not provide a high level of social welfare. Sen, therefore, argues, “After getting the two time series of income flows we have to apply the relevant rates of time

discount. The time discount is necessary because of two reasons, (a) the diminishing marginal social utility of income with the income level, and (b) the uncertainty of the future. If marginal social utility of income falls quickly and becomes negligible as income rises beyond a certain level, it is possible that higher rate of growth of income may not give a higher sum of total social satisfaction."

Sen admits that beyond a point these rational calculations cannot be applied, because it is very difficult to foresee all that is going to happen in the future. He, therefore, suggests less satisfactory but more workable method under which a period of time that is to be considered is to be fixed and then one should see whether the loss of immediate output due to the choice of the more capital-intensive technique is more than compensated by the extra output from it. He conceives a period of recovery and defines it "As the period of time in which the total output (the sum of yearly flows) with the more capital intensive technique, is just equal to that with the less intensive technique." In the given figure 1, OT represents the period of recovery, as the surplus-area for the capital intensive technique, (BCC') is exactly equal to the deficit area (BAA^1), H and L curves indicate the time series of consumption flows from the capital-intensive and labour intensive technique respectively.

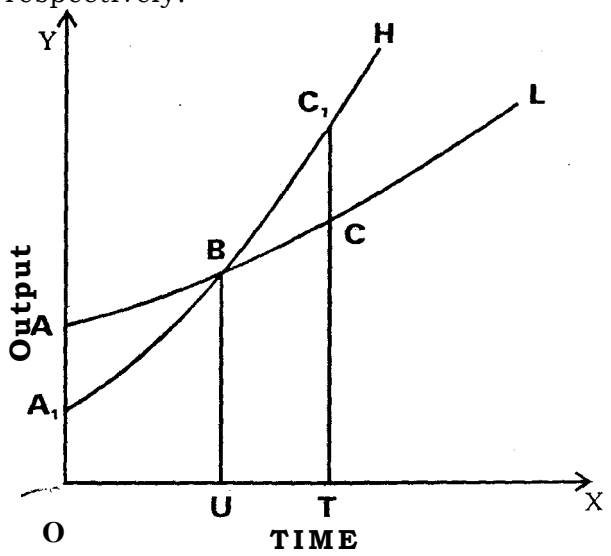

Fig. 1

Let us now say that the investment planner wishes to consider period U. If U=T, the investment planner would be indifferent between the-two

techniques. He would choose technique L if U<T, and technique H if U> T.

Limitations

According to Sen himself who is aware of the limitations, there is an arbitrariness involved, since it is assumed that there is no time preference up to the end of the period U and thus unit of income has an equal value. Sen, however, assures that such arbitrariness cannot easily be avoided on account of the very nature of the problem. He further states that if extreme value of U are not chosen, it will become less arbitrary than the Kahn-Chenery approach or the SMP criterion or the Galenson-Leibenstein approach of reinvestment criterion.

Further, there is not much reality in Sen's period-of-recovery approach. If we assume U=l, Sen's approach becomes exactly the same as the Polak-Buchanan rate of turnover criterion. It implies that the investment planner's interest is limited to the first period only and, therefore that technique is to be preferred which could provide a higher rate of immediate output. If we assume U=x Sen's approach becomes similar to the Galenson-Leibenstein rate of investment criterion, according to which it is the higher rate of growth that is all wanted.

Conclusion :

Our brief analysis of the investment criteria stated by the leading authorities on the subject reveals that these economists discuss the issue in a static framework. Though Galenson and Leibenstein consider their approach to be dynamic, they restrict their analysis to the objective of maximising per capita output potential at some chosen point of time in the future. It is this reason why T.N. Srinivasan refuses to accept the claim of Galenson and Leibenstein that they have followed a dynamic approach in stating their investment criterion. A.K. Sen and Maurice Dobb explicitly introduce dynamic elements while stating their criterion, but even they do not take into account the relevant constraints that may become effective at future points of time.

QUESTIONS FOR YOUR PRACTCE

1. Which type of investment criteria do you find suitable for underdeveloped countries ?
2. What are the difficulties in the application of the rate of turnover criterion and the social marginal productivity criterion ?

3. Critically examine Sen and Dobb's investment approach called the Time Series Criterion.

Suggested Readings

Meier, Gerald M (ed.) : Leading Issues In Economic Development (New York : Oxford University Press, 1970).

