PAPER - V

Development Economics

B.A. Economics - Semester- V

Discipline Specific Course

Unit- I

Economic Development and Growth

Concepts of Economic Growth and Development

Economic Growth refers to the rise in the value of everything produced in the economy. It implies the yearly increase in the country's GDP or GNP, in percentage terms. It alludes to considerable rise in per-capita national product, over a period, i.e. the growth rate of increase in total output, must be greater than the population growth rate.

Economic Growth is often contrasted with Economic Development, which is defined as the increase in the economic wealth of a country or a particular area, for the welfare of its residents. Here, you should know that economic growth is an essential but not the only condition for economic development.

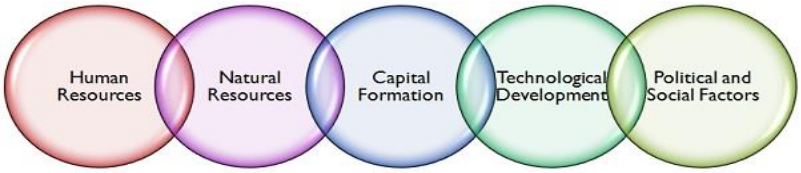
The economic trend in a country as a whole is the major component for its business environment. An economy whose growth rate is high provides a promising business prospect and thus builds business confidence. In this article, you will find all the substantial differences between economic growth and economic development.

Comparison Chart

BASIS FOR COMPARISON	ECONOMIC GROWTH	ECONOMIC DEVELOPMENT
Meaning	Economic Growth is the positive change in the real output of the country in a particular span of time.	Economic Development involves rise in the level of production in an economy along with the advancement of technology, improvement in living standards and so on.
Concept	Narrow	Broad
Scope	Increase in the indicators like GDP, per capita income etc.	Improvement in life expectancy rate, infant mortality rate, literacy rate and poverty rates.
Term	Short term process	Long term process
Applicable to	Developed Economies	Developing Economies
How it can be measured?	Upward movement in national income.	Upward movement in real national income.
Which kind of changes is expected?	Quantitative changes	Qualitative and quantitative changes
Type of process	Automatic	Manual
When it arises?	In a certain period of time.	Continuous process.

Definition of Economic Growth

Economic Growth is defined as the rise in the money value of goods and services produced by all the sectors of the economy per head during a particular period. It is a quantitative measure that shows the increase in the number of commercial transactions in an economy.



Economic growth can be expressed in terms of gross domestic product (GDP) and gross national product (GNP) that helps in measuring the size of the economy. It lets us compare in absolute and percentage change, i.e. how much an economy has progressed since last year. It is an outcome of the increase in the quality and quantity of resources and advancement of technology.

Definition of Economic Development

Economic Development is defined as the process of increase volume of production along with the improvement in technology, a rise in the level of living, institutional changes, etc. In short, it is the progress in the socio-economic structure of the economy.

Human Development Index (HDI) is the appropriate tool to gauge the development in the economy. Based on the development, the HDI statistics rank countries. It considers the overall development in an economy regarding the standard of living, GDP, living conditions, technological advancement, improvement in self-esteem needs, the creation of opportunities, per capita income, infrastructural and industrial development and much more.

Key Differences between Economic Growth and Economic Development

The fundamental differences between economic growth and development are explained in the points given below:

1. Economic growth is the positive change in the real output of the country in a particular span of time economy. Economic Development involves a rise in the level of production in an economy along with the advancement of technology, improvement in living standards and so on.
2. Economic growth is one of the features of economic development.
3. Economic growth is an automatic process. Unlike economic development, which is the outcome of planned and result-oriented activities?
4. Economic growth enables an increase in the indicators like GDP, per capita income, etc. On the other hand, economic development enables improvement in the life expectancy rate, infant mortality rate, literacy rate and poverty rates.

5. Economic growth can be measured when there is a positive change in the national income, whereas economic development can be seen when there is an increase in real national income.

6. Economic growth is a short-term process which takes into account yearly growth of the economy. But if we talk about economic development it is a long term process.

7. Economic Growth applies to developed economies to gauge the quality of life, but as it is an essential condition for the development, it applies to developing countries also. In contrast to, economic development applies to developing countries to measure progress.

8. An economic Growth result in quantitative changes but Economic Development leads both quantitative and qualitative changes.

9. Economic growth can be measured in a particular period. As opposed to economic development is a continuous process so that it can be seen in the long run.

Example

To understand the two terms economic growth and economic development, we will take an example of a human being. The term growth of human beings simply means the increase in their height and weight which is purely physical. But if you talk about human development, it will take into account both the physical and abstract aspects like maturity level, attitudes, habits, behaviour, feelings, intelligence and so on.

In the like manner, growth of an economy can be measured through the increase in its size in the current year in comparison to previous years, but economic development includes not only physical but also non-physical aspects that can only be experienced like improvement in the lifestyle of the inhabitants, increase in individual income, improvement in technology and infrastructure, etc.

Conclusion

After the above discussion, we can say that economic development is a much bigger concept than economic growth. In other words, the economic development includes economic growth. As the economic growth uses various indicators to judge the progress in an economy but the latter uses only specific indicators like gross domestic product, individual income etc.

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.

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.

Arguments in Favour 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.

Arguments against 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.

Arguments in favour 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.

3. Basic Needs

The basic needs approach is one of the major approaches to the measurement of absolute poverty in developing countries. It attempts to define the absolute minimum resources necessary for long-term physical well-being, usually in terms of consumption goods. The poverty line is then defined as the amount of income required to satisfy those needs. The 'basic needs' approach was introduced by the International Labour Organization's World Employment Conference in 1976."Perhaps the high point of the WEP was the World Employment Conference of 1976, which proposed the satisfaction of basic human needs as the overriding objective of national and international development policy. The basic needs approach to development was endorsed by governments and workers' and employers' organizations from all over the world. It influenced the programmes and policies of major multilateral and bilateral development agencies, and was the precursor to the human development approach."

A traditional list of immediate "basic needs" is food (including water), shelter and clothing. Many modern lists emphasize the minimum level of consumption of 'basic needs' of not just food, water, clothing and shelter, but also sanitation, education, healthcare, and internet. Different agencies use different lists.

The basic needs approach has been described as consumption-oriented, giving the impression "that poverty elimination is all too easy." Amartya Sen focused on 'capabilities' rather than consumption.

In the development discourse, the basic needs model focuses on the measurement of what is believed to be an eradicable level of poverty. Development programs following the basic needs approach do not invest in economically productive activities that will help a society carry its own weight in the future, rather it focuses on allowing the society to consume just enough to rise above the poverty line and meet its basic needs. These programs focus more on subsistence than fairness. Nevertheless, in terms of "measurement", the basic needs or absolute approach is important. The 1995 world summit on social development in Copenhagen had, as one of its principal declarations that all nations of the world should develop measures of both absolute and relative poverty and should gear national policies to "eradicate absolute poverty by a target date specified by each country in its national context."

4. Physical Quality Of Life Index (PQLI)

In 1979, D. Morris constructed a composite Physical Quality of Life Index (PQLI). He found that most of the indicators were inputs to development process rather than result of the development process. These indicators reflected that economically less developed countries

are simply underdeveloped versions of industrialized countries. He therefore, combines three component indicators of Infant Mortality, Life Expectancy and Basic Literacy to measure performance in meeting the basic needs of the people.

However, the choice of indicators is:

1. L2. Infant Mortality Indicator (IMI)

3. Basic Literacy Indicator (BLI)

These three indicators can be improved in a variety of ways. However, Prof. Morris used Life Expectancy (LE) at birth as the indicator. Infant mortality implies deaths before age one instead of life expectancy at birth. In case, the figure for life expectancy at age one was not available, it could be worked out by using a formula which relates life expectancy at birth, infant mortality and the proportion of children.

How to Normalize Indicators:

We are familiar that life expectancy is measured in terms of years, infant mortality rate in terms of per thousand and basic literacy rate in terms of percentage. They cannot be simply added. Moreover, basic literacy can have a natural zero for minimum and 100 for maximum, thus there exists no natural minimum or maximum values for other indicators. For comparison, each of the levels should be normalized. Prof. Morris choose the best and worst levels in each of the three cases.

In the case of positive indicators of life expectancy and basic literacy the best is shown by the maximum and worst by the minimum. While in case of negative indicator of infant morality, the best is denoted by the minimum and the worst by the maximum. For converting the actual levels of a positive variable into normalized indicators, first the minimum values are subtracted from the actual values and then the gap is divided by the range.

For positive indicators, the formula is: life Expectancy Indicator (LEI)

$$\textbf{Achievement Level} = \frac{\text{Actual value–Minimum Value}}{\text{Maximum Value–Minimum value}}$$

For negative indicator of infant mortality, actual value has to be subtracted from the maximum value and the gap if any has to be divided by the range. The formula is

$$\textbf{Achievement Level} = \frac{\text{Minimum Value–Actual Value}}{\text{Maximum Value–Minimum Value}}$$

If a nut shell, three indicators are averaged to give what is called the Physical quality of Life Index (PQLI).

PQLI = (1/3) (LEI + IMI + BLI)

In case of life expectancy and infant mortality, there exists do not natural minimum and maximum values. The conversions from values to indices are linear. Put the actual value of these indicators of the country in the expression and get the reasonable indices as Physical Quality of Life Index.

5. Human Development Index (HDI):

The Human Development Index (HDI) is a statistic composite index of life expectancy, education, and per capita income indicators, which are used to rank countries into four tiers of human development. A country scores a higher HDI when the lifespan is higher, the education level is higher, and the GDP per capita is higher. It was developed by Indian Nobel prize winner Amartya Sen and Pakistani economist Mahbub ul Haq, with help from Gustav Ranis of Yale University and Lord Meghnad Desai of the London School of Economics, and was further used to measure the country's development by the United Nations Development Program (UNDP).

The 2010 Human Development Report introduced an Inequality-adjusted Human Development Index (IHDI). While the simple HDI remains useful, it stated that "the IHDI is the actual level of human development (accounting for inequality)", and "the HDI can be viewed as an index of 'potential' human development (or the maximum IHDI that could be achieved if there were no inequality)". The index does not take into account several factors, such as the net wealth per capita or the relative quality of goods in a country. This situation tends to lower the ranking for some of the most advanced countries, such as the G7 members and others.

The index is based on the human development approach, developed by Ul Haq, often framed in terms of whether people are able to "be" and "do" desirable things in life. Examples include—Being: well fed, sheltered, healthy; Doings: work, education, voting, participating in community life. The freedom of choice is central—someone choosing to be hungry (as during a religious fast) is quite different to someone who is hungry because they cannot afford to buy food.

Considering quality of Life Index, the United Nations was the first to prepare and publish Human Development Index in the year 1990.

Human Development Index studies the following three basic human aspects:
(i) Living a long life or Longevity (LEI)

(ii) Being knowledgeable on Educational Attainment (Index EAI).

(iii) Standard of living on Real per capita GDP (SLI).

These three indices can be expressed as

HDI = (1/3) (LEI + EAI + SLI)

Let us discuss these three aspects.

(i) Longevity (LEF):

Longevity means life expectancy at birth. It refers to the number of years a newly born baby is expected to live. Life expectancy in India at present is 63 years.

(ii) Educational Attainment (EAI):
It means education attained by the people of the country on an average basis.

The constituents of educational attainment are expressed through the following two variables:
(a) Adult literacy rate (ALR)

(b) Gross enrolment ratio (GER)

(a) Adult Literacy Rate (ALR):
The rate or the percentage of people aged 15 and above who can understand, read and write a short and simple statement in their everyday life are known as literate. It implies that every literate must be capable of reading and writing certain sentences. If someone is able to sign but not capable of reading and writing simple statement is not literate. Thus, capability of reading only or writing only does not make a person literate. Literacy is the symbol of the quality of the people.

(b) Gross Enrolment Ratio (GER):
Gross Enrolment Ratio refers to the number of students enrolled at different levels of education. It is the percentage of population of different age groups engaged in educational pursuit. The education level consists of primary, secondary and tertiary level. Basic elements of education are provided at primary level.

