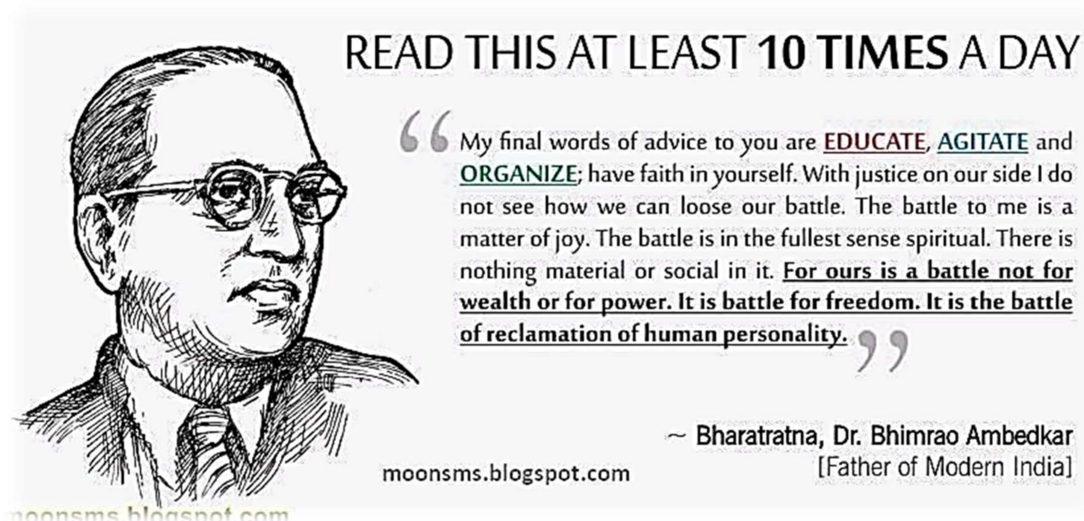


B.A. (ECONOMICS) SYLLABUS
Semester -V
DEVELOPMENT ECONOMICS
Discipline Specific Course-Paper -V

Module-I: Economic Development and Growth

Concepts of Economic Growth and Development. Measurement of Economic Development: Per Capita Income, Basic Needs, Physical Quality of Life Index, Human Development Index and Gender Empowerment Measure. Role of State and Market in Economic Development

Module-II: Factors in Economic Development Factors effecting Economic Development- Characteristics of developing Countries- Population and Economic Development- Theories of Demographic Transition. Human Resource Development and Economic Development

Module-III: Theories of Economic Development

Theories of Adam Smith, David Ricardo, Karl Marx and Schumpeter

Module-IV: Theories of Under Development

Lewis, Rodan, Libenstien, Nurkse's Balanced Growth Strategy, Hirsch man's Un-balanced Growth Strategy, Myrdalmodel.

Developmental Economics

Economic growth and development

We repeat here the notes from module 1. You need to make sure that you have a clear understanding of the differences between economic growth and development.

Definitions of growth, development and sustainable development

Economic growth

This occurs where there is an increase in the productive potential of the economy and is best measured by the increase in a country's real level of output over a period of time, i.e. the increase in real Gross Domestic Product (real means adjusted for inflation).

Economic development

Economic development, on the other hand, is a process where there is improvement in the lives of all people in the country. This involves not only living standards, such as greater availability of goods and services (and also the ability to purchase them) but also the promotion of attributes such as self-esteem, dignity and respect, and the enlarging of people's freedom to choose and to take control of their own lives. While a country may grow richer therefore, through the growth of its real output, it does not necessarily mean that it will develop.

For a long period of time economic development was seen to be a factor of economic growth. It was believed that economic development occurred when there was a high level of industrialisation and economic growth; social factors, such as poverty and unemployment were of lesser importance. It was also believed that the material benefits of growth would trickle down from the better off to the rest of the population, causing development. However, many developing nations have managed to achieve high rates of economic growth, yet failed to experience any positive change in standards of living for the majority of their people. It was realised therefore that the definition of economic development had to be changed. As Dudley Seers says: "if one or two of the central problems (poverty, unemployment or equality) have been growing worse, especially if all three have, it would be strange to call the result 'development' even if per capita income doubled"(from D.Seers, 'The meaning of economic development').

According to Professor Michael Todaro, development should involve the following objectives:

1. "To increase the availability and widen the distribution of basic life-sustaining goods such as food, shelter, health and protection.
2. To raise levels of living including, in addition to higher incomes, the provision of more jobs, better education, and greater attention to cultural and humanistic values, all of which will serve not only to enhance material well-being but also to generate greater individual and national self-esteem.

3. To expand the range of economic and social choices available to individuals and nations by freeing them from servitude and dependence not only in relation to other people and nation-states but also to the forces of ignorance and human misery."

(from M.P.Todaro 'Economic development')

There are several measures that are used to measure economic development such as GNP/GDP per capita, population growth and structure, health, education, technology, employment, rural/urban migration, rights of women and distribution of poverty and income. Statistically, GDP per capita is generally acknowledged as the best single indicator but composite indicators of development are also used. One such index is the Human Development Index (HDI) which includes GDP per capita, life expectancy and literacy rates.

Deference between the Economic Growth an Economic Development:

Economic Development	Economic Growth
(1) Multi dimensional	(1) Single dimensional
(2) Qualitative changes: composition and distribution of national income	(2) Quantitative Changes: change in national and per capita income
(3) Gradual and steady change, planned	(3) Spontaneous change
(4) Continuous change	(4) Discontinuous change
(5) Growth is prerequisite for development	(5) Growth is possible without 1 development
(6) Solution to the problem of under developed countries	(6) Solution to the problem of developed countries
(7) Economic and non economic factors	(7) Economic factors

Measurements of Economic Growth?

Economists and statisticians use several methods to track economic growth. The most well-known and frequently tracked is the gross domestic product (GDP). Over time, however, some economists have highlighted limitations and biases in the GDP calculation. Organizations such as the Bureau of Labor Statistics (BLS) and the Organization for Economic Co-operation and Development (OECD) also keep relative productivity metrics to gauge economic potential. Some suggest measuring economic growth through increases in the standard of living, although this can be tricky to quantify.

- Different methods, such as Gross National Product (GNP) and Gross Domestic Product (GDP) can be employed to assess economic growth.
- Gross Domestic Product measures the value of goods and services produced by a nation.

- Gross National Product measures the value of goods and services produced by a nation (GDP) and income from foreign investments.
- Some economists posit that total spending is a consequence of productive output.
- Although GDP is widely used, it, alone, does not indicate the health of an economy.

Why Is GDP So Important?

Gross Domestic Product

The gross domestic product is the logical extension of measuring economic growth in terms of monetary expenditures. If a statistician wants to understand the productive output of the steel industry, for example, he needs only to track the dollar value of all of the steel that entered the market during a specific period.

Combine the outputs of all industries, measured in terms of dollars spent or invested, and you get total production. At least that was the theory. Unfortunately, the tautology that expenditures equal sold-production does not actually measure relative productivity. The productive capacity of an economy does not grow because more dollars move around, an economy becomes more productive because resources are used more efficiently. In other words, economic growth needs to somehow measure the relationship between total resource inputs and total economic outputs.

The OECD described GDP as suffering from a number of statistical problems. Its solution was to use GDP to measure aggregate expenditures, which theoretically approximates the contributions of labour and output, and to use multi-factor productivity (MFP) to show the contribution of technical and organizational innovation.

Gross National Product

Those of a certain age may remember learning about the gross national product (GNP) as an economic indicator. Economists use GNP mainly to learn about the total income of a country's residents within a given period and how the residents use their income. GNP measures the total income accruing to the population over a specified amount of time. Unlike gross domestic product, it does not take into account income accruing to non-residents within that country's territory; like GDP, it is only a measure of productivity, and it is not intended to be used as a measure of the welfare or happiness of a country.

The Bureau of Economic Analysis (BEA) used GNP as the primary indicator of US economic health until 1991. In 1991, the BEA began using GDP, which was already being used by the majority of other countries. The BEA cited an easier comparison of the United States with other economies as a primary reason for the change. Although the BEA no longer relies on GNP to monitor the performance of the US economy, it still provides GNP figures, which it finds useful for analysing the income of US residents.

There is little difference between GDP and GNP for the US, but the two measures can differ significantly for some economies. For example, an economy that contained a high proportion of foreign-owned factories would have a higher GDP than GNP. The income of the factories would be included in GDP as it is produced within domestic borders. However, it would not be included in GNP since it accrues to non-residents. Comparing GDP and GNP is a useful way of comparing income produced in the country and income flowing to its residents.

Measurement of Economic Development

Generally, economic development is a process of change over a long period of time.

Though there are several criteria or principles to measure the economic development, yet none provides a satisfactory and universally acceptable index of economic development.

Hence, it is a complex problem to answer about the measuring of economic development.

R.G. Lipsey maintains that there are many possible measures of a country's degree of development, income per head, the percentage of resources unexploited, capital per head, saving per head and amount of social capital. But more commonly used criteria of economic development are increase in national income, per capita real income, comparative concept, standard of living and economic welfare of the community etc.

Let us make a detailed study of these measurements for better understanding:

1. National Income as an Index of Development:

There is a group of certain economists which maintains the growth of national income should be considered most suitable index of economic development. They are Simon Kuznets, Meier and Baldwin, Hicks D. Samuelson, Pigon and Kuznets who favoured this method as a basis for measuring economic development. For this purpose, net national product (NNP) is preferred to gross national product (GNP) as it gives a better idea about the progress of a nation.

According to Prof. Meier and Baldwin, "If an increase in per capita income is taken as the measure of economic development, we would be in the awkward position of having to say that a country had not developed if its real national income, had risen but population had also risen at the same rate."

Similarly, Prof. Me de maintains that, "Total income is a more appropriate concept to measure welfare than income per capita." Therefore, in measurable economic development, the most appropriate measure will be to include final goods and services produced but we must allow for the wastage of machinery and other capital goods during the process of production.

Advantages of National Income:

There are certain arguments for stressing real national income as a measurement of economic development.

They are:

(i) A larger real national income is normally a pre-requisite for an increase in real per capita income and hence, a rising national income can be taken as a token of economic development.

(ii) If per capita income is used for measuring economic development, the population problem may be concealed, since population has already been divided out. In this context, Prof. Simon Kuznets writes, "The choice of per capita, per unit or any similar measure to gauge the rate of economic growth carried with it danger of neglecting the denominator of the ratio."

(iii) If an increase in per capita income is taken as the measure of economic development, we are likely to be put in an awkward situation of saying that a country has not developed if its real national income has increased but its population has also increased at the same rate.

Disadvantages National Income:

Despite the favourable arguments, national income as a measure of economic development suffers from certain shortcomings:

(i) It cannot definitely be said that economic welfare has increased if the national and even the per capita income may be rising unless the distribution of income is equitable.

(ii) Expansion of national and per capita income cannot be identified with enrichment because the composition of the total output is also important. For example, an expansion of total output could be accompanied by a depletion of natural resources or it could compose of only armaments or could consist of merely a greater output of capital goods.

(iii) It must not only consider what is produced but also how it is produced. It is possible that when real national output grows, the real costs i.e., 'pain and sacrifice' of the society may also grow.

(iv)It is difficult to determine proper deflators to eliminate the effects of price changes in an underdeveloped countries.

(v) It is also complicated when average income is rising but unemployment exists due to the rapid growth of population, thus, such a situation is not consistent with the development.

2. Per Capita Real Income:

Some economists believe that economic growth is meaningless if it does not improve the standard of living of the common masses. Thus, they say that the meaning of economic development is to increase aggregate output. Such a view holds that economic development be defined as a process by which the real per capita income increases over a long period time. Harvey Leibenstein, Rostow, Baran, Buchanan and many others favour the use of per capita output as an index of economic development.

The UNO experts in their report on 'Measures of Economic Development of Under-developed Countries' have also accepted this measurement of development. Charles P. Kindleberger also suggested the same method with proper precautions in computing the national income data.

Advantages of per Capita Real Income:

The aim of economic development is to raise the living standard of the people and through this to raise consumption level. This can be, estimated through per capita income rather than national income. If national income of a country goes up but the per capita income is not increasing, that will not raise the living standard of the people. That way, per capita income is a better measure of economic development than the national income.

The increase in per capita income is a good measure of economic development. In the advanced countries, per capita income has been on continuous increases because the growth rate of national income is greater than the growth rate of population. This has raised the economic lot of the people. In underdeveloped countries, there is very less capacity to produce per head. So, as the capacity to produce goes up these economies proceed towards economic development.

Increase in per capita income can be better index of an increase in the welfare of the people. In advanced countries, national income has increased much faster than the growth rate of population. It means the per capita real income has been constantly increasing and this has led to the increase in welfare of the people. That way, per capita income can be considered a better index of the welfare of the people.

Arguments against Per Capita Real Income:

The real per capita income, a measure of economic development has been severely criticized by Jacob Viner, Kuznet etc.

(a) According to Meier and Baldwin, "If an increase in per capita income were taken as the measure of development, we would be in the awkward position of having to say that a country had not developed if its real national income had risen, but population has also risen at the same time."If in a country an increase in national income is offset by the increase in population, then we would be bound to say that no economic development has taken place. Similarly, if national income in a country has not gone up but population has reduced due to epidemic or war, in that case we would be bound to conclude that economic development is taking place.

(b) When we divide national income by population, the problem of population in that case is ignored. It confines the scope of the study.

(c) In this measure, distributive aspect has been ignored. If national income goes up but there is unequal distribution of income among different sections of the society, in that case rise in national income will be meaningless.

(d) In the underdeveloped countries where per capita income is regarded as a measure of economic development, with the increase in per capita income of these countries, there is also increase in unemployment, poverty and income inequalities. This cannot be regarded as development.

(e) Economic growth is multi-dimensional concept which involves not only increase in money income but also improvement in social activities like education, public health, greater leisure etc. Such improvements cannot be measured by changes in per capita real income.

(f) The data of per capita national income are often inaccurate misleading and unreliable because of imperfections in national income data, and its computation. That way, per capita real income cannot be free from weaknesses. Despite these drawbacks in the measure of real per capita income, many countries have adopted this measure as an indicator of economic development.

Physical Quality of Life Index

The Physical Quality of Life Index (PQLI) is an attempt to measure the quality of life or well-being of a country. The value is the average of three statistics: basic literacy rate, infant mortality, and life expectancy at age one, all equally weighted on a 0 to 100 scale.

It was developed for the Overseas Development Council in the mid-1970s by Morris David Morris, as one of a number of measures created due to dissatisfaction with the use of GNP as an indicator of development. PQLI might be regarded as an improvement but shares the general problems of measuring quality of life in a quantitative way. It has also been criticized because there is considerable overlap between infant mortality and life expectancy.

The UN Human Development Index is a more widely used means of measuring well-being.

Steps to Calculate Physical Quality of Life:

1) Find percentage of the population that is literate (literacy rate).

2) Find the infant mortality rate. (out of 1000 births) INDEXED Infant Mortality Rate = (166 - infant mortality) × 0.625

3) Find the Life Expectancy. INDEXED Life Expectancy = (Life expectancy - 42) × 2.7

4) Physical Quality of Life =

$$\frac{\text{(Literacy Rate + INDEXED Infant Mortality Rate + INDEXED Life Expectancy)}}{3}$$

ABOUT PHYSICAL QUALITY OF LIFE INDEX= PQLI : Increase in national income and per capita income are not the real indicators of economic development, as it has a number of limitations. Increasing incomes of the country are concentrated in the hands of a few people, which is not development. The development of a country should be such that the living standards of the poor rise, and the basic requirements of the citizens are fulfilled. Keeping this in mind, Morris Davis Morris presented the physical quality of life index, in short known as the PQLI. In this index, betterment of physical quality of life of human beings is considered economic development. The level of physical quality of life determines the level of economic development. If any country's physical quality of life is higher than that of the other country, then that country is considered as more developed.

There are three standards to measure the physical quality, which are depicted here:

1)- Extent of Education, 2)- Life Expectancy & 3)- Infant Mortality Rate

Human Development Index

The **Human Development Index (HDI)** is published annually by the UNDP and focuses on longevity, basic education and minimal income

Explaining the Human Development Index

It tracks progress made by countries in improving these three outcomes

The inclusion of education and health indicators is a sign of successful government policies in providing access to important **merit goods** such as health care, sanitation and education

I. **Knowledge**: First an **educational component** made up of two statistics – mean years of schooling and expected years of schooling
II. **Long and healthy life**: Second a **life expectancy component** is calculated using a minimum value for life expectancy of 25 years and maximum value of 85 years
III. **A decent standard of living**: The final element is **gross national income (GNI) per capita** adjusted to purchasing power parity standard (PPP)

The **UNDP** classifies each country into one of three development groups:

- **Low** human development for HDI scores between 0.0 and 0.5,
- **Medium** human development for HDI scores between 0.5 and 0.8
- **High** human development for HDI scores between 0.8 and 1.0.

Human development index

The Human Development Index (HDI) is a measure of economic development and economic welfare. The Human Development Index examines three important criteria of economic development (life expectancy, education and income levels) and uses this to create an overall score between 0 and 1.

- 1 indicates a high level of economic development,
- 0 a very low level.

The HDI combines:

- Life Expectancy Index. Average life expectancy compared to a global expected life expectancy.
- Education Index

- mean years of schooling
- expected years of schooling
- Income Index (GNI at PPP)
- Components of the Human Development Index

What the HDI shows

The HDI gives an overall index of economic development. It has some limitations and excludes several factors that might have been included, but it does give a rough ability to make comparisons on issues of economic welfare – much more than just using GDP statistics show.

Limitations of Human Development Index

Wide divergence within countries. For example, countries like China and Kenya have widely different HDI scores depending on the region in question. (e.g. north China poorer than south-east) HDI reflects long-term changes (e.g. life expectancy) and may not respond to recent short-term changes.

Higher national wealth does not indicate welfare. GNI may not necessarily increase economic welfare; it depends on how it is spent. For example, if a country spends more on military spending – this is reflected in higher GNI, but welfare could actually be lower. Also, higher GNI per capita may hide widespread inequality within a country. Some countries with higher real GNI per capita have high levels of inequality (e.g. Russia, Saudi Arabia)

However, HDI can highlight countries with similar GNI per capita but different levels of economic development.

Economic welfare depends on several other factors, such as – threat of war, levels of pollution, access to clean drinking water e.t.c.

Meaning of Human Development:

The term ‘human development’ may be defined as an expansion of human capabilities, a widening of choices, ‘an enhancement of freedom, and a fulfilment of human rights.

At the beginning, the notion of human development incorporates the need for income expansion. However, income growth should consider expansion of human capabilities. Hence development cannot be equated solely to income

Income is not the sum-total of human life. As income growth is essential, so are health, education, physical environment, and freedom. Human development should embrace human rights, socio-eco-politico freedoms. Based on the notion of human development. Human Development Index (HDI) is constructed. It serves as a more humane measure of development than a strictly .income-based benchmark of per capita GNP.

The first UNDP Human Development Report published in 1990 stated that: **“The basic objective of development is to create an enabling environment for people to enjoy long, healthy and creative lives.”** It also defined human development as “a process of enlarging people’s choices”, “and strengthen human capabilities” in a way which enables them to lead longer, healthier and fuller lives.

From this broad definition of human development, one gets an idea of three critical issues involved in human development interpretation. These are: to lead a long and healthy life, to be educated, and to enjoy a decent standard of living. Barring these three crucial parameters of human development as a process enlarging people’s choices, there are additional choices that include political freedoms, other guaranteed human rights, and various ingredients of self-respect.

One may conclude unresistingly that the absence of these essential choices debars or blocks many other opportunities that people should have in widening their choices. Human development is thus a process of widening people’s choices as well as raising the level of well-being achieved.

What emerges from- the above discussion is that economic growth measured in terms of per capita GNP focuses only on one choice that is income. On the other hand, the notion of human development embraces the widening of all human choices—whether economic, social, cultural or political. One may, however, contest GDP/GNP as a useful measure of development since income growth enables persons in expanding their range of choices.

This argument is, however, faulty. Most importantly, human choices go far beyond income expansion. There are so many choices that are not dependent on income. Thus, human development covers all aspects of development. Hence it is a holistic concept. **“Economic growth, as such becomes only a subset of human development paradigm.”**

Objectives of Human Development:

In the traditional development economics, development meant growth of per capita real income. Later on, a wider definition of development came to be assigned that focused on distributional objectives. Economic development, in other words, came to be redefined in terms of reduction or elimination of poverty and inequality.

These are, after all, 'a goods-oriented' view of development. True development has to be 'people- centred'. When development is defined in terms of human welfare it means that people are put first. This 'people-oriented' view of development is to be called human development.

It is thus clear that per capita income does not stand as a true index of development of any country. To overcome this problem and to understand the dynamics of development, the United Nations Development Programme (UNDP) developed the concept of Human Development Index (HDI) in the 1990s. This index brought in revolutionary changes not only in development, but also in the policy environment in which the government was assigned a major role instead of market forces.

Economic development now refers to expanding capabilities. According to Amartya Sen, the basic objective of development is 'the expansion of human capabilities. The capability of a person reflects the various combinations of 'doings and beings' that one can achieve. It then reflects that the people are capable of doing or being. Capability thus describes a person's freedom to choose between different ways of living.

For example:

Can people read and write? Are foodstuffs distributed among people in a universal manner? Do poor students get midday meal in schools? Do the poor children get adequately nourishing diets at home? No one would doubt that an illiterate poor person cannot have the same capabilities that a rich literate one gets. Thus capability failure leads to poverty and deprivation. This perspective of development, as enunciated by A. Sen, suggests why development economists put greater emphasis on education and health.

There are many countries in the world which —despite high levels of per capita GDP growth/ real income—experience high mortality rate, undernourishment rate, poor literacy, and so on. This is a case called 'growth without development'. M. P Todaro and S. C. Smith assert: "Real income is essential, but to convert the characteristics of commodities into functions…. surely requires health and education as well as income." In other words, income does not define peoples' 'well- being' adequately.

Well-being, although a diverse notion, should consider health and education, in addition to income. Sen's intellectual insights and fundamental ideas induced UNDP to formulate HDI as a comprehensive measure of development. It may be reiterated that the HDI as used in the Human Development Reports to compare different countries in the world has been designed as alternative to per capita GDP/GNP. Today, it is the most single commonly used measure to evaluate development outcomes.

Components of Human Development:

The noted Pakistani economist Mahbub ul Haq considered four essential pillars of human development.

These are:

i. Equality,

ii. Sustainability,

iii. Productivity, and

iv. Empowerment.

Equality:

If development is viewed in terms of enhancing people's basic capabilities, people must enjoy equitable access to opportunities. Such may be called equality-related capabilities. To ensure equality-related capabilities or access to opportunities what is essential is that the societal institutional structure needs to be more favourable or progressive.

In other words, the unfavourable initial asset distribution, like land, can be made more farmer-friendly through land reform and other redistributive measures. In addition, uneven income distribution may be addressed through various tax-expenditure policies. Economic or legislative- measures that interferes with market exchange may enable people to enlarge their capabilities and, hence, well-being.

Further, to ensure basic equality, political opportunities need to be more equal. In the absence of effective political organisation, disadvantaged groups are exploited by the 'rich' to further their own interests rather than social goals. However, participatory politics gets a beating by the inequality in opportunities in having basic education.

It is to be added here that basic education serves as a catalyst of social change. Once the access to such opportunity is opened up in an equitable way, women or religious minorities or ethnic minorities would be able to remove socioeconomic obstacles of development. This then surely brings about a change in power relations and makes society more equitable.

Sustainability:

Another important facet of human development is that development should 'keep going', should 'last long'. The concept of sustainable development focuses on the need to maintain the long term protective capacity of the biosphere. This then suggests that growth cannot go on indefinitely; there are, of course, 'limits to growth.'

Here we assume that environment is an essential factor of production. In 1987, the Bruntland Commission Report (named after the then Prime Minister Go Harlem Bruntland of Norway) defined sustainable development as '… development that meets the needs of the present without compromising the ability of future generations to meet their basic needs.' This means that the term sustainability focuses on the desired balance between future economic growth and environ-mental quality. To attain the goal of sustainable development, what is of great importance is the attainment of the goal of both intra- generation and inter-generation equality.

This kind of inequality includes the term 'social well-being' not only for the present generation but also for the people who will be on the earth in the future. Any kind of environmental decline is tantamount to violation of distributive justice of the disadvantaged peoples. Social well-being thus, then, depends on environ-mental equality.

Productivity:

Another component of human development is productivity which requires investment in people. This is commonly called investment in human capital. Investment in human capital—in addition to physical capital—can add more productivity.

The improvement in the quality of human resources raises the productivity of existing resources. Theodore W. Schultz—the Nobel Prize-winning economist—articulated its importance: **"The decisive factors of production in improving the welfare of poor people are not space, energy, and crop land; the decisive factor is the improvement in population quality."** Empirical evidence from many East Asian countries corroborate this view.

Empowerment:

The empowerment of people—particularly women—is another component of human development. In other words, genuine human development requires empowerment in all aspects of life. Empowerment implies a political democracy in which people themselves make the decisions about their lives. Under it, people enjoy greater political and civil liberties and remain free from excessive controls and regulations. Empowerment refers to decentralisation of power so that the benefits of governance are reaped by all peoples.

It focuses on grassroots participation which promotes democracy by enfranchising the disadvantaged groups. Unfortu-nately, benefits are cornered by the elites because of lack of empowerment of people. Participation as a goal is a feature of 'bottom-up' development strategy rather than 'top-down'. Further, development policies and strategies male-dominated. But the benefits of development are to be made 'gender-sensitive'.

Discrimination against women in health and education is very costly from the viewpoint of achieving development goals. Education of women can lead to a virtuous circle of lower fertility, better care of children, more educational opportunity, and higher productivity. Above all, as women's education rises, women's independence in making their own choices also increase.