B.A. PART-III **ECONOMICS – PAPER-I**

ECONOMICS OF DEVELOPMENT

LESSON NO. 2.10 **AUTHOR : DR. VIPLA CHOPRA**

CHOICE OF TECHNIQUES

STRUCTURE

I. Introduction :

The problem of choice of techniques refers to the type of combinations for any particular project or enterprise. A combination chosen in any particular case gives the type of technique.

Choice of technique may take different forms in different fields. It is easy to see why it is- so important to discover the implications of choosing one technique rather than another. "'Different techniques give different strategies of economic development with varied effects on the performance of the economy."

The ultimate objective is to choose that technique which is more efficient than another technique keeping in view the existing factor proportions. An efficient technique is one that minimizes the cost of output or maximizes the output from given inputs.

II. Objectives :

One of the major problems of development planning is that of choosing between alternative techniques of production. These techniques of production are mainly labour intensive technique, capital intensive

1. A.K. Sen, Choice of Techniques, p. 11.

technique, intermediate technology and light vs heavy industries. The present lesson examines these techniques of production alongwith factors determining the choice of techniques.

The choice of technique in a country is a difficult and complex problem. In underdeveloped countries there is scarcity of capital and abundance of labour. The two major factors pose the problem of choice of techniques- that of using the traditional or the modern methods of production. These countries are faced with an urgent problem of accelerating the rate of economic growth which require a higher level of productivity for which the use of modern capital intensive technique is a must. But their capacity for adopting capital intensive technique is severely limited due to paucity of capital resources, inadequate supply of modern equipment and scarcity of technical skills. Moreover, these countries are faced with the problem of providing employment to their huge and rapidly growing manpower. Labour intensive techniques are obviously more employment generating and hence they are said to be more suitable for these countries. But the adoption of labour intensive techniques may slow down the rate of progress because it is likely to hamper the growth of productivity.

III. Choice of Techniques :

The choice of production techniques is a difficult problem for an underdeveloped economy. Ultimately, this is a choice between greater output and greater employment. According to Kindleberger, "A significant question, on which some dispute has arisen in economic discussion, is whether a developing country should use the technology appropriate to its existing factor proportions, including especially its capital/labour ratio, or whether it should anticipate the relative growth of capital and begin the use of capital intensive methods of production before its capital endorsement is really suitable for this. In particular, the question is whether countries at early stages of development, with capital scarce and often with labour abundance, should take advantage of the modern technology developed by advanced countries where capital is abundant and labour is scarce or whether they should devise a technology of their own or use production methods which are obsolete in countries abroad."[2]

Thus the problem of choice of technique is mainly the problem of choosing between the labour-intensive technique and capital intensive technique of production. Various factors are to be taken into consideration before deciding in favour of labour or capital intensive technique and no simple rules can be

2. Charles P. Kidleberger, Economic Development, 1958.

laid down for such a decision-making.

1. Factors determining the Choice of Techniques

According to Meier and Baldwin "there are no simple criteria for deciding on capital intensive versus labour-intensive project. The criteria depends ultimately on broad economic and social objectives. It is necessary to consider not only the existing amounts and quality of factor supply but also various repercussions of the project - the effect on national income over different time periods, conditions of market demand, ability to realize economies of scale, length of gestation period, the effects on the distribution of income and level of per capita income and balance of payments requirements."[3] The important factors determining the choice of technique are as follows :

a. Broad Economic and Social Objectives

The social and economic objectives of development programme are the most important determinants of the type of technique to be adopted. The probable objectives can be economic growth, an immediate increase in the supply of consumption goods and creating employment potential. If the objective is to have an immediate increase in output then labour-intensive technique must be selected. On the other hand if acceleration of the long-term rate of economic growth is the main consideration then capital-intensive techniques must be favoured. If the objective is to create immediate employment opportunities for the people then labour-intensive technique must be preferred. But the difficulty arises because of the conflicting objectives in under-developed countries.

b. Factor Endorsement

The production techniques to be adopted by a country must be such as to fit into its resource pattern. Labour-intensive techniques must be adopted by the countries having abundance of labour and scarcity of capital while capital-intensive technique will be suitable for the countries having scarce labour supply and abundance of capital.

c. Technological Level Already Attained

If the economy is operating at a primitive level of technique it will be difficult for it to switch-over highly modern capital intensive techniques and hence it will have no other alternative but to adopt less capital-intensive techniques in the beginning and change over to more capital intensive techniques gradually. On the other hand, if the country has attained a sufficiently high level of technology, it will be easier and more suitable for it to adopt highly

3. G.M. Meier and R.E. Baldwin, Economic Development : Theory, History and Policy, 1964.

capital-intensive techniques.

