Development and Development Gap: Meaning, Measurement and Perpetuation of Underdevelopment

STRUCTURE

1.1 Introduction

Today the world is characterized by extremely large income inequality among the countries. The standard of living of the countries also differs to a larger extent leading towards a north- south gap. What is economic development? One of the contentious issues before these economies is the meaning and measure of economic development. Over the last many decades the meaning and concept of development and what exactly it comprises off have changed a lot. In the following lesson we shall discuss how meaning of development has actually evolved and what are the different indicators of development are.

1.2 Objectives

After going through the lesson the student should:

1) Understand the meaning of development.
2) Be able to analyze the difference between economic growth and economic

development.

3) Understand the concept of sustainable development.

4) Be able to understand the perpetuation of under development.

5) Be able to understand the different indices to measure development and development gap.

1.3 Meaning of Economic Development[1]

1.3.1 Traditional View

Till 1960s, the term economic development was often used as a synonym to economic growth. Traditionally economic development was meant as the capacity of an economy, whose initial economic condition has been more or less static for a long time to generate and sustain an annual increase in its gross national product (GNP) at a rate of 5% to 7% or more. Another way to look at economic development was to take into account rate of growth of income per capita or per capita GNP growth of income per capita normally measured the overall economic well being of a population how much of real goods and services is available to the average citizen for consumption and investment. Therefore development strategies focused on meeting the growth targets in terms of output and very less reference was given to other indicators like poverty, inequality and unemployment.

On the whole, therefore prior to 1970s, development was seen as an economic phenomenon in which rapid gains in overall and per capita GNP growth would "trickle down" to the masses and would create conditions for the wider distribution of economic and social benefits of growth.

1.3.2 The New View of Development

During the 1950s and 1960s while many of the third world nations did realize the economic growth targets but the respective levels of living of the masses remained unchanged. Dudley Seer poses the basic question about the meaning of economic development and asserted:

The questions to ask about a country's development are therefore: What has been happening to poverty? What has been happening to unemployment? What

[1]This part of the material is heavily dependent on Todaro (2006) and Thirlwall (2006)

has been happening to inequality? If all three of these have declined from high levels, then beyond doubt this has been a period of development for the country concerned. If one or two of these central problems have been growing worse, especially if all three have, it would be strange to call the result "development" even if per capita income doubled.

This resulted in the rejection of the narrow definition of economic development by an increasing number of economists. Who now clamored for the "dethronement of GNP" and advocated direct attack on widespread absolute poverty, unemployment and unequal distribution of income and wealth.

It was in 1970s when a new dimension was added to the development debate, "Redistribution from growth" become a popular slogan. After the disappointment with growth to redistribution, basic needs approach was the next slogan. It emphasized that income increases is not sufficient to reduce poverty. Therefore mass education, safe water, family planning, health services and other priorities depend on public action. So the government should provide these services to people so that all human beings should have an opportunity for a full life[2]. It was in 1990s when many other international institution like World Bank and UNDP which during 1980s championed economic growth as the goal of development, joined the chorus of observers taking a broader perspective. And it was in 1991 when in the meaning of economic development, human development was included. Accordingly human development was considered as an important factor in economic development. In other words, economic development came to be defined in terms of human development which is meant as a process of enlarging people's choices. And among the most important choice is ability of people to lead a long and healthy life, to acquire knowledge and to have access to the resources needed for a descent standard of living. If these choices are available, many other opportunities are opened. These three basic chances are reflected in human development.

Sen's Capability Approach

It was 1998, When Noble laureate in economics, put forth the capability to function is what really matters for status as a poor or non-poor person. He gave a new purpose to economic development. According to Sen, human beings are born with certain potential capabilities. The purpose of development is to create an environment in which all people can expand their capabilities and opportunities can be enlarged for both present and future generation.

Goulet's core values of Development

One attempt is by Goulet 1971 who has tried to explain the meaning of economic development with three basic components as core values.

1) Life sustenance

2) Self esteem

3) Freedom

1) **Life sustenance:** No country may be regarded as fully developed if it cannot provide its entire population with such basic needs as housing, clothing, food and minimal education. The objective of development must be to raise people out of primary poverty and to provide basic needs.

2) **Self Esteem:** It is concerned with the feeling of self respect and independence No country can be regarded and independence no country can be regarded as fully developed if it is exploited by others Developing countries should seek development for self – esteem.

3) **Freedom:** It is the freedom from 3 evils of want, ignorance and squalor, so that people are more able to determine their own destiny.

The advantage of material development is that it expands the range of human choice open to individual and societies at large.

Using all the approaches we can conclude that development is a multi dimensional concept involving major changes in social structure, popular attitude and national institutions as well as the acceleration of economic growth the reduction of inequality and the eradication of poverty, better education, more jobs and greater attention to cultural and human values.