Anyway, decentralization and participation empower people, specially the women and the poor. It then breaks the 'deprivation trap'. Mahbub ul Haq asserts: **"If people can exercise their choices in the political, social and economic spheres, there is a good prospect that growth will be strong, democratic, participatory and durable."**

Human Development Index (HDI) Calculations

There should be a parameter which can assess growth. Students are measured their performance every year through exams and they are given their performance report assessing their written content in exams. This is to track the growth and filling the gaps or loopholes and correcting mistakes and try to develop further. A nation is also in the same approach, needs to be assessed and track it s growth and perform well in coming days through better ideas providing welfare to its people. Nations have chalked out plans and come to take national overall production per year as a measure to calculate the performance. As the time goes on, Gross Domestic Product (GDP) could not satisfy the proper assessment and ignored completely welfare of the humanity and turned towards economic growth. The economists have gathered and prepared a measurement to upgrade the present system and Human development Index was born. This system of calculation is not an ultimate measurement but a better index to assess the nation's performance.

Birth of Human Development Index (HDI)

United Nations Development Programme reports consist of these human development reports. Pakistani economist Mahbub ul Haq prepared it with the help of various economists. Nobel Laureate Amartya Sen of India had also prominent role in preparing of Human Development Index (HDI). These reports are seen from 1990 in UNDP reports.

Change in Human Development Index (HDI)

As the time goes on, there are changes in HDI in order to improve the assessment. The recent change in HDI occurred in 2010 report. Changes are necessary in order to maintain the quality. The new methodology of Human Development Index (HDI) calculation is to be discussed here.

What is the new method of calculation of Human Development Index (HDI)?

Human Development Index (HDI) consists of three parameters to assess the quality of life which is referred as human development and well being.
These are
1. Life expectancy
2. Education or Knowledge availability
3. Per capita income of the concerned people of a country.

Life Expectancy Index assessment as per new HDI calculation method
New Life Index calculation has come out with changing its goalposts (minimum and maximum of the life expectancy). For life expectancy, it has taken 1980-2010 as years which are considered to form these values. Minimum value for life expectancy is fixed at 20 years in new calculation. Maximum value for life index is kept at 83.2 years.

How to calculate Life Expectancy Index (LEI) as per new HDI calculation?

Formula to calculate Life Expectancy Index (LEI) = Life Expectancy of a country -20/ 83.2-20

Education Index assessment as per new HDI calculation method

Education Index (EI) assessment is composite of two indices. They are
1. Mean Years of Schooling Index (MYSI)
2. Expected Years of Schooling Index (EYSI)

How to calculate Mean Years of Schooling Index (MYSI) as per new HDI calculation?

Mean Years of Schooling means the spent years by a 25 years or older person in school. The low value was fixed at 0 and the maximum value for mean years of schooling is fixed at 13.2. These values are taken after observation of various countries in the time of 1980-2010.
Formula to calculate Mean Years of Schooling Index (MYSI) = Mean years of schooling - 0/ 13.2 - 0

How to calculate Mean Expected Years of Schooling Index (EYSI) as per new HDI calculation?

Expected Years of Schooling means years that is to be spent by a 5 year old boy in school in a particular country. This assessment of goal posts (Minimum and maximum values) for expected years of schooling is also based on 1980 – 2010 in various countries. Low value for expected years of schooling is fixed at 0 and high value is fixed at 20.6.
Formula to calculate Expected Years of Schooling Index (EYSI) = Expected Years of Schooling – 0/ 20.6 – 0

How to calculate Education Index?

Formula to calculate Education Index = (MYSI X EYSI) $^{1/2}$ – 0/ 0.951 - 0

Income Index assessment as per new HDI calculation method

To calculate this index, goal posts are set as per observations during 1980 – 2010 in various countries. Gross National Income per capita is taken as measure to calculate new Income Index in new HDI. Minimum income is set as $163 and maximum income is set as $108,211.

How to calculate Income Index as per new HDI calculation?

Formula to calculate Income Index = Log (Country's GNIpc) – Log ($163) / Log ($108,211) – Log ($163)

How to calculate Human Development Index as per new method?

Formula to calculate Human Development Index (HDI) = (Life Expectancy Index X Education Index X Income Index) $^{1/3}$
New Human Development Index (HDI) is geometric mean of Life Expectancy Index (LEI), Education Index (EI) and Income Index (II).

After this calculation total value will be between 0 and 1. As per the values gained, countries will be placed in the list of division of countries. They are divided into very high human development, high human development, medium high human development and low high human development countries.

Top 10 Countries HDI :

Rank		Country	HDI	
2018 data (2019 report)	Change from previous year		2018 data (2019 report)	Change from previous year[6]
Very high human development				
1	–	Norway	0.954	▲ 0.001
2	–	Switzerland	0.946	▲ 0.003
3	–	Ireland	0.942	▲ 0.003
4	–	Germany	0.939	▲ 0.001
4	▲ (2)	Hong Kong	0.939	▲ 0.003
6	▼ (1)	Australia	0.938	▲ 0.001
6	▲ (1)	Iceland	0.938	▲ 0.003
8	▼ (1)	Sweden	0.937	▲ 0.001
9	–	Singapore	0.935	▲ 0.001
10	–	Netherlands	0.933	▲ 0.001

Least HDI Countries :

179	–	Congo, Democratic Republic of the	0.459	▲ 0.003
180	–	Mozambique	0.446	▲ 0.004
181	–	Sierra Leone	0.438	▲ 0.003
182	▲ (1)	Burkina Faso	0.434	▲ 0.005
182	–	Eritrea	0.434	▲ 0.003
184	–	Mali	0.427	▲ 0.001
185	–	Burundi	0.423	▲ 0.002
186	–	South Sudan	0.413	▼ 0.001
187	–	Chad	0.401	–
188	–	Central African Republic	0.381	▲ 0.005
189	–	Niger	0.377	▲ 0.004

HDI in India :

The national average HDI for India in 2008 was 0.467. By 2010, its average HDI had risen to 0.519. UNDP, the sponsor of Human Development Index methodology since 1990, reported India's HDI to be 0.554 for 2012, an 18% increase over its 2008 HDI. United Nations declared India's HDI is 0.586 in 2014, a 5.77% increase over 2012. As for the year 2018, HDI for India stood at 0.647.[6]

HDI is composite index that takes into consideration (1) health, (2) Education and (3) Per capita income.

Rank	State/Union Territory	HDI (2020 Prediction)	Comparable country
Very High human development			
1	Kerala	0.834	Sri Lanka
2	*Chandigarh*	0.827	Antigua and Barbuda
High human development			
3	*Lakshadweep*	0.766	Ukraine
5	*Delhi*	0.759	Dominican Republic
5	*Andaman and Nicobar Islands*	0.759	Tunisia
7	*Sikkim*	0.746	
8	Punjab	0.744	Jamaica
9	Puducherry	0.742	Jordan
10	Himachal Pradesh	0.741	Tonga
11	Karnataka	0.730	Libya
12	Tamil Nadu	0.729	Libya
13	Mizoram	0.705	South Africa

Rank	State/Union Territory	HDI (2020 Prediction)	Comparable country
Very High human development			
Medium human development			
15	Maharashtra	0.696	Marshall Islands
	Manipur		
17	Jammu and Kashmir	0.688	Iraq
18	Uttarakhand	0.684	
19	[Maharashtra]]	0.682	
20	Nagaland	0.679	Morocco
21	Gujarat	0.672	Kyrgyzstan
22	Telangana	0.669	Guyana
23	*Dadra and Nagar Haveli*	0.663	El Salvador
24	Arunachal Pradesh	0.660	Tajikistan
25	Tripura	0.658	
26	Meghalaya	0.656	

Rank	State/Union Territory	HDI (2020 Prediction)	Comparable country
Very High human development			
27	Andhra Pradesh	0.650	Cape Verde
–	**India (average)**	**0.647**	Nicaragua
28	West Bengal	0.641	Namibia
29	Rajasthan	0.629	East Timor
30	Assam	0.614	Bangladesh
31	Chhattisgarh	0.613	Federated States of Micronesia
32	Odisha	0.606	Republic of the Congo
33	Madhya Pradesh	0.606	Eswatini
34	Jharkhand	0.599	Vanuatu
35	Uttar Pradesh	0.596	Ghana
36	Bihar	0.576	Nepal

HDI in Telangana

Hyderabad: In a clear indication of steady improvement in education, life expectancy and growth of income levels, the Telangana State is now ranked tenth in the Human Development Index (HDI), a jump from its previous 13th rank among 21 Indian States.

Centre for Economic and Social Studies (CESS), which released its Human Development Report -2017 (HDR) for Telangana on Friday, said that back in 2004-05, the State was ranked 13th in HDI and the rankings rapidly rose to tenth.

According to the Director of CESS, Prof. S Galab, the overall improvement in the three major parameters, education, life expectancy and income levels that go into calculating HDI, were also reflected in the districts.

"Our study indicates that there has been a convergence of all the major factors like education, life expectancy and income levels in the districts of the State. The districts of Hyderabad and Rangareddy remain on the top while Nizamabad, Mahbubnagar and Medak were at the bottom of HDI," he said.

Sharing some observations on inequalities, Professor E Revathi, who played a key role in developing the report, said that gender gap in HDI has also come down in the districts. However, there was disparity in education.

"More boys than girls and a relatively lower proportion of children from SCs and STs and poor families are enrolled in private schools, which have thus created a social divide," she said.

The CESS researchers while optimistic also were cautious about the HDI report. "We have made considerable progress but inequalities remain. Telangana is a land locked State and there is a problem of availability of resources in a fast growing economy. There is also need for skill development to improve labour productivity in TS," said noted economist and former Union Minister, Prof. Yoginder K. Alagh

Gender Empowerment Measure

The **Gender Empowerment Measure** (GEM) is a measure of inequalities between men's and women's opportunities in a country. It combines inequalities in three areas: political participation and decision making, economic participation and decision making, and power over economic resources. It is one of the five indicators used by the United Nations Development Programme in its annual Human Development Report.

Methodology

Calculating the GEM involves several steps. Firstly percentages for females and males are calculated in each of three areas.

The first area is the relative number of parliamentary seats held.

The second area is measured by two sub-components:

a) legislators, senior officials, and managers, and

b) professional and technical positions.

The third area is measured by the estimated earned income (at purchasing power parity US$).

Second, for each area, the pair of gender percentages are combined into an Equally Distributed Equivalent Percentage (EDEP) that rewards gender equality and penalizes inequality. It is calculated as the harmonic mean of the two components.

The EDEP for economic participation is the unweighted average of the EDEP for each of its sub-components. The EDEP for income is computed from gender sub-values that are indexed to a scale from 100 to 40,000 (PPP US$).

Finally, the GEM is the unweighted average of the three Equally Distributed Equivalent Percentages.

Gender Inequality Index

The Gender Inequality Index (GII) is an index for measurement of gender disparity that was introduced in the 2010 Human Development Report 20th anniversary edition by the United Nations Development Programmed (UNDP). According to the UNDP, this index is a composite measure to quantify the loss of achievement within a country due to gender inequality. It uses three dimensions to measure opportunity cost: reproductive health, empowerment, and labor market participation. The new index was introduced as an experimental measure to remedy the shortcomings of the previous indicators, the Gender Development Index (GDI) and the Gender Empowerment Measure (GEM), both of which were introduced in the 1995 Human Development Report.

Origins

As international recognition of the importance of eliminating gender inequality was growing, the Gender Development Index (GDI) and the Gender Empowerment Measure (GEM) were introduced in the 1995 Human Development Report. The GDI and GEM became the primary indices for measuring global gender inequality for the United Nations Human Development Reports. The GDI and GEM faced much criticism for their methodological and conceptual limitations.

Beneria and Permanyer have explained that the GDI and GEM are not measurements of gender inequality in and of themselves. The GDI is a composite index which measures development within a country then negatively corrects for gender inequality; and the GEM measures the access women have to attaining means of power in economics, politics, and making decisions. Both of which Beneria and Permanyer claim are inaccurate in clearly capturing gender inequality. According to the UNDP, the GDI was criticized for its inability to accurately measure gender inequality for its components being too closely related to the Human Development Index (HDI), a composite measure of human development used by the UNDP.

Thus, the differences between the HDI and GDI were small leading to the implication that gender disparities were irrelevant to human development. The UNDP also claims that both the GDI and GEM were criticized because income levels had a tendency to dominate the earned income component, which resulted in countries with low income levels not being able to get high scores, even in cases where their levels of gender inequality may have been low. The GEM indicators proved to be more relevant to developed countries than less-developed countries. With international growing concern for gender equality, the participants of the World Economic Forum in 2007, among others, recognized that the advancement of women was a significant issue that impacted the growth of nations.[6]

As of 2006, the World Economic Forum has been using the Gender Gap Index (GGI) in its Global Gender Gap Reports, which ranks countries according to their gender gaps, in an attempt to better capture gender disparities. Beneria and Permanyer criticize the GGI for only capturing inequality in certain aspects of women's lives therefore making it an incomplete measure of gender inequality.

Given the amount of criticism the GDI and GEM were facing, the UNDP felt that these indices did not fully capture the disparities women faced. In an attempt to reform the GDI and GEM, the UNDP introduced the Gender Inequality Index (GII) in the 2010 Human Development Report. The new index is a composite measure which, according to the UNDP, captures the loss of achievement due to gender inequality using three dimensions: reproductive health, empowerment, and labor market participation. The GII does not include income levels as a component, which was one of the most controversial components of the GDI and GEM. It also does not allow for high achievements in one dimension to compensate for low achievement in another.

Dimensions

There are three critical dimensions to the GII: reproductive health, empowerment, and labor market participation. The dimensions are captured in one synthetic index, as to account for joint significance. According to the UNDP, none of the measures in the dimensions pertain to the country's development and therefore a less-developed country can perform well if gender inequality is low. The UNDP considers the dimensions complementary in that inequality in one dimension tends to affect inequality in another. Therefore, the GII captures association across dimensions, making the index association-sensitive, and ensuring that high achievement in one dimension does not compensate for low achievement in another dimension.

Reproductive health

Permanyer notes that the GII is a pioneering index, in that it is the first index to include reproductive health indicators as a measurement for gender inequality. The GII's dimension of reproductive health have two indicators: the Maternal Mortality Ratio (MMR), the data for which come UNICEF's State of the World's Children, and the adolescent fertility rate (AFR), the data for which is obtained through the UN Department of Economic and Social Affairs, respectively. With a low MMR, it is implied that pregnant women have access to adequate health needs, therefore the MMR is a good measure of women's access to health care. The UNDP expresses that women's health during pregnancy and childbearing is a clear sign of women's status in society.

A high AFR, which measures early childbearing, results in health risks for mothers and infants as well as a lack of higher education attainment. According to the UNDP data, reproductive health accounts for the largest loss due to gender inequality, among all regions.

Empowerment

The empowerment dimension is measured by two indicators: the share of parliamentary seats held by each sex, which is obtained from the International Parliamentary Union, and higher education attainment levels, which is obtained through United Nations Educational, Scientific and Cultural Organization(UNESCO) and Barro-Lee data sets. The GII index of higher education evaluates women's attainment to secondary education and above. Access to higher education expands women's freedom by increasing their ability to question and increases their access to information which expands their public involvement.

There is much literature that finds women's access to education may reduce the AFR and child mortality rates within a country.[6] Due to data limitations the parliament representation indicator is limited to national parliament and excludes local government or other community involvement. Although women's representation in parliament has been increasing women have been disadvantaged in representation of parliament with a global average of only 16%.

Labor market participation

The labor market dimension is measured by women's participation in the workforce. This dimension accounts for paid work, unpaid work, and actively looking for work. The data for this dimension is obtained through the International Labour Organization databases. Due to data limitations women's income and unpaid work are not represented in the labor market dimension of GII. In the absence of reliable earned income data across countries, the UNDP considers labor market participation a suitable substitute for economic aspects of gender inequality.

Calculations

The metrics of the GII are similar in calculations to the Inequality-adjusted Human Development Index (IHDI), which was also introduced in the 2010 Human Development Report, and can be interpreted as a percentage loss of human development due to shortcomings in the included dimensions. The value of GII range between 0 and 1, with 0 being 0% inequality, indicating women fare equally in comparison to men and 1 being 100% inequality, indicating women fare poorly in comparison to men. There is a correlation between GII ranks and human development distribution, according to the UNDP countries that exhibit high gender inequality also show inequality in distribution of development, and vice versa.

The GII is an association-sensitive, responsive to distributional changes across dimension, composite index used to rank the loss of development through gender inequality within a country. The GII measures inequalities by addressing the shortcomings of other measures through aggregate strategy using multiple correspondence analysis (MCA) in order to avoid aggregation problems.[6] There are five steps to computing the gender inequality Index.

Step 1: Treating zeros and extreme values: The maternal mortality rate is truncated systematically at minimum of 10 and maximum of 1,000. The maximum and minimum is based on the normative assumption that all countries with maternal mortality ratios above 1,000 do not differ in their ability to support for maternal health as well as the assumption that all countries below 10 do not differ in their abilities. Countries with parliamentary representation reporting at 0 are counted as 0.1 because of the assumption that women have some level of political influence and that the geometric mean can not have a 0 value.

Step 2: Aggregating across dimensions within each gender group, using geometric means: Aggregating across dimensions for each gender group by the geometric mean makes the GII association-sensitive. The maternal mortality rate and the adolescent fertility rate are only relevant for females the males are only aggregated with the other two dimensions.

Step 3: Aggregating across gender groups, using a harmonic mean: To compute the equally distributed gender index the female and male indices are aggregated by the harmonic mean of the geometric means to capture the inequality between females and males and adjust for association between dimensions.

Step 4: Calculating the geometric mean of the arithmetic means for each indicator: Obtain the reference standard by aggregating female and male indices with equal weight, and then aggregating indices across dimensions.

Reproductive health is not an average of female and male indices but half the distance from the norms established

Step 5: Calculating the Gender Inequality Index: To compute the GII compare the equally distributed gender index from Step 3 to the reference standard from Step 4.

Changes in 2011 calculations

According to the UNDP there was a minor calculation change to the 2011 Gender Inequality Index from the 2010 index used. The maternal mortality ratio was calculated in the Gender Inequality Index at 10 even though the range of GII values should be between 0 and 1. To correct this the maternal mortality ratio is normalized by 10, which generally reduced the values of the GII. A trend for the GII has been calculated and can be found on the Human Development Reports website.

Loss due to gender inequality

As there is no country with perfect gender equality, all countries suffer some loss of human development due to gender inequality. The difference in dimensions used in the GII and HDI means that the GII is not interpreted as a loss of HDI, but has its own rank and value separate from the HDI. The GII is interpreted as a percentage and indicates the percentage of potential human development lost due to gender inequality. The world average GII score in 2011 was 0.492, which indicates a 49.2% loss in potential human development due to gender inequality. Due to the limitations of data and data quality, the 2010 Human Development Report calculated GII rankings of 138 countries for the year 2008. The 2011 Human Development Report was able to calculate the GII rankings of 146 countries for the reporting year 2011.

Multidimensional Poverty Index

Multidimensional Poverty Indices use a range of indicators to calculate a summary poverty figure for a given population, in which a larger figure indicates a higher level of poverty. This figure considers both the proportion of the population that is deemed poor, and the 'breadth' of poverty experienced by these 'poor' households, following the Alkire & Foster 'counting method' The method was developed following increased criticism of monetary and consumption based poverty measures, seeking to capture the deprivations in non-monetary factors that contribute towards well-being. While there is a standard set of indicators, dimensions, cutoffs & thresholds used for a 'Global MPI', the method is flexible and there are many examples of poverty studies that modify it to best suit their environment. The methodology has been mainly, but not exclusively, applied in developing countries.

The Global Multidimensional Poverty Index (MPI) was developed in 2010 by the Oxford Poverty & Human Development Initiative (OPHI) and the United Nations Development programme and uses health, education and standard of living indicators to determine the degree of poverty experienced by a population. It has since been used to measure acute poverty across over 100 developing countries. The Global MPI is released annually by OPHI and the results published on its website. It replaced the Human Poverty Index.

MPI advocates state that the method can be used to create a comprehensive picture of people living in poverty, and permits comparisons both across countries, regions and the world and within countries by ethnic group, urban/rural location, as well as other key household and community characteristics. MPIs are useful as an analytical tool to identify the most vulnerable people - the poorest among the poor, revealing poverty patterns within countries and over time, enabling policy makers to target resources and design policies more effectively. Critics of this methodology have pointed out that changes to cutoffs and thresholds, as well as the indicators included and weightings attributed to them can change MPI scores and the resulting poverty evaluation.

Dimensions and indicators

Dimensions

The Global MPI uses three standard dimensions: Health; Education; Standard of Living. These mirror the Human Development Index.

Multidimensional Poverty Indices used for purposes other than global comparison have sometimes used different dimensions, including income and consumption.

Indicators

The Global MPI uses the following ten indicators with the following cutoffs.

Dimension	Indicators	Deprivation
Health	Child Mortality Nutrition	Deprived if any child has died in the family Deprived if any adult or child, for whom there is nutritional information, is underweight
Education	Years of schooling School attendance	Deprived if no household member has completed six years of schooling Deprived if any school-aged child is not attending school up to class 8
Living Standards	Cooking fuel Sanitation Drinking Water Electricity Housing Assets	Deprived if the household cooks with dung, wood or charcoal Deprived if the household's sanitation facility is not improved (according to MDG guidelines), or it is improved but shared with other households Deprived if the household does not have access to safe drinking water (according to MDG guidelines) or safe drinking water is more than a 30-minute walk from home roundtrip Deprived if the household has no electricity Deprived if the household has a dirt floor Deprived if the household does not own more than one of these assets: radio, TV, telephone, computer, Animal cart, bicycle, motorbike or refrigerator and does not own a car or truck.

The indicators selected for other MPI oriented studies vary according to availability of data and the context, as well as the theoretical considerations of the researchers.

Role of State in Economic Development!

1. Subject-Matter:

Today the state has emerged as an active participant in the process of economic development in many ways. The doctrine of laissez-faire in dead.

Now the government has started participating increasingly in the productive activities and through its monetary and fiscal policies are guiding the direction of economic activities. It also determines the distribution of goods and services in the economy.

The process of development in case of developed countries was spread over a long period but under-developed countries today have no time to wait and it is essential for them to cut short the period do development. In this case the government has an important role in the process of development.

These countries have remained stagnant and a positive government intervention is necessary to put them on the path of the growth. In order to reduce the various rigidities inherent in an under-developed country, the state must play the strategic role.

According to UN Study Group, "In addition to the functions, governments normally perform, there is a large borderland of functions which they ought to perform for the simple reason that they are important, and are not carried out sufficiently, by private effort. This borderland can exist in any country, but it is wider in under-developed countries, because private enterprise in the latter is more knowledgeable and more enterprising than in the former."

In under-developed countries planning is not limited to intervention but is regarded as a necessary condition for economic development. Since sources are scarce in under-developed countries, it becomes necessary to plan their distribution among various projects as well as plan their utilization in these projects.

Thus the under-developed countries cannot escape planning if they want to develop themselves in a reasonably short span of time which implies that time factor is very important.

The problems prevailing in the under-developed countries cannot be solved by private enterprises and thus the state action is necessary for the economic development of these countries.

It controls over production, distribution, consumption of commodities and to perform this the government has to devise physical controls and monetary and fiscal measures and these measures are essential for reducing economic and social inequalities that are prevailing in under-developed countries.

"Breaking social chains, and creating a psychological, ideological, social and political situation propitious to economic development becomes the paramount duty of the state in such countries."

The sphere of state action is very vast. It includes, "maintaining public services, influencing the use of resources, influencing the distribution of income, controlling the quantity of money, controlling fluctuations, ensuring full employment and influencing the level of investment."

Thus the state has to shoulder heavy responsibilities in order to ensure rapid economic development in under-developed countries. This task can be performed by two types of measures i.e. (A) Direct and (B) Indirect.

2. Types of Measures:

(A) Direct Measures:

For the economic development of under-developed countries state has involved itself directly and performs certain vital functions which are enumerated below:

1. Organizational Changes:

The organizational changes play an important role in the process of economic development. It includes the expansion of the size of market and the organization of labour market. The state can develop the means of transport and communications for expanding the size of market because private enterprise cannot be capable of undertaking such schemes.

Moreover, the state can help the growth of agriculture and industries. The organization of the labour market also falls under the functions of government.

It increases the productivity of labour. The government helps in organizing labour by recognizing labour unions. It fixes working hours, payment of wages, establishes machinery for the settlement of labour disputes, provides for social securities measures etc.

This establishes relation between the employers and employees which increases efficiency of labour which in turn increases the production and reduces the cost.

The majority of people, who live in rural areas are engaged in agricultural operations for a fixed period. They are not aware of the employment opportunities in towns and industrial centres. The government can help them in getting jobs by opening information centres in rural areas. Thus the government can help in the mobility of labour.

The problem of urbanization arises, when the development labour moves from rural to urban areas and it is solved by the government. Such problems relate to housing, drinking water supply, electricity, slums, transport etc.

2. Social and Economic Overheads:

The main obstacle in the way of economic development of under-developed countries is the lack of economic overheads such as means of communications and transportations, ports, electricity irrigation etc. In industrially advanced countries, these facilities are provided by private enterprises.

But in under-developed countries the private enterprises are not interested to invest because the return is not fruitful and, moreover, such huge investments are beyond the capacity of private sector.

Besides this, there is dearth of entrepreneurial ability in under-developed countries and the entrepreneurs prefer to invest in trade, housing, gold, jewellery etc. where the rate of return is very high. Thus, it becomes the responsibility of state to provide these economic overheads in the under-developed countries.

It must also provide the education and training facilities and health services to accelerate the pace of economic development. Prof. Meier and Baldwin observes that the expansion of educational facilities and public health measures in under-developed countries reduces the obstacle to development.