2. Labour-Intensive Technique

A technique of production in which more labour is combined with less capital is called labour-intensive technique. With this technique of production it is possible to increase output by using the same amount of capital but greater amount of labour. Fig. 1 explains the impact of labour-intensive techniques on output.

Labour Intensive Technique

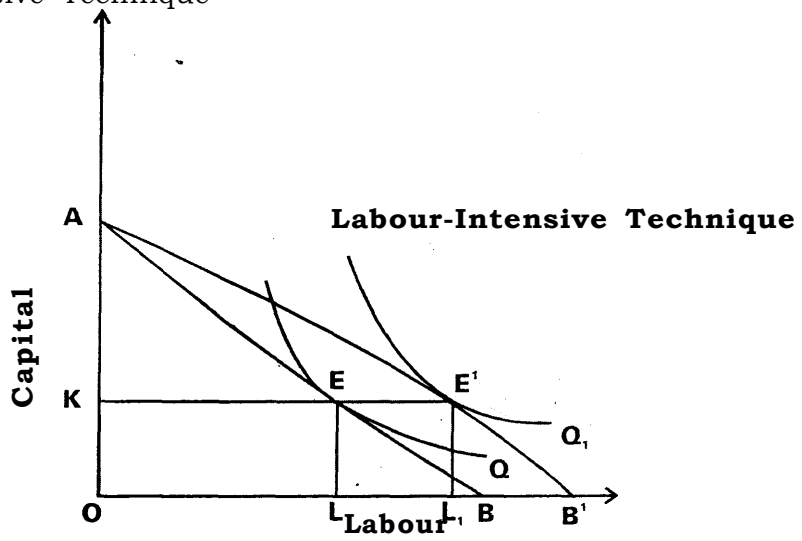

Fig. 1

Labour Fig. 1

Isoquant Q represents initial level of output which is being produced in the economy by employing OK amount of capital and OL of labour. Now with the new technique the same amount of capital OK helps in producing a large output represented by a higher isoquant Q_1, and it uses more labour LL_1.

Though Professor Nurkse holds the view that underdeveloped countries should adopt labour-intensive technique of production in the early stages of industrial development, majority of economists favour the adoption of capital-intensive techniques in such countries.

Arguments in Favour of Labour-intensive Technique

The arguments usually advanced in favour of labour-intensive technique are the following :

1. Labour-intensive techniques are more employment generating. It is only by using labour-intensive techniques that increasing employment opportunities can be provided to the idle or under employed labour force in under-developed countries.

2. Under-developed countries suffer from acute shortage of capital and entrepreneurial resources. By adopting labour-intensive techniques of production, these countries release the scarce capital resources for other important uses.
3. Labour-intensive technique provides the cheapest way of raising output in economically less developed countries. In a poor country the social price of labour is likely to be low or even zero compared with the high price of capital.
4. The labour intensive techniques spread out the employment and hence the income is thus generated more widely and pave the way for an egalitarian structure of society.
5. The labour-intensive technique will ensure a higher level of consumption of the working classes by raising the level of wages.
6. Labour-intensive techniques require simple tools and implements which are available within the country and thus economise the use of precious foreign exchange resources.
7. Labour-intensive techniques are useful in combating inflation because the time-lag between investment and yield of goods is short.
8. The use of labour-intensive techniques is usually found in the villages and small towns and hence there is not necessity of spending large amounts on the buildings or houses, development of roads and other means of transport and providing civic amenities.
9. The use of labour-intensive techniques will confer the benefits of decentralisation and avoid the evils of factory system.
10. These techniques avoid emergence of monopolies and concentration of economic power in a few hands.

3. Capital-intensive Technique

The capital-intensive technique is that which uses comparatively larger amount of capital and smaller amount of labour. The effect of capital intensive technique on output can be illustrated with the help of the Fig. 2

In Fig. 2, isoquant Q represents the initial level of output which is being produced in the economy by using OL amount of labour and OC amount of capital. Now with a new technique a higher level of output represented by the isoquant Ql can be produced with the same amount of labour i.e. OL and with a greater amount of capital i.e. OC_1 This technique is capital-intensive because it is using more capital with the same amount of labour. Leibenstein, Paul Baran, Hirschman and Maurice Dobb are the chief advocates of capital-intensive technique. The important arguments advanced in favour of capital-

intensive technique are shown in Fig. 2.