Secondary level education is studied at middle and secondary level. University level education is studied under tertiary level. General enrolment ratio shows the percentage population enrolled at primary, middle, secondary and university level. The higher GER indicates higher quality of life. It will be the sincere effort of every economy to increase general enrolment ratio as far as possible.

(iii) Real GDP Per Capita or Standard of Living (SLI):
It is considered as a measure of the standard of living of the people of a country. In order to calculate human development index we are required to study and analyse longevity, educational attainment and real GDP per capita.

Quality Of Life Index (QLI):
Quality of life of the people is another index to measure the standard of living of the people in an economy. It is influenced by national and per capita income of the people. Many other factors like consumption, output, health, environment, education, freedom, security, non-violence peaceful atmosphere etc. also influence human welfare directly or indirectly. In other words, none of these factors alone determines the welfare of the people. At the same

time, we should note that National Income is not itself the single representative factor of welfare.

It is as such necessary that all the determinants of welfare should be combined together to measure the quality of life index. But it is not possible that every variable should be accounted for because of conceptual and statistical difficulties. It is, therefore, said that an index comprising of certain selected social factors be made to determine the quality of life index. For example Human Development Index (HID) has been prepared under United Nations Development Programme (UNDP).

In fact, they make an attempt to measure quality of life and we should make reference to it towards the end. At the same time, we should remember that these indices were developed in the international context. They were used for ranking different countries according to its numerical value of achievement in descending order.

6. 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.

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.

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 security's 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 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., especially to those who are engaged for consumer goods industries for domestic consumption.

9. Influencing the Use of Resources:

UDC is 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 is 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 socially desirable channels will stimulate private investment, promote distributive justice, and 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 in economic development is 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 has 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. Moreover 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.

In spite 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 add 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.

Unit-II

Factors in Economic Development

Factors Affect the Economic Development or the Determinants of Economic Development

Economic development is the process by which emerging economies become advanced economies. In other words, the process by which countries with low living standards become with high living standards. Economic development also refers to the process by which the overall health, well-being, and academic level the general population improves. During the development, there is a population shift from agriculture to industry, and then to services.

A longer average life expectancy, for example, is one of the results of economic development. Improved productivity, higher literacy rates, and better public education, are also consequences.

Put simply; economic development is all about improving living standards. 'Improved living standards refer to higher levels of education and literacy, workers' income, health and lifespans.

Types of Determinants (Factors) Which Influence the Economic Development of a Country are as follows. There are mainly two types of determinants (factors) which influence the economic development of a country.

A) Economic Factors in Economic Development:

In a country's economic development the role of economic factors is decisive. The stock of capital and the rate of capital accumulation in most cases settle the question whether at a given point of time a country will grow or not. There are a few other economic factors which also have some bearing on development but their importance is hardly comparable to that of capital formation. The surplus of food grains output available to support urban population, foreign trade conditions and the nature of economic system are some such factors whose role in economic development has to be analysed:

1) Capital Formation: The strategic role of capital in raising the level of production has traditionally been acknowledged in economics. It is now universally admitted that a country

which wants to accelerate the pace of growth, has m choice but to save a high ratio-of its income, with the objective of raising the level of investment. Great reliance on foreign aid is highly risky, and thus has to be avoided. Economists rightly assert that lack of capital is the principal obstacle to growth and no developmental plan will succeed unless adequate supply of capital is forthcoming.

Whatever be the economic system, a country cannot hope to achieve economic progress unless a certain minimum rate of capital accumulation is realized. However, if some country wishes to make spectacular strides, it will have to raise its rate of capital formation still higher.

2) Natural Resources: The principal factor affecting the development of an economy is the natural resources. Among the natural resources, the land area and the quality of the soil, forest wealth, good river system, minerals and oil-resources, good and bracing climate, etc., are included. For economic growth, the existence of natural resources in abundance is essential. A country deficient in natural resources may not be in a position to develop rapidly. In fact, natural resources are a necessary condition for economic growth but not a sufficient one. Japan and India are the two contradictory examples.

According to Lewis, "Other things being equal man can make better use of rich resources than they can of poor". In less developed countries, natural resources are unutilized, under-utilized or mis- utilized. This is one of the reasons of their backwardness. This is due to economic backwardness and lack of technological factors.

According to Professor Lewis, "A country which is considered to be poor in resources may be considered very rich in resources some later time, not merely because unknown resources are discovered, but equally because new methods are discovered for the known resources". Japan is one such country which is deficient in natural resources but it is one of the advanced countries of the world because it has been able to discover new use for limited resources.

3) Marketable Surplus of Agriculture: Increase in agricultural production accompanied by a rise in productivity is important from the point of view of the development of a country. But what is more important is that the marketable surplus of agriculture increases. The term 'marketable surplus' refers to the excess of output in the agri-cultural sector over and above what is required to allow the rural population to subsist.

The importance of the marketable surplus in a developing economy emanates from the fact that the urban industrial population subsists on it. With the development of an economy, the ratio of the urban population increases and increasing demands are made on agriculture for

food grains. These demands must be met adequately; otherwise the consequent scarcity of food in urban areas will arrest growth.

In case a country fails to produce a sufficient marketable surplus, it will be left with no choice except to import food grains which may cause a balance of payments problem. Until 1976-77, India was faced with this problem precisely. In most of the years during the earlier planning period, market arrivals of food grains were not adequate to support the urban population.

If some country wants to step-up the tempo of industrialization, it must not allow its agriculture to lag behind. The supply of the farm products particularly food grains, must increase, as the setting-up of industries in cities attracts a steady flow of population from the countryside.

4) Conditions in Foreign Trade: The classical theory of trade has been used by economists for a long time to argue that trade between nations is always beneficial to them. In the existing context, the theory suggests that the presently less developed countries should specialize in production of primary products as they have comparative cost advantage in their production. The developed countries, on the contrary, have a comparative cost advantage in manufactures including machines and equipment and should accordingly specialize in them.

In the recent years, a powerful school has emerged under the leadership of Raul Prebisch which questions the merits of unrestricted trade between developed and under-developed countries on both theoretical and empirical grounds.

Foreign trade has proved to be beneficial to countries which have been able to set-up industries in a relatively short period. These countries sooner or later captured international markets for their industrial products. Therefore, a developing country should not only try to become self-reliant in capital equipment as well as other industrial products as early as possible, but it should also attempt to push the development of its industries to such a high level that in course of time manufactured goods replace the primary products as the country's principal exports.

In countries like India the macro-economic interconnections are crucial and the solutions of the problems of these economies cannot be found merely through the foreign trade sector or simple recipes associated with it.

5) Economic System: The economic system and the historical setting of a country also decide the development prospects to a great extent. There was a time when a country could have a laissez faire economy and yet face no difficulty in making economic progress. In today's entirely different world situation, a country would find it difficult to grow along the England's path of development.

The Third World countries of the present times will have to find their own path of development. They cannot hope to make much progress by adopting a laissez faire economy. Further, these countries cannot raise necessary resources required for development either through colonial exploitation or by foreign trade. They now have only two choices before them:

i) They can follow a capitalist path of development which will require an efficient market system supported by a rational interventionist role of the State.

ii) The other course open to them is that of economic planning.

The latest experiments in economic planning in China have shown impressive results. Therefore, from the failure of economic planning in the former Soviet Union and the erstwhile East European socialist countries it would be wrong to conclude that a planned economy has built-in inefficiencies which are bound to arrest economic growth.

B) Non-Economic Factors in Economic Development: From the available historical evidence, it is now obvious that non- economic factors are as much important in development as economic factors. Here we attempt to explain how they exercise influence on the process of economic development:

1) Human Resources: Human resources are an important factor in economic development. Man provides labour power for production and if in a country labour is efficient and skilled, its capacity to contribute to growth will decidedly be high. The productivity of illiterate, unskilled, disease ridden and superstitious people is gener-ally low and they do not provide any hope to developmental work in a country. But in case human resources remain either unutilized or the manpower management remains defective, the same people who could have made a positive contribution to growth activity prove to be a burden on the economy.

2) Technical Know-How and General Education: It has never been, doubted that the level of technical know-how has a direct bearing on the pace of development. As the scientific and technological knowledge advances, man discovers more and more sophisticated techniques of production which steadily raise the productivity levels.

Schumpeter was deeply impressed by the innovations done by the entrepreneurs, and he attributed much of the capitalist development to this role of the entrepreneurial class. Since technology has now become highly sophisticated, still greater attention has to be given to Research and Development for further advancement. Under assumptions of a linear homogeneous production function and a neutral technical change which does not affect the rate of substitution between capital and labour, Robert M. Solow has observed that the

contribution of education to the increase in output per man hour in the United States between 1909 and 1949 was more than that of any other factor.

3) Political Freedom: Looking to the world history of modern times one learns that the processes of development and under-development are interlinked and it is wrong to view them in isolation. We all know that the under-development of India, Pakistan, Bangladesh, Sri Lanka, Malaysia, Kenya and a few other countries, which were in the past British colonies, was linked with the development of England. England recklessly exploited them and appropriated a large portion of their economic surplus.

Dadabhai Naoroji has also candidly explained in his classic work 'Poverty and Un-British Rule in India' that the drain of wealth from India under the British was the major cause of the increase in poverty in India during that period, which in turn arrested the economic development of the country.

4) Social Organisation: Mass participation in development programs is a pre-condition for accelerating the growth process. However, people show interest in the development activity only when they feel that the fruits of growth will be fairly distributed. Experiences from a number of countries suggest that whenever the defective social organisation allows some elite groups to appropriate the benefits of growth, the general mass of people develop apathy towards State's development programs. Under the circumstances, it is futile to hope that masses will participate in the development projects undertaken by the State.

India's experience during the whole period of development planning is a case in point. Growth of monopolies in industries and concentration of economic power in the modern sector is now an undisputed fact. Furthermore, the new agricultural strategy has given rise to a class of rich peasantry creating widespread disparities in the countryside.

5) Corruption: Corruption is rampant in developing countries at various levels and it operates as a negative factor in their growth process. Until and unless these countries root-out corruption in their administrative system, it is most natural that the capitalists, traders and other powerful economic classes will continue to exploit national resources in their personal interests.

The regulatory system is also often misused and the licenses are not always granted on merit. The art of tax evasion has been perfected in the less developed countries by certain sections of the society and often taxes are evaded with the connivance of the government officials.

6) Desire to Develop: Development activity is not a mechanical process. The pace of economic growth in any country depends to a great extent on people's desire to develop. If in some country level of consciousness is low and the general mass of people has accepted

poverty as its fate, then there will be little hope for development. According to Richard T. Gill, “The point is that economic development is not a mechanical process; it is not a simple adding- up of assorted factors. Ultimately, it is a human enterprise. And like all human enterprises, its outcome will depend finally on the skill, quality and attitudes of the men who undertake”.

Characteristics of Developing Countries or economies

Following are some of the basic and important characteristics which are common to all developing economies:

An idea of the characteristics of a developing economy must have been gathered from the above analysis of the definitions of an underdeveloped economy. Various developing countries differ a good deal from each other. Some countries such as countries of Africa do not face problem of rapid population growth, others have to cope with the consequences of rapid population growth. Some developing countries are largely dependent on exports of primary products, others do not show such dependence, and others do not show such dependence.

Some developing countries have weak institutional structure such as lack of property rights, absence of the rule of law and political instability which affect incentives to invest. Besides, there are lot of differences with regard to levels of education, health, food production and availability of natural resources. However, despite this great diversity there are many common features of the developing economies. It is because of common characteristics that their developmental problems are studied within a common analytical framework of development economics.

1. Low Per-capita Income: The first important feature of the developing countries is their low per capita income. According to the World Bank estimates for the year 1995, average per capita income of the low income countries is $ 430 as compared to $ 24,930 of the high-income countries including U.S.A., U.K., France and Japan. According to these estimates for the year 1995, per capita income was $340 in India, $ 620 in China, $240 in Bangladesh, $ 700 in Sri Lanka. As against these, for the year 1995 per capita income was $ 26,980 in USA, $ 23,750 in Sweden, $ 39,640 in Japan and 40,630 in Switzerland.