3. Education:

Education plays an important role in the process of economic development.

According to Myrdal, “To start on a national development programme, while leaving the population largely illiterate seems to be futile. The educational facilities provided in under-developed countries increase their geographic and occupational mobility, raising their productivity and facilitating innovations. The quality of labour is very important for economic growth.”

Unskilled workers even working for long hours result in low per capita income. It is through public education that the state can increase the effective labour supply and hence their productivity. There should be free and compulsory provision of primary education and the schools of secondary education should be opened.

Various training institutions should be opened to provide training to mechanics, electricians, artisans, nurses, teachers, etc.

Thus “Programme of education at the base of the effort to forge the bonds of common citizenship to harness the energies of the people and develop the nation and human resources of every part of the country.” Education is both a consumer and an investment service. Prof. Galbraith regards that investment in educating each and every man is directly productive.

He argues that, to rescue farmers and workers from illiteracy may certainly be a goal in itself, but it is also a first indispensable step to any form of agricultural progress. Education so viewed, becomes a highly productive form of investment.

He further concludes that, "something is both a consumer service and a source of productive capital for the society does not detract from its importance as an investment. Rather, it enhances that importance." Thus education is the focal point of development.

4. Public Health and Family Planning:

The development and maintenance of public health services are important functions to be performed by the government. It is necessary that the health of people should be maintained to increase the efficiency and productivity of labour.

Public health measures generally include the improvement of environmental sanitation in both rural and urban areas, removal of Stagnant and polluted water, better disposal of sewage, control of communicable diseases, provision for medical and health services particularly in the field of maternity and child welfare, health and family planning education and the training of health and medical personnel and all this requires planned efforts on the part of public authorities.

Public health assumes greater significance in under-developed countries for its capacity to improve the composition of labour and raise its efficiency. But all the development efforts will be futile, if the growth of population is not checked.

Meier and Baldwin observe that the public health measures affect economic development in both ways.

They facilitate development by improving the qualitative composition of labour force. At the same time, they make need for development all the more urgent by increasing the size of population. Improvement in health will decline in death rate which in turn increases the population and it has adverse effect on economic growth.

The problem of poverty in under-developed countries cannot be checked, unless the rapid increase in population in checked. In highly advanced countries there is need to reduce the fertility rates. For this family planning clinics should be opened in rural areas, in industrial end other backward areas. There should be incentives to encourage parents to have fewer children.

More emphasis should be laid on removing barriers to birth control, raising the marriageable age etc. The problem of population explosion can be avoided in under-developed countries if the family planning programme is adopted on governmental scale.

To include, Lewis quotes, One needs to put all the ingredients into this pie, to convert social leaders into seeing the dangers of a high birth rate, so that the taboos and religious sanctions turn against it, instead of favouring it; to raise standards to living and education rapidly, so that women find it convenient to have fewer children and to make widespread propaganda about birth control techniques.

Action is needed on all fronts simultaneously.

5. Changes in Institutional Frame Work:

Economic development cannot take place in static institutional frame work. The rigid institutional frame work is a positive hindrance in the path of development in UDC. Prof. Paul Streeten has rightly observed that, "The difference between economic growth in advanced countries… and development in so called developing countries is that in the former attitudes and institutions are by and large, adopted to a change and the society has innovations and progress built into the system, while into the latter attitudes and institutions and even policies are stubborn obstacles to development."

The people of a country must desire progress and their social, economic, legal and political institutions must be favourable to it but in UDC these conditions are largely absent and there is a great need of social and cultural revolution. UNO has rightly observed that, **"the people of a country must desire progress and their social economic, legal and political institutions must be favourable to it."**

These conditions are largely absent in under-developed countries and in many of them a social and cultural revolution is needed. A United Nations Report observes in this connection that, "there is a sense in which rapid economic progress is impossible without painful adjustments.

Ancient philosophies have to be scrapped, old social institutions have to disintegrate, bonds of caste, creed and race have to be burst and large number of persons, who cannot keep up with progress, have to have their expectations of a comfortable life frustrated."

Economic change is not brought about by institutional changes alone. It is caused by both economic and non-economic factors. Thus, there must be a casual relationship between economic and the institutional changes or these changes may be independent of each other.

The government play an important role in changing the institutional structure in developing countries and creating conditions for evolution of new institutions. “New inventions may create new commodities or reduce the costs of producing old commodities.

New roads, new shipping routes or other improvements in communications may open up new opportunities for trade. War or inflation may create new demands. Foreigners may arrive in the country, bringing new trades, investing new capital or offering new changes of employment.”

Such new opportunities bring about changes in institution. The institutional changes can be brought about by the state in the form of land reforms, improvement in the laws of inheritance, regulation and control of monopolies, regulation for the control of money market, improvement in the distribution system etc.

According to Lewis, “Every government has to take an attitude on such questions as whether it favours large or small scale enterprise, competition or monopoly, private entrepreneurship, co-operatives or public co-operation and whether its attitude is to be backed by legislation and by administrative action. In addition to helping the evolution of suitable economic institutions, the government can also do a lot in moulding the social and political institutions of a country.”

6. Stepping up Rate of Investment:

The process of development is accelerated by increasing the rate of investment. The rate of savings in UDC is highly inadequate as compared to their investment requirements. Thus, it becomes essential for government to accelerate the rate of capital formation in these countries and the government can achieve this through taxation or inflation.

The socialist economies have also been able to save and invest a very high percentage of their national income because of their government’s active role in the field of capital formation.

7. Agricultural Development:

In UDC majority of people depend upon agriculture for their livelihood. Lack of irrigation and credit facilities are main hurdles in the way of economic development. If the agriculture remains backward, the other sectors of the economy cannot develop because agriculture is the basic industry and the other industries depends upon it for raw material.

Shriman Narayan has given the following main elements in the preparation of agricultural production plans at the village level:

(i) Full utilization of irrigation facilities, including maintenance of field channels in good conditions for the beneficiaries, repairs and maintenance of community irrigation works;

(ii) Increase in the area under multiple cropping;

(iii) Multiplication in the village of improved seed and its distribution to all cultivators;

(iv) Supply of fertilizers;

(v) Programmes for compost and green manure ;

(vi) Adoption of improved agricultural practices e.g., soil conservation, contour bonding, dry farming, drainages, land reclamation, plant protection etc.;

(vii) Programmes for new minor irrigation works to be undertaken in the village, both through community participation and on an individual basis;

(viii) Programme for the introduction of improved agricultural implements;

(ix) Programme for development of poultry, fish and dairy products;

(x) Programme for increasing production of vegetables and fruits;

(xi) Animal husbandry e.g., supply of stud bulls, establishment of artificial insemination centres and castration of scrub bulls etc. and

(xii) Programme for the development of the village fuel plantations and pastures.

The success of the agricultural development programmes depends upon land reform measures taken by the government.

The main objectives of land reform measures according to IPC have been twofold:

(i) To remove such impediments to increase in agricultural productivity as arise from the agrarian structure inherited from the past. This should help to create conditions for evolving as speedily as possible an agricultural economy with high levels of efficiency and productivity and

(ii) To eliminate all elements of exploitation and social injustice within the agrarian system, to provide security for the tiller and assure equality of status and opportunity to all sections of all rural population.

Land reforms measures include:

(1) Abolition of intermediaries;

(2) Security of tenure as tenants;

(3) Right to purchase land which tenants cultivate;

(4) Compensation for permanent improvements made on land by tenants;

(5) To limit the rent charged by landowners;

(6) Fixation of ceilings on agricultural holdings; and

(7) Consolidation of holdings.

Thus the agrarian policy of government consists of organisation of agriculture on co-operative lines, provisions of irrigation and credit facilities, establishment of subsidiary industries etc.

8. Industrial Development:

In LDC, the natural resources are under- developed or less developed. This is due to the fact that these countries remained under the colonial rule for a long period and their natural resources were mercilessly exploited for their selfish ends. After attaining their freedom there was no logic to leave the development of these resources in the hands of foreign dominating countries.

Furthermore, these poor countries lack in basic and key industries like iron, steel, cement, heavy engineering etc. The fact is that these industries required heavy capital investment, technical knowledge. These basic amenities are beyond the reach of private investors in these countries. In addition to this, private entrepreneur is totally reluctant to enter in these areas of production.

Therefore, it becomes the prime duty to start basic and key industries to boost the economic development of the country. Again these big industries need long gestation period. On the other hand no doubt these countries have some basic consumers goods industries are primitive and superstitious.

Few manufactures control the entire economic structure and industries are confined in a few big cities while rest of the country remains backward facing a number of problems.

It is therefore the urgent need of the hour is that the state should come forward and take measures to formulate and implement a judicious industrial policy. This industrial policy should focus on decentralisation of industries which may spread all over the country without any political interference.

A policy should be framed to promote exports which may substitute import which in turn will be helpful for rapid economic development. Special measures should be taken to establish cottage and small scale industries in rural areas so that the local resources may be used. It must provide larger opportunities of employment to the rural folks.

In addition to this state should try to prevent the emergence of monopolistic organisations and concentration of wealth in few pockets. The state can go a long way in the growth of private industries by importing capital equipment machinery and technical knowhow and even raw materials.

It should also provide various facilities and concessions for the promotion of basic and key industries. They can provide cheap credit facilities, tax rebate, cheap power, water, transport facilities etc., specially to those who are engaged for consumer goods industries for domestic consumption.

9. Influencing the Use of Resources:

UDC are generally characterized by under-utilization and mis-utilization of resources. Hence the government must take measures to ensure proper utilization of resources. There is problem of conservation of natural resources like forests and minerals. They should not be allowed to be utilized in a wasteful manner.

Here the government is required to play a role influencing the use of scarce resources. There are also problems of proper land use, proper planning of towns and proper location of industries and it requires long term and comprehensive planning on the part of government.

10. Removal of Inequalities:

Another important function of state is the removal or at least reduction of inequalities both economic and social. There is a great social disparity between various groups of society due to the highly unequal distribution of income. In fact, the economic and social inequalities are closely related to each other.

The government must adopt appropriate measures for the equitable distribution of wealth. The government should impose progressive taxes on income and wealth and on luxury goods and benefit the poor through wise public expenditure policy.

Prof, Gunnar Myrdal has rightly remarked, "The usual argument that economic inequality by resulting in enriching the upper class being able to save more of their higher income has even less relevance in most UDC where landlord and other rich people are known to squander their income in conspicuous consumption and investments and sometimes in capital flight."

The policy declaration in all UDC stresses the need for greater equality and in particular in raising the standard of living. Social inequality is also increasing in these countries. Policy measures should be taken in the interest of poor but most of them are not implemented or not put into practice and do not favour the poor.

It is very clear that only those inequalities are removed that arise from the institutions of the ownership of means of production and inheritance. The functional inequalities which arise from hard work, education, intelligence etc., have also important role in the process of development.

11. Optimum Allocation of Resources:

The UDC has the problem of optimum utilization of economic resources. In most of UDC natural resources are not only underutilized but mis-utilized. Conduct of a proper survey of natural resources and their proper exploitation is not possible without active participation of state.

The various economic policies should aim at proper balance in the rate of development of different sectors and in the rate of development of different industries in each sector.

To secure the balanced economic growth greater employment opportunities must be taken. The UDC not only lack in resources but are immobile also. The government should improve the mobility of factors of production by furnishing information about employment opportunities by setting employment exchanges and other appropriate institutions.

The ultimate aim of economic development is to create conditions of full employment of labour and other resources. The state must mould the attitude of people in right direction. They must adopt attitude to work, thrift and to other problems of development.

12. Maintenance of Peace and Security:

Peace and security are the two things which are essential for economic growth. Therefore, it becomes the responsibility of state to maintain law and order internally and to secure the country from external invasion. It will bring stability in economic system so as helpful in making bold decisions. A country involved in a prolonged war or internal strife cannot plan economic development in an effective manner.

13. Balanced Growth:

The development of UDC is unbalanced and lop sided. It is realised that the UDC must adopt the strategy of balanced growth but this cannot be achieved by an individual enterprise. It has to be planned in a systematic manner by the government.

The state ought to be a great innovator and industrial pioneer to bring about the desired change. Now a day's state is considered as an important agency promoting the balanced growth of the economy.

14. Self Reliance:

UDC are dependent on foreign trade for their development projects. In fact, foreign aid is beneficial at initial stages of development but the process cannot go endlessly. Sooner or later these countries stand on their own legs. Thus, self-reliance is must for these countries.

It should be looked upon not as an end but as means to attain economic development. This implies creating a strong industrial base. After a certain stage foreign aid becomes burden rather than help. Then it is better to remove it for success of economic development. The state has to play major role to achieve this objective.

(B) Indirect Measures:

In an indirect manner, the government can perform a vital function in providing the ever increasing needs of people.

1. Monetary Policy:

A proper monetary policy helps economic and industrial development by increasing the volume of scarce resources, raising the productivity of factor of production, improving the economic and social conditions and removing the various bottlenecks in the process of economic development. In developed countries control of money supply by the government is necessary as they had ensured the full employment.

But in UDC the unemployment is not due to cyclical fluctuations but is primarily the result of paucity of resources to put the people to work. This can be checked by creating additional resources through capital formation. In such countries monetary policy has to be utilized as an instrument of increases capital formation and diverting investment resources into desired channels.

2. Fiscal Policy:

Fiscal measures, through changes in government revenue and expenditure patterns have increasingly come to be regarded as a desirable as a desirable instrument of government policy in UDC. Taxation can be used for increasing savings by restricting consumption and directing investment in promoting channels and preventing it from going into undesired lines.

The direct investment to sociably desirable channels, stimulate private investment, promote distributive justice, avoid economic fluctuations and so on. Deficit financing can help in raising the rate of capital formation in UDC.

3. Price Policy:

Another important field of economic activity of government in LDC is regulation and control of prices. In the initial stage of economic development prices increase due to increased investment in the economy due to policy of deficit finance followed by the government. Hence, it is essential for the government to evolve a suitable price policy and keep the prices of essential commodities under control.

4. Increase in Foreign Trade:

Foreign trade is there in a UDC but the size of foreign trade in terms of value and quantity is small. The government can promote exports, facilitate the import of goods necessary for promoting and accelerating economic growth and restrict the import of luxury goods.

Foreign exchange crisis in developing countries can be checked through proper exchange control measure adopted by the government so that scarce foreign exchange resources are conserved and properly utilized.

5. Strengthening of Public Sector:

Another vital role of the state economic development that encourages public sector for due social welfare of the common masses.

6. Economic Planning:

To come over various problems planned process of priorities has to be followed. Today the choice is not between planning and non-planning but between different degrees of planning. Therefore government watches that the economic resources are used for socially described beneficial projects. Public finance is used to secure balanced development in different projects.

They need capital for investment but UDC have the scarcity of funds and funds can be raised through deficit finance also. Therefore it is the prime duty of the government to watch whether these funds are invested in proper channels and there is no wastage of resources. More over they also watch that deficit finance should not have any inflationary impact of the economy.

7. Public Debt:

When government lacks internal resources, it uses external assistance to accelerate the pace of economic development of the country. In this regard government adopts certain measures.

3. Limitations:

It is clears that government plays an important role in promoting economic development in LDC.

Inspite of this it has certain limitations:

1. The planning initiation and direction of economic development is not sufficient. There is no fault in the plans but the implementation is faulty and is found lacking in most under-developed countries.

2. In UDC, government machinery is generally corrupt and inefficient. The rapid expansion the role of state has resulted into corruption but it is dangerous in case of LDC where the standard of public morality is low.

3. The excessive state interference is economic life leads to dictatorship and consequently the economic freedom of people is lost.

4. There is limited capacity of government's administrative machinery to perform expanding development functions in developing countries. The government's administrative machinery is inadequate and under-developed.

Hence one cannot depend upon the government policy and programme in an efficient manner. While expanding the government enterprise the capacity and quality of administrative machinery must be taken into consideration.

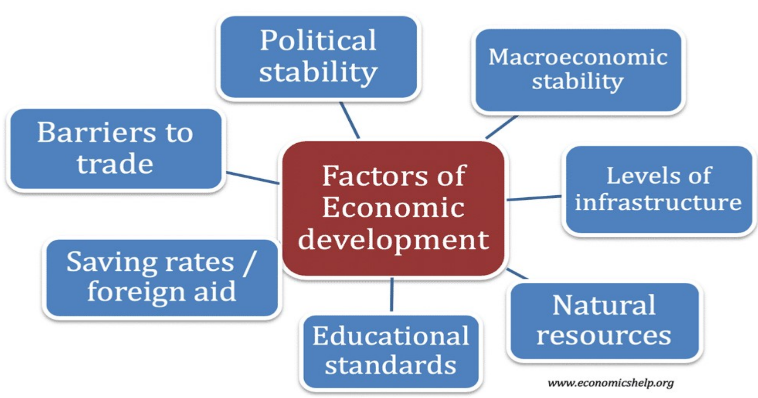
5. There are many political pressures on the government which make impossible to concentrate on the most important economic activities. The priorities are distorted and public sector projects are selected not according to their economic feasibility but in order to please the various pressure groups.

6. The more and more responsibilities by the state adds to burden and cost of administration. The administrative machinery goes unwisely and public service swells so rapidly that it becomes impossible to get it properly trained and experienced persons to run the administration. The less talented and less efficient persons have to be recruited and it becomes impossible to maintain quality of distribution.

Factors affecting economic development

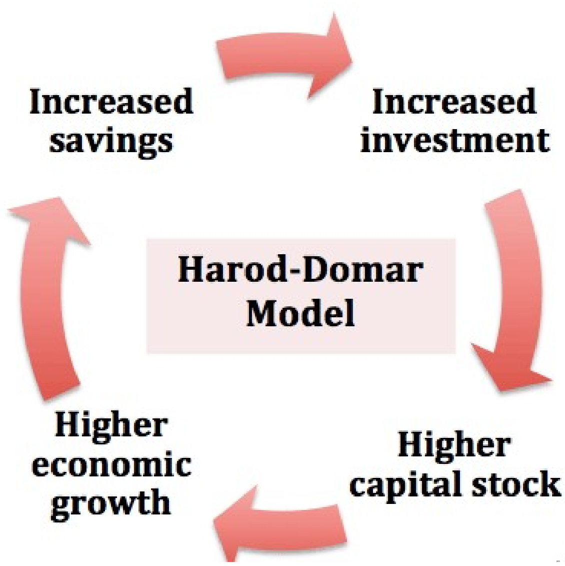
Economic development implies an improvement in economic welfare through higher real incomes and other welfare indices such as improved literacy, better infrastructure, reduced poverty and better health care.

Economic development requires a degree of political stability, investment and mixture of public and private initiatives to increase economic potential.



The main factors affecting economic development include

- **Levels of infrastructure** – e.g. transport and communication. In recent years, economic development in Central Africa has been improved due to increased investment in roads, railways and seaports. Part of this investment has come from Chinese companies who have a vested interest in transporting raw materials from Africa to China.
- **Education**. Levels and standards of education have a significant influence on labour productivity. Without basic literacy and numeracy, it is difficult for an economy to develop from manual labour to new higher tech industries in the service sector. For example, good levels of education in India have given opportunities for growth in service industries, such as IT and call centres.
- **Levels of inward investment**. Developing countries that can attract inward investment can see significant growth in development due to higher levels of capital and benefits of attracting multinational companies into their economy. For newly industrialised countries (NICs), inward investment has played a significant role in increasing economic development. For example in 2011, inward investment in Brazil stood at $101bn.
- **Levels of savings/capital** In growth models, such as Harod Domar, levels of savings and capital are seen as a key factor in determining economic growth. Higher savings enables a virtuous circle of increased investment, higher growth, and therefore, higher savings.



- **Political stability / Law and order**. Political stability and the protection of private property was ranked as the most important factors for encouraging firms to invest in developing economies. Any sign of instability increases the economic and personal risk of investing in developing countries.

World Bank (2017) report on inward investment

The biggest block to development is prolonged civil unrest/military conflict as this causes investment to dry up and resources to be wasted in unproductive means.

- **Macroeconomic stability.** Similar to political stability, macroeconomic stability encourages investment and development. This involves low rates of inflation and exchange rate stability. Rapid devaluation can cause capital flight and a decline in growth.
- **Labour mobility**. Is labour able to move from relatively unproductive agriculture to more productive manufacturing?
- **Foreign aid**. Targeted aid, can help improve infrastructure and living standards. It can be important for developing economies with low levels of savings and capital investment. Aid depends on how it is used – whether it is tied to trade deals or used to overcome market failure in areas such as education and health care. There is also some criticism of foreign aid that it can influence incentives and
- **Regional effects**. Economic development is strongly influenced by the development of an economies neighbours. For example, in the 1980s and 1990s, south east Asia showed strong levels of economic growth and development. However, Sub-Saharan African countries experienced very slow growth. This is partly due to

the gravity effect – the theory that trade is most profitable and efficient with near neighbours. If a neighbour does well, there tends to be spill over effects, such as increased trade and increased investment.

- **Natural resources**. Ceteris paribus countries with higher levels of natural resources can use this for economic development. For example, the revenues gained from oil have enabled the Gulf states to develop rapidly gaining high levels of real GDP. For African and Asian countries, raw materials are an important source of revenue and export earnings which enables higher development.

However, the link between natural resources and development is not straightforward. One theory suggests raw materials can lead to a 'resource curse' where an economy is stuck in producing primary products with no incentive to diversify the economy. It can also depend on whether natural resources are owned by developing economy and actually filter through to different sections of society.

- **Tax rates and levels of corruption –** e.g what percentage of tax rates are actually collected and spent on public services. For foreign multinationals, a low tax rate may be important to encourage investment. However, there needs to be a balance as the government need to collect tax to fund public services and public infrastructure.

- **Free trade vs protectionism**. An important debate in economic development is between the benefits of free trade versus protectionism. Removal of tariff barries can lead to a rise in exports, which contribute towards economic development. Asian countries, such as Korea, Taiwan and China have all benefitted from removal in tariffs. However, for developing economies stuck in producing primary products (where they have static comparative advantage) there is a strong case for temporary tariffs to enable new infant industries to develop.
- **Tourism**. For developing economies with an attractive climate and environment, tourism can be an important source of foreign earnings and incentive to develop infrastructure and new hotels.

Evaluation – other possible factors that influence economic development

Culture of entrepreneurship. For example, in the past 20 years, India has seen a shift from a conservative religious society to a more secular society with a greater focus on material improvement.

Political system. Some argue a Command economy can lead to economic stagnation, e.g. Cuba. China has successfully managed a partial economic shift to free-market based economy (with still political control of Communist Party)

Regulation/free market system. Free market economists, such as Milton Friedman argue the openness of an economy is important. For example, privatisation and deregulation, reduces barriers to investment and economic growth.

Population and Social Development

Population and social development are interrelated.

Population explosion leads to social problems like unemployment, poverty, low economic development etc.The social development which is determined by better health care facilities, education and high literacy rate and improvement in the standard of living of people are adversely affected due to high population. The benefits of government schemes do not reach the masses.

A vast share of GDP is required to keep the level of per capita income constant. The weaker sections of the population do not get the share of the development.

For an equitable social development government should aim not only at controlling the unregulated human growth of numerical strength but also at checking the unregulated movement of the population and increasing concentration of people in the urbanized areas and providing adequate living space and other facilites.These goals have to be jointly linked with the formulation and implementation of policies aimed at population regulation and planning for harnessing both natural and human resources. Thus only population growth per se may not be perceived as a problem but its relation with the availability of resources may be viewed with great concern.

Causes of Population growth

i. There is a widening gap between birth and death rates.

ii. Better medical facilities and application.

iii. Improvement in transport facilities helps people to reach the medical and health facilities.

iv. Social factors like child marriage and early marriage.

v. Lack and adoption of family planning measures.

vi. Illiteracy

Consequences of population explosion
i. Heavy pressure on land.

ii. Food shortage.

iii. Housing problems.

iv. Unemployment

v. Illiteracy

vi. Economic loss

vii. Rate of economic development has been affected.

viii. Law and order problems.

ix. Emergence of slums and overburden of resources.

x. Lower standard of living

xi. Pollution problem

xii Shrinking of national resources.

Suggestions to lower the population growth

i. Emphasis on female literacy

ii. Adoption of family planning measures.

iii. Educating people through mass -media.

iv. Improvement in the quality of health and family welfare services.

v. Empowering women as decision makers.

vi. Coordination between states and the canters for the implementation of the population control policies.

Characteristics of Developing Economics

Some of the most important characteristics of developing economics are as follows:

i. Low incomes per head:

People in developing countries are poorer on an average, than those in developed economies. However, this does not mean that all the people are poor. In fact, some can be very rich.

ii. Low levels of saving due to low income:

Poor people cannot afford to save and so the savings ratio (saving as a percentage of disposable income) of a country, where the average income is low, is likely to be low.

iii. Low life expectancy and high infant mortality rate:

Someone born in Japan can expect to live up to the age of 83 whereas someone born in Zimbabwe has a life expectancy of 37 years only.

iv. High rates of population growth:

In a number of developing countries, the birth rate exceeds the death rate and there is a high dependency ratio, with a high proportion of children being dependent on a small proportion of workers.

v. Low levels of education and health care:

These tend to result in low levels of productivity.

vi. Low levels of capital goods and poor infrastructure:

These again reduce productivity.

vii. Poor housing and sanitation:

A significant number of people may not have access to clean water for drinking and washing.

viii. Relatively high number of workers, employed in the primary sector:

Underemployment can be high in agriculture. For instance, ten persons may be doing the work of six. This, again, lowers productivity.

ix. Concentration on a narrow range of exports (most of which are primary products):

Developing countries can be subject to, what is known as, the underdevelopment trap or the vicious circle of poverty- This is the problem, that a country with low incomes has a low saving rate. This means that most of their resources are used to produce consumer goods. The lack of capital goods keeps productivity and income low, as shown in Fig. 1.