1.3.4 SUSTAINABLE DEVELOPMENT[2]

The concept of sustainable development was popularized as a normative goal by the world commission on environment and development in their 1987 report to the General

[2]*This part of the material is heavily dependent on Todaro (2006)*

Assembly of the United Nations our common future (World Commission on Environment and Development, 1987). There sustainable development was defined as a development that "meets the needs of the present without compromising the ability of future generations to meet their own need". This definition suggests the need to balance two concerns, one having to do with present or intra generational needs and the other having to do with future, or inter-generational needs. Hence sustainable development can be perceived as development that can continue forever or at least for a very long time, say for several generations and can also be known as necessary well-being over a very long time.

Within the international community there have for a long time discussions on how to complement and extend the traditional national accounts to better reflect the importance of the environment and society. Few of the industrialized countries took the lead on the environmental part of this in 1990s and organized the so-called London Group on Environmental Accounting. One result of their efforts so far is the Environmental and Economic Accounts commonly referred to as SEEA. According to SEEA "Sustainable development is development that ensures non-declining per-capita national wealth by replacing or conserving the sources of that wealth; that is, shocks of produced, human, social and natural capital".

Measurement

For economists, a development path is sustainable "if and only if the stock of overall capital assets remains constant or risk over time". As mentioned in Todaro (2010), implicit in these statements is the fact that future growth and overall quality of life are critically dependent on the quality of the environment. The natural resource base of the country and quality of its air, water and land represents a common heritage for all generations. To destroy that endownment indiscriminately in the pursuit of short term economic goals penalizes both present and especially, future generations. It is therefore important that development policy makers incorporate some form of economic accounting into their decisions. For example the preservation or loss of valuable environmental resources should be factored into estimates of economic growth and human well-being. Alternatively, policymakers may set a goal of no net loss of environmental assets.

In other words, if an environmental resource is damaged or depleted in one area, a resource of equal or greater value should be regenerated elsewhere.

An example of environmental accounting is offered by David Pearce and Jeremy Warford. Overall capital assets are meant to include not only manufactured capital (machines, factories, roads) but also human capital (knowledge, experience, skills) and environmental capital (forests, soil quality and rangeland).

By this definition, sustainable development requires that these overall capital assets not be decreasing and that the correct measure of sustainable national income or sustainable net national product (NNP*) is the amount that can be consumed without diminishing the capital stock.

Symbolically:

$$NNP^* = GNP - D_m - D_n$$

Where NNP* is sustainable national income

D_m is the depreciation of manufactured capital assets

D_n is depreciation of environmental capital – the monetary value of environmental decay over the course of a year.

An even better measure, though more difficult to calculate with present data collection methods, would be

$$NNP^* = GNP - D_m - D_n - R - A$$

Where D_m and D_n are as before, R is expenditure required to restore environmental capital and A is expenditure required to avert destruction of environment capital (air pollution, water and soil quality etc.) *

1.4 Perpetuation of Underdevelopment[3]

An underdeveloped country is characterized by a low level of per-capita income. The Indian planning commission defines an underdeveloped country as one which is characterized by the co-existence of unutilized or underutilized manpower and of unexploited natural resources. The study of economic development helps us to understand the nature and cause of underdevelopment of low income countries. Today's developed economics have been able to take initial advantage of first industrial

[3] *This part of the material is heavily dependent on Thirlwall (2006)*

revolution and were also able to sustain the existence of various cumulative forces against them. But many countries are still left behind, which have now become the prime concern of the World Bank and other development agencies. In the following section, we shall focus on the factors or the forces that have perpetuated in such a way that these poor countries have remained in a state of underdevelopment.

1. **Backwardness of Agriculture:** Historical experiences show that it was the increased in agricultural productivity in England in the eighteenth century that has laid the basis for the first industrial revolution. And it is also the agriculture growth that is required at least in the initial stages of economic development for the industrial growth to take place. But in underdeveloped countries the agricultural sector is in the backward state. There are many institutional economic, physical as well as climatic conditions that are responsible for it. Survival of feudal relations of production in agriculture has made the situation worse as it has arrested development of agriculture on modern lines. High pressure of population has resulted into sub-division and fragmentation of holdings which has further arrested the use of mechanized way of farming. Even the extremes of heat and humidity have reduced the soil quality and contributed to low productivity. As all developing countries are situated into tropical regions.

2. **Urban Bias:** Lipton (1977) states that agriculture condition has remained backward because of urban bias approach of ruling elites. These ruling elites belong to non-rural environment and are not aware about the basic condition and problems of agriculture sector. Also that they have moved away from the empirical evidence that shows a high correlation between levels of development and industrialization and by early development models that stressed upon the investment in industry as an factor to achieve economic development. Thereby have neglected the agriculture sector which is the main source of employment and income of people of developing countries.

3. **Population Size:** Rapid increase in population size of underdeveloped is both a cause and an effect of under development over the past many decades, the population of these countries have prove to be as dent on the living standards of the people.

   Rising population exacerbated the problem of poverty and unemployment and has created a vicious circle. The pressure on agriculture has increased resulting into low agriculture productivity low per-capita income.

It has also adversely effected the capital formation of the economics not in terms of physical but also human capital formation which is very low.