It may however be noted that the extent of poverty prevailing in the developing countries is not fully reflected in the per capita income which is only an average income and also includes the incomes of the rich also. Large inequalities in income distribution prevailing in these economies have made the lives of the people more miserable. A large bulk of population of these countries lives below the poverty line.

For example, the recent estimates reveal that about 28 per cent of India's population (i.e. about 260 million people) lives below the poverty line, that is, they are unable to get even sufficient calories of food needed for minimum subsistence, not to speak of minimum clothing and housing facilities. The situation in other developing countries is no better.

The low levels of per capita income and poverty in developing countries is due to low levels of productivity in various fields of production. The low levels of productivity in the developing economies has been caused by dominance of low-productivity agriculture and informal sectors in their economies, low levels of capital formation – both physical and human (education, health), lack of technological progress, rapid population growth which are in fact the very characteristics of the underdeveloped nature of the developing economies. By utilising their natural resources accelerating rate of capital formation and making progress in technology they can increase their levels of productivity and income and break the vicious circle of poverty operating in them.

It may however be noted that after the Second World War and with getting political freedom from colonial rule, in a good number of the underdeveloped countries the process of growth has been started and their gross domestic product (GDP) and per capita income are increasing.

2. Excessive Dependence on Agriculture: A developing country is generally predominantly agricultural. About 60 to 75 per cent of its population depends on agriculture and its allied activities for its livelihood. Further, about 30 to 50 per cent of national income of these countries is obtained from agriculture alone. This excessive dependence on agriculture is the result of low productivity and backwardness of their agriculture and lack of modern industrial growth.

In the present-day developed countries, the modern industrial growth brought about structural transformation with the proportion of working population engaged in agriculture falling drastically and that employed in the modern industrial and services sectors rising enormously. This occurred due to the rapid growth of the modern sector on the one hand and tremendous rise in productivity in agriculture on the other.

The dominance of agriculture in developing countries can be known from the distribution of their workforce by sectors. According to estimates made by ILO given in Table 4.1 on an average 61 per cent of workforce of low-income developing countries was employed in agriculture whereas only 19 per cent in industry and 20 per cent in services. On the contrary, in high income, that is, developed countries only 4 per cent of their workforce is employed in agriculture, while 26 per cent of their workforce is employed in industry and 70 per cent in services.

Table 4.1. Distribution of Workforce by Sectors (percentage)

Countries	Agriculture	Industry	Services
Low-income countries	61	19	20
Middle-income countries	22	34	44
High-Income countries	4	26	70

In India at the time of independence about 60 per cent of population was employed in agriculture and with six decades of development the percentage of population engaged in agriculture has fallen to around 50 per cent in 2011-12. However, it is significance to note that the increase in population in non-agriculture sector has found employment not in organised industry and services sector but in informal sector where labour productivity is as low as in agriculture.

Besides, it is important to note though at present (2011-12) agriculture employees 50 per cent of workforce, it contributes only 13 per cent to its GDP. This shows labour productivity in agriculture and informal sector in the Indian economy, as in other developing economies, is due to the fact that the employment in organised industrial and services sector has not grown at a rate commensurate with the increase in population despite recording a higher growth rate in output.

This is due to use of capital-intensive technologies in the organised industrial and services sectors. With the growth of population in the last few decades the demographic preserve on land has increased resulting in fall in land-labour ratio. With this agricultural holdings have become sub-divided into small plots which do not permit the use of efficient methods of cultivation.

In developing countries today, despite their modern industrial growth in the last four decades not much progress has been achieved towards structural transformation in the occupational structure of their economies. Due to the use of highly capital-intensive techniques very few employment opportunities have been created in their organised industrial and services sectors.

When increasing population cannot obtain employment in the modern non-agricultural occupations, such as industry, transport and other services, then the people remain on land and agriculture and do some work which they are able to get. This has resulted in disguised unemployment in agriculture. During the last some decades because of population explosion the pressure of manpower on land in the developing countries has largely increased.

3. Low Level of Capital Formation: The insufficient amount of physical and human capital is so characteristic a feature in all undeveloped economies that they are often called simply ‘capital-poor’ economies. One indication of the capital deficiency is the low amount of capital per head of population. Not only is the capital stock extremely small, but the current rate of capital formation is also very low. In the early 1950s in most of developing countries investment was only 5 per cent to 8 per cent of the national income, whereas in the United States, Canada, and Western Europe, it was generally from 15 per cent to 30 per cent.

Since then there has been substantial increase in the rate of saving and investment in the developing countries. However, the quantity of capital per head is still very low in them and therefore productivity remains low. For example, in India rate of investment has now (2012-13) risen to about 35 per cent but it still remains a poor country with low level of productivity. This is because as a result of rapid population growth, capital per head is still very low.

The low level of capital formation in a developing country is due both to the weakness of the inducement to invest and to the low propensity and capacity to save. The rate of saving in developing countries is low primarily because of the low level of national income. In such an economy, the low level of per capita income limits the size of the market demand for manufacturing output which weakens the inducement to invest. The low level of investment also arises as a result of the lack of dynamic entrepreneurship which was regarded by Schumpeter as the focal point in the process of economic development.

At the root of capital deficiency is the shortage of savings. The level of per capita income being quite low, most of it is spent on satisfying the bare necessities of life, leaving a very little margin of income for capital accumulation. Even with an increase in the level of individual incomes in a developing economy, there does not usually follow a higher rate of accumulation because of the tendency to copy the higher levels of consumption prevailing in the advanced countries. Nurkse has called this as "demonstration effect". It is usually caused through media like films, television or through foreign visits.

Generally, there exist large inequalities in the distribution of incomes in developing countries. This should have resulted in a greater volume of savings available for capital formation. But most often the sector in which the greatest concentration of incomes lies is the one which derives its income primarily from non-entrepreneurial sources such as unearned incomes of rents, interests and monopoly profits.

The attitudes and social values of this sector are often such that it is prone to use its income for 'conspicuous consumption', investment in land and real estate, speculative transactions, inventory accumulation and hoarding of gold and jewellery. If these surpluses are channelled into productive investment, they would tend to increase substantially the level of capital formation.

4. Rapid Population Growth and Disguised Unemployment: The diversity among developing economies is perhaps nowhere to be seen so much in evidence as in respect of the facts of their population in respect of its size, density and growth. While we have examples of India, Pakistan and Bangladesh with their teeming millions and galloping rates of population

growth, there are the Latin American countries which are very sparsely populated and whose total population in some cases numbers less than a single metropolitan city in India and China. In several newly emerging countries of Africa too and in some of the Middle Eastern countries the size of their population cannot be regarded as excessive, considering their large expanse. The South- East and Eastern Asia, on the other hand, have large populations.

However, there appears to be a common feature, namely, a rapid rate of population growth. This rate has been rising still more in recent years, thanks to the advances in medical sciences which have greatly reduced the death rate due to epidemics and diseases. While the death rate has fallen sharply, but there has been no commensurate decline in birth rate so that the natural survival rate has become much larger. The great threat of this rapid population growth rate is that it sets at nought all attempts at development in as much as much of the increased output is swallowed up by the increased population.

One important consequence of this rapid rate of population growth is that it throws more and more people on land and into informal sector to eke out their living from agriculture, since alternative occupations do not simultaneously develop and thus are not there to absorb the increasing numbers seeking gainful employment. The resultant pressure of population on land and in informal sector thus gives rise to what has been called "disguised unemployment".

Disguised unemployment means that there are more persons engaged in agriculture than are actually needed so that the addition of such persons does not add to agricultural output, or putting it alternatively, given the technology and organisation even if some of the persons are withdrawn from land, no fall in production will follow from such withdrawal. As a result, marginal productivity of a wide range of labourers employed in agriculture is zero.

It will be seen from Table 4.2 that in 2009, population of the world was estimated at 6,775 million in 2009 and its annual population growth in 1990-2009 was 1.3 per cent. The population growths in low-income developing countries have been 2.3 per cent per annum during 1990-2009 and of middle income developing countries as a whole has been 1.3 per cent per annum. As against this, population growth rate in high income countries (i.e., developed countries) was 0.7% per annum. That is, population in developing countries has been growing at a much faster rate as compared to the developed countries.

In Table 4.2, we have given the dependency ratio on the working population. Both children and boys below the age of 15 years (i.e., young ones) and the old people above the age of 65 years and above represent dependency burden as they are unproductive members and are financially dependent on the working population.

The bad effect of this dependency burden for developing countries is that it reduces saving rate of the community and therefore adversely affects economic growth. It will be seen from Table 4.2 that the dependency burden of young persons (i.e., below the age of 15 years) in case of low-income countries is very high at 69%, whereas the dependency burden of old people on the working population is much lower, only 6 per cent. As against this, for high income countries dependency burden of old persons is relatively very high being 23 per cent.

Table 4.2. Population Growth and other Features of Population

Countries	Population in 2009 Millions	Average annual population growth rate 1990-2009 (per cent)	Dependency ratio (% of working age population)		Crude death rate per 1,000 people (2009)	Crude birth rate per 1000 people (2009)
			Young 2009	Old 2009		
World	6,775	1.3	42	12	8	20
Low Income	4,846	2.3	69	6	11	34
Middle Income	4,813	1.3	41	10	8	19
Low & Middle Income	5,659	1.4	45	9	8	21
High Income	1,117	0.7	26	23	8	12

Underutilization of Natural Resources:

The natural resources in an underdeveloped economy are either unutilised or underutilised. Generally speaking, under-developed countries are not deficient in land, water, mineral, forest or power resources, though they may be untapped. In other words, they constitute only potential resources. The main problem in their case is that such resources have not been fully and properly utilised due to various difficulties such as shortage of capital, primitive technology and the small size of the market.

5. Lower Levels of Human Capital: Human capital – education, health and skills – are of crucial importance for economic development. In our analysis of human development index (HDI) we noted that there is great disparity in human capital among the developing and developed countries. The developing countries lack in human capital that is responsible for low productivity of labour and capital in them.

Lack of education manifests itself in lower enrolment rate in primary, secondary and tertiary educational institutions which impact knowledge and skills of the people. Lower levels of education and skills are not conducive for the development of new industries and for absorbing new technologies to achieve higher levels of production. Besides, lack of education and skills makes people less adaptable to change and lowers the ability to organise and manage industrial enterprises. Further, in countries like India, advantage of demographic dividend can be taken only if the younger persons can be educated, healthy and equipped with appropriate skills so that they can be employed in productive activities.

The data of various education indicators is given in Table 4.3. It will be seen from this table that as compared to high income countries enrolment in secondary and tertiary educational institutions was 38% and 63% of person of relevant age group in 2009 as compared to 100 per cent in high-income developed countries.

Similarly, enrolment rate in tertiary educational institutions which impart higher liberal, managerial and technical education in developing countries of low income and lower middle income is 6 per cent and 19 per cent respectively of the relevant age group as compared to 67 per cent in high-income developed countries. It will be seen from Table 4.3 that in India enrolment for secondary education is 60 per cent and in China 78 per cent of relevant age group.

Similarly, Table 4.3 reveals that adult literacy rate (percentage of population of ages 15 and older that can read and write a short simple statement in their everyday life) is much lower (62% in low income and 80% in lower middle income developing countries) in 2009 as compared to 98% in high income developed countries. In India adult literacy rate is only 63 per cent in 2009 whereas it is much higher in China (94 %) and Brazil (90 %) as compared to 98% in high-income developed countries.

It is evident from above that educational and skill levels in developing countries are much lower as compared to developed countries. This lowers the quality of the people of developing countries as productive agents and wealth creators.