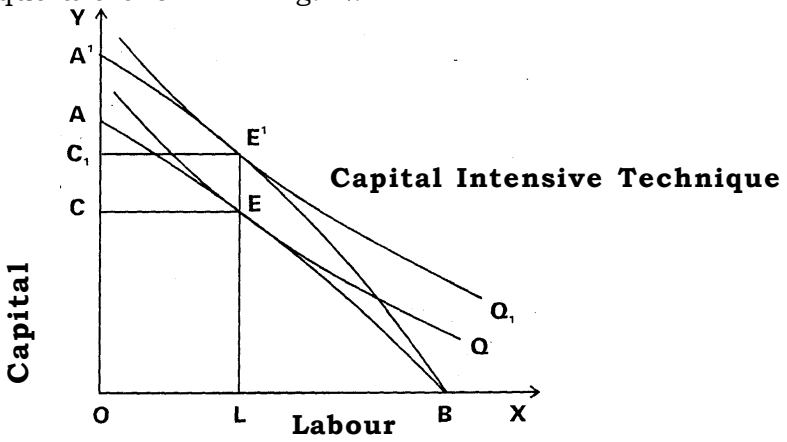

Fig. 1

Labour Fig.2

Arguments in Favour of Capital-intensive Technique

1. The use of capital-intensive technique results in much quicker and more rapid economic growth than what is possible with the help of labour-intensive technique. Introduction of capital intensive technique raises the share of income going to the entrepreneurial class and lowers the share going to the working class resulting in quicker rate of capital formation.
2. Capital-intensive techniques enable production of superior quality goods at low prices. This helps in raising the standard of living of the people. Availability of cheaper goods also enables people to save more and thus larger investible resources become available.
3. Rising productivity per worker is an index of economic development because it makes possible a higher rate of capital formation and also higher levels of living. And it is capital-intensive technique which leads to a fast rise in productivity per worker.
4. Capital-intensive techniques are essential for the development of economic and social over-heads in under-developed countries. The development of infrastructure is a pre-condition for their rapid economic growth and these projects are generally highly capital intensive.
5. Labour - intensive technique may ultimately prove to be more capital-intensive than the capital-intensive techniques themselves. According to Prof. Baran If you use labour-intensive techniques, you will

withdraw the disguised unemployed labour from the rural areas; their transfer to the industrial centres calls for a certain outlay on housing, communal services, hospitals, schools etc. If this outlay is taken into account, the labour-intensive techniques may well involve a large outlay of capital per unit of output than the capital-intensive alternatives."[4]

6. Since capital-poor countries cannot afford to waste capital through depreciation These countries must adopt capital-intensive techniques that do not become obsolete ever soon.
7. Capital intensive techniques have a far-reaching effect on the process of economic growth. A few capital-intensive projects would cause a greater impact on the economy than a number of labour-intensive projects.

Limitations of Capital-intensive Technique

The wisdom of using the capital-intensive techniques can be legitimately doubted in the early stages of economic development. Serious doubts have been expressed by various economists about the feasibility of using capital-intensive techniques in under developed countries. Meier and Baldwin observe in this connection that the experience shows that the more advanced technologies of the industrialized nations cannot be transplanted without considerable modification and adaptation to the particular economic, technical and social needs of the poor countries.[5] The main arguments against the use of capital-intensive techniques are as follows :

1. Capital-intensive techniques are not accordance with the factor endorsement of under-developed countries. These countries are usually labour surplus economies and so highly capital-intensive techniques do not suit them as they require huge capital which is beyond their capacity.
2. The use of capital-intensive technique will require huge import of machinery, tools, implements and technical know-how.
   This will entail a number of difficulties with regard to repairs, maintenance and availability of spare parts. Heavy imports also lead to balance of payment difficulties.
3. The capital-intensive techniques are possible only if power, transport and communication facilities and trained personnel are available. But these facilities are largely absent in poor countries and hence these techniques are not suitable for under-developed countries.

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4. Paul Baran, The Political Economy of Growth, p. 149.
5. G.M. Meier and R.E. Baldwin, Economic Development 1964, p. 424.