4. **Circular and Cumulative Causation:** This notion was given by Myrdal 1957 that explains the external relations between countries that has resulted into poverty perpetuations in under developed economics. According to Myrdal, there are certain economic and social forces in the form of labour migration, capital movements and trade that tend to produce certain cumulative forces that leads towards expansion of favoured region at the expense of other regions, which then become comparatively worse off, retarding their future development. Thus these forces retard the development of backward regions.

5. **Unequal Exchange Relations:** An unequal exchange relation between rich and poor countries also plays a part in the poverty perpetuation process and has given rise to dependency. Poor countries are dependent on rich countries for capital and technology for their industrial growth while they are exporting primary commodities. This has resulted into current indebtedness of the poor countries since they have to pay for imports which are quite expensive relative to price they receive for their exports. And that there has been a historical tendency for the terms of trade of primary goods relative to manufactured goods to deteriorate. For all these reasons the structure of trade poses severe problems for many developing countries and may keep these poorer and is hindering their development process.

6. **Colonialism:** As explained by Todaro most African and Asian nations were at one time or another colony of western European countries. These European colonial powers had made a drastic and long lasting impact on the economics and political and institutional structures of their African and Asian colonies. They were so exploited and that it why they are still poor today. The worst impact of colonization was probably seen in Africa, especially if one also considers the earlier slave trade.

Thus there are many forces that explains the perpetuation of under development the existence of these cumulative forces have sustained in such a way that these

(Footnotes)

[1]This part of the material is heavily dependent on Todaro (2006)

[2] This part of the material is heavily dependent on Thirwall (2006)

[3]This part of the material is heavily dependent on Todaro (2006), Misra and Puri (2010), Thirwall (2006), Human Development Report 2012

economies are under developed.

1.5 Measuring Development and Development Gap[4]

1.5.1 Various Indicators of Measuring Economic Development

Over the past many decades, development economies have undergone many changes. Rather the term economic development has been evolved from the emphasis on growth in GDP per capita to the redistribution of income, to basic needs to human development and sustainable development. Therefore the meaning and indicators of measure economic development have changed according to the growing needs and problems of developing economies. The following are some of the measures that are used for measuring economic development and are been used by different institutions' and countries to measure their level of development and growth.

1. Per -Capita Income as an Index of Development:

Per Capita income is the average income of an individual of a country in a given year. And as in index, it is being used to make a distinction between developed and developing countries as well as between rich and poor. According to Thirlwall, while there may be an association between poverty and under development and riches and development, there are number of reasons why some care must be taken when using per capita income figures alone as a criterion of development. Apart from the difficulty of measuring income in many countries and the difficulty of making inter country comparisons, using a single per-capita income figure to separate developed from developing countries is inevitably somewhat arbitrary as it ignores such factors as the distribution of income and quality of life.

Nevertheless, it is still very convenient to have a readily available and easily understandable criterion for classifying countries and perhaps per capita income is the best single index we have. One of the advantage of it is that it focuses on raising a living standards and eradicating poverty. Striking similarities are found between the characteristics of developing countries of Asia. Africa and Latin America if defined on the basis of per capita income excepting some oil producing countries.

These include

1. A high proportion of the labour force engaged in agriculture but low agricultural productivity.

[4] This part of the material is heavily dependent on Todaro (2006) , Misra and Puri (2010) , Thirlwall (2006), Human Development Report 2012

2. A high proportion of domestic expenditure on food and necessities.

3. An export trade dominated by primary products and an import trade dominated by manufactured goods.

4. A low level of technology.

5. High birth rate coupled with a falling death rate.

Also these countries are facing some common economic problems like poverty and unemployment, poor health and education and so on. Therefore, we conclude that per capita income may be used as a starting point for classifying levels of development.

The measuring of per capita income is a difficult task and there are two main issues that are involved:

1. Problem associated with national income accounting i.e. only goods that are produced and sold in the market are included on the value of national income. However, much of output in developing countries never goes to market especially in agriculture where production is there for self consumption. If no allowance is made for subsistence sector, this will bias downwards the calculation of national income and therefore PCY.

2. There are conceptual issues like a consideration of prices is also necessary when deciding what price index should be used as a deflator of money national income in order to obtain an index of real income. The task of converting money income statistics into real income raises all the difficulties not peculiar to developing countries, connected with the use of index numbers, such as which base year to take, how to take into account changes in the quality of product.

3. The other part of the story and probably the major one, concerns the under estimation of living standards in developing countries when their national incomes measured in local currencies are converted into US dollars at the official exchange rate. Since exchange rates are largely determined by the supply and demand for currencies based on goods and assets that are traded, the prices of which tend to be equalized internationally. But purchasing power parity however depends not only on the prices of traded goods but also non-

traded goods which are determined by unit labour costs and these tend to be lower in poor countries. Use of official exchange rate underestimates the living standards of the developing countries. To make meaningful international comparisons of income and living standards, therefore what is required is a measure of purchasing power parity which is nothing but indicates how many currency units a particular quantity of goods and services costs in different countries.

2. Physical Quality of Life Index (PQLI)

The Physical Quality of Life Index was given by Morris. D. Morris in 1979. He constructed a composite PQLI for 23 developing countries for a comparative study. He combined three component indicators of infant mortality, life expectancy at age one and basic literacy at age 15 to measure performance in meeting the most basic needs of the people.