Table 4.3. Indicators Education Level

Country or Group	Gross Enrolment Rate % (relevant age group) 2005-09			Adult Literacy Rate % of age 15 years and older (2005-09)
	Primary	Secondary	Tertiary	
Low Income	104	38	6	62
Lower Middle	107	63	19	80
Upper Middle	111	88	42	92
High Income	101	100	67	98
Country				
Congo Dem. Rep.(LIC)	90	37	6	67
Egypt (LMC)	100	–	28	66
India (LMC)	117	60	13	63
China (UMC)	113	78	25	94
Brazil (LMC)	120	90	38	90
Malaysia (UMC)	95	69	36	92
United States (HI)	99	94	83	–
United Kingdom (HI)	106	99	57	–
Region				
East Asia & Pacific	111	74	–	94
Europe & Central Asia	99	89	55	98
Latin America & Caribbean	116	89	35	91
Middle East & N. Africa	105	73	27	74
South Asia	108	52	11	61
Sub-Saharan Africa	100	34	6	62

Health: Likewise, health, the other important human resource, is a key factor that determines efficiency or productivity of the people. The people who are undernourished and malnourished often suffer from sickness cannot be efficient and therefore cannot contribute much to the increase in productivity.

Besides, health enjoyed by the people is good in itself as it directly increases the happiness and welfare of the people, Lower health of the people of developing countries is manifested lower life expectancy at birth, higher mortality rate of children under 5 years age, undernourishment and malnourishment (i.e., underweight children) of the people and access to improved sanitation facilities. Though health conditions in developing countries have greatly improved in the last some decades of development, there are still important differences between them and developed countries. The data of various health indicators is given in Table 4.4.

Table 4.4. Health Indicators

Country or Group	Life Expectancy at birth (years)		Under 5 years Mortality rate per 1000 live births		Undernourished persons (% of population)		Children under 5 Malnourished (under-weight)	Access to Improved Sanitation Facilities (% of popu-lation)	
	1990	2009	1990	2009	1990-92	2005-09	2004-09	1990	2008
Lower Income	52	57	171	118	38	31	27.7	23	35
Lower Middle	63	68	93	57	19	15	24.0	37	50
Upper Middle	68	72	51	22	8	6	–	78	84
High Income	75	80	12	7	5	5	–	100	99
Country									
Congo Dep. Rep.(LIC)	48	48	199	199	26	69	28.2	9	23
Egypt (LMC)	63	60	90	21	<5	<5	6.8	72	94
India (LMC)	58	64	118	66	20	21	43.5	18	31
Brazil (LMC)	66	73	56	21	11	6	2.2	69	80
Malaysia (UMC)	70	75	18	6	<5	<5	–	84	96
United States (HI)	75	79	11	8	<5	<5	1.3	100	100
United Kingdom (HI)	76	80	10	8	<5	<5	–	100	100
Region									
EAst Africa & Pacific	67	72	55	26	20	11	8.8	42	59
Europe & Central Asia	68	70	52	21	7	6	–	87	89
Latin America & Carib-bean	68	74	52	23	13	9	3.8	69	79
Middle E. & N. Africa	64	71	76	33	7	7	6.8	73	84
South Asia	58	64	125	71	22	22	42.5	22	36
Sub-Saharan Africa	50	53	181	130	31	26	24.7	27	31

LIC = Lower Income country; LMC = Lower Middle Income Country; UMC = Upper Middle Income Country and HI = High Income Country

It will be seen from Table 4.4 that life expectancy at birth in low income (LIC) and lower middle income countries (LMC) is 57% and 68% respectively in 2009 as against 80% in high income developed countries. Health conditions in South Asia and Sub-Saharan Africa are highly deplorable and they continue to suffer from problems of acute undernourishment,

malnourishment and children's mortality rate. Mortality rate of under 5 years age children per 1000 live births in 2009 was 118 in low income countries (LIC) and 57 in lower middle income countries (LMC). In India which is a lower middle income country, under 5-years mortality rate in 2009 was relatively high at 66 as against only 8 per 1000 live births in the United States and United Kingdom.

Two types of statistical data regarding nutrition are given in Table 4.4. First, undernourished persons in a country as per cent of population, undernourishment refers to dietary energy consumption that is continuously below minimum requirement for maintaining healthy life so as to carry out light physical activity with an acceptable minimum weight. Second, Child nutrition which is here measured by malnourishment of children under 5 year's age who are underweight. This un-nourishment impairs the working capacity of the individuals and also makes them unable to acquire education and skills needed for high productivity job.

It will be seen from Table 4.4 that percentage of under-weight persons to total population is very high in developing countries 31 per cent in low income countries (LIC) and 15 per cent in lower middle income countries whereas it is very low at 5% in high income developed countries in the year 2009. In India the percentage of undernourished persons to total population was high at 21 per cent but Brazil has succeeded in lowering it to 6 per cent of the population.

As regards the prevalence of malnourishment, the condition in India is shocking as it has the highest, 43.5%, of children less than 5 years age whereas it is only 1.3% in 2009. The same is the case with regard to access to improved sanitation facilities. It will be seen from Table 4.4 that in India 31 per cent of population has access to improved sanitation facilities as against 100 per cent in the United States and United Kingdom.

6. Dualistic Structure of the Underdeveloped Economies: An important feature of developing economies, especially those which are marked by surplus labour is that they have a dualistic structure. This dualistic character of these economies has been held to be the cause of unemployment and underemployment existing in them. Keeping in view this dualistic structure of less developed economies, important models of income and employment have been propounded.

Famous Lewis model of economic development with unlimited supplies of labour and Fei-Ranis model of "Development in a Labour Surplus Economy" explain how in dualistic economies, the unemployed and underemployed labour in the traditional sector is drawn into a modern high productivity sector.

The concept of dualism was first of all introduced into the development analysis by Dr. J.H. Boeke but he emphasised the social dualism, according to which there is sharp contrast between the social systems characterising the two broad sectors of the economy, one in which the original social system with its subsistence or pre-capitalist nature, limited wants, non-economic behaviour and low level of economic and social welfare prevails, and the other where imported capitalist system with its modern system of industrial organisation, wage employment, unlimited wants and positive behaviour to economic incentives exists.

However, it is technological dualism rather than Boeke's social dualism which has an important bearing on the problem of economic growth and surplus labour in the developing countries. According to the concept of technological dualism, the important difference between the traditional and the modern sectors lies in the difference between the production techniques or technologies used. In the small modern sector consisting of large-scale manufacturing and mining which provides wage employment, highly capital-intensive techniques imported from the developed countries are used. On the other hand, in the large traditional sector covering agriculture, handicrafts and allied activities, in which there exist extended family system and self-employment, labour-intensive technology is generally used. As a result of the difference in technologies used, the labour productivity and levels of earnings in the modern sector are much higher than those in the traditional sector.

Moreover, since the technology used in the modern sector is highly capital-intensive, the growth of this sector has not absorbed adequate amount of labour in high productivity and high wage employment. With the explosive rate of growth of population and labour force and the limited creation of employment opportunities in the modern sectors because of the highly capital-intensive technology, surplus labour has emerged in the agriculture and services. It has been possible for agriculture to contain the surplus labour because of the prevalence of extended family system in which both work and income are shared by the family members.

We thus see that the problem of unemployment and underemployment in less developed economies has been intensified by the technological dualism caused by the use, in the modern manufacturing and mining, of capital-intensive technology imported from abroad which is wholly unsuitable to the factor endowments of these less developed economies with abundant labour and small capital.

The unemployment and underemployment in these less developed economies are not only due to the slow growth of capital or low rate of investment, it is also due to the highly capital-intensive techniques used in the modern sector. This technological dualism with the fact that

modern sector has limited labour-absorptive capacity contains important implications for development strategy to be framed for less developed countries like India with surplus labour.

Need for Development:

There is a very urgent need for economic development in the underdeveloped or poor countries. Economic development is needed so that living standards of their people may be raised. What is more important is that economic development of the poor countries is necessary from the point of view of the richer countries. What do we find today? The world is divided into two parts- one of the poor and the other of the rich which is continuously becoming richer.

Such a situation threatens the economic and political stability of the world. Unless the poor countries are enabled to share the general prosperity, their condition will become more and more difficult. It is the relative difference between the rich and poor countries which will make the poor countries discontented. Ever-increasing discontent in the poor countries is bound, sooner or later, to aggravate the already explosive situation in the world.

As the gulf between the rich and poor countries widens, the tension in the world will grow. The poor countries will agitate more and more for a share in prosperity and, consequently, their demand on the richer countries will grow louder and louder in volume and intensity. There is ample evidence in the world of the fact that when nations cannot solve their domestic problems, their governments plunge them into war with their neighbours who may be prosperous. It is thus in the interest of world peace and harmony that the poor countries are enabled to remove or reduce their poverty.

There is a growing and legitimate desire of the poor nations to eradicate poverty. The desire to develop is keenly felt by different sections of their population. Their desire to develop is natural and understandable because they experience acute physical sufferings as a result of appallingly miserable economic conditions in which they live. The masses in the poor countries constantly face hunger, illiteracy, sickness and are forced to eke out a life of extreme poverty.

Note that, according to the new view as made popular by Amartya Sen economic development is needed mainly for two reasons:

(1) The removal of poverty,

(2) Enlargement of human capabilities and freedoms.

For the removal of poverty capabilities of the poor should be enhanced so that they should be able to meet their minimum basic needs which include getting adequate food, health, clothing and shelter. To achieve these economic growths is necessary but not sufficient. Therefore, for

removal of poverty, direct anti-poverty measures such as generation of enough employment opportunities are taken.

Secondly, as emphasized by Amartya Sen, development is needed so that people should enjoy freedom and life of valued functioning. To quote Amartya Sen, "The valued functioning may vary from elementary ones, such as being adequately nourished and being free from avoidable diseases to very complex activities or personal states such as being able to take part in the life of community and having self-respect". Thus, according to Amartya Sen, freedom of choice, and control of one's own life are central aspects of well-being for which true development is needed.

Times are gone when people believed in their destiny or kismet. They are no longer prepared to reconcile to their poverty as resulting from fate. They have now realized that the solution of the problem of poverty lies in economic development. This realization has been further strengthened by the ever-increasing contacts and communications between such countries and the developed countries. The awareness of the possibilities of development is growing every day. Already, the upper sections of society in developing countries are imitating the living standards prevalent in the rich countries.

The desire for development has followed the political freedom of the many poor countries from foreign rule. It has now been realised that political freedom without economic freedom and prosperity has no meaning. Political independence has naturally raised expectations of the people in the economic sphere. No wonder that people of these countries which have won freedom from the colonial rule aspire to develop economically and that in the shortest possible time.

Population Growth and Economic Development

Different Views on the Role of Population Growth

Population growth plays a conflicting role in the development process of a country. It helps economic development and it retards economic development. To the Greek philosophers, about 2,500 years ago, population growth was undesirable as it adversely affects economic development. Plato (427-347 B.C.) suggested that the member of citizens of a country should be kept fixed at 5,040 on the ground that this number is divisible by any number from 1 to 12 except 11. Aristotle (384-322 B.C.) also argued in the same vein.

He desired that the country's population must not exceed beyond certain level. Sir William Petty presented an optimistic outlook on population growth. Adam Smith also regarded the growth of population as the basis of wealth. But the classical economists, Especially T.R. Malthus, sounded an alarm bell of rising population growth in a country. However, Mlthus 'argument came under severe attack at the hands of Karl Marx and F. Engles.

Relationship between Population Growth and Economic Development:

The relationship between population growth and economic development may be summarised in the words of Robert McNamara—the past president of the World Bank. He described it as 'the most delicate and difficult issue of our era… It is overlaid with emotion. It is controversial. It is subtle. Above all, it is immeasurably complex.

Mao Zedong once remarked that "A country's greatest wealth is its people." On the some vein, the then Prime Minister Mr. Pitt of England dec-lared in the 18th century:

"A man could enrich his country by producing a number of children, even if the whole family were paupers." All these suggest that not only there is no conflict between population growth and economic development but also an increase in population is necessary for increase in wealth and development. But, anti-thesis to this is the Malthusian version which regards population growth as the number one barrier to economic development. Neo-Malthusians attribute all of the world's modem problems of underdevelopment to massive population growth.

Thus, there is a conflicting role between population growth and economic development. It can act both as a stimulus and as an impediment to growth and development. Such conflicting roles suggest that the relationship between population and economic development is intricate, complex and interesting.