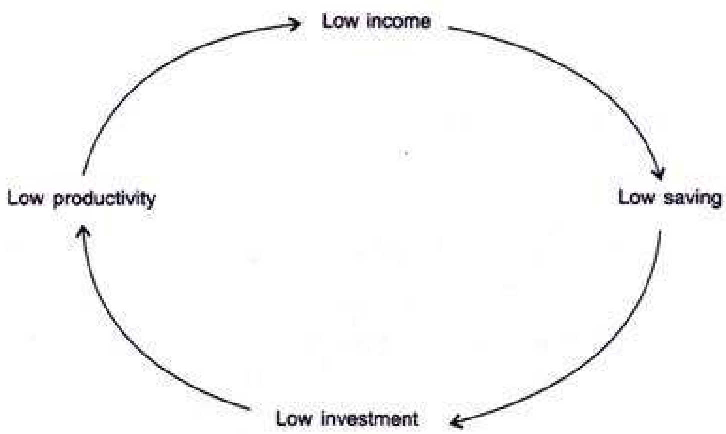


Fig. 1 The vicious circle of poverty

Theory of Demographic Transition

Theory of Demographic Transition is a theory that throws light on changes in birth rate and death rate and consequently on the growth-rate of population Along with the economic development, tendencies of birth-rate and death rate are different.

Because of it, growth rate of population is also different.

“Demographic transition refers to a population cycle that begins with a fall in the death rate, continues with a phase of rapid population growth and concludes with a decline in the birth rate”-E.G. Dolan.

According to this theory, economic development has the effect of bringing about a reduction in the death rate.

The relationship between birth and death rates changes with economic development and a country has to pass through different stages of population growth. C.P. Blacker divided population into five types as high, stationary, early expanding, low stationary and diminishing. According to the theory of demographic transition, population growth will have to pass through these different stages during the course of economic development.

The four stages of demographic transition mentioned by Max are explained as follows:

First Stage:

This stage has been called high population growth potential stage. It is characterised by high and fluctuating birth and death rates which will almost neutralize each other. People mostly live in rural areas and their main occupation is agriculture which is in the stage of backwardness. The tertiary sector consisting of transport, commerce banking and insurance is underdeveloped.

All these factors are responsible for low income and poverty of the masses. Social beliefs and customs play an important role in keeping birth rate high. Death rate is also high because of primitive sanitation and absence of medical facilities. People live in dirty and unhealthy surroundings.

As a result, they are disease ridden and the absence of proper medical care results in large deaths. The mortality rate is highest among the poor. Thus, high birth rates and death rates remain approximately equal over time so that a static equilibrium with zero population growth prevails.

Second Stage:

It is called the stage of Population Explosion. In this stage the death rate is decreasing while the birth rate remains constant at a high level. Agricultural and industrial productivity increases, means of transport and communication develops. There is great mobility of labour. Education expands. Income also increases. People get more and better quality of food products. Medical and health facilities are expanded.

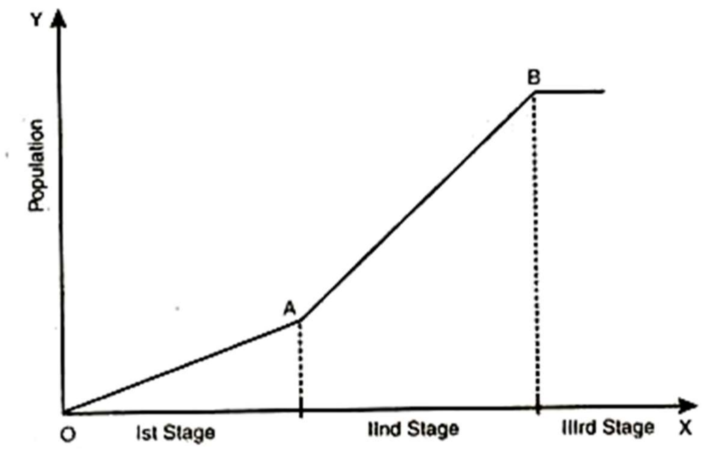


Fig. 2

During the stage economic development is speeded up due to individual and government efforts. Increased use of better technology, mechanization and urbanisation takes place. But there is no substantial change in the men, attitude of the people and hence birth rate stays high i.e., economic development has not yet started affecting the birth rate.

Due to the widening gap between the birth and death rates, population grows at an exceptionally high rate and that is why it has been called the population explosion stage. This is an “Expanding” stage in population development where population grows at an increasing rate, as shown in figure, with the decline in death rate and no change in birth rate.

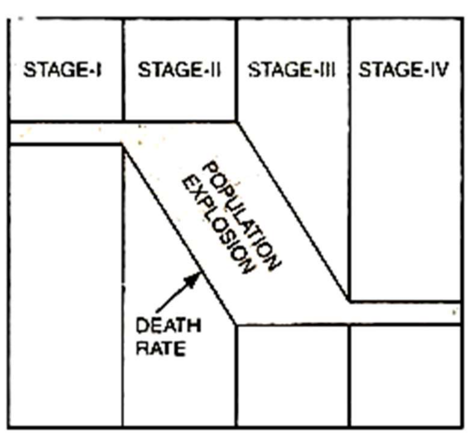


Fig. 3

Third Stage:

It is also characterised as a population stage because the population continues to grow at a fast rate. In this stage, birth rate as compared to the death rate declines more rapidly. As a result, population grows at a diminishing rate. This stage witnesses a fall in the birth rate while the death rate stays constant because it has already declined to the lowest minimum. Birth rate declines due to the impact of economic development, changed social attitudes and increased facilities for family planning. Population continues to grow fast because death rate stops falling whereas birth rate though declining but remains higher than death rate.

Fourth Stage:

It is called the stage of stationary population. Birch rate and death rate are both at a low level and they are again near balance. Birth rate is approximately equal to death rate and there is little growth in population. It becomes more or less stationary at a low level.

These stages of demographic transition can be explained with the help of diagram 3 given below:

- Stage I is characterised by high birth rate, death rate and low rate of population growth.
- Stage II is characterised by high and stationary birth rate, rapidly declining death rate and very rapid increase in population.
- Stage III is characterised by a falling birth rate, low and stationary death rate and rapidly rising population.
- Stage IV is characterised by low birth rate and low death rate with stationary population at a low level

Human Resource Development

Human Resource Development: Features, Scope, Objectives and Functions!

In 1970, Leonard Nadler published his book "Developing Human Resources" in which he coined the term 'human resource development' (HRD). Human resource refers to the talents and energies of people that are available to an organization as potential contributors to the creation and realization of the organization's mission, vision, values, and goals.

Development refers to a process of active learning from experience-leading to systematic and purposeful development of the whole person, body, mind, and spirit. Thus, HRD is the integrated use of training, organizational and career development efforts to improve individual, group, and organizational effectiveness.

Definitions of HRD:

1. According to South Pacific Commission 'human resource development is equipping people with relevant skills to have a healthy and satisfying life'.

2. According to Watkins, 'human resource development is fostering long-term work related learning capacity at individual, group and organizational level'.

3. The American Society for Training and Development defines HRD as follows: 'human resource development is the process of increasing the capacity of the human resource through development. It is thus the process of adding value to individuals, teams or an organization as a human system'.

Features of HRD:

1. Systematic approach:

HRD is a systematic and planned approach through which the efficiency of employees is improved. The future goals and objectives are set by the entire organization, which are well planned at individual and organizational levels.

2. Continuous process:

HRD is a continuous process for the development of all types of skills of employees such as technical, managerial, behavioural, and conceptual. Till the retirement of an employee sharpening of all these skills is required.

3. Multi-disciplinary subject:

HRD is a Multi-disciplinary subject which draws inputs from behavioural science, engineering, commerce, management, economics, medicine, etc.

4. All-pervasive:

HRD is an essential subject everywhere, be it a manufacturing organization or service sector industry.

5. Techniques:

HRD embodies with techniques and processes such as performance appraisal, training, management development, career planning, counselling, workers' participation and quality circles.

Scope of HRD:

Human resource management (HRM) deals with procurement, development, compensation, maintenance and utilization of human resources. HRD deals with efficient utilization of human resources and it is a part of HRM.

Human resource being a systematic process for bringing the desired changes in the behaviour of employees involves the following areas:

1. Recruitment and selection of employees for meeting the present and future requirements of an organization.

2. Performance appraisal of the employees in order to understand their capabilities and improving them through additional training.

3. Offering the employees' performance counselling and performance interviews from the superiors.

4. Career planning and development programmes for the employees.

5. Development of employees through succession planning.

6. Workers' participation and formation of quality circles.

7. Employee learning through group dynamics and empowerment.

8. Learning through job rotation and job enrichment.

9. Learning through social and religious interactions and programmes.

10. Development of employees through managerial and behavioural skills.

Objectives of HRD:

The prime objective of human resource development is to facilitate an organizational environment in which the people come first. The other objectives of HRD are as follows:

1. Equity:

Recognizing every employee at par irrespective of caste, creed, religion and language, can create a very good environment in an organization. HRD must ensure that the organization creates a culture and provides equal opportunities to all employees in matters of career planning, promotion, quality of work life, training and development.

2. Employability:

Employability means the ability, skills, and competencies of an individual to seek gainful employment anywhere. So, HRD should aim at improving the skills of employees in order to motivate them to work with effectiveness.

3. Adaptability:

Continuous training that develops the professional skills of employees plays an important role in HRD. This can help the employees to adapt themselves to organizational change that takes place on a continuous basis.

HRD Functions:

HRD functions include the following:

1. Employee training and development,

2. Career planning and development,

3. Succession planning,

4. Performance appraisal,

5. Employee's participation in management,

6. Quality circles,

7. Organization change and organization development.

Adam Smith's Theory of Economic Development

Adam Smith is known as father of economics. We get his ideas about economic development from his well-known book, "An Enquiry into the Nature and Causes of Wealth of Nations" (1976) which has tremendously influenced the thinking about economic growth and development.

We briefly explain below his ideas about economic development. We will study below that he advocated the policy of laissez faire, that is, non-intervention of government in economic activities of the individuals. He laid stress on individual freedom in conducting their economic affairs without any obstructions and restrictions by the Government. He advocated free trade among nations of the world and urged that all restrictions on foreign trade should be removed to promote international specialization so as to increase the incomes of the nations.

Aspects of Adam Smith's Theory:

The crucial aspects of development theory as propounded by Adam Smith are – (1) division of labour and (2) capital accumulation. Productivity of labours increases through division of labour. The two factors that facilitate the use of more division of labour are capital accumulation and size of market. We explain below these factors in detail. Also learn about the relevance of Adam Smith's Theory to developing countries.

1. Division of Labour:

A very important contribution made by Adam Smith to the analysis of the factors that bring about expansion of output is the division of labour. His treatment of this aspect of production is classic. He pointed out that there was a natural tendency among human beings "to truck, barter, and exchange one thing for another." Among the benefits of division of labour he refers to increase in dexterity, saving in time, and invention of better machines and appliances. But Adam Smith points out that the degree of division of labour is limited by the extent of the market. Division of labour is profitable only if there is adequate market for the goods produced. He, thus, emphasized the expansion of international trade, which widens market for goods.

One of the most significant contributions to economics by Adam Smith was to introduce the idea of increasing returns caused by division of labour. He thought the gain from by division of labour or specialization was a basic feature of social economy otherwise everyone, like Robinson Crusoe, will produce everything they want for themselves. Thus Thirlwall writes, "It is the notion of increasing returns, based on division of labour that lay at the heart of Adam Smith's optimistic vision of economic progress as a self-generating process, in contrast to later classical economists who believed that economies would end up in a stationary state owing to diminishing returns in agriculture."

Given the crucial significance of increasing returns based on division of labour, productivity of labour rises with the increase in the size of market. Along with division of labour it is acceleration of investment or capital accumulation that leads to the increase in growth of output and living standards of people. It is worth noting that Adam Smith expressed the view that industry generally permitted greater scope for division of labour or specialization than agriculture and, therefore, in rich developed countries industrialization had taken place to a greater extent.

Another important related notion put forward by Adam Smith was that division of labour is limited by the size of market'. If the extent of market is small, it will not be profitable to produce on a large scale which requires introducing a higher degree of division of labour or specialization.

This is because if size of market for a good (i.e., the magnitude of demand for it) is quite small, it will not be profitable to introduce a higher degree of division of labour along with the use of large capital stock. In the absence of adequate demand, only a little degree of division of labour or specialization can be used and a good deal of capital stock is likely to remain underutilized. It is in this context that he advocated for free international trade which leads to the increase in the extent of market for goods and makes their production on a large scale profitable and induces the capitalist class to accumulate more capital.

2. Accumulation of Capital:

As a means of economic development, Adam Smith gave an important place to saving and accumulation of capital. To quote his words, "Capitalists are increased by parsimony and diminished by prodigality and misconduct parsimony and not industry is the immediate cause of the increase of capital. Industry indeed provides the subject which parsimony accumulates. But whatever industry might acquire, if parsimony did not save and store up, the capital would never be greater." Here is a clear guideline and suggestion to the developing countries. Their greatest obstacle to economic development is the deficiency of capital. In this respect they are caught up in a vicious circle of poverty.

Productivity of people is low because the capital stock is small; capital stock is small because savings of the people are small and savings are low because incomes of the people are small due to the their low productivity. The way out of the vicious circle, according to Smith, is if capitalist class that saves most of their profits and invest in capital accumulation for accelerating economic growth. Thus, according to Adam Smith, saving of the society is increased by 'parsimony' (i.e., habit of frugality) of the capitalists. In fact, Adam Smith assumed that capitalist class behaves in such a manner and save a very large proportion of their profits.

Besides, capital accumulation, according to Smith, facilitates a greater degree of division of labour which causes productivity of labour to rise. Without capital accumulation the extent of division of labour cannot be increased much. Increase in capital formation leads to the production of different types of specialized equipment which are operated by different classes of workers who are skilled and specialized in various tasks. Thus, capital accumulation along with division of labour leads to the increase in industrial output and employment.

Development Process is Cumulative:

Adam Smith points out that the development process once started gathers momentum and becomes cumulative, that is, it feeds upon itself. This happens in the following ways. First, increase in saving causes more accumulation of capital which in turn facilitates a great degree of division of labour and thereby raising productivity of labour and levels of incomes of the people. Second, the higher incomes due to the capital accumulation and a higher degree of division of labour lead to the increase in the size of market or demand for goods. This expansion in demand for goods causes increase in national output and income which brings about more saving and further investment and capital accumulation. In this way spiral of economic growth rises higher and higher. Third, the increase in size of market and availability of capital induces improvement in technology.

This cumulative process of development provides a cheerful note for the developing countries. That is, if they start the development process in right earnest they can be sure of further and rapid economic development and can catch up with the presently advanced developed countries.

Sequence of Development:

According to Adam Smith, the natural course of development is first agriculture, then industry and finally commerce. Agriculture creates a surplus and increases the purchasing power of the people which generates demand for industrial products. It also supplies raw materials for industries. Agricultural growth thus provides a base for industrial development.

Stationary State:

Through his belief in increasing returns based on the increase in the extent of division of labour. Adam Smith was optimistic about economic growth in future. In fact, he emphasized the cumulative and self-propelling nature of development process. However, he also pointed out that there is limit to the economic development which ultimately lands a free market economy in a stationary state in which further capital accumulation ceases to take place and therefore there is no more growth of the economy. This happens because of two reasons. First, there is a limited amount of natural resources at the disposal of the economy and after passing through a phase of growth a point is reached when they are fully utilized and do not permit further growth of output.

The second factor responsible for occurrence of stationary state is fall in profits which reduces inducement to invest further. Profits tend to fall as a result of competition among the capitalists, i.e., investors. This results in decrease in demand for more capital accumulation. With slackening of capital accumulation, demand for labour decreases resulting in decline in wages. Thus, after a significant economic growth, stationary state of the economy is reached where further capital accumulation ceases and profits fall to a low level and with the further increase in population wages become equal to the subsistence level.

Policy of Laissez-Faire:

As an instrument of economic development, Adam Smith was a strong champion of the policy of laissez-faire or allowing economic freedom to every individual not hampered in any manner by State action. He believed that "there is a set of rules of rights or justice, and perhaps even of morality in general, which are, or may be known by all men by the help either of 'reason' or of a moral sense." He was thus a strong believer in 'natural reason' guiding human affairs and he regarded State interference not only superfluous but positively harmful to economic progress.

Guided by enlightened self-interest, each individual was capable of promoting his own well-being and while promoting his own interests he promotes the welfare of the whole society in the process. It is, therefore, according to Adam Smith, the production by individuals is led as if by the 'invisible hand', to promote social welfare. Thus, though individual capitalists produce goods to make profits for them but in doing so they promote social welfare though it was no part of their intention. As a matter of policy, therefore, Adam Smith advocated the removal of all restrictions on trade, choice of occupation and the use of property by individuals.

Critical Evaluation of Adam Smith's Theory of Development:

The great influence of Adam Smith on subsequent thinkers can be traced in the pattern he set for later discussion on development problems. The emphasis he laid on the accumulation of capital as fundamental to the development process finds a place in subsequent theories of development.

His idea of stationary state is also taken up and repeated in later writings on the subject. The policy of laissez-faire advocated by him is emphasized in the theories propounded by later classical writers. Similarly, his view that development was gradual and cumulative process was adopted by subsequent economists.

One of Smith's significant contributions to the theory of development has been to introduce into economics the concept of increasing returns based on the division of labour. According to him, gains from division of labour or specialization are the basis of a social economy as without it man's productivity will be very low. His model represents optimistic view of development in contrast to the pessimistic views of later classical economists such as Ricardo and Malthus and to Marx A.P. Thirlwall rightly writes, "It is the notion of increasing returns, based on the division of labour that lay at the heart of his optimistic version of economic progress as a self-generating process in contrast to later classical economists who believed that economies would end up in a stationary state owing to diminishing returns to agriculture and also in contrast to Marx who believed that capitalism would collapse through its own contradictions." Increasing returns implies rising labour productivity and higher per capita income while diminishing returns means fall in labour productivity and therefore per capita income which set a limit to the growth of output and employment.

The most important contribution of Smith to the theory of economic development is his emphasis on capital accumulation and division of labour as the factors that determine economic growth of a country and further that capital accumulation or investment depends on savings out of profit generated by growth of industry and agriculture. This is very much relevant to the growth problem of present- day developing countries which requires acceleration of investment and capital formation.

Besides, Smith's emphasis on division of labour for raising productivity of labour is a highly significant contribution to economic thought and to the theory of development. He uses the term 'Division of Labour' in a wider sense which incorporates technological progress though he does not say so explicitly. He also rightly pointed out that division of labour provides greater scope for capital accumulation and the use of machinery in the complex production processes in the production of commodities that result in higher labour productivity.

It is worth mentioning that Smith's vision of development as a cumulative interactive process based on the division of labour and increasing returns remained neglected for a long time until an American economist, Allyn Young, revived it in 1928 in his important paper entitled "Increasing Returns and Economic Progress". It may be noted that unlike Marshall, Young was not simply concerned with the factors that raise productivity or cost-reduction within an individual industry as it expands but explained the increase in productivities in interrelated industries of the economy as a whole. Therefore, the notion of increasing returns put forward by Young is sometimes called macroeconomics of scale.

Finally, it goes to the credit of Smith that he explained the gains from international trade based on specialization by various countries on the basis of greater efficiency in the production of different goods and then trade with each other. That is, he extended his division of labour to the international level. He advocated free trade as it would increase the size of market for goods produced by different countries to reap benefits of higher degree of division of labour.

Relevance of Adam Smith's Theory to Developing Countries:

Adam Smith based his theory of development on the socio-economic conditions prevailing at his time in Europe. It was a period when the seeds of industrialization had already been dispersed in the economy. Industrial revolution was in its inception. Smith's views on development are, therefore, an answer to the questions posed by the problems of economic transition from a pre-industrial to an industrial England.

Basically, he, like all other classicals, regarded that economic welfare of the society was roughly proportional to the volume of output and level of economic activity. The society was regarded to be composed of two classes—the capitalists and the labourers. The wages being at the subsistence level, the labouring class was incapable of saving. Only the capitalists were able to save.

The institution of private property, social attitudes and existence of perfect competition were considered congenial to economic growth. He believed in political liberalism and the philosophy of laissez-faire. He wanted that government should perform only those functions which individuals cannot. In his view the forces of competition were powerful enough to establish an optimum equilibrium in a society.

Division of labour symbolizes the core of Smith's theory of development. It in turn depends on the 'size of the subsistence fund with which to maintain labour, i.e., on the amount of savings'. As such, division of labour has got to be preceded by capital accumulation. Further, 'capitals are increased by parsimony and diminished by prodigality and misconduct'. Division of labour is also dependent on the extent of market. So Smith favoured a widening of market through greater freedom of exchange.

Now, given adequate size of market, and sufficient amount of capital accumulation, division of labour would make its sway in pushing up the level of productivity. As such, with increased incomes, greater saving would be forthcoming. This goes to improve further the degree of specialization. The development proceeds ahead and becomes cumulative. Thus, in his theory, the economy grows like a tree in a steady and continuous way. It is this approach which forms the crux of Smith's theory of development.

It is against this background that we have to estimate the relevance of Adam Smith's theory to the socio-economic environment of presently developing countries. This theory has only limited relevance to the developing countries because of the following reasons. The size of market in these countries is quite small so that the effective demand for goods is low. Consequently, the inducement to invest is low. The size of market in turn depends on the level of income. Thus, the volume of production could be increased only if people's incomes increased.

Again this can be possible only if productivity is increased. But productivity depends to a large extent on the degree to which capital is employed in the productive process. However, in the developing economies, small size of the market keeps productivity and hence income at a low level. This results in a small capacity to save and invest. This in turn reinforces the forces keeping the extent of market small.

Besides, the policy implications of Smith's theory are quite inapplicable to the developing economies. His policy recommendations of laissez-faire, free trade and harmony of interests are unsuitable in the context of the development of developing economies. As it is, the market economy of developing economies has been distorted due to the emergence of various kinds of monopolistic elements. The monopolists inhibit technological progress on account of the fear that innovations might result into a devaluation of their investments in capital in their existing business.

In a free market competitive economy where prices perform parametric functions, the entrepreneurs have to submit themselves to the losses resulting from innovations, because there is no way out to counteract these innovations. But when monopoly in any of its forms exists, the prices lose their parametric functions and the possibilities of free entry of new firms into the industry becomes less effective, so that the tendency to resist the devaluation of the capital invested becomes stronger and stronger. This becomes a drag on technological progress.

The monopolists assume market powers to fix higher prices and obtain larger profits as compared to competitors. This not only accentuates economic inequality but also distorts the consumers' preferences through sales promotion techniques. It is on these grounds that the governments of the developing economies have opted to intervene and exercise control on such undesirable forms of business activities. Besides, factors such as the loss of flexibility of wage rates, the unpredictable instability of demand and growth of mass production have all added to the impracticability of Smithian advice of laissez-faire. Even if competition was sought to be restored, there is no surety that efficiency in production would necessarily be increased. This is because of following reasons–

First, competitive prices generally fail to include social costs. As such, the possibility of a divergence between marginal social net product and marginal net private product in a competitive economy cannot be ruled out. The magnitude of this divergence might be so great that it becomes the responsibility of the government to intervene to make the desired adjustments.

Second, competition may also fail to achieve maximum social welfare. Demand price does not reflect relative urgency of demands or wants of different persons in an environment of inequality. As such, an allocation of resources sought to be determined by demand price that is offered for consumer goods may in fact give rise to distortions in the economy. In view of these arguments, we find that government intervention is desirable, be it monopoly or competition.

Apart from the above explained reasons, there are certain special grounds for the developing countries to necessitate greater intervention in the economic affairs by the government. It is only through rigorous and systematic planning and judicious government intervention that these economies can be lifted up from the depths of stagnation.

The developing countries are confronted with the colossal problems of:

(a) Acute inadequacy of capital resources in relation to their requirements,

(b) Open and disguised unemployment of a vast chunk of population and

(c) Low per capita productivity of the working force.

These stupendous problems cannot be surmounted unless the government steps in a big way to take positive steps to transform the traditional economies into the industrial ones.

Further, due to the ill-bred structure of the industry in the developing countries, the capacity to produce capital goods falls short of the availability of savings. What it really means is that even when the economy’s belt is tightened so as to extract larger savings, capital formation cannot be correspondingly increased to the same extent. This is because there is immobility of resources, plants and equipment are primitive and obsolete and there is huge capital wastage involved due to rapid depreciation. It is only the government which can undertake huge investments in plants and equipment and ensure mobility of resources for increasing capital formation through increased savings.

Besides, there is the need for building infrastructures and social overheads like roads, transport, communications, river valley projects, power, schools, hospitals and things like that. They involve huge investments with long gestation periods. The returns are uncertain and long delayed. As such, no private entrepreneur would come forward to undertake investments in these. Government must step in to provide these basic facilities. Furthermore, the developing countries are greatly ill-placed on account of their being consumption-oriented.

Due to the widespread poverty, the marginal propensity to consume of people is very high and thus the savings are very low. However, in case of a developing economy, the consumption would increase not only due to an increase in income but also due to the rise in the propensity to consume because the working of demonstration effect, both domestic and international. As such, it becomes incumbent for the government to take special measures to mobilise savings to step up capital formation.

The upshot of the discussion is that the government must play a positive role in accelerating the process of economic development in developing economies. It is, of course, very much true that the government machinery in developing countries is not that competent to bring about the desired rate of growth. But this should in no way be taken to mean that the government intervention has to be limited or eliminated. What is actually required is that the efficiency of the government be increased so that it can play its desired role to achieve the warranted rate of growth.