4. Capital-intensive techniques involve a wasteful use of meagre capital resources of the under-developed countries. Kindleberger feels that it is an attempt to run before one can walk.
5. The possibility of introducing capital-intensive technology will, however, depend on "The technological spread'-the gap separating the techniques already in vogue in the less developed country and those imported from abroad. The larger the gap between the local and the imported techniques, the greater will be the social discontent and unrest following industrialization through the introduction of an advance technology.

On the basis of above discussion, it can be concluded that both types of techniques must be suitably utilized in underdeveloped countries. These countries are entrapped in the vicious circle of poverty and a rapid rate of economic growth is their immediate need. It is not possible to attain rapid rate of growth with technically inferior and obsolete methods of production and hence capital-intensive methods are to be given a definite place in the planning of these countries. But at the same time unemployment and disguised unemployment is their major problem. These unemployed persons will have to be provided with employment and for that labour-intensive technique becomes a necessity. The best way for these countries is to have such a combination of the methods of production which would ensure a high rate of growth of income on the one hand, and a rise in the level of consumption and employment on the other.

4. Intermediate Technology

Some of the economists are of the opinion that the underdeveloped countries should neither use highly capital - intensive techniques nor the primitive labour-intensive techniques but they should follow intermediate technology. Prof. Schumacher has tried to build a case for the use of middle course in underdeveloped countries. The technology adopted in underdeveloped countries must be technology of the advanced countries modified and adapted to the conditions of these countries. It must be suitable to economic and social structure and technology-absorbing capacity of the country. The technology adopted by these countries must be more capital-intensive than the prevailing technique but less capital intensive as compared to production techniques of industrially advanced countries.

5. Light Vs Heavy Industries

Closely associated with the problem of choice of labour-intensive and capital-

intensive techniques is the more controversial one of light and heavy industries.

Arguments for Heavy Industries :

1. Heavy industries provide the 'base' for a rapid industrialization.
2. The development of heavy industries ultimately reduces the dependence on foreign countries for the import of plant, equipment and spare parts.
3. The country's export earnings will also be increased by exporting increased consumer goods manufactured in large factories.
4. Heavy industries possess a high employment potential in the long run.
5. Development of heavy capital goods industries accelerates the growth rate of the economy.

Arguments against Heavy industries :

1. **Endorsement of natural resources :** Given a rich endorsement of natural resources the problem is one of importing heavy capital equipment and machinery for setting up capital goods industries. It will entail heavy expenditure and make the balance of payments unfavourable. If the scale of operation is quite large the position will become all the more critical.
2. **The skill and aptitude of workers :** It is also not possible to find highly skilled workers in the under developed country to man imported machinery.
3. According to Vakil and Brahmanand, It is not correct to argue that heavy industries automatically imply lower level of cost, if the expenditure on social over-heads associated with them is also included.
4. Too much emphasis on the production of capital goods to the neglect of essential consumer goods will lead to an inflationary spiral in the economy.

Arguments for Light Industries :

The arguments in favour of light (consumer goods) industries are as follows :

1. Light industries, being highly labour-intensive, provide greater employment opportunities.
2. Light industries do not require any special skill and can even make use of the traditional skill to be found in labour.
3. Light industries yield fruit in a comparatively short time than heavy industries.
4. 'Latest resources' in the form of entrepreneurial and capital resources are fully utilized in the case of light industries.
5. Social overhead costs involved in urbanization and social security

measures are less in the case of light industries as compared to heavy industries.

6. From the social point of view, these industries do not bring about any radical change and unless that follows industrialization through heavy industries.
7. Light industries require small capital investment.
8. Light industries ensure a more equitable distribution of national income.
9. They help in the dispersal of industries.
10. Light industries are less susceptible to business fluctuations than heavy industries.

IV. Summary

In making a choice between light and heavy industries the deciding factor should be their direct and indirect effects on the national income and its distribution in an underdeveloped country. Economic profitability rather than financial profitability of an industry should be the main criterion in making a decision. Maurice Dobb regards the choice between light and heavy industries as one of "Time dimension of the investment". A given investment in light industries will increase the consumable income of the near future but will restrict the rate of future development. On the other hand, investment in heavy industries will quicker the pace of future development though the immediate gains will be smaller. In order to be self-reliant in the future, all types of industries should be established simultaneously in so far as they are technically and economically practicable within the prevailing conditions of the country.

V. Questions

1. Short Questions

a. What do you mean by 'Labour-intensive' technique ?
b. What is the meaning of 'Capital-intensive' technique ?
c. State two limitations of capital-intensive technique.
d. What is 'intermediate technology ?
e. Give two examples of light industries.