Benefits of Population Growth: Population growth helps the process of development in the following ways: First, an increasing population means an increase in the number of working

population who can function as active participants in the process of economic growth and development.

It is to be noted that labour, assisted by necessary tools and implements, was always and still is the greatest productive asset of nations. A growing population leads to an increase in total output. The sheer arithmetical increase in population creates work as well as incentives for production that impacts upon output and productivity quite favourably. Indeed, this argument is empirically important in addition to theoretical reasoning.

Secondly, a growing population means a growing market for most goods and services and we know that division of labour is limited by the extent of the market. A potentially expanding market may stimulate entrepreneurs to invest more and more in capital goods and machinery. Business activity will be spurred as a consequence. And more income and employment will be created in the process. Moreover, it will provide an outlet for the products of efficient, large scale, mass- production industries. The net effect may be favourable to the country.

Of course the size of the domestic market of country does not only depend on the number, but also on the per capita income level. But given the same low level of income per head, a country India offers a more favourable environment setting up heavy capital goods industries which depends so much on the economies of scale their success. In contrast, a thickly populated country with a small population base such as Sri Lanka seems to be especially handicapped by the all size of its domestic market.

Population growth has been a favourable factor in stimulating growth in many a country in; last two centuries, when vast areas remained largely unsettled. Even in the USA, in the 1930s, was apprehended that a slowing down of the rate population growth would lead to long run secular) stagnation. The vast secular boom in the post-industrial revolution England had been largely induced by the unparalleled rise in population'.

Thirdly, an arithmetic increase in population permits in reaping economies of scale in production, greater division of labour, extension of the market, etc.

The World Bank in its 1984 World Develop-ment Report argues:

"…there is little doubt that the key to economic growth is people, and through people the advance of human knowledge. Per capita measures of income should not be used to imply that the denominator, people, contributes nothing to the numerator, total income. Nor is population growth in itself the main cause of natural resource problems—air pollution, soil degradation, even food availability."

Costs of Population Growth: But Malthusians and neo-Malthusians think otherwise. First, they argue that population growth negatively affects economic development. Their argument

is based on the law of diminishing returns in agriculture. Population growth acts as a barrier to economic development since the growth of population grows never in commensurate with the growth of food supply.

Actually speaking, as the rate of growth of population exceeds the rate of production, economic development is hampered. A growing population, within a limited geographical area, usually puts heavy pressure on the existing factor endowments, especially natural resources of the country. Moreover, if the society has a limited stock of capital, labour may have to be substituted for capital, in which case the production function will exhibit the law of diminishing returns. Diminishing returns may become a serious problem if population growth is rapid.

However, empirical evidence suggests that technological change—or the so-called green revolution in agriculture in different LDCs—has greatly offset the effects of diminishing returns in agriculture and the spectre of food problem and its aftermath (huger, famine, etc.,) in most of these countries has virtually vanished. So, one must not view that population growth badly affects economic development.

Secondly, based on the Indian experience, Ansle Coale and E. M. Hoover drew attention to the likely adverse effects of population growth on savings and capital formation through the following effects: the age-dependency effect, the capital- swallowing effect, and the investment diversion effect.

It is said that a rapid population growth causes an increase in dependency ratio—a high ratio of non-working population to working wage people or active population. When the number of dependents or the ratio of consumers (non- producers) to producers increase, there occurs a diversion of income from savings to consumption and a fall in per capita income. But anti-Malthusians talk in a different vein.

They argue that many young children contribute directly to parents' income by working in farms and off-farm sectors. Further, additional mouths in the low income families tend to encourage people to work more. In this way, children themselves contribute to household and saving. Anyway, the impact .on household saving can be negative, negligible or positive—the issue needs to be settled by empirical investigation.

The capital-shall owing effect states that a rapid population growth lowers the ratio of capital to labour or workforce thus works with less capital and consequently the poor rate of savings. This then reduces productivity of labour. As children remain engaged in productive works, the family may experience an increase in saving. Under the circumstance, the capital-shall

owing effect may remain inoperative. High economic growth is accompanied with overall high savings ratio in many developing countries.

The investment-diversion effect states that, because of rapid population growth a country's scarce resources get diverted away to the so-called unproductive sectors of health, education and social services from the more productive growth- oriented sectors. This logic assumes that the expenditures on human capital are unproductive. Educated and healthy people are viewed as one of the essential ingredients of economic develop-ment. Indeed, there are high returns to investment in human capital.

Anyway, empirical research does not confirm the Coale-Hoover thesis.

Thirdly, Malthusians are convinced that population growth badly affects food supplies. To them, the chronic food problem experienced by many poor developing economies is often attributed to rapid population. It is because of 'natural limits' in agriculture population growth would overtake food supply output, thereby leading to famine, hunger, malnutrition, etc.

But the evidence tells a different story. Because of the introduction of green revolution technology in agriculture, yields have increased to such an extent that many countries, including India, have now been exporting food-grains. Unfortunately, the present global world is highly unequal. We see an abnormally high level of malnourished children; starvation and famines occasionally visit in many countries.

However, this must not be attributed to a mismatch between a high population growth and food supply. This can be referred to as the unequal distribution of purchasing power among different groups of population. Hunger and famine, according to A. Sen, is due to 'entitlement failure' and not the food availabilities as such.

Fourthly, the question of unemployment and underemployment has assumed serious proportion, particularly in LDCs, because of rapid population growth. But whether population growth is respon-sible for unemployment problem cannot be said definitively since no such statistical strict correla-tion is observed. In fact, it is the technology that determines the absorption of unemployed labour force. The experiences of Korea and Taiwan tell that economic development in these countries proceeded successfully despite high population growth.

In recent years, as agriculture is becoming more and more unprofitable, the issue of engaging surplus labour has become a concern to the Government of India. Agriculture's contribution towards GDP growth is not only falling but the absorptive capacity of agriculture is also

falling. This development, consequent upon Malthusian pressure, has been forcing many farm people to migrate to towns and urban areas in search of employment.

However, this argument is a faulty one. Economic development is associated with declining importance of agriculture. Thus, the migration of the productive farm workers in other sectors needs to be attributed to the policy failure and not to the population pressure.

Finally, neo-Malthusians argue that excessive population growth and massive poverty in LDCs have greatly damaged the ecological balance by deforestation and land degradation. Consequently, these countries suffer badly from a variety of environmental hazards. Such canard is made by developed countries who are to be condemned outright for destroying ecological balance.

But today the debate has shifted from popu-lation pressure to climate change and environ-ment—perceived as a great threat to humanity. The current ecological crisis is caused by human economic activity or anthropogenic. The way an economy is organised is rather 'inherently suicidal'.

The whole world is burning fossil fuels to drive the growth economy. Carbon dioxide emission is at its highest level. All these may be linked to a developed rich economy addicted to growth. The US economist Kenneth Boulding made the following statement: "Anyone who believes that exponential growth can go on forever in a finite world is either a madman or an economist."

Conclusion:

Considering the above-men-tioned plus and minus points, economists conclude that hindrances to economic development in LDCs are not to be attributed to population growth. The greatest and real obstacle to development is underdevelopment. Potentialities for development are adequate. By designing their development programmes, LDCs can raise their levels of income and living standards.

Further, they argue that there is no population bomb in these countries. The myth of over-population causing underdevelop-ment should be given up in any analysis of eco-nomic development. It is not to be accepted that a slowing down of population increase might contribute substantially to our development prospects. So what is sauce for a goose may not be the sauce for a gander!

The moot point is that population growth may be either favourable or unfavourable to economic development, depending on where, when, and how it takes place.

Today, an international consensus has been reached. A country may strike a higher growth and development if population increases slowly. No one should exaggerate either the beneficial or the unfavourable effects of population growth on economic development. However, it is to be kept in mind three important issues.

First, all problems of levels of living, inequality and poverty are not to be necessarily linked with high population growth. Secondly, population growth must involve the quality of life, and not the quantity parse. Thirdly, but truly, rapid population growth makes prospect for development rather remote. All these then demand an appropriate economic and social policy so as to improve the well-being of the future world populations in a sustainable way.

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.

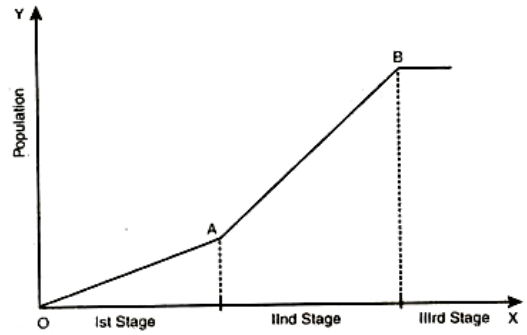


Fig. 2

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.

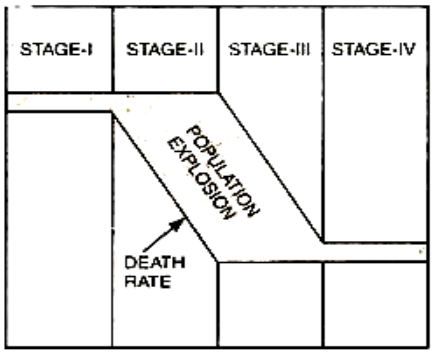


Fig. 3

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 and Economic Development

Human capital and economic growth have a strong relationship. Human capital affects economic growth and can help to develop an economy through the knowledge and skills of people.

Human capital refers to the knowledge, skill sets and motivation people have, which provide economic value. Human capital realizes not everyone has the same skill sets or knowledge and that quality of work can be improved by investing in people's education.

Economic growth is an increase in an economy's ability, compared to past periods, to produce goods and services. It can be determined by measuring the change in the real gross domestic product (GDP) of a country. For example, suppose a country increased its real GDP at an annual rate of 2.5%. This country is experiencing economic growth and has an increase in the value of all goods and services.

How Human Capital and Economic Growth Are Related

Human capital is directly related to economic growth. The relationship can be measured by how much is invested into people's educations. For example, many governments offer higher education to people at no cost. These governments realize that the knowledge people gain through education helps develop an economy and leads to economic growth. Workers with more education tend to have higher earnings, which then increases economic growth through additional spending.

A company can help increase human capital and increase economic growth as well. For example, consider a computer programmer working at a technology company; she receives on-site training, attends in-house seminars and the company pays for part of her tuition for higher education. If she decides to stay at the firm, she may develop new ideas and new products for the company. She may also leave the company later in her career and use the knowledge she attained to start a new company. Either way, this investment in human capital can lead to economic growth.

Unit- III

Theories of Economic Development

Adam Smith Theory of Development in Economics (Main Features)

Adam Smith is considered to be the father of economics. It is not so because he was first explorer in the field of economics, also not because he revolutionized economic planning by his maiden ideas, but because he abbreviated what he had received from his predecessors and handed it down as a guide to the coming generations.

He was the editor and not the author, organizer and not the originator of economic science.

"He was the man of systematic work and balanced presentation, not of great new ideas but a man who carefully investigates the given data, criticizes them cooly and sensibly, and coordinates the judgements arrived at with others which have already been established".

Adam Smith contained all his ideas in his "Wealth of Nations". The most important aspect of this book was a Theory of Economic Development. Physiocracy came into existence due to mercantilism. They believed in science of natural laws and emphasised the significance of agriculture and contended that it is the only industry that can make country wealthy. Adam Smith's 'Wealth of Nations' was scientific not because it contained the absolute truth but because it came as a turning point, the beginning of all that came after, as it was the end of all that came before.

The main points of the theory are as under:

1. Natural Law:

Adam Smith proposes natural law in economic affairs. He advocated the philosophy of free and independent action. If every individual member of society is left to peruse his economic activity, he will maximize the output to the best of his ability. Freedom of action brings out the best of an individual which increases society wealth and progress. Adam Smith opposed any government intervention in industry and commerce.

He was a staunch free trader and advocated the policy of Laissez-Faire in economic affairs. He opines that natural laws are superior to law of states. Statutory law or manmade law can never be perfect and beneficial for the society that is why Smith respects nature's law because nature is just and moral. Nature teaches man the lesson of morality and honesty. These exercise favourable effects on the economic progress of society.