Nevertheless, some of the crucial variables of Smith’s model are as valid in the developing countries as they were for the economies that formed the basis of his theory of development. Capital accumulation and technology (i.e. division of labour) that played the strategic role in his model, are even today recognised as the key variables in the process of economic progress of the developing countries.

Further, for economies which are just on the threshold of take-off, Smith’s prescriptions in terms of division of labour, extension of the market, rational distribution of national income, anti- usury and anti-monopoly laws, furtherance of the interests of agriculturists, industrialists and those engaged in commerce by a proactive, promotional and developmental role of government, provide a comprehensive theory of economic development.

But it should always be kept in mind that this was a theory mainly formulated in the context of England with a view to tackle the problems involved in the process of transition from a pre-industrial to an industrial state. We should, therefore, not hope to get proper and direct solution to all the problems of development which are posed by the development and industrialisation of developing countries owing to the tremendous difference in the circumstances in the two cases.

Division of Labour

Definition: Division of labour is an economic concept which states that dividing the production process into different stages enables workers to focus on specific tasks. If workers can concentrate on one small aspect of production, this increases overall efficiency – so long as there are sufficient volume and quantity produced.

This concept was popularised by Adam Smith in An Inquiry into the Nature and Causes of the Wealth of Nations (1776). Famously, he used the example of a pin factory. Adam Smith noted how the efficiency of production was vastly increased because workers were split up and given different roles in the making of a pin.

workers specialising in a repetitive job.

Why is the division of labour more efficient?

- Workers need less training as they only have to master a small number of tasks
- It is faster to use one particular tool and do one job.
- No time is wasted with a worker dropping a tool and then picking up another.
- Workers can gain loyalty and a sense of achievement from their branch of production.
- There is no need to move around the factory; the half-finished good comes to them.
- Workers can concentrate on those jobs which best suit their skills and temperament.
- When production has very high volumes, the division of labour is necessary to get economies of scale.
- Potential problems of division of labour
- If workers are highly specialised, then the job can become very boring and repetitive. This can lead to low labour morale.
- If workers lose the motivation to concentrate and do a good job, mistakes may creep in as they get bored.
- An assembly line could grind to a halt if there is a blockage in one particular area.
- Adam Smith himself recognised this potential problem and advocated education of the workforce so that they wouldn't get too demoralised by their repetitive job.

Examples of division of labour

- **Ford motor factories.** In the 1920s, Henry Ford made use of the assembly line to increase the productivity of producing motor cars. On the assembly line, there was a division of labour with workers concentrating on particular jobs.
- **Food production**. A very basic example of division of labour could be seen in food gathering. In early societies, men would be the hunters, women and children would prepare the food and collect berries. The idea was that it was a very simple division of labour to enable the best use of different skill sets.

Nowadays, there is an even greater division of labour in food production. Farmers will buy seeds, fertilisers and tractors from different companies. They will just concentrate on one aspect of food production. The tools and food processing is handled by different workers and a different stage in the production cycle.

- **Apple products**. "Designed in California, produced in China". A new iPhone has innumerable examples of division of labour. The process is split up into many different parts. Design, hardware, software, manufacture, marketing, production and assembly.

Globalisation and division of labour

Globalisation has enabled a division of labour by country. For example, the developing world concentrates on the production of primary products. This involves low-paid labour to do the labour intensive work of picking coffee beans. The beans are then transported to developed countries, where other workers process, package and market the product.

Ricardo's Theory of Economic Development

Although Ricardo drew heavily on Adam Smith's writings, yet he was the first economist who presented the classical thought in a consistent body of economic analysis, presented in a vigorous form. His ideas are embodied in his book, The Principles of Political Economy and Taxation (1817) and the many letters that he addressed to contemporary economists. The Ricardian theory of rent is well known; but there are also ideas contained in his writings which throw light on the development process.

Role of Agriculture and Diminishing Returns to Labour:

Like that of Smith in Ricardo's model growth and development depends on capital accumulation. And capital accumulation depends on reinvestment of profits. But the profits earned by the capitalists depend on the growth of agricultural output, especially food, or what is now generally called wage goods. However, the important fact which was emphasised by Ricardo was diminishing returns which occur as more doses of labour (equipped with some tools and equipment) are used in agriculture.

It is diminishing returns in agriculture that causes food prices to rise and result in rise of wages of workers which squeeze profits and ultimately lands the economy into stationary state. According to Ricardo, there are three agents of production that participate in the process of growth of output. The capitalist hires labour and land and plays a key role in the process of economic development. Ricardo uses the term capitalist in the sense the modern economists use the term entrepreneur. In the Ricardian model capitalist undertakes production, pays rent to the landlords and wages to the workers employed for the production work and what remains is his profits.

Besides diminishing returns to labour in agriculture, the other fact emphasised by Ricardo, like other classical economists, is that wages were determined by minimum subsistence level of the workers. Whenever during the growth process wages rise above the subsistence level, population increases and brings them to the level of subsistence. On the other hand, wages cannot fall below the subsistence level because below it workers cannot survive.

Ricardian Growth Model:

Let us now explain Ricardian model of growth in detail. Ricardo makes two-sector analysis of the economy. He draws distinction between an agricultural sector and industrial sector. He assumes that agriculture is subject to law of diminishing returns while industry is subject to constant returns. Further, Ricardo regarded real wages to be fixed in terms of corn, i.e., the product of the agricultural sector.

Labour when supplied with corn (wage goods), i.e., circulating capital and also some fixed capital (tools and equipment) to produce more than its subsistence and the difference between the output and subsistence wages is the surplus produced by the labourers which is shared between the capitalists, the owners of capital, and the landlords, the owners of the lands.

Let us first take the agricultural sector which, according to Ricardo, is subject to diminishing returns. As more and more doses of labour and capital are employed, marginal product of labour and capital would diminish. The capitalist employer will employ labour to the extent that he just meets the expenses of production on the margin. The intra-marginal doses of labour employed would produce surplus over the expenses incurred on them, which is the source of capital, that is, the wage fund that will be used for employing labour in future for further production. The greater the volume of saving out of the surplus, the faster will be the rate of capital accumulation and more rapid the growth of output and employment.

Graphically, the growth of agricultural output and employment of labour in Ricardian model is depicted in Fig. 18.1. In this figure marginal productivity of labour is depicted on the Y-axis and the amount of labour employment on the X-axis. The curve MP is the marginal productivity curve which will remain fixed as it is assumed that land is fixed and no technological progress occurs. If OB is the expenses on a dose of a labour and capital, then OL labour would be employed.

It will be seen from Fig. 18.1 that the employment of OL labour produces the total output equal to OQHL. The total expenses of production incurred on capital and labour are equal to OBEL. It is thus clear that labour produces surplus over costs of cultivation incurred on labour and capital. The surplus is equal to BQHE. This surplus represents the rent which will be obtained by the landlords, the owners of the land.

If OW represents the minimum level of subsistence wage which will be paid to the workers, then OWTL would be the share of labour (i.e., total wages bill) in the agricultural output produced. The remaining agricultural output equal to WTEB will be the profits made by the capitalist farmers.

According to Ricardo, surplus (i.e., profits) of capitalist farmers will be saved and reinvested. As a result of reinvestment both the output and employment will increase. Since the land for the society as a whole is fixed, marginal product curve of labour (equipped with certain tools) will remain unchanged. Due to diminishing returns, with the increase in more and more of employment of labour its marginal product, (MP) will go on falling till it becomes equal to minimum subsistence level of wages OW (that is, at point N on MP curve in Fig. 18.1).

As a result of marginal product of labour being equal to minimum subsistence wages OW, profits will disappear and rent of landlords will increase. With this total agricultural output equal to the area OSNM (that is the area under MP curve up to point M) will be distributed between wages and rent, profits having been fallen to zero. Ricardo thought that the landlords who receive rent do not save and consume all their incomes.

It may be noted that in equilibrium, according to Ricardo, rate of profit in agriculture must equal the rate of profit in industry. During the development process as profit rate in agriculture falls capital will be shifted to industry. As we will see below, with the increase in capital accumulation in industry profits will decline in industry as a result of rise in wages due to rise in food prices caused by diminishing returns in agriculture.

Ricardo's Model- Growth of the Industrial Sector:

It should be noted that the food-grain surpluses generated in agriculture are essential to employ labour in the industrial sector. It is in the industrial sector that stock of fixed capital plays an important role in the growth of output and employment, while in agriculture it is the amount of land which is of crucial significance. While the land as a whole is fixed and diminishing returns ultimately occur when more doses of labour and capital are used, increase in the stock of fixed industrial capital on the other hand is possible since it is made by man.

But workers engaged in building up of capital stock must be paid in real terms, i.e., in food-grains and other wage goods, or corn as Ricardo called it. As the stock of capital increases in the industrial sector marginal productivity curve of labour in the industry sector will shift upward implying that more labour will be employed at the minimum subsistence level of wages through the process of capital widening.

It is again worth emphasising that in the short run real wages may rise above the minimum subsistence level, but this will lead to the increase in population and labour force, so that as long as food-grains are available at the same price, the minimum subsistence level in money terms will remain constant and supply of labour will be perfectly elastic at the minimum subsistence level in money form. However, if the prices of food-grains rise due to the operation of diminishing returns in agriculture, the wages in the industrial sector will rise. But, the wage rate in terms of corn or wage goods will remain the same and the labour supply will be perfectly elastic at this rate due to the growth in population and labour force.

But availability of wage-goods surpluses proves a constraint on the growth of industrial sector. If sufficient food surpluses are not forthcoming and demand for them increases as a result of the growth in labour employment brought about by the expansion of stock of industrial capital, the prices of food-grains will rise. The increase in the prices of food-grains will raise the subsistence wage rate in terms of money which will reduce the surplus of the capitalists. Since Ricardo and others assumed that agriculture was subject to diminishing returns, the prices of food-grains will rise as cultivation on land is increased both extensively and intensively.

Therefore, as a result of the rise in the prices of the food-grains and thereby the rise of the wages of labourers will reduce the surplus or profits made by the capitalists in the industrial sector. The rate of profit expressed as ratio of net revenue earned on the capital will go on declining till it becomes zero. When the rate of profit becomes zero, further capital accumulation in the industrial sector will cease and in this way a stationary state will be reached. Before the stationary state is reached, the level of output and employment of labour force during any given period in the industrial sector will depend on the stock of given fixed capital (and therefore the marginal productivity curve of labour) on the one hand and the wage goods supply forthcoming from the agricultural sector on the other.

We depict the growth of output and employment in the industrial sector in Fig. 18.2. In this figure labour employment is measured along the X-axis and marginal product of labour is measured along the Y-axis, Along the Y-axis and below the origin the stock of capital is measured. To start with, suppose OK_1 is the stock of industrial capital and corresponding to this the marginal productivity curve of labour is M_1P_1. Suppose OW is the minimum subsistence level of wages in real terms. With OW as the wage rate, OL_1 labour force would be employed. At OL_1 the marginal product of labour is equal to the given wage rate of OW, the total wage bill will be equal to $OWEL_1$ and WEM_1 will be the profits or net revenue earned by the capitalists.

According to Ricardo, a good part of this net revenue or profits earned by the capitalists will be reinvested in the expansion of capital equipment. This reinvestment of the profits will result in the expansion of the capital stock. The expansion in the stock of capital will shift the marginal productivity curve of labour upward to the position M_2P_2. Now, if the subsistence wage rate remains at the level OW, OL_2 labourers will be employed and the profits will now increase to WFM_2. In this way, the profits will continue to be reinvested and stock of capital will go on expanding, resulting in the shift of the marginal productivity curve of workers and the increase in labour employment and output.

However, according to Ricardo, the industrial sector cannot go on expanding indefinitely. As according to him, agriculture is subject to diminishing returns, the increase in industrial output and employment and the resultant rise in the demand for food-grains will cause the prices of food-grains to rise. The rise in prices of food-grains will bring about the increase in the wage rate in the industrial sector.

If the wage rate rises to OW' when the capital stock is OK_3, labour force OL_3 would be employed and the net revenue or profits of the capitalist would be reduced to $M_3W'G$. Thus, the occurrence of diminishing returns in agriculture and the consequent rise in the prices of food-grains and the rise in wage rate, the rate of profits made by capitalists will go on declining till it becomes zero. When the rate of profit is reduced to zero, further expansion in the stock of industrial capital ceases to occur. As a result of this, the whole growth process of increase in output and labour employment will stop.

From the above, it is thus clear that in Ricardo's model the growth of output and employment depends on capital accumulation on the one hand, and the available supplies of food-grains or wage goods on the other which are constrained by the operation of diminishing returns in agriculture.

Stationary State:

Ricardo shows how the rate of profit goes on falling as more and more capital is accumulated and invested. As the rate of profit falls, the accumulation of capital also slows down. The economy reaches the stationary state when rate of profit is too low to provide any incentive for any business enterprise. After the initial rise in wages as economy grows forward, the wages are brought down to the subsistence level by the pressure of population. At this stage, the rents are high. The real wage rate is at its minimum and population growth slackens. The rate of profit falls to near zero and further expansion of capital ceases. These are all the symptoms of a stationary state.

Given the crucial importance of capital accumulation in Ricardo's model of growth, anything that discourages investment will adversely affect capital accumulation and economic growth. Ricardo was therefore against imposing any levies, taxes and tariffs on inputs which raises the cost of production and lowers profits and thus serves as disincentive to make investment. That is why he emphasised imports of cheap food by abolishing Corn Laws in England at that time and thought that imports of cheap food would delay the reaching of stationary state indefinitely by holding down wages in terms of food.

To quote him, "A country could go on for an indefinite time increasing its wealth and production for the only obstacle to this increase would be scarcity, and consequent high value of food and other raw produce. Let these be supplied from abroad in exchange for manufactured goods and it is difficult to say where the limit is at which you would cease to accumulate wealth and to derive profits from its employment."

Such has been the appeal of Ricardo's growth model that Arthur Lewis based his view of development in "Economic Development with Unlimited Supplies of Labour" for developing economy with dualistic structure on Ricardo's model of growth. However, instead of assuming wages for the modern capitalist sector remaining equal to the minimum subsistence level based on Malthusian law of population Lewis considered perfectly elastic supply of labour to the modern capitalist sector due to the existence of disguised unemployment prevailing in the traditional sector (i.e., agriculture). He assumed that wages would stay at the given level until all disguisedly unemployed labour in agriculture is absorbed in the modern industrial sector.

Critical Evaluation of Ricardo's Model:

We have seen above that Ricardo, like other classical economists, emphasised the wage goods as determinants of growth of output and employment in an economy. In the growth of output and employment, they ignored the role of aggregate effective demand despite the protest by Malthus. Their neglect of effective demand as a factor affecting growth of income and employment flowed from their belief in Say's Law.

However, in the context of developing countries, his emphasis on wage goods as determinant of income and employment is quite right. In developing countries like India, the cause of mass unemployment and disguised unemployment is to be found in the lack of fixed capital and other cooperating factors and the supplies of the wage goods on the other and not in the lack of aggregate demand.

Therefore, a solution to the unemployment problem in labour-surplus developing countries lies in the accumulation of fixed capital as well as the expansion of wage goods supply in the economy. Keynesian remedy of curing unemployment through the increase in aggregate demand by expansionary fiscal policy financed by creating new money will not solve the problem of unemployment and disguised unemployment in developing countries.

It is worth emphasising that Ricardo rightly pointed out that the growth of output and employment in the industrial sector depends upon the availability of wage goods. That the availability of food-grain surpluses or wage-goods serves as a constraint on the growth of industrial output and employment has now been well recognised. In the Second and Third Five Year Plans of India and in the Soviet industrialisation, especially higher priority to basic and heavy industries brought about rise in prices of food-grains and the deceleration in the industrial sector.

However, it may be pointed out that the contention of Ricardo that agriculture is subject to the law of diminishing returns that will ultimately raise the prices of food-grains and reduce the profits in the industrial sector which will ultimately result in the occurrence of the stationary state, is too pessimistic and unwarranted. In their analysis of the growth process, they underestimated the role of technological progress in raising production which can suspend the operation of the law of diminishing returns.

The increase in agricultural productivity due to technological progress can prevent the rise in prices of food-grains and therefore the reaching of the stationary state. In actual practice, in today's developed countries, agricultural revolution took place along with the industrial revolution. In this regard, the gloomy prognosis of classical economists has not come true as far as capitalist developed countries are concerned.

A drawback in Ricardo's theory of development is that it regarded all increase in the stock of fixed capital as increasing labour employment. In other words, it ignored the labour-displacing effect of capital equipment in which improved technology is embodied. Actually, much of technological progress made in advanced developed countries has been of capital-intensive nature.

It has tended to displace labour. Therefore, the technology evolved and developed in advanced countries does not suit the factor-endowment conditions of developing countries with surplus labour and scarce capital. Therefore, in developing countries, to accelerate economic growth and employment generation emphasis has to be put not only on the expansion of fixed capital but also on the right choice of technology which is labour-using rather than labour-saving.

Ricardo was also not right in ignoring the effective demand in determining growth of income and employment. Despite warning by Malthus, Ricardo thought that development process would not be constrained by lack of effective demand as he believed in Say's Law that supply creates its own demand. The main hurdle in the development process, according to him, is the rise in wages due to diminishing returns in agriculture.

Ricardo thus writes, "There is no limit to demand—no limit to the employment of capital while it yields any profit, and that however abundant capital may become, there is no other adequate reason for a fall in profit but a rise in wages." As has been emphasised by Keynes, there is nothing in the working of the capitalist economic system which would always ensure adequate effective demand so as to maintain full employment and ensure steady growth. According to Keynes, in a modern monetary economy, the saving and investment activities have been separated from each other. The investment may not be equal to the savings done at the level of full employment. Hence full employment and steady growth may not be maintained.

Ricardo's contribution to economic analysis and theory of economic development is regarded as outstanding and his view is widely shared by other classical economists. As in the case of other classical economists, his analysis of the economy relates to a long period of time as distinguished from a short period analysis. He regards the economy as dynamic and ever-changing.

It grows till it ultimately reaches a stationary state. In the development process, Ricardo focuses his attention on the major variables like capital accumulation, population growth and trends in profits. He studies interrelations among these variables and then draws conclusions about their behaviour. His analysis of the relative shares in the national income of the various agents of production such as rent, wages and profits is indeed thought-provoking.

It must, however, be said that although he refines and extends the classical theory of development, yet the main points in his analysis are haphazardly scattered in his book 'The Principles of Political Economy'. His predictions regarding the advent of stationary state have not turned out to be true, nor are about the changes in relative shares of the various agents of production borne out by history. The two fundamental principles in his model of economic development, viz., the principles of population and the law of diminishing returns, are only partially correct. All the same, it has to be admitted that he made a significant contribution to the theory of economic growth.

Relevance of Ricardo's Theory of Growth to Developing Countries:

The Ricardian theory of development as we have seen in his analysis is based upon two fundamental principles, viz., principle of diminishing returns and the principle of population growth. Ricardo like Smith realises that a high rate of capital accumulation is necessary for economic growth. He considers profits as the primary source of accumulation, although among the secondary sources he includes rent and wages (when they are high enough to generate a surplus over subsistence).

Further, in the Ricardian system, there is an organic relation between agricultural development and economic growth. In this context Ricardo attacks the landlords' interests, as they are opposed to agricultural improvements. The fertility of soil, he says, falls as the margin is extended (as a result of increasing population). As such the rate of profit will fall in the absence of agricultural improvements and free trade.

Ricardo points out that the normal progress of the economy is towards stationary state. The gloomy forecast of the ultimate advent of a stationary state as envisaged by Ricardo has been falsified by history. The rapid economic strides by capitalist economies in many parts of the world in the past and the squeezing gulf between the capitalists and the labourers following a steady betterment in their economic status, all go to disprove Ricardo's dismal picture about the future of capitalism.

The two fundamental principles—the principle of diminishing returns and the principle of population on which Ricardo based his theory of economic development—have partially, if not completely, been negated in the developing countries of today. With improved techniques and technical know-how, it has been possible to effectively check the tendency towards diminishing returns to set in. In the same way, his views on population growth have been disproved for it cannot explain the changes in population in the developing countries. There is no tendency towards subsistence wages. Not only has that, Ricardo's conjectures about the relative share of labour, capitalists and landlords not been proved to be correct.

Nevertheless, Ricardo's emphasis on the role of agriculture in accumulation of the various methods of savings, including taxation of rent as an important element, entrepreneurial ability, specialisation of labour, attack on landlordism, the role of labour productivity which could be increased either through organisational or technological changes and the importance of the National Bank (Ricardo being the first to conceive of a Central Bank) still remain the policies of direct relevance to the developing economies.

Karl Marx Theory of Economic Development

Karl Marx, the father of scientific socialism, is considered a great thinker of history.

He is held in high esteem and is respected as a real prophet by the millions of people.

Prof. Schumpeter wrote,

"Marxism is a religion. To an orthodox Marxist, an opponent is not merely in error but in sin".

He is regarded as the father of history who prophesied the decline of capitalism and the advent of socialism.

The Marxian analysis is the greatest and the most penetrating examination of the process of economic development. He expected capitalistic change to break down because of sociological reasons and not due to economic stagnation and only after a very high degree of development is attained. His famous book 'Das Kapital' is known as the Bible of socialism (1867). He presented the process of growth and collapse of the capital economy.

Assumptions of the Theory:

Marxian economic theory of growth is based on certain assumptions:

1. There are two principal classes in the society. (1) Bourgeoisie and (2) Proletatiat.

2. Wages of the workers are determined at subsistence level of living.

3. Labour theory of value holds good. Thus labour is the main source of value generation.

4. Factors of production are owned by the capitalists.

5. Capital is of two types: constant capital and variable capital.

6. Capitalists exploit the workers.

7. Labour is homogenous and perfectly mobile.

8. Perfect competition in the economy.

9. National income is distributed in terms of wages and profits.

Marxian Concept of Economic Development:

In Marxian theory, production means the generation of value. Thus economic development is the process of more value generating, labour generates value. But high level of production is possible through more and more capital accumulation and technological improvement.

At the start, growth under capitalism, generation of value and accumulation of capital underwent at a high rate. After reaching its peak, there is a concentration of capital associated with falling rate of profit. In turn, it reduces the rate of investment and as such rate of economic growth. Unemployment increases. Class conflicts increase. Labour conflicts start and there is class revolts. Ultimately, there is a downfall of capitalism and rise of socialism.

Karl Marx's thinking on the capitalist, or modern, economy became very influential by the early 1900s. Despite the failure of the centrally planned economies that it inspired, it remains an interesting analysis.

Marx relied on the labour theory of value in his economic analysis. All output ultimately results from labour alone, either in its present active state or in the form of "dead labour" embodied in machines and other capital. A machine, as a form of capital, can produce nothing by itself, and nature s free gift of ore in the ground is worthless until it is mined by labor. Capitalist economies are, by definition, controlled by the owners of capital, and not labour.

The only way that capitalists can earn profits is to expropriate some of a product's value that should be attributed to labour. The expropriated share of a product's value is referred to as its surplus value. Under capitalism, but only because it has exchange value.

Initially exchange value of a product tends to increase as the cost of its production decreases due to increases in productivity. Productivity is increased by capital deepening, or increasing the amount of capital per worker. Marx defined two types of capital.

Constant capital, such as machinery, does not change in value over the production process. Variable capital consists of wages played to employ labour. Surplus value, as value over and above the payment to labour, increases largely due to increases in constant capital.

The production function described by Marx takes the form of the identity:

$Q + K_c + K_v + S$............. (1)

where Q is the value of output, K_c is the value of constant capital K_v is the value of variable capital, and S is surplus value.

This production function, as developed by Marx, leads to three types of crises that eventual y bring about the self-destruction of capitalism:

(1) a falling rate of profit,

(2) a realisation crisis, and

(3) a disproportionality crisis.

The rate of profit, Pr, in Marx's theory is defined as:

$P_r = S/K_e + K_v$ .... (2)

or the ratio of surplus value to the summed value of both types of capital The rate of profit must fall because surplus value is always reinvested by capitalists in the interest of raising levels of constant capital. This continuous investment of surplus value, or profit, in new constant capital is a fundamental behavioural assumption in Marxist analysis.

The on-going investment in constant capital causes it to increase in relation to variable capital. The ratio K_c/K_v, called the organic composition of capital, always in increasing due to reinvestment of profits and technological improvements.

As K_c increases in Equation 2, P_r must decrease. In order to raise the rate of profit capitalists increase productivity by increasing the organic composition of capital, but obviously their effort is futile because increasing constant capital causes continued decline in the rate of profit. Eventually, the process causes bankruptcy.

The realisation crisis also is based in the inevitable increase in the organic composition of capital. Employment of more constant leads to the technological unemployment of labour. The exchange value of a worker's only commodity, labour, decreases as a reserve army of unemployed grows. Capitalists cannot realise surplus value from consumer goods, however because the consumer market is increasingly one of unemployed workers.

The capital goods sector also is affected by the realisation crisis because demand for capital goods in the bankrupt consumer goods sector no longer exists. This relationship is called the disproportionality crisis, because it describes how two interrelated sectors cannot grow at different rates.

Criticisms:

Marx's economic growth theory has been criticised on a number of grounds:

(1) One criticism focuses on his use of the labour theory of value, which he did not originate but adopted from Smith and Ricardo Most non-marxist economists think that capital, as well as labour, is a true productive factor. Just as idle machines cannot produce a good without a labour input, labour cannot produce much without tools and other types of capital.

(2) A more important criticism of Marx's theory is that the inevitable fall in the rate of profit is not so much a true theoretical result as an extension of his assumption that the organic composition remains stable, and therefore the rate of profit. According to P. A. Samuelson, real rates of profit actually have been stable over the long run in the industrial countries.

Organic Composition of Capital

The "organic composition of capital" is the ratio of the value of the materials and fixed costs (constant capital) embodied in production of a commodity to the value of the labour-power (variable capital) used in making it.