The PQLI shows improvement on the quality of life when people enjoys the fruits of economic progress with increase in life expectancy, fall in infant mortality rate and rise in basic literacy rate.

Each indicator is placed on a scale of zero to 100 where 0 represents a worst performance and 100 represented a best performance. The PQLI is measured by averaging the three indicators giving equal weight to each and the index is also scaled from 0 to 100.

If the indicators of life expectancy and basic literacy rate are positive, the best performance is shown as the maximum and the worst as the minimum. Infant mortality rate being a negative indicator for the best indicator is shown as the minimum and the worst as the maximum.

3. Human Development Index (HDI):

According to Human Development Report, human development is the process of enlarging people’s choices. In principle these choices can be infinite and change over time. But at all levels of development the three essential ones are for people to lead a long and healthy life, to acquire knowledge and to have access to resources needed for a decent level of living. If these essential choices are not available many other opportunities remain inaccessible. Therefore human development has two sides:

1. Formation of human capabilities such as improved health, knowledge and skill.

2. The use people make of their acquired capabilities for leisure, productive purposes or being active on cultural social and political affairs.

If the scales of HD do not finely balance the two sides, considerable human frustration may result. According to Human Development Report 1991, Income is clearly only one option that people would like to have but it is not sum total of their lives. Therefore it was 1990 when United Nations Development Programme (UNDP) formulated and measured Human Development Index (HDI) in its human Development Report (1990).

HDI does not replace GNP as a measure but adds considerably to an understanding of the real position of a society in many respects. HDI was created to emphasize that people and their capabilities should be the ultimate criteria for assessing the development of a country and not economic growth alone. The HDI can also be used to question national policy choices asking how two countries with the same level of GNI end up with different Human Development.

Thus Human Development Index is a summary measure of key dimensions of human development. It measures the average achievement in a country in three basic dimensions of human development: a long and healthy life, access to knowledge and a decent standard of living. According to HDR 2010, HDI is the geometric mean of normalized indices measuring achievements in each dimension (power to HDR 2010, simple arithmetic mean of the three dimensions indices was used).

In HDR 2010, the ability to enjoy a long and healthy life is defined in terms of life expectancy at birth which is the same as in earlier Reports. However, in HDR 2010 certain changes were made to standard of living dimension whereas GDP per capita PPP is replaced by GNP per capita PPP and while in knowledge dimension mean years of schooling replaces literacy rate and expected years of schooling replaces by current enrollment rate. Minimum and maximum value (goal posts) is set in order to transform the indicators into indices between 0 and 1. The maximum values are the highest observed values in the time serves (1980-2012). The minimum values can be appropriately conceived of a subsistence values. For example Goal Posts for the Human Development Index in Report 2013.

Table 1: Goal Posts for the Human Development Index in Report 2013

Indicator	**Observed Maximum**	**Minimum**
Life Expectancy Years	83.6 (Japan, 2012)	20.0
Mean Years of Schooling	13.3 (US, 2010)	0
Expected Years of Schooling	18.0 (Capped at)	0
Combined Education Index	0.971 (New Zealand, 2010)	0
GNI per Capita (PPP$)	87, 478 (Qatar, 2012)	100

Source: HDR, 2013

Having derived the minimum and maximum values, the sub indices are calculated as follows:

$$\text{Dimension Index} = \frac{\textit{Actual Value} - \textit{Minimum Value}}{\textit{Maximum Value} - \textit{Minimum Value}} \quad \ldots\ldots\ldots\ldots \quad (1)$$

For education, equation (1) is applied to each of the two sub-components, and then a geometric mean of the resulting indices is created.

For calculating income index, log of income continues to be taken as before.

Therefore

$$\text{HDI} = \left(I_{Life}^{1/3} \,.\, I_{Education}^{1/3} \,.\, I_{Income}^{1/3}\right) \quad \ldots\ldots\ldots\ldots\ldots\ldots \quad (2)$$

Human Development Report 2013 measured HDI for 187 countries. In terms of Human Development, Norway ranks first with HDI value of 0.955 followed by Australia with HDI value of 0.938. India with a HDI scores of 0.554 ranked 136th among 187 countries.

4. Inequality Adjusted HDI

This measure was introduced in HDR 2010. Inequality Adjusted HDI (IHDI) takes into account not only a country's average human development as measured by health, education and income indicators but also how it is distributed. The IHDI accounts for inequalities in HDI dimension by 'discounting' each dimension's average value according to its level of inequality. The IHDI equals the HDI where there is no inequality across people but falls further below the HDI as inequality rises. In this sense IHDI is the actual level of human development (taking into account inequality), while the HDI can be viewed as an index of the potential human development that could not achieved if there is no inequality. The loss in potential human development due to inequality is the difference between HDI and IHDI and is expressed as percentage.

According to HDR 2010, Indian's average loss in HDI is 29.6% - its loss in HDI is 41 percent in education and 31 percent in health.