2. Laissez Faire:

Adam Smith's theory is based on the principle of 'Laissez-Faire' which requires that state should not impose any restriction on freedom of an individual. The theory of economic development rests on the pillars of saving, division of labour and wide extent of market. Saving or capital accumulation is the starting point of this theory. He believed that "there is a set of rules or rights of justice and perhaps even of morality in general which are, or may be known by all men by hello either or reason or of a moral sense, and which possesses an authority superior to that of such commands of human sovereigns and such customary legal and moral regulations as may contravene them".

The policy of laissez-faire allows the producers to produce as much they like, earn as much income as they can and save as much they like. Adam Smith believed that it is safe to leave the economy to be propelled, regulated and controlled by invisible hand i.e. the forces of competition motivated by self-interest be allowed to play their part in minimizing the volume of savings for development.

3. Production Function:

Adam Smith recognized three factors of production namely labour, capital and land i.e.

Y = f (K, L, N)

K = Stock of Capital

L = Labour force

N = Land

He emphasized labour as an important factor of production along with other factors and observed, "The annual labour of nation is the fund which originally supplies it with all necessaries and conveniences of life which it annually consumes and which consists always either in immediate produce from other nations". Since the growth is a function of capital, labour, land and technology and land being passive element is least important. Prof. Adam Smith regarded labour as father and land as mother. He wrote, "To him (farmer) land is the only instrument which enables him to earn the wages of his labour and to make profits of this stock".

The production function does not conceive the possibility of diminishing marginal productivity. It is subject to law of increasing returns to scale. Smith argued that real cost of production shall tend to diminish with the passage of time, as a result the existence of internal and external economies occurring out of the increases in market size.

Adam Smith asserted that division of labour does not depend merely on technological feasibility, it greatly depends on the extent of the market as well and the size of market depends on the available stock and the institutional restrictions placed upon both domestic and international trade. Smith observes that, "when the market is small, no person can have encouragement to dedicate himself entirely to one employment, for want of power to exchange all the surplus part of production of his own labour, which is over and above his own consumption, for such parts of the produce of other man's labour as he has occasion for".

Smith also recognizes the importance of technological development for improvement in productivity and which is possible only if sufficient capital is available. He wrote, "The person who employs his stock in maintaining labour, endeavours, therefore, both to make among his workmen the most proper distribution of employment and furnish them with the best machines which he can either invent or afford to purchase. His ambition in both these

respects is generally in proportion to the extent of his stock or to the number of people which it can employ".

4. Division of Labour:

The rate of economic growth is determined by the size of productive labour and productivity of labour. The productivity of labour depends upon technological progress of a country and which, in turn, depends upon the division of labour. This division of labour becomes the true dynamic force in Adam Smith's theory of growth. The only remarkable feature of Smith's account of division of labour is pointed by Prof.

Schumpeter as nobody, either before or after Adam Smith ever thought of putting such a burden upon division of labour. With Adam Smith it is practically the only factor in economic progress.

Division of labour increases the productivity of labour through specialization of tasks. When a work is sub-divided into various parts and the worker is asked to perform small parts of whole job, his efficiency increases as now he can focus his attention more carefully. Thus, the concept of division of labour means the transference of a complex production process into number of simpler process in order to facilitate the introduction of various methods of production.

Adam Smith concentrated upon the social division of labour which emphasized the co-operation of all for satisfaction of the desires of each. It is the process by which different types of labour which produce goods to satisfy the individual needs of their producers are transformed into social labour which produces goods for exchanging them for other goods.

Adam Smith in his book 'Wealth of Nations' pointed out three benefits of division of labour:

1. Increase of dexterity of workers.

2. Saving time required to produce commodity.

3. Invention of better machines and equipment.

The third advantage implies that invention is the result of worker's intelligence. But Smith wrote that workers become 'as stupid and ignorant as it is possible for human creature to become as a result of division of labour'. Division of labour necessarily leads to exchange of goods, which highlights the importance of trade. In short, division of labour leads to exchange of goods which, in turn, promotes trade and widens the extent of market. Wide extent of market is an essential pre- requisite for economic development.

5. Capital Accumulation:

It is the pivot around which the theory of economic development revolves. The growth is functionally related to rate of investment. According to Smith, "any increase in capital stock in a country generally leads to more than proportionate increase in output on account of continually growing division of labour".

Capital stock consists of:

(a) Goods for the maintenance of productive workers.

(b) Goods for helping the workers in their productive activities.

Adam Smith distinguished between non capital, circulating capital and fixed capital goods. Non capital goods refer to those which are useful directly and immediately to their owner. Fixed capital refers to those goods which are directly used in production processes, without changing hands. Fixed capital consists of all the means of production.

Capital is increased by parsimony and diminished by prodigality and misconduct. The rate of investment was determined by the rate of saving and savings were invested in full. The classical economists also believed in the existence of wage fund. The idea is that wages tend to equal to the amount necessary for the subsistence of labourers.

If the total wages at any time become higher than subsistence level, the labour force will increase, competition for employment will become keener and the wages come down to the subsistence level. Thus, Smith believed that, "under stationary conditions, wage rate falls to the subsistence level, whereas in periods of rapid capital accumulation, they rise above this level. The extent to which they rise depends upon the rate of population growth". Thus, it can be concluded that wage fund could be raised by increasing the rate of net investment.

According to Smith, "investments are made because the capitalist want to earn profits on them. When a country develops and its capital stock expands, the rate of profit declines. The increasing competition among capitalists raises wages and tends to lower profits". So it is a great difficulty of finding new profitable investment outlets that leads to falling profits.

Regarding the role of interest, Smith postulated a negatively sloped supply curve of capital implying that supply of capital increased in response to decline in interest rate. Smith wrote that with the increase in prosperity, progress and population, the rate of interest falls and as a result, capital is augmented. With the fall in interest rate, the money lenders will lend more to earn more interest for the purpose of maintaining their standard of living at the previous level.

Thus, the quantity of capital for lending will increase with the fall in rate of interest. But when the rate of interest falls considerably, the money lenders are unable to lend more in order to earn more to maintain their standard of living. Under these circumstances, they will themselves start investing and become entrepreneurs. Smith believed that economic progress-involves rise in money as well as real rentals, and a rise in rental share of national income. This is because the interest of land owners is closely related to general interest of the society.

Agents of Growth:

Smith has observed that farmers, producers and businessmen are the important agents of economic growth. It was the free trade, enterprise and competition that led farmers, producers and businessmen to expand the market and which, in turn, made the economic development

inter-related. The development of agriculture leads to increase in construction works and commerce. When agricultural surplus arises as a result of economic development, the demand for commercial services and manufactured articles arises.

This leads to commercial progress and establishment of manufacturing industries. On the other hand, their development leads to increase in agricultural production when farmers use advanced techniques. Thus, capital accumulation and economic development take place due to the emergence of the farmer, the producer and the businessmen.

Process of Growth:

"Taking institutional, political and natural factors for granted, Smith starts from the assumption that a social group may call it a 'nation' will experience a certain rate of economic growth that is accounted for by increase in numbers and by savings. This induces a widening of market which, in turn, increases division of labour and thus, increases productivity. In this theory, the economy grows like a tree. This process is no doubt exposed to disturbances by external factors that are not economic… but in itself, it proceeds continuously and steadily.

Each situation grows out of preceding one in a uniquely determined way and the individuals whose act combine to produce each situation count individually for no more than the individual cells of a tree". The process of growth is cumulative. Division of labour made possible by accumulation of capital and expansion of market, increases national income and output, which in turn, facilitates saving and further investment and in this way, economic development rises higher and higher. Smith's progressive state is in reality the cheerful and hearty state to all the different orders to the society. But this progressive state is not endless. It ultimately leads to stationary state.

It is the scarcity of natural resources that stops growth. An economy in stationary state is characterized by unchanged population, constant total income, subsistence wage, elimination of profit in excess of the minimum consistent with risk and absence of net investment. In his opinion, an economy is stationary state finds itself at the highest level of prosperity consistent with its natural resources and environment.

The competition for employment reduces wages to subsistence level and competition among the businessmen brings profits as low as possible. Once profit falls, it continues to fall. Investment also starts declining and in this way, the end results of capitalist are stationary state.

When this happens, capital accumulation stops, population becomes stationary, profits are minimum, wages are at subsistence level, there is no change in per capita income and production and the economy reaches the state of stagnation. The stationary state is dull, declining; melancholy life is hard in stationary state for different sections of the society and miserable in declining state. Smith's theory is explained with the help of a diagram 1.

Process of Growth

Time is taken along the X-axis and the rate of accumulation along the Y-axis. The economy grows from K to L during the time path T. After T, the economy reaches stationary state. Linked to L where further growth does not take place because wages rise so high that profits become zero and capital accumulation stops.

Conclusion:

It can be concluded that Prof. Adam Smith did not propound any specific growth theory. His views relating to economic development are part of general economic principle propounded by him. R. Lekachaman says, "A good deal of Smith's analysis reads as though written with today's UDC's in mind". In a very important aspect then this book (Wealth of Nations) was the theory of economic development.

Ricardian Theory of Development

Economics as a science is, on the one hand, a body of knowledge and on the other hand, an engine of analysis. As a result of knowledge, it contains generalizations about the working of economic system. Prof. Ricardo added little to the economic knowledge gathered by Smith. As an analytical engine, economics provides an apparatus through which actual economic problems are analysed.

Ricardo's greatest contribution to economics is the provision of engine of analysis. By using the technique of deductive or abstract reasoning, he constructed a rigorous model in which some selected economic variables were systematically placed to form a logic. Such a theoretical model helps to understand how a system works and how the change in variables affects the working of the system.

Ricardo propounded no theory of development. He simply discussed the theory of distribution. This theory is based on the marginal and surplus principles. The marginal principle explains the share of rent in national output and surplus principle explains the division of the remaining share between wages and profits.

Assumptions:

The Ricardian theory is based on certain assumptions which are as under:

1. Supply of land is fixed.

2. Land is used for production of corn and the working force in agriculture helps in determining the distribution in industry.

3. Law of diminishing returns operates on land.

4. Demand for corn is perfectly inelastic.

5. Labour and capital are variable inputs.

6. Capital consists of circulating capital.

7. There is capital homogeneity.

8. All workers are paid subsistence wages.

9. The state of technological knowledge is given.

10. There is perfect competition.

11. Demand for labour depends upon accumulation of capital.

12. Demand and supply price are independent of the marginal productivity of labour.

13. The supply price of labour is given and constant.

14. Capital accumulation results from profits.

Ricardian system considers agriculture as the most important sector of the economy. The difficulty of providing food to expanding population is the main problem. According to Ricardo, there are three major groups in the economy. They are landlords, capitalists and labourers among whom the entire productive land is distributed. It is the capitalists who initiate the process of economic development in the society by reinvesting profits and, thus, increasing capital formation. The total national output is distributed among the three groups as rents, profits and wages, respectively and the share of each group can be determined as under:

1. Rent per unit of labour is the difference between average and marginal product or total rent equals the difference between average product and marginal product multiplied by the quantity of labour and capital on land.

2. The wage rate is determined by wage fund divided by number of workers employed at subsistence wage. Thus, output of total corn produced and sold, rent has the first right and the residual is distributed among wages and profits, while interest is included in profits.

Production Function:

Ricardo's production function assumes the existence of three factors-land, labour and capital and it is subjected to the restriction of diminishing marginal productivity due to perfectly inelastic of land and its variable quality He regarded economic development as the process of these factors of production. The marginal productivity of land, labour and capital are declines with the increase in cultivation.

In agriculture, the rate of innovation introduced would be insufficient to affect the tendency for diminishing returns to set in at either intensive or extensive margin of cultivation. Thus, the introduction of improvements in the agriculture techniques might check the progress of diminishing returns it could have temporary effect on cost of agricultural production.