2. Long Questions

a. Explain the main factors which determine the choice of technology for development of underdeveloped countries.
b. Compare the role that light and heavy industries can play for accelerating economic development of under-developed countries.
c. "In an economy where labour is abundant and capital is scarce,

the technique of production should be labour-intensive." Discuss

d. Write notes on :

(a) Intermediate technology.

(b) Arguments in favour of labour-intensive technique.

(c) Give meaning of capital-intensive technique. Discuss the main arguments in support of this technique.

VI. SUGGESTED READINGS

1. Meier, G.M. and Baldwin, R.E. : Economic Development
2. Dewett, K. K. and Satish Wadhawan : Economics of Growth and Development
3. Misra, R.S. : Economics of Development
4. Jhingan, M.L. : The Economics of Development and Planning
5. Goel, R.L. : Economics of Growth and Planning

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EXPORT PROMOTION AND IMPORT SUBSTITUTION

I. INTRODUCTION

Trade strategies for development can be broadly divided into two groups, outward oriented and inward oriented. An outward oriented strategy is one in which trade and industrial policies do not discriminate between production for the domestic goods and foreign goods, while inward oriented strategy is one in which trade and industrial incentives are biased in favour of production for the domestic market over the export market. While outward oriented strategy is designated as the export promotion strategy, inward oriented strategy is designated as the import substitution strategy. In the words of Streeton, "Outward looking policies encourage not only free trade but also the free movement of capital, workers and enterprise. On the other hand, inward looking policies lead to protection and stress the need of self-reliance.

II. OBJECTIVES

The main objectives of this lesson are to give you an idea about export promotion and import substitution. From the lesson you will be able to know about the forms/types of export promotion and stages of import substitution; benefits and harmful effects of export promotion; and objectives and methods

of import substitution. In the end, suggestions for export promotion and import substitution have also been discussed.

III. Export Promotion

(i) Meaning : Export promotion means the policy of the government to encourage the exporters to export more goods than before. In order to promote exports, several incentives are given to exporters viz (1) Cash subsidies (2) Bank loans at cheap rate of interest (3) Facilities are provided to import machinery and raw material (4) Concessional freight rates are charged by railway and shipping companies on the goods exported (5) Tax concessions are given to commodities to be exported.

(ii) Forms of Export Promotion : Export Promotion can be of two types (a) Export Promotion of Primary Products and (b) Export Promotion of Manufactured Products.

(a) Export Promotion of Primary Products : The export of primary products occupies a significant place in the long run trade policies of the underdeveloped countries. These countries generally export agricultural products and minerals. Food products and raw materials constitute about 40 percent of export of all underdeveloped countries and majority of these countries constitute their principal source of foreign exchange earnings. The demand for primary exports are influenced by the factors like low elasticity of demand for agricultural products; low population growth rate in developed countries; availability of synthetic substitutes and fixation of tariffs and quotas by developed countries.

On the supply side, there are also a number of factors working against the rapid expansion of export earnings from primary products. The most important factors are limited resources, poor climate, antiquated rural institutions, social and economic structure and non-productive patterns of land tenure.

(b) Promotion of Exports of Manufactured Goods : The expansion of the third world manufactured exports was given stimulus by the spectacular export performance of countries like South Korea, Singapore, Hong Kong, Taiwan and Brazil during the 1960s. The share of underdeveloped countries in total world trade in manufactured goods has remained relatively unchanged during the last few decades. Although income and

price elasticities of international demand for manufactured goods have changed. This is largely due to the growing protection in developed nations against the manufactured export of under developed countries.

Theoretically exports are beneficial only upto the point where International Marginal Rate of Transformation (IMRT) becomes equal to Domestic Marginal Rate of Transformation (DMRT).

i.e. IMRT = DMRT

(iii) Benefits of Export Promotion :

Promotion of exports has the following beneficial effects on development of a country.

(1) **Trade helps in breaking vicious circle of poverty :** Underdeveloped countries are characterized by the existence of vicious circle of poverty. Trade enables them to produce more of those goods in which they enjoy greater comparative advantage. With the development of new industries, people get employment. Export of goods help to break the vicious circle of poverty and accelerate the rate of economic development.

(2) **Inducement to invest :** Export promotion helps to increase investment and capital formation. As the expected profitabilities of entrepreneures increase and they are induced to invest more. Because of increase in investment, rate of capital formation accelerates which in turn leads to increase in the rate of economic development.