5. Gender Inequality Index

It was in 1995, Human Development Report launched two Global Gender indices Gender Related Development Index (GDI) and Gender Empowerment Measure (GEM). The GDI tried to capture achievements through the same set of basic capabilities like HDI life expectancy, educational attainment and income but adjusted the HDI for gender inequality. The Greater the gender disparity in basic human development the lower was a country's GDI compared to HDI.

On the other hand, GEM attempted to measure women's political participation, economic participation and her power over economic resources. GEM indicated whether women are able to actively participate in economic and political life. However, due to various drawbacks pointed out by some critics like the measures combines absolute and relative achievements. Thus a country with low absolute income scores poorly even with perfect gender equality and since extensive imputations were needed to fill in missing data, it was in 2010, when HDR introduced a new measures Gender Inequality Index (GII) to address to above criticisms.

According to Human Development Report 2010, the Gender Inequality Index (GII) reflects gender based disadvantage in three dimensions reproductive health, empowerment and the labour market for a many countries as data of reasonable quality allows. The index shows the loss in potential human development due to inequality between female and male achievements in these dimensions. It varies between 0, where women and men fare equally and 1 where either gender fares as poorly in all measured dimensions:

1. **To measure Health Dimension:** The two indicators measured are maternal mortality rate and adolescent fertility rate. Both these indicators shall reflect female reproductive health index.

2. **To measure the empowerment dimension:** Female and male population with at least secondary education and female and males shares of parliamentary seats as an indicators are used. Both these indicators individually for male and female shall measure the female empowerment index and male empowerment index.

3. **The third dimension is labour market:** The indicator that is used is female and male labour force participation rates. Thus, measuring separately female labour market index and male labour market index. Gender inequality index is then measured by taking into consideration:

a) **Female Gender Index:** It comprises of female reproductive health index female empowerment index and female labour market index.

b) **Male Gender Index:** It comprises of male empowerment index and male labour market index.HDR 2010 presented GII for 138 countries. Netherlands tops the list as the closest to gender equality followed by Denmark while India occupies 122nd position.

6. Multidimensional Poverty Index:

Human Development Report 1997 introduced the concept of Human Poverty Index (HPI). It attempts to measure the different features of deprivation in the quality of life to arrive at an aggregate judgement on the extent of poverty in a community. It measured deprivation in basic human development in the same dimensions as the HDI.

The variables used for measuring HPI were probability at birth of not surviving to age 40; adult illiteracy rate and unweighted average of population not using improved water sources and children under weight for age.

Thus HPI reflected the aggregate deprivations in health, education and standard of living. It could not identify specific individuals, households or larger groups of people as jointly deprived. To tackle this problem, HDR 2010 introduced a new measure Multi Dimensional Poverty Index (MPI) to replace HPI.

The MPI is the product of the multi dimensional poverty head count (the share of people who are multi dimensionally poor) and the average number of deprivations each multi dimensionally poor household experiences (the intensity of poverty). It has three separate dimensions consisting of 10 indicators each with equal weights within its dimension.

These are as follows:

1. **Health:** To measure health, the indicators used are nutrition level and child mortality rate.

2. **Education:** To measure education the indicators used are years of schooling and children enrolled.

3. **Standard of Living:** It is reflected through access to electricity, cooking fuel, and access to clean drinking water, access to adequate sanitation, floor and assets.

HDR 2010 estimates that about a third of the population in 104v countries, or almost 1.75 billion people, experience multidimensional poverty. More than half live in South Asia, though the rates are highest in Sub- Saharan Africa, with significant variations across States.

1.5.2 Various dimensions of measuring Development Gap

Deprivation in developing countries, according to Thirlwall, is not simply a matter of low levels of per-capita income. There are many other dimensions to the development gap between rich and poor countries. The developing countries not only have very low income but the level of education, health and nutrition is also low and also income distribution. Let us discuss the development gap that exists between developed and developing economies in terms of these valuables.

1. Per-Capita GNP

One of the most common way to define developed and developing countries is by per capita income. Several international agencies including OECD and United nation offer classification of countries by their economic status but the best known classification is given by World Bank. In World Bank's classification countries with a population of at least 30,000 are ranked by their levels of Gross National Income per capita.

Generally speaking, the developing countries are these with low, lower-middle or upper middle income. According World Bank indicators, 2012 low income countries are defined as having a per capital gross nation income in 2012 is $1035 or less; low middle income countries have income between $ 4086 to $ 12615 and high income countries have income $ 12,616 or more.

While there are few of the countries group as other high income are sometimes classified by UN as developing countries like Kuwait, Qatar and United Arab Emirates. Hence it shows that there exists a huge income between developed countries and developing countries. According to World Bank indicator 2012 India stands 164 in terms of income with a per capita income $1530 only. It means India is a developing country while developed countries like US stands 18^{th} with a per capita income of $50,120. Thus there exists a income gap between the two economies.

2. Education

According to Thirlwall another dimension of the development gap is the difference in educational opportunities between rich and poor countries, which is identified through high level of illiteracy and low level of human capital formation. This leads towards a adverse consequences for the growth and development process. Since education and economic development has a strong positive relationship, this kind of low human capital formation is further widening the gap between developed and developing countries. The below table shows the relative under provision of educational facilities and opportunities in many poor countries, and the low rate of literacy in the poorest countries. The first three columns show the percentage of the enrollment in primary, secondary and tertiary.