The "technical composition of capital" differs in that it refers to the proportions of concrete labour, rather than the value composition of capital.

"By composition of capital we mean the proportion of its active and passive components, i.e., of variable and constant capital. Two proportions enter into consideration under this heading. ... The first proportion rests on a technical basis, and must be regarded as given at a certain stage of development of the productive forces. A definite quantity of labour-power represented by a definite number of labourers is required to produce a definite quantity of products in, say, one day, and – what is self-evident – thereby to consume productively, i.e., to set in motion, a definite quantity of means of production, machinery, raw materials, etc."

By "variable capital" Marx meant that proportion of capital which is invested in wages, in the purchase of labour-power. He calls this capital "variable" because it is this proportion of capital which, if it is used wisely may produce a new, surplus value in the course of the labour process, over and above the "necessary labour time" which constitutes the value of labour power.

The "constant capital" refers to that proportion of capital invested in the materials and components purchased but then embodied in the product when it is sold, and the materials, tools, machinery etc., which are used up, bit by bit in the course of production, and which for all intents in purposes are the same as the materials materially incorporated into the products. These materials must be renewed when they are used up or obsolete.

When these proportions are taken with respect to their concrete "use-values", then Marx calls this the technical composition of capital, as defined above. When the proportion is calculated on the basis of values, Marx calls this the organic composition of capital:

"The difference between the technical composition and the value composition is manifested in each branch of industry in that the value-relation of the two portions of capital may vary while the technical composition is constant, and the value-relation may remain the same while the technical composition varies. ... The value-composition of capital, inasmuch as it is determined by, and reflects, its technical composition, is called the organic composition of capital." [Capital Volume III, Chapter 8]

Surplus Value and Profit

If a certain quantity of constant capital, c, and variable capital, v, are invested in a productive process, then at the end of a cycle of reproduction these values will have renewed themselves, but in addition, if the labour power of the employees has used to at least the social average of usefulness, there will a surplus-value, s.

Marx expresses this symbolically as: $c + v \rightarrow c + v + s$.

On the basis of this conception, the rate of profit for the individual capitalist who got into the game of profiteering by investing $(c + v)$ at the beginning of the cycle of reproduction, and made a profit of s, the rate of profit is $s/(c + v)$. This rate of profit is the ratio which affects the individual unit of capital, as opposed to the rate of surplus value, s/v, which characterises the proportion of value expropriated by the capitalist class as a whole.

The organic composition of capital, c/v, measures the difference between the rate of surplus value, s/v, and the rate of profit, $s/(c + v)$ – the higher the organic composition of capital, i.e., the more capital-intensive the industry, the lower the rate of profit.

Tendency of Organic Composition to Rise

The organic composition of capital inevitably rises over time. For example, if the workers produce twice as much and therefore turn over twice as much material in the same time, this reduces the cost per product but reduces the proportion of wages in the total value of the product. Likewise, if an expensive machine is introduced to replace wages costs, the same effect is achieved.

Some claim that the dominance of services and knowledge and communications industries today means that the organic composition of capital is reduced. However, the labour process always produces a material outcome. Service industries and knowledge industries and so on produce a material effect, but as part of a whole social division of labour, and the observation made by Marx may retain its validity in relation to the social process of production taken as a whole, rather than just looking at one part.

Schumpeter's Theory of Economic Development

Schumpeter's theory of development assigns paramount role to the entrepreneur and innovations introduced by him in the process of economic development. According to Schumpeter, the process of production is marked by a combination of material and immaterial productive forces. The material productive forces arise from the original factors of production, viz., land and labour, etc., while the immaterial set of productive forces are conditioned by the 'technical facts' and 'facts of social organization'. The Schumpeterian production function can, therefore, be written as –

$Q = f\,[k, r, l, u, v)$ …(1)

Where, Q stands for the output, k for the Schumpeterian concept of "produced means of production", r for natural resources, l for the employed labour force. The symbol u represents the society's fund of technical knowledge and v represents the facts of social organization, i.e., the socio-cultural milieu within which the economy operates.

The above function shows that the rate of growth of the output depends upon the rate of growth of productive factors, the rate of growth of technology and the rate of growth of investment friendly socio-cultural environment. Schempeter held that the alterations in the supply of productive factors can only bring about gradual, continuous and slow evolution of the economic system.

On the other hand, the impact of technological and social change calls for spontaneous, discontinuous change in the channels of output flow. Thus taking into account these two types of distinct influences Schumpeter distinguished two components in the dynamic evolution of the economy – (a) the "growth component" which brings about gradual, continuous and slow evolution due to the changes in the factor availability, (b) the "development component" which brings about spontaneous and discontinuous change in the channels of output flow due to changes in the technical and social environments.

Schumpeter regarded land to be constant. The growth component will, therefore, include only the effects of changes in population and of increase in the producer goods. But Schumpeter further maintains that there does not exist any a priori relationship between the changes in population and the changes in the flow of goods and services. In other words, Schumpeter considers the population growth to be exogenously determined. Now, the increase in producer goods results from a positive rate of net savings.

The major part of savings and accumulations are attributed by Schumpeter to profits. But, according to him, the profits can arise if innovations such as new techniques of production are employed or if new product is introduced. Hence ultimately it is the change in the technical knowledge (i.e., variable u) which is responsible for any change in the stock of producer goods, i.e., the rate of capital accumulation directly depends on the rate of technical change.

Regarding the historical development, Schumpeter subscribed to Marx's materialistic interpretation of history and he maintained that the economic state of people emerges only from the preceding total situation. However, the most important point of Schumpeter's theory is that the expansion of output depends upon the history of technological development. In simple words, we can say, according to Schumpeter, the growth of output is geared to the rate of innovations.

No doubt, Schumpeter holds that the trend of economic growth shall be fixed by the exogenous variable of population growth, yet according to him, the process of economic development is synonymous with discontinuous technical change, i.e., innovations. The agent which brings about innovations is called by Schumpeter as entrepreneur. Thus, entrepreneur becomes the pivot of Schumpeter's model.

Role of Entrepreneur as an Innovator:

In economic development as outlined by Schumpeter, the entrepreneur plays a key role. The credit for innovations and the outburst of economic activity goes entirely to the entrepreneur.

Innovation consists in:

(i) Introduction of anew good,

(ii) Introduction of a new method of production,

(iii) The opening of a new market,

(iv) The discovery of a new source of supply of raw materials or semi-manufactured goods, and

(v) Introduction of a new organisation in an industry.

In a world characterised by a high degree of risk and uncertainty, only businessmen of exceptional ability and daring will be able to undertake innovations and launch enterprises and exploit opportunities for profit. But these entrepreneurs are not only lured by profit but are also motivated with a desire to found a dynasty in the business world or a desire for conquests in the competitive world or have the joy of creating. Thus, in the Schumpeterian analysis, the role of the entrepreneur is a determining factor of the rate of economic growth. In his absence the growth rate is bound to be slow.

The supply of entrepreneurs depends not only on the rate of profits (which is obvious) but also on the favourable social climate. They will appear and continue only in a society which honours them, where prestige is attached to them and the social rewards or recognition they are able to earn. In short, the conditions or social values in which they have to operate must be favourable. The rate of profit is an unfailing thermometer of the favourable climate. Any tendency to squeeze profits, increase taxes, intensify welfare programmes, strengthening of the trade union movement or measures of redistribution of income will deteriorate the climate for investment and so for economic development.

Development Cycle-The Circular Flow and the Process of Creative Destruction:

Schumpeter's starting point in the "circular flow" is a stationary equilibrium in which there is no investment, population growth is at a standstill position and there is full employment. But there are numerous opportunities in business which the entrepreneurs are quick to exploit and innovations are undertaken. The success of the original innovators attracts 'swarmlike' many others who follow them. Economic activity becomes more and more brisk and the boom gathers momentum with the result that prices and money incomes rise. There is then the secondary economic wave 'imitative investment' superimposed upon the earlier one, i.e., 'innervational investment'.

But soon follows the process of creative destruction. The boom gives way to slump or recession. Completion of innovations brings in a large supply of goods which cannot be marketed at profitable price. There are forced bankruptcies since the banks call back loans. The repayment of bank loans accentuates deflationary forces. Business risks scare away the prospective entrepreneurs. In this unfavourable climate, the innovational activity comes to a halt. After this painful process of adjustment in which weak enterprises are liquidated, the businessmen find conditions again ripe for a further spurt of entrepreneurial activity. The economic activity is resumed at a higher equilibrium. This is how the circle of development process is completed. There is a new wave of innovations and the development cycle repeats itself.

Role of Credit:

Another new point introduced by Schumpeter in this analysis of economic development is the important role that credit plays in economic development. It is not the saving out of current income which supplies funds for investment, but the credit creation by the banking system. The classical and the neoclassical economists thought in terms of given supply of money or the supply coming forth to match the increased supply of goods and services, so that the price level is not affected. To them "money is a mere veil which tends to hide the behaviour of the basic forces at work".

But Schumpeter makes credit creation an integral part of the development, process. In this analysis the entrepreneurs expand their business merely by borrowing from banks who will lend not because some persons have made savings and deposited in the banks. But the banks just create credit themselves to accommodate the business borrowers. This pushes up the prices. "Thus credit- creating facilities tend to free investors from the voluntary abstinence routine of the savers. Forced savings become an important means of capital accumulation."

Two points are worth mentioning in regard to Schumpeter's analysis of development process in a capitalist society. In the first place, the dominance of the entrepreneur or the producer limits and reduces correspondingly the sovereignty of the consumer. The producer does not passively produce the goods as dictated by consumers' tastes and preferences. By his dynamic role, through high pressure of salesmanship, he attempts and succeeds fairly in changing even the tastes of consumers or in creating in them new wants and desires.

This again emphasises the crucial role of the entrepreneur in giving new directions and dimensions to the development process. Secondly, unlike the neoclassical economists who believed that the process of economic development was gradual and harmonious, Schumpeterian analysis brings out the uneven and disharmonious nature of economic growth. It proceeds by spurts and leaps and bounds. "The essence of development is a discontinuous disturbance of the circular flow." This disturbance appears in the form of innovations. This arises from the fact that the world is dynamic and not static. In the static world rational calculations are possible and reasonable forecasting is feasible, but the dynamic world is full of risk and uncertainty mainly arising from the innovational activity of the entrepreneur who is able to exploit new investment horizons.

Capitalism- Its Potentialities and its Degeneration::

The classical economists were depressed by the inexorable law of diminishing returns and the irresistible growth of population. Schumpeter does not share their pessimism. He also does not believe in the inherent tendency towards a maldistribution of incomes resulting in ever-recurring severe crises as Marx did. Nor does he agree with the stagnationists that there is persistent lack of investment opportunities together with institutional rigidities making for an equilibrium at less than full employment. Schumpeter, on the other hand, has faith in the capacity of the capitalist system in attaining ever increasing levels of national output and income. He is prepared to admit, however, that there might be temporary setbacks.

Although Schumpeter has infinite faith in the potentialities of capitalism, but he also believes in a Marxian fashion that the very success of capitalism will breed the germs of its ultimate degeneration which will pave the way for socialism. In Schumpeter's view, it is not failure of capitalism which will spell its doom, but its very success that would result in killing the goose that lays the golden egg. He thus says – "The actual and prospective performance of the capitalist system is such as to negative the idea of its break-down under the weight of economic failure, but its very success undermines the social institutions which protect it, and inevitably create conditions in which it will not be able to live and which strongly point to socialism as the heir apparent." In other words, it is not the economic barriers but social factors which will undermine capitalism.

According to Schumpeter, the economic and social foundations of capitalism will crumble on account of:

(a) The decay of the entrepreneurial function,

(b) The destruction of the institutional framework, and

(c) The disintegration of the protecting political framework.

The entrepreneurs make their business grow so big that innovation itself becomes a routine and is in the charge of salaried persons and technological progress now becomes the province of specialists; marketing and administration become automatic. "Innovation thus degenerates into a depersonalised routine activity carried on in big business through a bureaucracy of highly trained managers."

This is how the entrepreneurial function is rendered obsolete. The concentration of business and the growth of monopolies destroy the institution of private property and freedom of contract. Whereas 'bigness' contributes to more rapid economic progress, it also weakens the concepts of private property and freedom of contract. In a big business corporation, the proprietary interest is replaced by shareholders, big and small, none of whom is particularly interested in the business. The part that the proprietor used to play is now played by professional salaried managers.

The social class that used to protect capitalism also loses its political power which is captured by a new group of politicians who are ill-equipped to rule and unwilling to support the established trade and industry. They adopt policies inimical to capitalists' interest. This is what we are witnessing in India. The common people and many politicians are now positively hostile to big business like the Birlas, Tatas and Ambanis. The intellectuals who derived freedom and power from capitalism now lead the anti-capitalist groups. The educated unemployed is another group of 'have-nots' against the capitalist class of 'haves'. Labour also organises itself for fight against capital and the intellectuals supply the leadership. All these new forces lead to the gradual degeneration of capitalism and strengthen the movement towards socialism. Capitalism cannot function in this new atmosphere.

Apart from differences in emphasis, three major differences may be noted between the Classical School of Marx and the Schumpeterian analysis:

(a) Schumpeter introduces interest rate as a determinant of savings which is an important factor in economic development',

(b) He separates the autonomous investment from the induced investment and emphasises innovations as the factor affecting autonomous investment; and

(c) He regards entrepreneurship as the vital force which shapes an economy.

Evaluation of Schumpeter's Theory of Development:

Schumpeter has been a great 'theorist' whose writings contain brilliant thoughts and a deep insight into the working of an economy. However, his analysis of the entrepreneurial innovations is not applicable to modern conditions in which the act of invention and innovation is carried on not by individual entrepreneurs but by large corporations as a routine affair. It is not possible to identify entrepreneurs who introduced many actual innovations. He himself recognises the tendency towards obsolescence of the entrepreneur.

It has been pointed out by critics that what Schumpeter gives is the theory of business cycles and not an analysis of economic development. Even Schumpeter's analysis of business cycles can be accepted only with some modifications to suit modern economic conditions. According to Shumpeter, crisis in capitalism is brought about by maladjustment caused by waves of innovations. But big businesses in modern times can absorb these waves and produce steadier and larger expansion of the total output. Further, the main cause of business cycles is fluctuations in aggregate demand as pointed out by J.M. Keynes.

The assumption that innovations are financed by borrowing from credit creation by the banks is also not very realistic. It is a well-known fact that most of the bank loans are short-term loans whereas the implementation of innovations requires long-term finances. The long-term projects are financed by retained profits or by the issue of shares and debentures by the companies concerned.

Schumpeter's socio-economic analysis of the capitalist process is also not fully convincing. He seems to overemphasise the influence of economic factors on social culture. It is not one-way link between rationalism in economic matters and rationalism in other fields, social and political. Not many would agree that capitalism was about to crumble and socialism was round the corner.

Capitalism in countries like the U.K. and the U.S.A. which were its traditional homes too strongly established themselves to yield place to socialism. Only, we can say with him that the nature of capitalism has changed. There is no doubt that the political strata protecting the old type capitalism are weakening and the traditional entrepreneurship too is becoming obsolete, as Schumpeter said. But it does not mean that capitalism is about to collapse and socialism is coming.

On the contrary, it is socialism that collapsed in eighties of the 20th century. In both Soviet Russia and Republic of China socialism came to end and in its place free-market economy came into existence. Meier and Baldwin rightly write- "Although Schumpeter's analysis is provocative, it seems one-sided and overemphasised. To recognise that history involves perpetual change is quite different from concluding that a socialist form of society will emerge from an equally inevitable decomposition of capitalist society."

Relevance of Schumpeter's Theory for Developing Countries:

The conditions obtaining in Western Europe and America after the First World War presented a capitalist system in full swing, wherein the innovator acted as the initiator and controller of economic development. Schumpeter's observant eye got the clue to formulate a theory of development presenting a unified view of the whole economic process. Schumpeter viewed "development" as a distinct phenomenon which, he says, "is spontaneous and discontinuous change in the channels of flow, disturbance of equilibrium, which forever alters and displaces the equilibrium state previously existing."

This springs from changes in the economic life due to endogenous factors (initiated from within) and not exogenous factors which are forced upon it. Explaining his contention further, he holds that "Should it turn out that there are no such changes arising in the economic system itself, and that the phenomenon that we call economic development is in practice simply founded upon the fact that the data change and the economy continuously adapts itself to them, then we should say that there is no economic development." This concept wherein endogenous changes in the economy act as the sole prime mobile of development restricts the relevance of Schumpeter's theory to the growth problems of developing economies.

Rigid and outmoded socio-economic institutions, low saving potential and laggard technology are completely incapable to generate developmental impulses from "within" in the underdeveloped countries. They have to take recourse to imported capital, technology and skill to initiate and propel their developmental wheels. For instance, India made a big stride forward in growth and it has sought foreign capital to help in its economic development. It has also gone for foreign collaboration in terms of loan, equipment, skill and technical know-how. Since factors from 'without' are responsible for initiating and operating development projects, they cannot, according to Schumpeter, be regarded as embodiments of India's genuine process of economic development. This contention of Schumpeter is unsustainable and unconvincing.

It cannot be gainsaid that every such plant has generated a developmental wave in the Indian Economy. Thus, Alfred Bonne remarks, "Exclusion from Schumpeter's definition would not make the new plant cease to be a case of development, having in view precisely those goods which are the essential objectives of development activities in economically backward countries." In this view, therefore, Schumpeter's theory of development is incongruent with the conditions prevailing in the developing world.

Further, Schumpeter's preoccupation with only the endogenous factors and his insistence on development as embodying only the spontaneous and discontinuous changes makes him oblivious of the role of population growth as an economic force in the developmental process. He regarded population as exogenously determined and held that there does not exist any deterministic a priori relationship between population growth and variations in the flow of goods and services. But it is precisely the excessive population pressure that is responsible for revolutionising the methods and techniques of agricultural production in the presently overpopulated developing countries.

In fact, some of the post-Keynesian theories regard population growth as a stimulant for autonomous investment. By failing to take proper cognisance of one of the most vital phenomena operating in the presently underdeveloped economies, Schumpeter rendered his theory almost ineffectual to such countries.

Further, the existence of a business elite, i.e., the entrepreneurial class, is fundamental to Schumpeter's theory of economic development. The carrying out of innovations and using new production functions is the prerogative of this elite group of private entrepreneurs. However, there are serious doubts about the effectiveness of this social group in the development of the developing countries. The contemporary history of economic development of these countries provides ample evidence to reveal that it is not only the private entrepreneurial class, but also the national governments that are responsible for preparing and launching programmes of industrialisation.

With the development process of these countries being rapidly imbued with the socialistic hues, their governments have increasingly assumed the role of a national entrepreneur. Not the innovations of the private entrepreneur but the "government action and mass impulses today seem to be the most characteristic motive forces of economic development." So much so that even in the private sector of these economies the entrepreneurs cannot fulfill their functions without the active and substantial assistance from the government and semi-public bodies. Moved by such a un-Schumpeterian economic landscape in the developing countries, Prof. Gunnar Myrdal remarks that "it represents, indeed, an attempt at a complete reversal of what once happened in the now developed countries as described by the Schumpeterian model."

In developing economies, a number of factors such as the outmoded socio-economic institutional framework, tradition-ridden investment horizon and unreliable attitude for undertaking of new ventures, have all contributed in denigrating the pivotal role assigned to the Schumpeterian entrepreneur in his functional aspects. The governments of these countries under such conditions cannot afford to remain an idle and passive spectator. It is incumbent for them to come forward and become the herald of industrialization by playing the role of a unified national entrepreneur.

Furthermore, the governments of the developing countries are committed to the rapid creation of 'social overheads' or what is now called infrastructure in order to fulfill the popular demand for higher standards of living. The private capital fails to come forward because of the lumpy nature of such investments and the long gestation periods involved. On the other hand, an agency like the government has sufficient means to mobilize the capital resources of the economy through various fiscal and monetary measures and by borrowing from abroad.

The very exigency of the situation in the developing economies compels their governments to shoulder the responsibility of initiating and steering the gigantic task of economic development. Thus, the Schumpeterian model of development which assigns the primary and central role to the private entrepreneur and only a secondary and passive function for the government is a misfit to the conditions obtaining in the developing countries.

Besides, the entrepreneurial innovation so pivotal to the working of Schumpeter's model has no significance to the process of development in the developing countries. Henry C. Wallach and H.W. Singer have held that due to the demonstration effect on an international plane, the businessmen in the developing countries are prone to import and assimilate the already known technology and methods of production from the developed countries rather than undergo the risks of innovating anew (some of which in any case may prove to be abortive). Hence the development process in the developing countries is increasingly becoming a process of derived development, being based on assimilation of existing innovations made elsewhere rather than on the Schumpeterian type of indigenous innovations.

In the Schumpeterian model, by its very nature and approach, inflationary pressures are bound to operate as the development process gathers momentum. The entrepreneurs' innervational activity being financed by the credit-creating banking system, credit-creation assumes a vital role in his model. The creation of credit leads to a rise in purchasing power of the community without a corresponding increase in production. Increased purchasing power results in an increased demand for production services and consumer goods. The increased demand coupled with the increased volume of money in circulation results in a general price rise.

But in the consumption-oriented development process of a developing economy, the inflationary tendencies are very powerful, persistent and cumulative in nature. "It is not only development and associated investment that are responsible for inflationary tendencies, but the entire social climate of demand-oriented economy." They become a serious drag on the development process itself. Thus, the production-oriented Schumpeterian vision of development process fails to realise the hurdles like secular inflation that characterise the consumption-oriented development of the developing economies. What in fact is needed is a totally different framework of analysis and theory that is realistic to the circumstances of these economies.

However, certain aspects of Schumpeter's model retain universality of application. Irrespective of the type of economy and its stage of development, the importance of innovations as one of the major factors in economic development remains unassailable. 'Technological possibilities are an uncharted sea', and in this Apollo age, we can safely assume that the developing countries can hardly afford to remain mere imitators and assimilators.

Even if mere transfer of ready-made and proven techniques of production is sought, there remains the problem of adaptation of foreign technology in the domestic economy. It calls for a certain amount of pioneering spirit and entrepreneurial skill in so far it is new to the country in which it is to be adapted. Further, the risks of transplanting such technology in underdeveloped economics would be considerable. Hence the entrepreneurs in these countries should possess at least some of the basic qualities of the Schumpeterian entrepreneur.

From the point of view of successful development in developing countries Schumpeter's theory highlights the urgency of bringing about drastic transformation of the tradition-ridden socioeconomic institutions and reshaping of the inimical attitudes to develop a favourable climate for the growth of entrepreneurship. Adequate entrepreneurship is one of the prerequisites for sparking off a take-off stage in these countries.

Further, once the process of industrialisation sets apace in the developing countries, Schumpeter's theory can undoubtedly throw considerable light on the problems associated with the long-run increase in productivity. It shall also provide clues to the problem of absorption of 'surplus labour' in gainful employment as a result of innovations. In this way Schumpeter's theory of development can provide some valuable lessons to the countries for avoiding waste and extra hardships that are liable to attend an unplanned and uncoordinated development.

Lewis Model of Economic Development

In this article we will discuss about: 1. Introduction to the Lewis Model 2. Assumptions of the Lewis Model 3. Working 4. Role of Bank Credit 5. Critical Review.

Introduction to the Lewis Model:

Lewis published his model entitled:

"Economic Development with Unlimited Supplies of Labour" in 1954. In his model Lewis divides the economy in an underdeveloped country in two sectors namely the Subsistence sector and the capitalist sector. Subsistence is identified with the agricultural sector of the economy while the capitalist sector implies mainly the manufacturing sector of the economy.

Capitalist sector also includes plantations and mining where hired labour is employed for purposes of production. The capitalist sector can either be private or public in nature. Subsistence sector, that the agricultural sector is considered to be labour intensive. It does not use reproducible capital. It uses poor techniques of production and has very low productivity.

Assumptions of the Lewis Model:

(A) Surplus Labour in the Subsistence Sectors:

The basic assumption of the model is that there exists surplus labour in the subsistence sectors. It includes labour whose marginal productivity is zero as well as that whose marginal productivity is positive but is less than the institutional wage. This labour comprises farmers, agricultural labourers, petty traders domestic servants and women.

The surplus labour in the agriculture sector acts as a source of unlimited supply of labour for the manufacturing sector. By unlimited supply of labour. Lewis means that the supply of labour is perfectly elastic at a particular wages. This particular wage is somewhat higher than the institutional wage which each worker in the agricultural sector gets.

Lewis calls it as institutional wage because every worker gets this wage because of some institutional arrangements. This wages is equal to an average share of each worker in the total output in the subsistence sector. If market forces were allowed to operate in the subsistence sector labourers with zero margin productivity or those with a very low marginal productivity would not have received this wage.

(B) Importance of Saving:

Another important assumption that Lewis makes is about the savings generated in the capitalist sector and in the subsistence sector. The capitalist sector invests all its savings for its further expansion.

Those in the subsistence sector, on the other hand squander away their savings, if any in purchase of jewellery & for construction of temples etc. The propensity to save of the people in subsistence sector is also lower when compared with that of those in the capitalist sector.

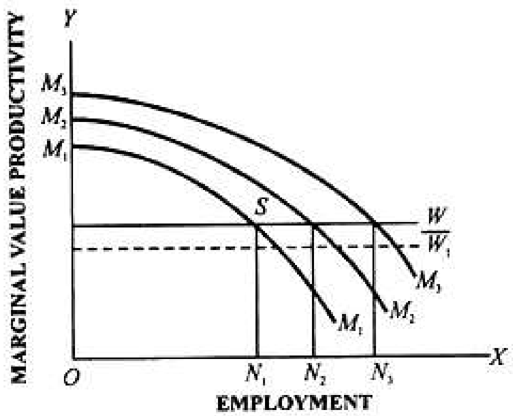
Lewis in fact so much fascinated by the higher propensity to save of the capitalist sector that he even advocates a transfer of income from the subsistence sector to the capitalist sector. He feels that steps have to be taken to raise the rate of savings from 10% to 15% if the development of the economy has to be smooth.