(3) **Expansion in the extent of the market :** With the export promotions, goods produced by these countries will have wide extent of the market and income of the people will increase. Foreign trade by extending the size of the market, exercises a dynamic influence on the economy and it raises the production at higher rate. As a result, country enjoys the benefits of external and internal economies of scale.

(4) **Benefits for international specialization :** Export promotion enables a country to enjoy the advantage of international specialisation according to their comparative costs. Every country specialises and exports those commodities which it can produce cheaper in exchange for what others can provide at a lowest cost.

(5) **Basis of import of foreign capital** : Export promotion also helps in promoting development by creating suitable conditions for

the import of foreign capital. It is an established fact that it is much easier to get foreign capital for export industries because they have a built-in-solution of the transfer problem.

(6) **Healthy competition :** Export promotion also helps in economic development by providing healthy competition and keeping a check on inefficient monopolies. Cost of production goes down and the entire population starts to gain.

(7) **Efficient use of means of production :** According to Prof. J.S. Mill another direct advantage of promotion of exports is that it adds to the efficiency of production. In underdeveloped economies, agriculture is backward and subsistence farming is the rule. With the development of export, use of latest and improved techniques of production becomes possible in agriculture and industrial fields. This, in turn, helps to increase the efficiency of means of production.

(iv) Harmful Effects of Export Promotion :

(1) **Lopsided development :** Prof. Nurkse is of the view that export promotion has given rise to dualism in underdeveloped countries. It implies that a small sector of these economies, in which export industries have been established has developed but a large sector stays poor and backward. Thus, regional inequality in these countries has increased.

(2) **Limited possibility of gain :** According to Prof. Nurkse, the possibility of gain from foreign trade to under-developed countries is limited. It is due to the reason that under-developed countries export mainly primary goods and the demand for these goods has declined in the developed countries due to several reasons.

(3) **Adverse effect on investment or Demonstration effect :** Prof. Myrdal is of the opinion that the demonstration effect has a determent effect on under-developed countries. People of these countries spend a large portion of their increased income on the purchase of foreign consumer goods rather than on capital formation.

(4) **Secular deterioration in terms of trade :** Another important criticism of export promotion has been that it has resulted in an international transfer of income from the poor to the rich countries through secular deterioration in the commodity terms of trade of the poor countries. In the opinion of Prof. Paul Prebisch, there has been a secular deterioration in the terms of

trade of under-developed countries.

(v) Suggestions For Export Promotion : To promote exports, following suggestions are given :

(1) Proper management of information : Prospective exporters must be given full information regarding the market position abroad. Exporters must be fully informed of the facilities being given to them by the respective government.

(2) Priority to export sector : Export sector should be declared priority sector. It should be given wide publicity so that handicrafts and art goods be exported to other countries. Engineers, doctors and technicians etc. should be encouraged to serve abroad on contract basis.

(3) Control room for exports : Under the ministry of commerce, a control room should be set up for exports. Its function will be to increase facilities for the promotion of exports and remove all difficulties faced by the exporters.

(4) Product planning for exports : A proper plan should be framed in respect of the produce to be exported. Supply of export goods must be uninterrupted and their quality should be high.

(5) Joint venture abroad : Entrepreneurs and governments of underdeveloped countries should set up joint ventures abroad. It will have a very healthy effect on their exports.

(6) Foreign collaborations : Foreign entrepreneurs should be encouraged to set up export oriented industries. Multinational corporations can prove quite beneficial in this direction.

(7) Cost benefit analysis : To promote export, it is important to make cost benefit analysis of exported goods. It will benefit the underdeveloped countries.

II. Import Substitution

In order to correct adverse balance of payment problem, import substitution has great importance. Import substitution means, total or partial replacement of an imported product of the same functional requirement mainly from indigenous material and know how. In the words of M.P. Todaro, "Import substitution entails an attempt to replace commodities usually manufactured goods formerly imported with domestic sources of production and supply".

(1) Types of Import Substitution : There are two kinds of import substitution.

(A) Simple Substitution : Simple kind of substitution of imported goods is sought to be produced in the country.

There is very little variation in shape and functioning of the imported goods e.g. cycles, foodgrains.

(B) **Alternative Substitution :** The substitutes produced indigenously vary in shape and function from the imported goods. But its working is more or less the same, for instance, use of copper tubes in sugar making machines.