Table2: Enrollment Rate and Literacy Rate

Countries	Enrollment rate (2012)			Literacy rate (2012)	
	Primary	**Secondary**	**Tertiary**	**Male**	**Female**
Low Income	108	43	9	70	56
Middle Income	108	71	27	89	78
High Income	103	102	73	100	100

Source: World Bank Indicators, 2013

Huge discrepancy in the provision of secondary education is observed with only 43% of the age group has received education on low income group and the percentage is even lesser for tertiary education level. A huge gender gap is also evident in terms of adult literacy in both low income and middle income economies. As against this it is high income groups that are enjoying the fruits of education.

3. Health and Nutrition

Health and Nutrition level is another dimension of development gap that exists between developed and developing countries. Most of the people in the world are suffering from various types of malnutrition including 1 billion people suffer from Protein Energy deficiency. According to United Nations Food and Agriculture Organization (FAO) in Rome, one billion people suffer from iodine deficiency and 1 billion people do not have an access of clean drinking water. Most of the empirical evidences suggest that high returns to investment in nutrition and health in terms spent in school and cost savings from treating the consequences of malnutrition and poor health. Thus health and economic development has a positive relationship. Better health leads to increased productivity and development. In developing countries malnutrition among children is particularly serious because it stunts growth and mental development and adds another twist to vicious circle of poverty.

Table3: Health Indicators for the year 2012

Countries	Health Expenditure as a % of GDP	Life Expectancy		Maternal Mortality rate	Infant Mortality rate
		Male	Female		
Low Income	5.6	58	61	95	32
Middle Income	5.7	67	71	46	22
High Income	12.0	76	82	6	3

Source: World Bank Indicators 2013

There are various indicators that give the status of health sectors. The following table presents some selected health related statistics including total expenditure on health as a percentage of GDP; life expectancy rate and maternal mortality rate and infant mortality rate. The analysis of the table suggests there is a huge gap between developed and developing countries in terms of these health indicators, clearly depicting poor health sector of developing nation with low life expectancy and high maternal and infant mortality rate is a cause of concern. This gap may widen up in future if developing countries will not increase their total expenditure on health as a percentage of GDP which is just 5.6% of GDP while for developed nations it is more than 11 percent.

4. Inequality:

Inequality is a common phenomenon that exists in developing countries and is more severe. The average income of developing countries is not only low but is also unequal than in developed countries. There are normally two types of inequality that exists; one is vertical inequality which deals with how income is distributed across individuals and households and another is horizontal inequality which is concerned with how different groups in society are treated, based on race, religion, language, class, gender and so on.

According to Kuznets, that in many of the present developed countries, the degree of inequality first increased and then decreased in the later stages of industrialization, giving an inverted U-shaped curve. Some other empirical works shows that degree of inequality is greater in developing countries than was in developed nations. On the other hand, horizontal inequality, according to Steward (2001), is not only responsible for much conflicts within societies, but it also affects the development process in a number of ways. For example some goods may be denied access to public goods such as education and health care. If these inequalities are not tackled then it may further widen the development gap between rich and poor countries.

1.6 Let us sum up

Different economies in the world have achieved a different level of economic development and accordingly one can find wide development gap that exist between rich and poor countries. In view of economist has been trying to look into the causes of the gap and coming up with different indicators of economic development so that a proper pathway is selected. And due to which the meaning of economic development has evolved from just income growth to human development.

1.7 Examination Oriented Questions

1. What is the new meaning of economic development?
2. Explain how economic growth is different from economic development.
3. Evaluate alternate indicators as good measure of economic development.
4. What do you mean by development gap? Does development gap really exist between developed and developing countries? Explain.
5. Write a short note on Human Development index.
6. What is the importance of education and health in the economic development of a country?

1.8 References/ Suggested Readings

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Poverty and Inequality: Concept and its Measurement

STRUCTURE

2.1 Introduction

Before 1970s, economic development was seen typically in terms of planned alteration of the structure of production and employment and the entire focus was on the process of industrialization and casual reference was given to other economic social indicators like poverty and inequality. But it was only during 1970s, economic development came to be redefined in terms of the reduction or elimination of poverty and inequality. It was realized that economic growth alone cannot trickle down and remove the twin problems of poverty and inequality in the developing countries. And today it has been realized that both these social evils are the major economic problems confronting the developing countries. It is these two problems that are dealt in this lesson in detail.

1.2 Objectives

After going through the lesson the student will

1. Able to understand the concept of poverty.
2. Shall learn the different measures of poverty.
3. Get familiarize with the concept of inequality.
4. Able to understand the different measures of inequality.
5. Be able to describe the different effects of inequality.