For the overall growth of the economy, it is necessary to examine as to which of these patterns prevail with respect to the output of industry and agriculture together. Ricardo is of the opinion that "Although, then it is probable that under the most favourable circumstances, the power of production is still greater than that of population, it will not long continue so, for the land being limited in quantity and differing in quality, with every increased portion of capital employed on it there will be a decreased rate of production while the power of population continues always to be the same". As Smithian economy grows at an accelerated rate, Ricardian economy develops at a progressively slower pace.

Ricardian production function is given as:

$Y = F (K, N, L)$

K = Capital

N = Labour

L = Land

This production function is subjected to following constraints imposed by diminishing marginal productivity:

$$\frac{\partial^2 F}{\partial K^2} < 0 \quad \frac{\partial^2 F}{\partial N^2} < 0 \quad \frac{\partial^2 F}{\partial L^2} < 0$$

Since the pace of economy's technological progress regulates to a large extent the rate of onset of diminishing returns, we may write,

$$\frac{\partial^2 F}{\partial K^2} = g\left(\frac{ds}{dt} \ldots\ldots\ldots\right)$$

$$\frac{\partial^2 F}{\partial N^2} = h\left(\frac{ds}{dt} \ldots\ldots\ldots\right)$$

$$\frac{\partial^2 F}{\partial L^2} = j\left(\frac{ds}{dt} \ldots\ldots\ldots\right)$$

Since ds/dt is one of the determinants of the extent of diminishing returns, it must also appear as a determinant of marginal productivity of the factors of production themselves. To simplify the calculations, we may introduce S in the production function *i.e.*

$$Y = f(K, L, N, S)$$

The rate of progress of the economy is obtained by differentiating the above equation

$$\frac{dy}{dt} = \frac{\partial F}{\partial K} \cdot \frac{dK}{dt} + \frac{\partial F}{\partial L} \cdot \frac{dL}{dt} + \frac{\partial F}{\partial N} \cdot \frac{dN}{dt} + \frac{\partial F}{ds} \cdot \frac{dS}{dt}$$

$\frac{dK}{dt}$ → Capital accumulation

$\frac{dN}{dt}$ → Land increases

$\frac{dL}{dt}$ → Labour growth

$\frac{dS}{dt}$ → Technological progress.]

Capital Accumulation:

Ricardo emphasized the rate of capital accumulation as capital acts as an engine of growth. "Capital" is the part of the wealth of a country which is employed in production and consists of food, clothing tools, raw materials, machinery etc., necessary to give effect to labour.

Capital accumulation depends upon two factors:

(a) Capacity to save.

(b) Will to save.

The capacity to save is more important in capital accumulation. This depends on the net income of society which is a surplus out of the total output after meeting the cost of workers subsistence. The larger the surplus, the larger will be the capacity to save. Landlords and capitalists invest through this surplus and the size of this surplus depends upon the rate of profit.

The Profit Rate:

The rate of profit is the ratio of profits to capital employed. But since capital consists of working capital, it is equal to the wage bill. So, as long as rate of profit is positive, the process capital accumulation will continue and the economy will progress. The labour force will grow proportionately and the total wage fund will increase. The profit depends upon wages, wages on price of the corn and price of the corn on the fertility of marginal land. Hence, profits and wages are inversely proportional to each other.

When there is improvement in agriculture, the productivity power of land increases and there is fall in the price of corn and as a result, subsistence wage also falls, but profits increase and there is more capital accumulation. This will increase the demand of labour and wage rate will rise, which will increase population and demand for corn and its price. Since the wages rise, the profit will decline and there will be less capital accumulation.

The process of growth will continue till the profits fall to zero or the whole of the total product less rent is used for the maintenance of labour at subsistence level. At this stage, capital accumulation stops and the progress of the economy reaches a stationary state.

Increase in Wages:

In Ricardian Scheme, wages play an active role in determining income between capital and labour. The wage rate depends upon the number of workers and wage fund. The wage rate falls with the increase in number of workers and vice-versa.

If the wage rate is sufficient to enjoy the comforts of life by labourers, the population is expected to increase and if the wage rate is the lowest the working class cannot meet the necessities of life, the population will decrease. Thus, there is positive co-relation between wage rate and size of population. The increase in wages with the increase in population absorbs the rise in price of corn. Since wages also increase, profits decline. These opposite tendencies ultimately retard the capital accumulation.

Declining Profits in Other Industries:

According to Ricardo, “The profits of the farmer regulate the profits of all other trades”. Ricardo uses agricultural profits as a basis and it is the agricultural profit which determines the industrial profit. The money rate of profit earned on capital must be equal in equilibrium in both agriculture and industry.

The rate of profit in the agricultural sector determines the rate of profit in the industrial sector of an economy. Thus, when the profit declines in the agricultural sector, it also declines in the industrial sector. The industry would have to raise the wages of labourers with the increase in price of corn and which in turn, reduces the profit. Thus, the price of corn determines the rate of profit in an industry. When profit declines in agricultural sector, it declines in all trades.

Other Sources of Capital Accumulation:

Ricardo is of the view that economic development depends upon the difference between production and consumption. He stresses on increasing production and reducing unproductive consumption. The productivity of labour can be increased through technological changes and better organisation and thereby stimulating capital accumulation. But the use of machines will employ less workers which will lead to unemployment and reduced wages since the economic condition of workers decreases with the employment of more machines. So Prof. Ricardo regards the technological conditions as given and constant.

Taxes are the source of capital accumulation in the hands of the government. According to Ricardo, taxes are levied only to reduce conspicuous consumption; otherwise the imposition of taxes on capitalists, landlords and labourers will transfer resources from these groups to government. Taxes adversely affect the investment. Therefore, Ricardo is not in favour of imposition of taxes, as taxes reduce income, profit and capital accumulation.

Prof. Ricardo is in favour of free trade as it is an important factor of development of the country. Free trade provides vast opportunities of investment to capitalists. The capitalists can make investment in export oriented industries and earn profits. The re-investment of profit by the capitalists will further enhance the developing activities.

The capital accumulation can be raised by importing corn. But the import of corn leads to fall in demand for labour which deteriorates the economic conditions of labourers. On the other hand, landlords and capitalists do not think it fit to import cheap corn from the foreign countries, as a result, their profits decline. Ricardian theory has been illustrated with the help of a diagram (Fig 2).

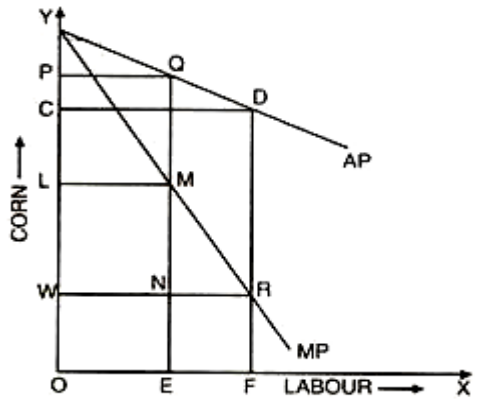


Fig. 2

The quantity of corn is measured along the vertical axis and labour along the horizontal axis. The curve AP represents average product of labour and MP represents the marginal product of labour. With OE amount of labour, total corn produced is OPQE. Rent is shown by rectangle PQML, as the difference between AP and MP. At subsistence wage rate OW, the supply curve of labour WN is infinitely elastic and total wage is OWNE.

Total profits WLMN, are the residue after deducting rent and wages from the total output:

WLMN = OPQE — (LPQM — OWNE)

Stationary State:

When the economic development precedes real wage rate remains at the subsistence level and profit tends to fall. When the capital accumulation rises with increase in profit, total output increases with raises the wage fund. With the increase in the wage fund' population increases, which raises the demand for corn and its price. As population increases, inferior grade lands are cultivated to meet increasing demand of corn. Ricardo assumes that labourers and landlords spend all their income on consumption and hence, save nothing.

The saving is done by the capitalist for profit earners. But as the society progresses, the share of profit begins to decline. Fall in the rate of profit slackens the process of capital accumulation and the development receives a set back and at this stage, there is no further increase in capital and the economy enters in a stationary state.

In this state, capital accumulation stops, population does not grow, the wage rate is at subsistence level and technological progress ceases. "The basic casual force in this scheme is the fact of diminishing returns in agriculture, a grim tendency which can be postponed temporarily by technical progress. But technical progress cannot prevent the ultimate disappearance of profit and the onset of stationary state". The phenomenon of stationary state is explained with the help of a diagram 3.

With the increase in capital accumulation, profits and wages tend to increase and the rise in wages brings about a decline in profits. The decline in profits will continue till a stage comes when the net product curve intersects the wage line OW at P. At this point, wages are equal to net product and the profit is nil. Any disturbance to the right of point P, will make the net product less than wage level which is impossible. So P is the point at which economy is in a stationary state.

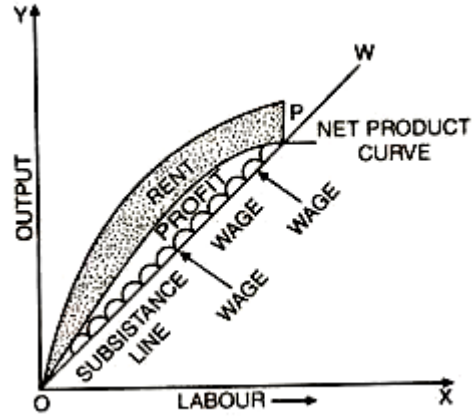


Fig. 3

Thus, “Ricardian system of development formulated certain inter-relations among capital, population and output on the basis of these relations, it traces the course of rent, wages and profits every time and finally it concedes with the celebrated forecast of the eventual advent of a stationary state”.

Conclusion:

The model tries to deal with the various problems relating to development. It determines the relative shares of different agents of production in national income. The economy in this model is considered to be ever changing with the passage of time, till it reaches stationary state.

This theory highlights the importance of major development variables such as capital accumulation, population, profits, wages and rent etc. Harrod observed, “May I remind you the bare bones of Ricardo’s dynamic theory? It was a large part of this whole theory. The prime motive for these was the tendency to accumulate. This may be identified with what we regard as savings and is rightly treated by Ricardo as dynamic concept”.

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 Capital' 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) Proletariat.

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 are class revolts. Ultimately, there is a downfall of capitalism and rise of socialism.

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 –

$Q = f\ [k, r, I, u, \nu)$ …(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 ν 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. Schumpeter 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., 'innovation 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 innovation 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 misdistribution of incomes resulting in ever-recurring severe crises as Marx did. Nor does he agree with the structuralists that there is persistent lack of investment opportunities together with institutional rigidities making for 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 has 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 are 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 of 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 fulfil 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 fulfil 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. Wallich 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' innovation 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 socio-economic 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.

Unit- IV

Theories of Underdevelopment

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 trader's 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

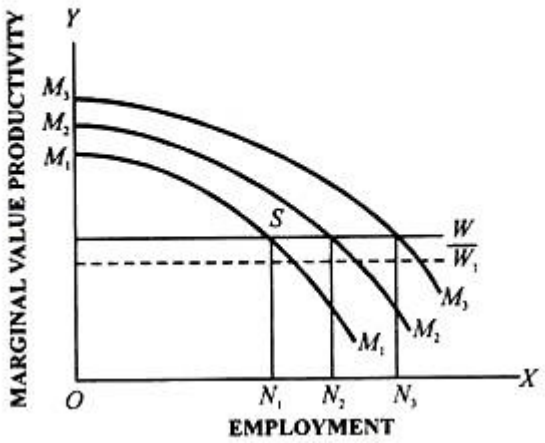
feels that steps have to be taken to raise the rate of savings from 10% to 15% if the development of the economy has to be smooth.

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 surpluses 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 surpluses 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 appears.

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 raise. 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 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, and 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.

Rosenstein-Rodin's 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 an industry B created by the lower prices of product and call for investment and expansion in an 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.

Balanced Growth Theory (With Diagram)

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

(a) Rosenstein Rodan and

(b) Ragnar Nurkse and

(c) Lewis

(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:

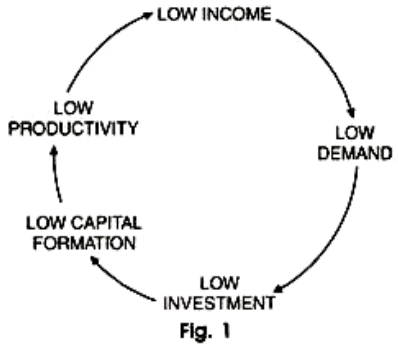


Fig. 1

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.