(2) **Stages of Import Substitution :** There are two stages of import substitution.

(A) **The First Stage of Import Substitution :** The first stage of import substitution entails the replacement of the imports of non-durable consumer goods such as clothing, shoes and household goods and of their inputs such as textile fabrics, leather and wood by domestic production since these commodities suit the combination existing in developing countries that at the beginning of industrialization process.

In the course of first stage import substitution, domestic production will rise more rapidly than domestic consumption, since it not only provides for increases in consumption but also replaces imports.

(B) **Second Stage of Import Substitution :** In the second stage of import substitution, the under-developed countries expand their manufacturing industries oriented towards demestic markets. This stage involves the replacement of imports of intermediate goods, producer and consumer durables by domestic production.

(3) **Need of Import Substitution :** Need of import substitution has increased very much in under-developed countries due to the following reasons : (i) Unfavourable balance of trade (ii) Devaluation of rupee (iii) Shortage of foreign exchange (iv) Declining foreign aid (v) Political change. India mostly imports petroleum, fertilizer, machinery and chemical products. To achieve the objective of self-sufficiency their substitution is inevitable.

(4) **Objectives of Import Substitution Policy :**

The main objectives of import substitution policy are as under :

(i) Substitution of import of raw materials, spare-parts by domestic product.

(ii) To reduce the import of raw materials, spare-parts by domestic products.

(iii) To produce chemical goods from domestically produced raw material.

(iv) To explore alternatives of imported goods.

(5) Methods of Import Substitution : The various methods of import substitution are as under :

(i) Tariff Policy : In order to make prices of imported goods prohibitive in comparison to domestic goods, heavy import duties have been imposed on foreign imports. Moreover, the Government has completely banned the import of non-essential goods.

(ii) Increase in production : Industrial policy as well as agricultural policy of under-developed countries aim at more production so that dependence on imports is minimised.

(iii) Research : To find out the alternatives of imports, great stress is being laid on research. Many laboratories at the national level have been set up in the public sector for this purpose. Government of India has established an Import Substitution Award Board in 1974.

(iv) Swadeshi spirit : The biggest hurdle in the way of import substitution is the craze for foreign goods on the part of the people. This attitude needs to be changed. Efforts should be made to rebuild the swadeshi spirit among the masses.

(6) Limitations of Import Substitution : According to Prof. M.P. Todaro, the following are the main defects of policy of import substitution.

(i) The main beneficiaries of the import substitution process have been the foreign firms who are well-established, these could take advantages of tax and investment incentives. After deducting interest, profit, royalty and management fees, mostly which are remitted abroad, the little that may be left over usually 'accrues to the wealthy industrialists with whom foreign manufacturers co-operate.

(ii) Import substitution policy has been made possible by the government subsidized importation of capital goods and intermediate products by foreign companies. In the case of foreign companies many of these are purchased from their parent and sister companies abroad.

(iii) Import substitution policy inhibits the industrialization which in turn reduces the competitive power of industries and increases the cost of production.

(7) Suggestions :

(1) Import substitution should be made for production of those goods which are incidental to industrialization such as machine tools, steel, chemical, fertilizers and newsprint etc.

(2) Allocation of investment for import substitution should be made in favour of primary industries.

(3) Public and private sectors should co-operate with each other for the success of import substitution.

(4) Assistance of foreign capital should be made easily available to establish import substitution industries.

(III) SUMMARY

Export promotion means the policy of the government to encourage the exporters to export more goods than before. Export promotion can be of two types: export of primary products and export of manufactured products. Promotion of export has some beneficial effects on development of a country. Export promotion helps in breaking vicious circle of poverty; creates inducement to invest; expands the market; enables healthy competition and efficient use of means of production. To promote export, priority should be given to export sector, control room should be opened for exports, joint venture and foreign collaborations should be promoted.

Import substitution means goods imported from abroad should be produced within the country. There are two kinds of import substitution viz. simple substitution and alternative substitution. The main methods adopted to make import substitution a success are : tariff policy, increase in production, swadeshi spirit etc.

QUESTIONS

(1) What is export promotion ? Give its types.

(2) Briefly discuss the obstacles in the way of export promotion. How these obstacles can be overcome ?

(3) Critically evaluate the policy of import substitution.

(4) Write short answers of the following :

(i) What is export promotion ?

(ii) What is import substitution ?

(iii) Give suggestions for export promotion.

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