2.3 Poverty: Concept and Measurement[1]

The World Bank defines poverty as the inability of the people to attain a minimum standard of living as the name suggests, economic development was originally thought of as economic growth, but in recent years it has increasingly come to be thought of as poverty reduction. The World Bank proclaims that our dream is a world free of poverty, and increasingly works to direct all of the activities towards poverty reduction. Poverty is a multi-dimensional concept. Poverty has been in existence since immemorial time but the description, interpretation and methodology to measure the incidence of poverty has changed from time to time with development. There is no reliable, scientific and universal definition of poverty. There are numerous definitions of poverty. Calorie based poverty or the food energy method line are widely used around the world. The association with food appears to be attractive, in part because poor people do indeed respond much of their budget on food, but perhaps also because there is more political support for anti-poverty programs that involve food than for measures based on goods. The nutritional basis in the involvement of nutritional scientists in setting the norms also appears to add legitimacy to the lines and the counts that are based on them. The problem here, however is that consumers in different countries may choose different combinations of foods and other goods which then require different incomes to meet nutritional requirements. In practice to measure the extent of absolute poverty on the third world, World Bank takes the figure of $1.25 a day.

2.3.1 Concept of Poverty

Absolute Poverty

A poverty line indicates deprivation in an absolute sense, i.e., the value of a set level of resources deemed necessary to maintain a minimal standard of well being. With such a definition, poverty is eliminated once all households command resources equal to or above the poverty line. Absolute poverty is expressed in terms of specific minimum calorie requirements i.e., the minimum physical quantities of cereals, pulses etc. are then determined for a subsistence level and then the physical quantities is converted into monetary terms. By aggregating all the quantities, per capita consumer expenditure is determined. The population, whose income level or expenditure is below this figure, is considered to be below the poverty line. The $1.25 /day per capita poverty line is one example of an absolute poverty line, but most countries determine their own absolute poverty lines as well. (World Bank take the figure $1.25 /day). Therefore, Absolute poverty is defined as the number of people who are unable to command sufficient resources to satisfy basic needs.

Relative Poverty

The role of contemporary living standards in the measurement of poverty has long been recognized. Adam Smith (1776), for example, observed in a widely quoted passage.

"By necessaries, I understand not only the commodities which are indispensably necessary for the support of life but whatever the custom of the country renders it indecent for creditable people, even of the lowest order, to be without".

This consideration underlines an explicitly relative standard of poverty. As pointed out by Townsend (1973), "Individuals and families are in poverty whose resources, over time, fall seriously short of the resources commanded by the average individual or family in the community in which they live". The relative approach has been widely used in developed countries in recent years. Income distribution of the population in different groups is estimated and a comparison of the levels of living of the top 5 to 10 percent with the bottom 5 to 10 percent of the population reflects the relative standards of poverty. If for example the poverty threshold may rise with the general level of income, it means that it is a matter of keeping up with the Jones's, rather; it is a reflection of the interdependence of living standards. The measure on money income ignores other aspects of deprivation. No account is taken of poor quality housing, school or health care, which may or may not be associated with low income.

Many wealthier countries, on the other hand, set poverty lines, based on relative standard. In the U.K, for example, the poverty line is 60% of the median income levels (after taxes and benefits), an approach broadly adopted in the European Union.

"Relative poverty is having less than the others".

2.3.2 Measurement of Poverty

1) Head count Ratio (H)

It is the proportion of the population below the poverty line. It ranges from 0 (No one is poor ideal) to 1 (everyone is poor).

$$H_I = \frac{\text{No. of poor (H)}}{Total\ population}$$

The lower the (H), the lower will be H_I. Over time, the index does not change if individuals below the poverty line become poorer or richer, as long as they remain below the line. Head count ratio tells us the percentage of people below the poverty line.

For example, consider two populations with 10 people in each with a poverty line of $1/day.

Table1: Example of how depth of poverty varies between two populations with same headcount ratio

Population 1		**Population 2**	
Person (i)	**Y_1($)**	**Person(i)**	**Y_1($)**
1	2.0	1	4.0
2	1.9	2	3.8
3	1.9	3	2.5
4	1.8	4	2.5
5	1.2	5	1.5
6	0.8	6	0.9
7	0.6	7	0.9
8	0.5	8	0.8
9	0.5	9	0.7
10	0.4	10	0.7
HH	**0.5**	**HH**	**0.5**

1) $$\frac{0.2+0.4+0.5+0.6}{5}=0.44\$$$

2) $$\frac{0.1+0.1+0.2+0.3+0.3}{5}=\$0.2$$

The average deviation from poverty from the poverty line is \$0.44 for population 1 and \$0.2 for population 2. Thus the headcount ratio only suggests that the level of poverty is the same for both the populations, but the position is worse for population 1 than population 2.

2) Income Gap Ratio

It was designed to focus on the depth of poverty below a nominal poverty line. It is the average deviation from the poverty for people who are below the poverty line. Therefore it does not include those above it.

For each individual in the population the deviation from the poverty line can be found as.

Deviation of per capita income relative to poverty line $= \frac{Z - yi}{Z}$

Z = Poverty line

Y_1 = Income of person i (by definition $y_i < Z$)

If y_1 = \$0.8 and Z (poverty line) = \$1.0

Deviation $= \frac{1.0-0.8}{1.0} = 0.2$

Deviation of 20% of the poverty line for this individual.