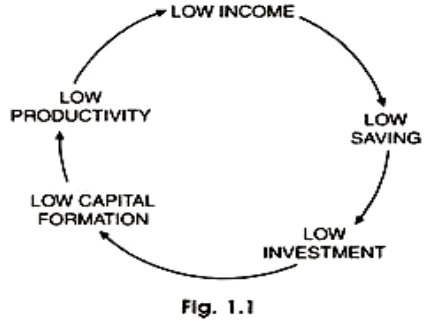


Fig. 1.1

(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: Explanation, Process and Priorities

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 are appropriate to fewer 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 latter is influenced by the objective of social desirability and such investments 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.

Rostow's Theory of Growth

At the end of the Second World War (1939-45) there was a renewal of interest in the subject of development economics and the stages of growth once again preoccupied many scholars. As a non-communist manifesto, W. W. Rostow's stages of economic growth (1960, 1971) is a foray into positioning the sweep of modern economic history under capitalism into neat and hopeful epochs.

Rostow's version is an outstanding example of continuity and evolution. Moreover, if Marx's theory is regarded as the banner of capitalism doomed, Rostow's version may be referred to as capitalism viable.

Stages of Growth:

Rostow has conceived five universal stages; viz:

(i) The traditional society,

(ii) The preparation for the take-off—a stage in which communities build up their propensities in such a way as would be conducive to the take-off,

(iii) The period of take-off in which the productive capacity of the community registers a distinct upward rise,

(iv) The stage of drive to maturity, the period of self-sustained growth in which the economy keeps on moving, and

(v) The stage of high mass consumption.

Let us analyse each stage in detail:

(i) The Traditional Society:

A traditional society is one of the simplest and primitive forms of social organisation. It is one whose structure is developed within limited production function, based on Pre-Newtonian science and technology and old Pre-Newtonian attitude to the physi-cal world.

The characteristics are:

(a) Per Capita:

Within a limited range of available technol-ogy there is a low ceiling per capita output.

(b) Employment in Agriculture:

A high proportion of workforce (75% or more) is devoted in the production of agricultural goods. High proportion of resources is also devoted in the agricultural section.

(c) Social Mobility:

A hierarchical, hereditary, status-oriented social structure held down the mobility of society at that time.

(d) Political Power:

The centre of gravity of political power was legalistic, region-bound and primarily based on land ownership.

(ii) Pre-Conditions for Take-Off:

It is that stage of economic growth in which the progressive elements creep into the otherwise barbaric and primitive psyches of the members of the society. People try to break free from the rigidities of the traditional society and a scientific attitude—a quest for knowledge in short—a questioning mid-set is very much visible in the changing face of the society.

The features are:

(a) Economic Progress:

Economic progress became an accepted social value. At this time the change of human mind took place and they were able to think about their respective coun-tries.

(b) New Enterprises:

New types of enterprising people emerged on the society. Their objec-tive was to establish a firm or industry and produce output for a long time.

(c) Investment:

As the new enterprising persons emerged in the society, the gross invest-ment raised from 5% to 10%, so that the rate of growth of output outstrips the rate of population growth.

(d) Infrastructure:

As different industries were established in different parts of the country, automatically transportation, more mobilised communication, roads, railways, ports were re-quired. So infrastructure was built all over the country.

(e) Credit Institutions:

At that time necessary credit institutions were developed in order to mobilise savings for investment.

(f) Mobilisation of Work Force:

Due to industrialisation a large portion of workforce was shifted from agricultural section to the manufacturing sector. This was experienced in Great Britain in the time of "Industrialisation (1760 onwards)".

(g) Decline of Birth rate:

At that time medical science was slowly developing. The citizens understood the essence of control of birth rate and death rates. At first the death rate was con-trolled and then the birth rate was controlled. This was the second stage of Demographic Transi-tion experienced by the developed countries.

(h) Political Power:

Centralised political power based on nationalism replaced the land- based localistic or colonial power.

(iii) The Take-Off Stage:

The take-off stage marks the transition of the society from a back-ward one to one that is on the verge of freeing itself from the elements that retard growth. In fact, it is one stage in which there is a dynamic change in the society and there is a meteoric rise in the standards set by the members of society in all walks of life like industry, agriculture, science and technology, medicine, etc.

There is a marked discontinuity between the first two stages as mentioned earlier and the stage of take-off. The winds of change are triggered by some important political event that revolutionizes the political structure or a sudden infuse of new techniques and methods of production attributed to formidable advances in science and technology.

The former type of events took place in nations, like erstwhile USSR, East and West Germany, Japan, China and India. The latter category may be observed in nations like UK, USA and the OPEC countries. Events like the "Industrial Revolution" that was the brainchild of technological innovations in Britain since 1760s or say, the "Manhattan Project (1940s)" that signalled the arrival of USA on the world political scenario with a that are living examples of take-off stage as mentioned by Rostow.

The characteristics of this stage are:

(a) The Rate of Investment:

The first property of the stage of take-off is nothing but the rate of investment. At the time of "Industrial Revolution" the rate of investment was from 5% or less to over 10% of the national income. At this time, agricultural lands were acquired for industrialisation.

This led to a depression in the further period. For this purpose colonialism was required for Britain. As a result they came to India and other colonies for business purpose at the first time and gradually took the political power of this country.

(b) Development of One Leading Sector:

At the time of Industrial Revolution (1760 on) we saw the development of particular secondary section of each country in Europe. In Britain we saw a large development in textile and iron and steel industry. As iron and steel industry is essential for development of every country each country experienced growth in iron and steel industry in Europe. Nowadays the development of a country is measured by per capita con-sumption of iron and steel.

(c) Existence of Different Frameworks in the Society: There was the existence of political, social and institutional framework which exploited impulses to expansion in the modern sector and the potential external economies affected the take-off and gave the process of growth a sustained and cumulative character.

(iv) The Drive to Maturity:

Maturity in the context of Rostow's theory refers to that state of economy and the society as a whole, when winning on all fronts becomes a habit or an addiction. Each and every effort to stimulate the economy meets with success and the time period when the society tastes success is a rather long one and the progress made on all fronts is there to stay.

It is a period when a society effectively applies the range of available modern technology to the bulk of its resources; and growth becomes the normal mode of existence. Industries like heavy engineering, iron and steel, chemicals, machine tools, agricultural im-plements, automobiles etc. take the driver's seat.

Electric power generations as well as con-sumption are high due to sudden acceleration of industrial activities. Admittedly, it is diffi-cult to date this period precisely in view of indistinct or hazy demarcations between the end of take-off and the beginning of maturity. Rostow would date it as about 60 years after begin-ning of take-off.

The economic characters of this stage are:

(a) Shift in the Occupational Distribution:

As due to Industrial Revolution many industries were established in Britain and the countries of. Western Europe, the work force was shifted from agricultural sector to the manufacturing sector. The proportion of the working force en-gaged in the agricultural sector went down to 20% or less.

(b) Shift in the Consumption Pattern:

A new type of workforce was created which was termed white-collar workers. They were mainly officials or managing officials of a factory's governing body. Due to high income their preferences were shifted to luxury goods. As a result the consumption pattern of non-agricultural goods increased. This led to development of the existing industries and also variation in tastes and preferences took place more rapidly in this period.

(c) Shift in the Consumption of Leading Sector:

The change in composition was observed to vary from country to country. The Swedish take-off was initiated by timber exports, wood pulp and pasteboard products followed by the emergence of railways, hydropower, steel, and animal husbandry and dairy products. The

Russian take-off started with grain exports, followed by railways, iron and steel, coal and engineering.

The non-economic factors of "The Drive to Maturity" are:

(a) Entrepreneurial Leadership: In the stage of drive to maturity the change in the entrepreneurial leadership took place. Cotton-steel-railway-oil barons gave way to the managerial bureauc-racy.

(b) Boredom:

Certain boredom with industrialisation gave rise to social protest against the costs of industrialisation.

(v) The Age of High Mass Consumption:

From maturity the economy moves with growth to high mass consumption, the stage at which durable consumer goods like radios, TV sets, automobiles, refrigerators, etc., life in the suburbs, college education for one-third to one half the population came within reach. In addition the economy, through its political process, expresses willingness to allocate increased resources to social welfare and security. This stage was defined in terms of shift in emphasis from problems of production to that of consumption.

Necessarily, therefore, attention veers towards problems of allocation of resources which, according to Rostow, came to be governed by the following considerations:

(i) Pursuit of national power and world influence,

(ii) Welfare state redistributing income to correct the aberrations of the market process,

(iii) Extension of consumer demand on durable consumer goods and high grade foods.

Comparison of Marx and Rostow:

Rostow posited the existence of five separate stages. The key among these was the take-off, which was impelled by one or more "leading sectors". The fast growth of the leading sectors pulled along less dynamic parts of the economy.

Accord-ing to Rostow, high price elasticity's of supply and demand in the leading sectors meant that demand pressures found supply response and that lower prices generated increases in total revenues to the new industries.

Structurally, the leading sectors also enjoyed high income elasticity's of demand and they reaped increases in market sizes disproportionate to the size of income increases in the economy as a whole. Finally, external economies generated by the leading sectors further stimulated demand in sectors linked to the leading sector.

The result, at least in the countries to which the analysis applied, was an increase in the rate of growth of output that was, in Rostow's words, self-sustaining- a permanent transition

owing to these structural interactions between the leading sectors and the rest of the economy, from low (or no) growth to steady growth rates. The process was "Non-Marxist" because its analysis did not depend on reference to class struggles, growing unemployment, falling profit rates, and all the rest of the Marxian analytical tools.

Critical Review of Rostow's Theory:

(i) Reduction of Growth:

Rostow's theory reduces the economic growth to a single pattern. He only highlighted the growth of one or more sectors of the economy. He did not highlight the overall condition of the economy.

(ii) Mechanism of Evolution:

Rostow's stages of growth failed to specify the mechanism of evolution which links different stages of growth. He explained the stages without any interrela-tionship.

(iii) Economic Variables:

By the stage theory Rostow described how the existing eco-nomic variables reduce the growth rate of the country. But he did not say anything about the solution of these problems. He did not explain how the variables interact and generate eco-nomic growth.

(iv) Lack of Symmetry:

Rostow's stage theory was not based on a systematic scheme of causation,

(v) Predictive Value:

Paul Baran opined that Rostow's theory had no predictive value and was without any operational significance for underdeveloped countries attempting to break through the barriers of underdevelopment.

(vi) Hoffman Thesis:

Although Rostow seemed to have been inspired by the Hoffman thesis, his conclusions were inconsistent with those of his mentor Rostow's thoughts as regards the rate of investment was tied to the assumption of a constant marginal capital-output ratio.

Hoffman's analysis stressed on an increasing ratio of the net output of capital goods to that of consumer goods in the manufacturing sector. This implied an increasing capital-output ratio over the various stages of industrialisation.

(vii) Habits of Saving:

It lacked originality as a piece of academic research. It had heavily borrowed from Max Weber's and Tawney's pioneering work in the field of sociology. Rostow's reference to changing habits of saving, the increasing pursuit of economic motives in everyday life, etc. share the same passions as those of Weber and Tawney.

Conclusion:

Rostow had advocated his theory as an alternative to Marx's theory. While Marx's vision of the stages of growth was embodied in The Communist Manifesto (1848), Rostow described his own works as the Non-Communist Manifesto. In fact the bottom-line was that Rostow based his theory on the flows of the Marxian theory. He criticised Marx's theory on the ground that if suffers from "economic determinism".

The great merit of Rostow's doctrine was that its main facts was on continuity and evolution of society and did not treat each stage as being mutually exclusive from the other stages. Moreo-ver, instead of limiting human behaviour to simple act of maximisation, Rostow interpreted human behaviour as an act of balancing alternatives and often conflicting human objectives.