The Working of the Lewis Model:

The explanation of working of the Lewis model is quite simple. He feels that if a wage higher than the institutional wage prevailing in the subsistence sector by a certain proportion of the institutional wage is fixed in the capitalist sector the capitalist sector will be able to attract an unlimited quantity, the labour from subsistence sector. This will enable the capitalist sector to expand. It will, in turn lead to the generation of more savings in the capitalists sector.

The additional saving, will not only help the entrepreneurs to invest more but also to improve the quality of capital invested. This will result in more employment of labour from the subsistence sector. This will lead to generation of more savings in the Capitalist sector which can be further invested leading to employment of more surplus labour and so on.

Diagram I explains the process of expansion of the Capitalists sector.



We is the wage rate fixed in the capitalist sector. It is higher than W which represents the institutional wage. The wage in the capitalist sector has to be higher than the instructional wage because only such higher wage can attract labour from the subsistence sector. At first; ON-I labour is employed. This will lead to the generation of surplus equal to AMIS, after the wages at the rate W have been paid.

According to Lewis this surplus AMIS will be reinvested either in old type of capital or may even be used to improve the existing techniques. All this will result in marginal productivity curve of labour moving M2 M2. Now more labour at wage. We can employee, ON2 amount of labour will now be employed. More surplus will then be generated. It would be reinvested.

Marginal productivity of labour curve will shift to M3 M3 more labour can now be employed. Still more surpluse will be generated and re-invested and so on. The process of transfer of labour from the subsistence sector to the capitalist sector will continue for some time till some obstacles, hindering this transfer appear.

Role of Bank Credit:

From the above analysis, one might get the impression that it is only through the surplus generated in the capitalist sector that the development of the capitalist sector takes place. This however is not correct.

The process of development can also start if the capitalist sector initially does not invest its savings in the capital but borrows from the banks. According to Lewis the basic problems is to employ the labour from the subsistence sector and this can be initially done through investment of funds borrowed from the banks.

Lewis is conscious of the fact that creation of bank credit will give rise to inflationary increase in prices. However, he is not much perturbed by this prospect. He is of the view that inflationary pressures will not continue forever.

A time will come when the additional savings generated by the investment of borrowed funds become equal to these very funds. At that time, prices will stop rising further. As he says, an equilibrium.is reached when savings generated through the investment of additional bank credit become equal to the amount of bank credit itself.

He is also aware of another fact. Inflation can make the distribution of income unfair. However, he says, it will be good for the manufacturing sector if the distribution of income moves in favour of the capitalists. Of course, if inflation tilts the distribution of income in favour of the traders it will be bad for the economy. It will only lead to more speculative activities.

Slowing of the Pace of expansion of the Capitalist Sector:

According to Lewis, expansion of the capitalist sector will continue unhindered so long as the supply curve for labour from the subsistence sector is perfectly elastic i.e. so long as the labour can be transferred to the capitalist sector at a constant wage. Lewis, of course is conscious of the fact that under certain circumstances, the supply curve for labour can turn upwards.

These circumstances are:

(i) The pace of expansion of the capitalist sector is more rapid when compared with the rate of growth of population in the subsistence sector. The surplus labour in that case will ultimately be fully exhausted.

(ii) Technological development in the subsistence sector raise the productivity of labour with in that case will rise. We too will have to be raised them.

(iii) As population increase due to law of decreasing marginal return, prices of food and raw materials will rise. This will increase both W and W.

(iv) When workers in the capitalist sector start imitating the living pattern of the capitalist themselves, they may ask for higher wages.

If any of the above four factors start operating, then according to Lewis, the expansion of the capitalist sector will be slow down.

Impact of the Open Economy:

The open economy can encourage the immigration of labour. If this happens, it will help in the expansion of the capitalist sector. But immigration may not be so easy. If in that case the pace of expansion of the capitalist sector slows down, capital may move out of the country as the economy is an open one. This may in turn lead to balance of payments problems and the problem of stability of rate of exchange.

Critical Review of the Lewis's Model:

Some of the objections against Lewis's model are as follows:

(1) The assumption that disguised unemployment exists in the agriculture sector has not been accepted by many economists. Schultz, Viner, Heberler and Hopper are a few of such economists. According to them, the production in the subsistence sector will be affected when labour is withdrawn from it.

(2) Lewis ignored the cost involved in training the unskilled worker transferred from the subsistence sector. Even if it is obtained at a constant wage rate, so for as its transfer from the subsistence sector is concerned, the supply curve may slope upwards so far as the capitalist, sector is concerned if the cost of training rises as more and more labour is transferred.

(3) When labour is transferred from the subsistence sector share of agricultural output falling to each one left in the agricultural sector will go a rising. This means the institutional wage will go on rising with every transfer and so will be the wages paid in the capitalist sector.

(4) The model assumes that, besides labour, there is unlimited supply of entrepreneurs in the capitalist sector. This is not true in the case of many of the underdeveloped countries.

(5) It is wrong to assume that a capitalist will always re-invest their profits. They to can indulge in un-productive pursuits. They can use their profits for speculative purposes.

(6) It is also wrong to assume that landlords always squander away their savings. The role of landlords of Japan in industrialisation of the country is well known.

(7) The model assumes that there already exists a market for the industrial products in the country. This is wrong. People of an underdeveloped country may not be able to purchase the products perturbed by the expanding capitalist sector. Foreign markets, too, may not be available to the capitalist sector in the beginning.

(8) Inflation is not liquidating, as has been assumed by Lewis, Experience of various, countries shows that if once prices start rising, it, becomes difficult to control them.

(9) It is not easy to transfer labour from the subsistence Sector to the capitalist sector by offering them an incentive of a little higher wage.

Mobility of labour is very low. Many factors like family affection, difference in language, caste, religion etc. affect it adversely.

(10) Every underdeveloped country does not have surplus labour in the subsistence sector. As such, the model does not apply to countries which are sparsely populated.

The only positive point in the model is its 'general' emphasis on the role of saving in economic development and on the potential that overpopulated countries have in developing themselves with the help of surplus labour.

Big Push Theory of Economic Development

The theory of 'big push' first put forward by P.N. Rosenstein-Rodan is actually a stringent variant of the theory of 'balanced growth'. The crux of this theory is that the obstacles of development are formidable and pervasive. The development process by its very nature is not a smooth and uninterrupted process. It involves a series of discontinuous 'jumps'. The factors affecting economic growth, though functionally related with each other, are marked by a number of "discontinuities" and "hump."

Therefore, any strategy of economic development that relies basically upon the philosophy of economic "gradualism" is bound to be frustrated. What is needed is a "big push" to undo the initial inertia of the stagnant economy. It is only then that a smooth journey of the economy towards higher levels of productivity and income can be ensured.

Unless big initial momentum is imparted to the economy, it would fail to achieve a self- generating and cumulative growth. A certain minimum of initial speed is essential if at all the race is to be run. A big thrust of a certain minimum size is needed in order to overcome the various discontinuities and indivisibilities in the economy and offset the diseconomies of scale that may arise once development begins.

According to Rosenstein-Rodan, marginal increments in investment in unrelated individual spots of the economy would be like sprinkling here and there a few drops of water in a desert. Sizable lump of investment injected all at once can alone make a difference.

Rationale for the Big Push:

The basic rationale of the 'Big Push' like the 'Balanced Growth' theory is based upon the idea of 'external economies'. In the theory of welfare economics, external economies are defined as those unpaid benefits which go to third parties. The private costs and prices of products fail to reflect these. And the market prices have to be corrected if an account of these external economies is to be taken. However, the concept of external economies has a different connotation in growth theory. Here, they are pecuniary in nature and get transmitted through the price system.

To explain the emergence of such external economies and their transmission, let us consider two industries A and B. If the industry A expands in order to overcome the technical indivisibilities, it shall derive certain internal economies. This may result in the lowering of the price for the product of the industry A. Now if the industry B uses A's output as an input, the benefits of A's internal economies shall then be passed on to the industry B in the form of pecuniary external economies. Thus, "the profits of industry B created by the lower prices of product. A call for investment and expansion in industry B, one result of which will be an increase in industry B's demand for industry A's product. This in turn will give rise to profits and call for further investment and expansion of industry A."

Following such a line of argument, Prof. Rosenstein-Rodan contends that the importance of external economies is one of the chief points of difference between the static theory and a theory of growth. "In the static allocative theory there is no such importance of the external economies. In the theory of growth however," remarks Prof. Rodan, "external economies abound because given the inherent imperfection of the investment market, imperfect knowledge and risks, pecuniary and technological external economies have a similarly disturbing effect on the path towards equilibrium."

Now, the basic contention of the "big push" theory is that such a mutually beneficial way of output expansions is not likely to occur unless the initial obstacles are overcome. There are "non- appropriabilities" or "indivisibilities" of different kinds which if not removed through a "big push" will not permit the emergence and transmission of 'external economies' – which lie at the back of a self-generating development process.

Associated with the removal of each set of indivisibilities is a stream of external economies. A 'bit by bit' approach to development would not enable the economy to cross over certain indivisible economic obstacles to development. What is required is a vigorous effort to jump over these obstacles. As such, for the economy to be successfully launched on the path of self-generating growth a "big push" in the form of a minimum size of investment programme is necessary. In essence, therefore, an all-or-nothing approach to development is stressed in big-push approach to development.

Requirements for Big Push:

The hallmark of the 'big-push' approach lies in the reaping of external economies through the simultaneous installation of a host of technically interdependent industries. But before that could become possible, we have to overcome the economic indivisibilities by moving forward by a certain "minimum indivisible step". This can be realised through the injection of an initial big dose of a certain size of investment.

Prof. Rodan distinguishes three kinds of indivisibilities and externalities with a view to specify the areas where big push needs to be applied.

They are:

(i) Indivisibilities in the production function, i.e., lumpiness of capital, especially in the creation of social overhead capital.

(ii) Indivisibility of demand, i.e., complementarity of demand.

(iii) Indivisibility of savings, i.e., kink in the supply of savings.

Let us study each of these individually so as to bring out their importance in providing a self- generating stimulus to the development process.

(i) Indivisibilities in the Production Function:

Prof. Rodan argues that it is possible to generate enormous pecuniary external economies by overcoming the 'indivisibilities of inputs, processes and outputs.' The emergence of such externalities would bring about a wide range of increasing returns. To corroborate his contention he cites the case of United States. He feels that the fall in the capital-output ratio in U.S.A. from 4:1 to 3:1 over the last eighty years was chiefly due to the increasing returns made possible by the levelling down of production indivisibilities.

The most important case of indivisibilities and external economies on the supply side resides in the social overhead capital which is now called infrastructure. The most important effect of jumping over this indivisibility is the "investment opportunities created in other industries". Social overhead capital consists of all the basic industries such as transport, power, communications, and such other public utilities.

The construction of these infrastructures involves 'lumpy' capital investments. And the capital- output ratio in the social overheads is considerably higher than in other industries. Moreover, these services are only indirectly productive and involve long gestation periods. Besides, their "minimum feasible size" is large enough. As such it is well-nigh difficult to avoid excess capacity in these, at least in the initial periods. Above all, there is a "minimum industry mix of public utilities" that must be required to divert at least 30 to 40 per cent of their total investment in the creation of social overhead capital.

In this view, therefore, it is possible to distinguish four types of indivisibilities of creating social overhead capital.

They are:

(a) Indivisibility of Time:

The creation of social overhead capital must precede other directly productive industries so that it is irreversible or indivisible in time.

(b) Indivisibility of Durability:

The infrastructures generally last long. The overhead capital with lesser durability is either technically not feasible or is very poor in efficiency.

(c) Indivisibility of Long Gestation Periods:

The investments in social overhead capital, by all counts, involve a highly protracted period of time for their fruition as compared with investments in other directly productive channels.

(d) Indivisibility of an Irreducible Industry Mix of Public Utilities:

Social overhead capital must grow collectively. There is an irreducibly minimum industry mix of different public utilities that have to be created all at one stroke.

As it is impossible to import the infrastructures, they have got to be produced domestically. And because of the existence of above explained indivisibilities, it is necessary to make 'lumpy' investments in them. And their creation is a precondition to the investments in directly productive and other quick-yielding productive activities. Only then the way for a self-generating economy can be paved. Thus the absence of adequate social overhead capital constitutes the most important bottleneck in the development of developing countries.

(ii) Indivisibility of Demand:

This refers to the complementarity of demand arising from the diversity of human wants. The very fact that there is an indivisibility of complementarity of demand requires simultaneous setting up of interrelated industries in countries to initiate and accelerate the process of development.

Indivisibility of demand generates interdependencies in investment decisions. As such, if each investment project was undertaken independently, it is in most cases likely to flop down. This is because individual investment projects generally have “high risks because of uncertainty as to whether their products will find a market,” This point can be clarified with the help of the following well known example given by Rosenstein-Rodan for a closed economy.

To start with, let us suppose that 100 disguisedly unemployed workers in an underdeveloped country were withdrawn and employed in a shoe factory. The wages of the newly employed workers would provide an additional income to them. Now, if they spend all their newly received purchasing power on the shoes, an adequate market for the shoe industry would be ensured. As a result, the industry would succeed and survive.

But the fact is that human beings having diversity of wants cannot simply afford to survive simply by the consumption of shoes and nothing else. As such, they will not spend all their earnings on the purchase of shoes. The market for the shoe industry will, therefore, remain limited as before. Therefore, the incentives to invest will be adversely affected. As a result, the shoe factory investment project might end in a fiasco.

Now let us make a somewhat different assumption to see how an atmosphere congenial to the undertaking of investments can occur. Suppose that instead of only 100 workers being engaged in the shoe factory, 10,000 workers are put to work in 100 different factories producing a variety of consumer goods. These new factories provide larger employment and thus purchasing power to their workers. There is an increase in the total volume of purchasing power and the total size of the market. This is because the “new producers would be each other’s customers”.

In a way, what has happened is that due to the complementarity of demand, the risk of limitedness of market is greatly reduced. The result is that the incentives to invest are increased. “Thus provided that the total volume of employment and purchasing power is increased by a minimum indivisible step, each factory Will have enough market to reach full capacity production and the point of minimum cost per unit.”

We, therefore, find that the indivisibility of demand requires the simultaneous production of a “bundle” of large number of wage goods on which the newly employed workers could spend their income. That alone would ensure adequate market for the product of each producer. In terms of investment the implication is that “unless there is assurance that the necessary complementary investments will occur, any single investment project may be considered too risky to be undertaken at all.”

This, as Prof. Higgins remarks, results into indivisibility in the decision-making process. A large-scale investment programme based on complementarity of demand undertaken as a unit may bring forth large increases in national income. But each of the individual investment projects undertaken singly may not fructify at all.

The essence of the whole analysis is that a high minimum quantum of investment in interdependent industries is needed to overcome the indivisibility of demand and hence that of decision-making. That, according to the big push theory, is the only reliable way of overcoming the smallness of the market size and low inducement to invest in the developing economies.

(iii) Indivisibility in the Supply of Savings:

A high minimum package of investment cannot be undertaken without an adequate supply of savings. But it is not possible to have such high volume of savings in underdeveloped countries due to an extremely low price and high income elasticities of the supply of savings. The savings are low primarily because incomes are low. This, thus, constitutes the third indivisibility. “The way out of the vicious circle,” remarks Rosenstein-Rodan, “is to have first an increase in income and to provide mechanisms which assure that in every second stage the marginal rate of savings will be very much higher than the average rate of savings.” The Smithian advice that ‘frugality is a virtue and prodigality a vice’ has to be adapted to a situation of growing income.” But in the ultimate analysis the initial big increase in income has got to be provided through an initial big increase in investment.

The existence of the three indivisibilities outlined above make it abundantly clear that the solution to all these lies in a high minimum quantum of investment. Thus, a big push through a minimum indivisible step forward in the form of a high minimum quantity of investment could alone make it possible to jump over the economic obstacles to development in the underdeveloped countries.

Lastly, Resenstein-Rodan considers the role of international trade vis-a-vis the strategy of big push in generating a self-sustaining process of development. In this regard he is of the view that international trade cannot be a substitute for “big push.” The provision of some of the needed wage goods through imports can at best help in narrowing down the range of fields which call for a ‘big push’. The historical experience provided by the nineteenth century corroborates Rosenstein-Rodan’s conclusion that international trade cannot by itself obviate the need for ‘big push’ altogether.

Once the process of development by an initial application of ‘big push’ is underway, its sequel course would tend to follow simultaneously three sets of balanced growth relations.

They are:

(i) A balance between the social overhead capital and the directly productive activities (in both the consumer and capital goods sectors).

(ii) A vertical balance between capital goods and consumer goods (including the intermediate goods).

(iii) Lastly, there should be the horizontal balance between various consumer goods industries due to complementary nature of expanding consumer demand.

The Need for Balanced Growth of Centralised Planning:

The mutual benefits arising from the external economies for industrialisation cannot be included in the cost calculations of entrepreneurs to the fullest possible extent without recourse to some sort of centralized ‘balanced growth’ planning. This is because of a number of reasons. First, due to the imperfections in the market, the free market price system does not adequately give proper signal to the private investors for the future possibilities of expansion in complementary industries.

Second, in developing countries due to the imperfections of knowledge and risks, the response of the private entrepreneurs to any given price signal is quite imperfect and unsatisfactory. Thus, due to the failure to take advantage of the external economies to the fullest extent, investments which may be profitable in terms of ‘social marginal net product’ remain unprofitable in terms of ‘private marginal net product’. In this view, therefore, there is a need for an integrated investment scheme to be carried out in complementary industries. The best way to do that would be to carry out the investment programme under the direction of some centralised planning authority. An individual entrepreneur in a developing country cannot hope to have all the necessary data which the central planning authority can draw upon.

The crash programme of investment envisaged by the ‘big-push’ theory cannot by its very nature be made just at random. It has to take into consideration the various balances – horizontal as well as vertical. Only then could the achievement of self-generating, cumulative and harmonious growth of the economy is possible. For this what is necessary is a unified decision-making process. “Allocation of capital,” remarks Prof. Higgins, “on the basis of individual estimates of short-run returns on various marginal investment projects is the very process by which the underdeveloped countries got where they are.

The basic reason for government action to promote development is that each of a set of individual private investment decisions may seem unattractive in itself, whereas a large scale investment program undertaken as a unit may yield substantial increase in national income.” Prof. Rosenstein-Rodan’s theory is essentially a theory of development and thus helps us to examine the path towards development rather than restricting itself simply to the study of conditions at the point of equilibrium. The theory highlights the inefficiency of price system of signalling the desirable directions for investment. It is big-push investment through a centralised planning that could put the developing countries on a self-generating development process.

Evaluation of Rosenstein’s Big Push Strategy:

However, Prof. Rosenstein-Rodan’s all-or-nothing approach is not perfect in itself in all respects. It suffers from a number of lacunae.

First, the main implication of the ‘big-push’ theory is State intervention and centralised planning. It is argued that due to imperfections of market the free price system fails to register and thus communicate properly the economic events, much less their future course. But the pertinent question involved here is – will the prevailing circumstances of the developing countries warrant a conclusion to the contrary? The actual fact of the matter is that the current institutional and administrative set-up of the government machinery of the poor developing countries is too weak to cope with the dictates of the 'big push' theory. It is, therefore, quite doubtful whether the government sponsored brand of communication system about the future events would at all be more effective than the free price mechanism.

The governments of developing countries may somehow manage to draw up their initial integrated economic plans. But they are bound to be faced with tremendous difficulties in the execution of these plans. In any comprehensive programme comprising a complex set of related projects, delays and continued revision of the original time-bound schedules are inevitable. "The greater the interdependence", remarks Prof. Myint, "between the different components of the plan, the greater the repercussions of an unexpected or an unavoidable change in one part of the plan on the rest and the greater the need to keep the different parts of the plans continually revised in the light of the latest information available." These are indeed formidable hurdles for the developing countries to cross.

Besides, on account of the poor and incompetent institutional set-ups of the developing countries, there is bound to be insufficient knowledge about the local conditions and an "inefficient feedback of this vital local knowledge from different parts of the country to the central planning machinery." Mere improvement in the standard type of statistical information would not remedy all this.

Above all, the process of unified decision-making and coordination becomes all the more difficult in mixed economies like India. This is so because not often, the public and private sectors rather than being complementary are in fact competitive with each other. Thus, it may so happen that the "private enterprise is inhibited by uncertainties not only about the general economic situation but also about the future intention of the government regulations."

Thus, it is quite clear that the application of a 'big push' programme in the developing countries with their weak and incompetent institutional and administrative machinery is likely to die its own death. In fact, as Prof. Myint remarks, it can be compared to "an attempt to impose a complete and brand new 'second floor' on the weak and imperfectly developed one floor economy of these countries."

Secondly, the chief plank on which the 'big push' theory is founded is the emergence of a wide range of external economies. Prof. Viner has shown that international trade can provide much more external economies than does the domestic investments. However, the developing countries being primarily primary producing countries, engage a large part of their total investment for their exports and marginal import substitutes, the field where the external economies are found to be very- negligible.

Thirdly, the 'big push' theory concentrates mainly on the industrial sector – viz., capital goods, consumer goods and social overhead capital. The manufacturing sector is considered inherently to be a better vehicle of economic growth. But in the developing countries, the most dominant sector is composed of agricultural and primary production. For a balanced growth of the economy, agriculture also requires a corresponding 'big push'. Any neglect of the agricultural sector in these countries is bound to jeopardise the 'big push' effort.

Fourthly, the major part of the 'lumpy' investments involved in the 'all-or-nothing' approach is called for by the 'technical indivisibilities' embodied in the creation of social overhead capital. Not only is the quantum of investment enormously 'lumpy' but also the capital-output ratio high in the provision of social overhead services than in other directions. Thus, due to the inherent capital scarcity in the developing countries, it is really a matter of dubious wisdom to require these countries to overstrain their meagre resources in the provision of a complete outfit of infrastructures.

The 'big push' theory recommends a 'starting from scratch' concerted action in the creation of social overheads. This is on the implicit assumption that these services are totally non-existent in these economies. However, for most of these countries, remarks Prof. Myint, "the practical question is not whether to have a completely new outfit of these services starting from scratch but how to extend and improve the existing facilities."

Further, the 'big push' theory by its very nature requires the 'lumpy' investments in different social overheads to be made simultaneously and once for all. With the very long gestation periods usually associated with such investments, there are bound to be inflationary pressures in the economy due to the shortage of consumption goods. In an inflationary atmosphere, the process of construction of the social overheads is bound to be a protracted one. In this light it would be better to spread the infrastructure-building activity over a period of time through phasing and changing the time dimension of the projects. This requires selection of a suitable economic size of the social overhead investments.

Leibenstein Critical Minimum Theory

According to Prof. Harvey Leibenstein the overpopulated and underdeveloped countries are characterized by the vicious circle of poverty.

They have low per capita income. His 'theory of critical minimum effort' is an attempt to provide a solution to this economic problem.

According to him, critical minimum effort is necessary to achieve a steady economic growth raising per capita income.

"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 sufficient condition, that at the same point or during the same period, the economy should receive a stimulus to growth that is necessary than a certain critical minimum size"- Leibenstein.

The main idea of the theory is that economic growth in the underdeveloped and overpopulated countries in not possible unless a certain minimum level of investment is injected into the system as a consolidated dose that pulls the system out of doldrums. This minimum level of investment is called 'critical minimum effort'.

According to Leibenstein, "A sufficiently large minimum effort is necessary at the outset if the necessary minimum is to be achieved." It is necessary for the sustained economic growth of underdeveloped countries that a certain minimum sum of money is invested. Prof. Leibenstein has further added, "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 sufficient condition, that at the same point or during the same period, the economy should receive a stimulus to growth that is necessary than a certain critical minimum size."

Shocks and Stimulants:

According to Leibenstein, every economy is under the influence of two forces—'shocks' and 'stimulants'.

Shocks refer to those forces which reduce the level of output, income, employment and investment etc. In other words, shocks dampen and depress the development forces. Stocks depress development forces which reverse the wheel of development.

On the contrary, stimulants refer to those forces which raise the level of income, output, employment and investment etc. In other words, Stimulants impress and encourage development forces. They are called 'Income Generating forces' which lubricate the wheel of development. Stimulants have the capacity to raise per capita income above equilibrium level.

The long run economic development does not take place in backward and undeveloped countries as the magnitude of stimulants in those countries is quite small. A country is said to be underdeveloped if the impact of shocks in stronger than the impact of stimulants. On the contrary, a country is said to be developed if the impact of shocks is weaker than the impact of stimulants.

Leibenstein is of the view that the underdeveloped countries are under the influence of shocks and stimulants. But in the long run, the magnitude of shocks and stimulants is too small and there is no process of development. Thus, the efforts to escape from economic backwardness, the spontaneous or forced, are below the critical minimum effort required for persistent growth.

In order to break the circle of poverty, backwardness and other imperfection in underdeveloped country, they must get critical effort sufficient in magnitude to move the economy on the path of development.

Diagrammatic Representation:

The theory of critical minimum effort has been illustrated in Figure 1.

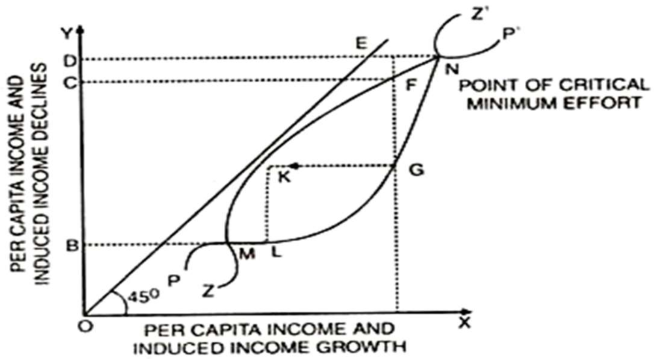


Fig. 1.

The diagram shows the outcome of the struggle between the stimulants and shocks and also enables to find out stimulants of sufficient magnitude as below:

(i) OX-axis of the diagram represents per capita income and induced income growth.

(ii) OY-axis indicates per capita income and induced income declines.

(iii) The 45 ° line measures induced increases and decreases in income.

(iv) P' curve represents stimulants and Z' curve shows stocks.

(v) OM is the subsistence living standard.

(vi) At M' curve P' Z' intersect each other indicating the equality between growth rate of population and the growth rate of income so that the income is caught in the vicious circle of poverty.

(vii) If the income level is raised from OB to OC which is not in accordance with the critical minimum effort, the rising population will neutralize the increased income. The system will once again hand on the subsistence level of living. Shocks being more powerful than the stimulants. At OJ level of income raising forces are just FE while the depressants up to GM. This will bring the income level down to M again which is just the subsistence level.

(viii) Solution of this problem for such a rise in the level of national income where stimulants are stronger than the shocks so that the growth in income becomes self-sustaining.

(ix) If the per capita income is raised beyond OD' the economy, can be pulled out of the vicious circle of poverty. Thereby, growth in income becomes self-sustaining beyond point D. The per capita income has been shown by the arrows.

Attitudes, Motivation and Incentives:

According to Leibenstein, the generation of stimulants depends on attitudes and motivation of the people and the incentives given to them. However, the motivation and incentives are useless without the main factors of economic development. The main factors of economic development are the entrepreneurs, the inventors, the discoverers, the innovators, and those who can accumulate and utilize wealth, and those who can accumulate skills and spread knowledge.

No doubt the activities of such persons are endless, but we are to study only those activities which are in a position to generate stimulants and promote economic growth. It requires continuous efforts of various agencies necessary for economic development. It requires special type of human response to attitudes, motivations and incentives which are created by economic and social environment.

Incentives:

According to Leibenstein, there are two types of incentives that are found in the underdeveloped countries:

(i) Zero-sum Incentives.

(ii) Positive sum Incentives.

(i) Zero-sum Incentives:

Zero-sum incentives are those which exercise zero effect on economic growth. They do not increase national income. It includes trading risk, non-trading or speculative activities and transference of income and profit from one section of people to another. The zero-sum incentives have distributive effect only. They are carried on in order to secure greater monopolistic position, political power and local prestige. They do not add to aggregate resources of the community. In fact, it is a wastage of scarce resources. In short, we may say that zero-sum incentives are not conducive for economic growth.

(ii) Positive-sum Incentives:

The positive-sum incentives lead to economic growth and enhance the national income. The positive- sum activities are essential for economic development. These activities consists the productive investment, use of technical know-how, exploration and exploitation of the new markets and the use of scientific discoveries and innovations etc. These are conducive for economic growth as they change the attitudes, motivations and aspirations of the people.

They try to raise the level of income, output, investment, saving and employment. Leibenstein is of the opinion that mere creation of positive-sum activities is not sufficient to solve the problems of economic development. Because such activities are unfortunately directed towards zero-sum activities for want of growth oriented environment. It is, thus, essential that the minimum effort should be enough to create such a favourable environment congenial to the persistence of positive sum incentives.

In underdeveloped countries certain influences which work against the positive change or depress their per capita income, are as follows:

(a) The zero-sum entrepreneurial activities directed towards the maintenance of present economic privileges;

(b) The conservative attitude of both organised and unorganized workers;

(c) The attraction of traditional ideas and resistance to the new ideas and knowledge;

(d) Increase in non-productive consumption expenditures that could otherwise be used for capital accumulation;

(e) Greater population growth, other things being equal, that reduce the amount of capital available per worker, and

(f) High capital-output ratio.

Leibenstein stresses that these influences can be overcome by a sufficiently large critical minimum effort which would stimulate the positive-sum incentives, counteracting the zero-sum activities. It would, thus, restore a rapid rate of economic growth in underdeveloped economies. As a result, the per capita income would rise and tend to increase the level of saving and investment in the economy.

A critical minimum effort, in turn, would lead to:

(i) An expansion of the growth agents;

(ii) An increase in their contribution to per unit of capital, as the capital-output ratio declines;

(iii) A fall in the effectiveness of factors restricting growth;

(iv) The creation of an environment that stimulates socio-economic mobility; and

(v) The expansion of secondary and tertiary sectors.

Role of Growth Agents:

The critical minimum effort theory is based on the sum of positive-sum activities and such activities are carried on by some growth agents. According to Leibenstein, “By growth agents we mean those individuals who have the capacities to carry out the growth contributing activities.” Leibenstein’s growth agents are not land, labour and capital, but his growth agents are the entrepreneurs, investors, discoverers, savers and innovators. Leibenstein found that entrepreneur is the most crucial agent of growth.

He is a person of rare qualities and he is out to explore new investment opportunities so as to mobilize essential resources for production and promotion of new ventures etc. He promotes, encourages and sustains positive-sum activities which are essential for the economic growth of a country. The critical minimum theory is based on the presence of certain favourable conditions which are created by the expansion of the growth agents in the process of economic development.

These conditions lead the income increasing forces at a higher rate than the income depressing forces. The growth of contributing activities includes the creation of entrepreneurship, expansion of workers' skill and the increase in the rate of savings, investment, capital formation and technical know-how etc.

Population Growth and Per Capita Income:

Leibenstein's theory recognizes population growth as a function of per capita income. It is related to the various stages of economic development. At the subsistence equilibrium level of income, fertility and mortality rates are the maximum consistent with the survival rate of population. Now if the per capita income is raised above the subsistence equilibrium position the mortality rate falls without any drop in the fertility.

The result is an increase in the growth rate of population. Thus, an increase in the per capita income tends to raise the growth rate of population. It is only up to a point. Beyond that the increase in the per capita income lowers the fertility rate and as development gains momentum, the rate of population growth declines.

The Leibenstein argued that with the increase in per capita income, the desire to have more children declines. Specialization leads to increasing income levels and the consequent-social and economic mobility make it a difficult and costly affair to support a large family.

Hence, growth rate of population becomes constant and then starts declining gradually as the economy gradually advances towards the path of sustained development. According to Leibenstein, a biologically maximum growth rate may be about 3 or 4 per cent. Leibenstein, thus suggests to make sufficiently the necessary critical minimum effort so as the control such a very high population growth.

The relationship between population growth and per capita income is illustrated in the diagram 2.

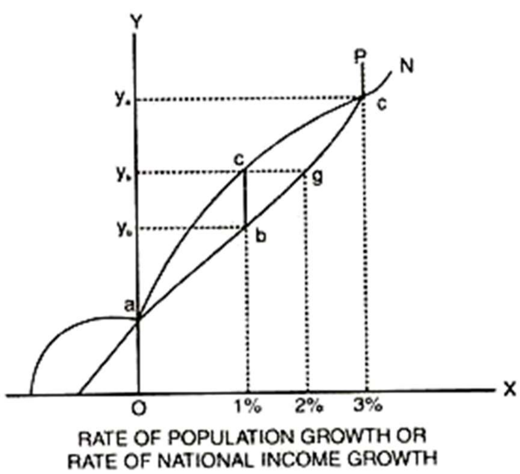


Fig. 2

Diagrammatic Representation:

In figure 2, rate of population growth or rate of national income growth is shown on the horizontal scale and per capita income on the vertical scale. Curve P indicates the population growth and curve N indicates the level of per capita income. Let us start from the point a which represents the subsistence equilibrium point.

Here the population growth or national income growth is zero. When the per capita income rises to yb, the population growth rate and national income growth rate both are equal to 1%. When per capita income rises to yc, we have the points c and g on curves N and P respectively. These points signify that at the yc, level of per capita income, the population growth rate is 2% whereas national income growth rate is 1%. Thus, this is a disequilibrium state and cannot represent a level of income that can sustain itself.

Therefore, the level of per capita income should be raised to that level at which population growth rate starts declining and national income growth rate starts rising. The only such point is y. At this level of per capita income the population growth rate is 3%. The growth rate of population, according to Leibenstein is maximum biologically determined.

After ye level of per capita income, the population starts declining and national income starts rising. Thus ye level of per capita income is critical minimum per capita income which can sustain itself or which can generate the process of self-sustained growth. According to Leibenstein, the less developed countries must raise their per capita income to this level, if they want to achieve the substained growth.

Balanced Growth Theory

The balanced growth theory can be explained with the views of:

(A) Views of Rosenstein Rodan:

In 1943 article, Rosenstein Rodan propounded this theory but without using the term balanced growth. He stated that the Social Marginal Product (SMP) of an investment is different from its Private Marginal Product (PMP). If different industries are planned accordingly to their SMP, the growth of the economy would be much more than it the industries had been planned according to their PMP. SMP is greater than PMP because of the complementarity of different industries which leads to the most profitable investment from the social point of view.

He illustrates it with a popular example to shoe factory. If a large shoe factory is started in the region where 20,000 unemployed workers are employed. Now in case, the workers spend their entire wages on shoes, it would create market for shoes. If series of industries are started, in that case the demand of different industries would increase via multiplier process. This would lead to planned industrialization. Ragnar Nurkse has also developed his thesis on these lines.

(B) Views of Ragnar Nurkse:

Prof. Nurkse has given a proper explanation of the theory of balanced growth. He holds that the major obstacle to the development of the underdeveloped countries is the vicious circle of poverty. This vicious circle of poverty shows that income in underdeveloped countries is low. Low income leads to low savings. Low savings will naturally result in low investment, which will result in less production. Low production will generate low income. Low income will create low demand for goods. In other words, it will result in smaller markets (limited extent of markets). Thus, there will be no inducement to invest.

According to Nurkse "The inducement to invest may be low because of the small buying power of the people, which is due to their small real income, which again is due to low productivity. The low level of productivity however is a result of the small amount of capital used in production which in turn may be caused, at last partly, by inducement to invest." So, in order to break the vicious circle of poverty in the under-developed countries, it is essential to have a balance between demand and supply.

Ranger Nurkse is of the view that economic development is adversely affected by vicious circle of poverty. The economic development can take place only if vicious circle of poverty is broken. The vicious circle of poverty operates both on the demand and supply side.

(a) Demand Side:

Vicious circle of poverty affects the demand side of capital formation. The underdeveloped countries are poor because their level of income is low. Due to low level of income, their demand for low income goods is low.

Vicious circle of poverty: On Demand Side:

In UDCs the size of the market is limited. As a result, private investors do not get opportunities for more investment. This reduces investment and capita. Hence productivity of capital would fall.

This reduced per capita income as explained as follows:

Fig. 1

Low Income → Low Size of Market → Low Investment → Low Productivity → Low Income.

(b) Supply Side:

Vicious circle of poverty affects the supply side of capital formation. In the underdeveloped countries, poverty exists because the per capita income of the people is low. Due to low per capita income, the level of saving is low. Since investment depends on savings, so investment would be low due to which capital formation would be low. Low capital formation would lead to low productivity which would result in poverty. This is how vicious circle from supply side completes.

Low-Income → Low Savings → Low Investment → Low Capital → Formation → Low Productivity → Low Income

Vicious Circle of Poverty: Supply Side:

The underdeveloped countries, can resort to capital formation and accelerate the pace of economic development only by breaking the vicious circle of poverty. Once the vicious circle of poverty is broken, the economy would be on the rails to development. Now the question is how to break the vicious circle of poverty.

How to Break Vicious Circle of Poverty?

(i) Complementary Demand:

The vicious circle of poverty cannot be broken with industrial investment decisions. This means vicious circle of poverty cannot be broken only by making investment in one industry or one sector. Rather, there should be overall investment in all the sectors. This is the only way to enlarge the size of the market. In order to clear his views, Nurkse has given example of shoe industry as given by Rosenstein Rodan.

It testifies that investment in shoe industry will not lead to sufficient demand. What we need is to have overall investment, so that labourers of one industry can be the consumers or buyers of the products of others. In the words of Nurkse, "The solution seems to be balanced pattern of investment in a number of different industries so that people working with more productivity, with more capital and improved techniques become each other's customers."

When investment will be made in several industries simultaneously, it will increase the income of many people who are employed in various industries. They will purchase goods made by each other for consumption. They will become customers mutually. Thus, with the increase in supply demand will also go up. The extent of market will also increase. It will lead to capital formation and thus, the vicious circle of poverty will get broken. Same would be the case of wage-earners of different industries or sectors.

The complementarity of industries is in reality, the crux of the concept of balanced growth. This is termed as complementarities of demand. According to Nurkse, "Most industries entering for mass consumption are complementary in the sense that they provide a market for and thus supports each other, the basic complementarity stems, in the last analysis from the diversity of human wants. The case for balanced growth rests on the need for a balanced diet." Thus, on the basis of the complementaries of demand, balanced growth will be helpful in attaining economic progress.

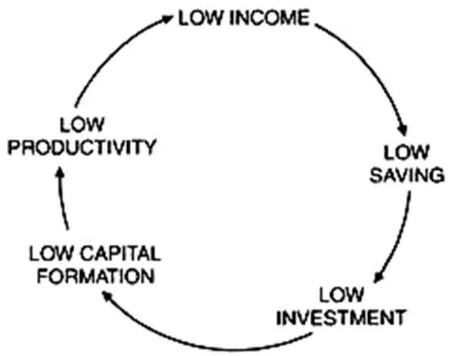


Fig. 1.1

(ii) Government Intervention:

Nurkse is of the view that the government must intervene in productive activities through economic planning. He is of the view that when government participates in productive activities, it will help in breaking the vicious circle of poverty. Nurkse opines that if entrepreneurs are available in underdeveloped countries, then they can be induced to make investment. But in underdeveloped countries, private entrepreneurs cannot come forward with so much heavy investment. This can easily be carried by the government only. Thus, vicious circle of poverty can be broken only by the intervention of the government.

(iii) External Economies:

Balanced growth also leads to external economies. External economies are those which accrue because of the setting up of new industries and expansion of the existing industries. The accruing of external economies lead to the law of increasing returns to scale. It leads to a fall in the cost of production and hence the price level. A fall in the price leads to the increase in demand which is useful for economic development.

(iv) Economic Growth:

Balanced growth helps in accelerating the pace of economic growth, G.M.Meier is of the view that “Balanced Growth is a means of getting out of rut”. Nurkse is of the view that increase in investment in different branches of production can enlarge the total market. This can break the bonds of the stationery equilibrium of underdevelopment.

How the Market can be enlarged:

The market size can be enlarged by monetary expansion, salesmanship and advertisement, removing trade restrictions and expanding social other heads i.e., infrastructures. It can be widened either by a reduction in prices or by an increase in money while keeping constant prices. As the circumstances are found, market is not large enough to allow production on such a scale to reduce cost in underdeveloped countries. The solution pointed out for this critical position by Prof. Nurkse, is “More or less synchronized application of capital to a wide range of different industries.

Here is an escape from the deadlock, that is it results in an overall enlargement of the market. People working with more and better tools in a number of complementary projects become each other’s consumer. More industries catering for mass consumption are complementary in the sense that they provide a market for and support each other. The case for balanced growth sets on the need for a balanced diet.”

Nurkse further submits his notion of balanced growth from Say’s law which states that “Supply creates its own Demand” and Mill cites that “Every increase of production, if distributed without miscalculation among all kinds of produce in the proportion which private interest would dictate, creates or rather constitutes its own demand.” Thus, Nurkse’s, balanced growth is a sort of frontal attack—”a wave of capital investment in a number of different industries.” Therefore, the best way is to have simultaneous wave of new plants composed in such a way that full advantage is taken of complementaries on the supply side and of the complementaries of the markets on the demand side.” Investment is wide range of industries will give better division of labour, it leads to vertical and horizontal integration of industries, a common source of raw-materials and technical skill, an expansion of the size of the market and better use of social and economic overhead capital.

Therefore, investment in productive equipment and in human capital should be simultaneous while investment will be fruitless unless people are educated. But Prof. Nurkse pleads that private enterprise can achieve the desire effect under the stimulus of certain incentives. Price incentives may bring about balanced growth to some extent. It is further promoted by monetary and other effects.

(C) W.A. Lewis Views on the Theory of Balanced Growth:

W.A. Lewis has advocated the theory of balanced growth on the basis of the following two reasons:

Firstly, in the absence of balanced growth, prices in one sector may be higher than the prices in the other sector. On account of unfavourable terms of trade in the domestic market, they might suffer heavy losses. As a result no investment will be made there in and their growth will be halted. Because of balanced growth equality in comparative prices in all the sectors will be made and thereby all the sectors will continue to grow.

Secondly, when the economy grows, then several bottlenecks appear in different sectors. As a result of economic development, income of the people also increases. Due to increase in income, demand of those goods rises whose demand is income-elastic. If the production of these goods does not increase, there may appear several bottlenecks. However, in case of balanced growth, it is possible to increase production of those goods whose income elasticity of demand is more. Thereby, chances of bottlenecks in different sectors will be quite remote.

In case it is not possible to increase production simultaneously in agricultural and industrial sectors, then Prof. Lewis suggested that the strategy of balance between domestic and foreign trade should be adopted. If industrial sector is not developing, then the agricultural produce should be exported and industrial products should be imported. On the other hand if agricultural sector is not developing, then the industrial goods should be exported and agricultural products should be imported.

However, Lewis does not favour a strategy for growth which totally dependent on increase exports. In his opinion, such a policy may turn the terms of trade against the country which pursues it. According to Lewis, “All sectors of the economy should be developed simultaneously so that balance is maintained between industries and agriculture, production for domestic consumption and production for exports”.

Unbalanced Growth Theory

According to Hirschman, “Development is a chain of disequilibria that must be kept alive rather than eliminate the disequilibrium of which profits and losses are symptoms in a competitive economy.

If economy is to keep moving ahead, the task of development policy is to maintain, tension, disproportions and disequilibria.”

“Unbalanced growth is a better development strategy to concentrate available resources on types of investment, which help to make the economic system more elastic, more capable of expansion under the stimulus of expanded market and expanding demand”-H.W.Singer.

According to Alak Ghosh,

“Planning with unbalanced growth emphasizes the fact that during the planning period investment will grow at a higher rate than income and income at a higher rate than consumption.”

It explains the unbalanced growth in terms of the growth rates of investment, income and consumption. If $\Delta I/I$, $\Delta Y/Y$ and $\Delta C/C$ denote the rate of investment, income and consumption, then unbalanced growth implies

$\Delta I/I > \Delta Y/Y > \Delta C/C$

i.e., the growth rates are not uniform.

According to Benjamin Higgin, “Deliberate unbalancing of the economy, in accordance with a pre-designed strategy is the best way to achieve the economic growth.”

According to H.W.Singer, “Unbalanced growth is a better development strategy to concentrate available resources on types of investment, which help to make the economic system more elastic, more capable of expansion under the stimulus of expanded market and expanding demand.”

Meier and Baldwin are also of the opinion that "Planners should concentrate on certain focal points, so as to achieve the goal of rapid economic development. The priorities should be given to those projects which ensure external economies to the existing firms, and those which could create demand for supplementary goods and services."

Explanation of the Theory:

Albert O. Hirschman in his strategy of economic development goes a step further from Singer when he says that for accelerating the pace of economic development in the underdeveloped countries, it is advisable to create imbalances deliberately. He also recognized the inter-relatedness of different economic activities as done by Ragnar Nurkse. But he asserts that investment in selected industries or sectors would accelerate the pace of economic development.

He regarded, "Development is a chain disequilibria that must keep alive rather than eliminate the disequilibria, of which profits and losses are symptoms in a competitive economy". There would be 'seasaw advancement' as we move from one disequilibrium to another new disequilibrium situation.

Thus Hirschman argued that, "To create deliberate imbalances in the economy, according to a pre-designed strategy, is the best way to accelerate economic development." Hirschman is of the confirmed view that underdeveloped countries should not develop all the sectors simultaneously rather one or two strategic sectors or industries should be developed by making huge investment. In other words, capital goods industries should be preferred over consumer goods industries.

It is because capital goods industries accelerate the development of the economy, where development of consumer goods industries is the natural outcome. Hirschman has stated that, "If the economy is to be kept moving ahead, the task of development policy is to maintain tensions, disproportions and disequilibria."

Process of Unbalanced Growth:

The strategy of unbalanced growth is most suitable in breaking the vicious circle of poverty in underdeveloped countries. The poor countries are in a state of equilibrium at a low level of income. Production, consumption, saving and investment are so adjusted to each other at an extremely low level that the state of equilibrium itself becomes an obstacle to growth. The only strategy of economic development in such a country is to break this low level equilibrium by deliberately planned unbalanced growth.

Prof. Hirschman is of the opinion that shortages created by unbalanced growth offer considerable incentives for inventions and innovations. Imbalances give incentive for intense economic activity and push economic progress.

According to Prof. Hirschman, the series of investment can be classified into two parts:

1. Convergent Series of Investment:

It implies the sequence of creation and appropriation of external economies. Therefore, investment made on the projects which appropriate more economies than they create is called convergent series of investment.

2. Divergent Series of Investment:

It refers to the projects which appropriate less economies than they create.

These two series of investment are greatly influenced by particular motives. For instance, convergent series of investments are influenced by profit motive which are undertaken by the private entrepreneurs. The later is influenced by the objective of social desirability and such investment are undertaken by the public agencies.

In the words of Prof. Hirschman, "When one disequilibrium calls forth a development move which in turn leads to a similar disequilibrium and so on and infinitum in the situation private profitability and social desirability are likely to coincide, not because of external economies, but because input and output of external economies are same for each successive venture." Thus, growth must aim at the promotion of divergent series of investment in which more economies are created than appropriated.

Development policy, therefore, should be so designed that may enhance the investment in social overhead capital (SOC) is created external economies and discourage investment in directly productive activities (DPA).

Unbalancing the Economy:

Development, according to Hirschman, can take place only by unbalancing the economy. This is possible by investing either in social overhead capital (SOC) or indirectly productive activities (DPA). Social overhead capital creates external economies whereas directly productive activities appropriate them.

(i) Excess of investment in Social Overhead Capital:

Social over-head capital are concerned with those series without which primary, secondary and tertiary services cannot function. In SOC we include investment on education, public health, irrigation, water drainage, electricity etc. Investment in SOC favorably affect private investment in directly productive activities (DPA).

Investment in SOC is called autonomous investment which is made with the motive of private profit. Investment in SOC provide, for instance, cheap electricity, which would develop cottage and small scale industries. Similarly irrigation facilities lead to development of agriculture. As imbalance is created in SOC, it will lead to investment in DPA.

(ii) Excess of Investment in Directly Productive Activities:

Directly productive activities include those investments which lead to direct increase in the supply of goods and services. Investment in DPA means investment in private sector which is done with a view to maximize profit. In those projects, investment is made first where high profits are expected. In this way, DPA are always induced by profits.

Priorities: Excess SOC or Excess DPA:

(a) Unbalancing the economy with SOC:

Imbalance can be created both by SOC and DPA. But the question before us is that in which direction the investment should be made first so as to achieve continuous and sustained economic growth. The answer is quite simple. The government should invest more in order to reap these economies, the private investors would make investment in order to enjoy profits. This would raise the production of goods and services. Thus investment in SOC would bring automatically investment in DPA.

(b) Unbalancing the economy with DPA:

In case investment is made first in DPA, the private investors would be facing a lot of problems in the absence of SOC. If a particular industry is setup in a particular region, that industry will not expand if SOC facilities are not available. In order to have SOC facilities, the industry has to put political pressure. That is really a tough job. Thus, excess DPA path is full of strains or pressure- creating whereas excess SOC path is very smooth or pressure relieving.

Various Economics PG Exams University CETS Details :

Slno	Name of the university	University	Application date	Exam date	website	Exam mode
1	Delhi School of Economics	Delhi university	March 2 to 31, 2020	June 2 to 9, 2020	www.du.ac.in	online
2	Mumbai School of Economics	Mumbai university	May 29 - June 07 2020	01 June 2020	www.mue.edu.in	online
3	madras School of Economics	madras university	01 May 2020	01 June 2020	www.mse.ac.in	offline
4	Hyderabad school of economics	Hyderabad central university	01 April 2020	01 June 2020	www.uohyd.ac.in	offline
5	Central University cat (CUCET)	11 Central universities	01 February 2020	01 April 2020	www.cucetexam.in	online
6	Pondicherry University	Pondicherry University	10th May 2020	7th, 8th & 9th June 2020	www.pondiuni.edu.in	online
7	TS CP CET	ALL TELANGANA STATE UNIVERSITIES	01 April 2020	01 July 2020	WWW.CSCPGET.COM	online
8	Azim Premji University National Entrance Test NET -2020	Azim Premji University	January 2, 2020	February 8, 2020	www.azimpremjiuniversity.edu.in	offline
9	BHU UET - Banaras Hindu University Undergraduate Entrance Test 2020	Banaras Hindu University	First week of February 2020	Third week of May 2020	www.bhuonline.in	offline
10	Jawaharlal Nehru University Entrance Exam (JNUEE	Jawaharlal Nehru University	March 2, 2020	11 May to 14 May, 2020	www.jnu.ac.in	online
12	West Bengal Joint Entrance Exam	12 bengal universities	Jun-20	June 17-20, 2020	www.wbjeeb.in	offline
13	Indira Gandhi Institute of Development Research (IGIDR)	Indira Gandhi Institute of Development Research (IGIDR)	3rd week of Feb 2020	3rd week of Apr 2020	www.igidr.ac.in	online
14	TISSNET 2020	Tata Institute of Social Sciences, Mumbai	Nov-19	January 04, 2020	www.tiss.edu/contact	online
15	Gokhale Institute of Politics and Economics	Gokhale Institute of Politics and Economics' Pune	01 May 2019	01 June 2020	www.gipe.ac.in	offline