One of the problems with the Income Gap measure is that the average depth of poverty below the poverty line population can be same for population 3 and population 4 but there can be a greater degree of variation in the depth of poverty for population 4 than population 3. Another problem is that if we remove any individual whose income is just below the poverty line it will worsen the poverty.

3) Poverty Gap Index

To overcome this difficulty, economists therefore attempt to calculate a poverty gap that measures the total amount of income necessary to raise everyone who is below the poverty line up to that line. Figure below illustrates how we could measure the poverty gap as the shaded area between the poverty line PV, and the annual profile of the population. Even though in both the countries 50 per cent of the population fall below the poverty line, the poverty gap in country A is greater than the country B. Therefore, it will take more of an effort to eliminate absolute poverty in country A.

To measure the poverty gap index, one way is to multiply the headcount ratio by the income gap ratio. It is a combination of both headcount (HH) and income gap ratio (IGR).

P_1= Headcount Ratio * Income Gap Ratio

The PGI adjusts or weights the value of the IGR to take into account the proportion of the population that are classified as poor in terms of the poverty line being used. Therefore the lower the value of $P_{1,}$ the better, and a P_1 value of Zero means nobody is poor.

One of the problems of PGI is that it is insensitive to transfers among the poor. If the second poorest in country B (with 120) gave 20 to the poorest, the PGI would not change (would be like in Country A).Another problem is that PGI do not capture differences in the severity of poverty amongst the poor and ignore "inequality among the poor".

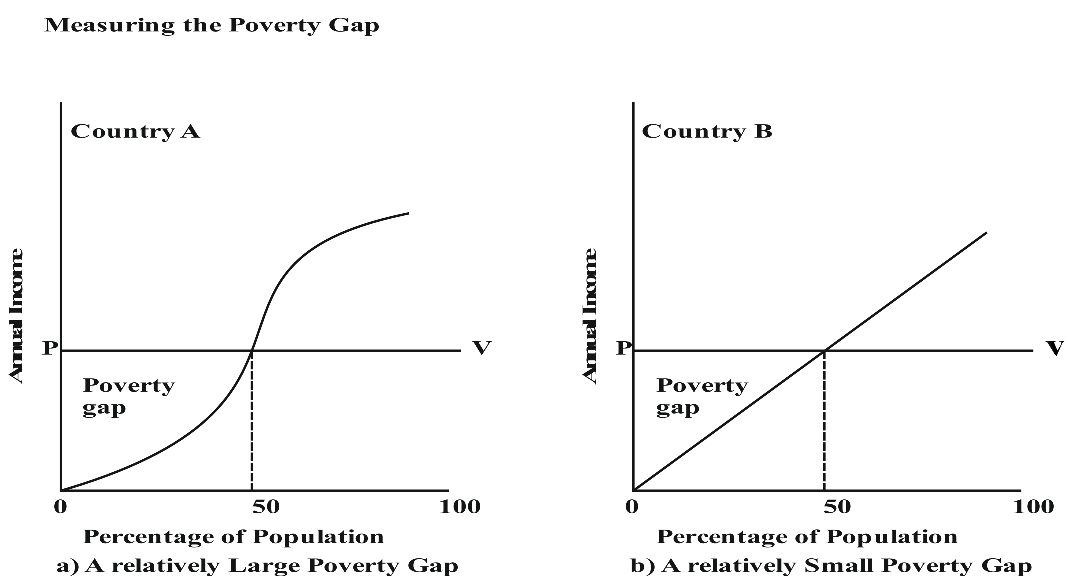


Figure 2.1 : Measuring the Poverty Gap

4. Other measures

a. Foster- Greer- Thorbecke Measure

The headcount index, the PG and PGI and the squared poverty gap index all belong to the Foster-Greer-Thorbecke class of measures.

Using similar notation:

$$P\alpha = \frac{1}{N}\sum_{i=1}^{H}\frac{(Y_p - Y_i)^{\alpha}}{Y_p}$$

Y_i is the y of poor person

Y_p is the poverty line

N = total population

It follows the principal of monotonously means that if you add y to someone below the poverty line all other Y held constant poverty can be no higher than it was.

5) Human Poverty Index

HDR, 1997 introduced a human poverty index is an attempt to bring together in a composite index the different features of deprivation in the quality of life to arrive at an aggregate judgment on the extent of poverty in a community. It includes many aspects like lack of freedom, inability to participate in decision making, lack of personal security, inability to participate in sustainability and intergenerational equity etc, which cannot be measured. However, given the fact that the issues of poverty in the development countries involve hunger, illiteracy, epidemics and the lack of health services or safe water, the HPI constructed by HDR focuses on the deprivation in the following three elements of human life longitivity, knowledge and a decent standard of living.

1) Deprivation of a long and healthy life measured by the probability at birth of not surviving to age 40 (times 100).

2) The adult illiteracy rate.

3) The deprivation index based on the average of two variables: the percentage of population without access to safe water and the percentage of underweight children under 5 years of age. The symbols used for above dimension are P_1, P_2 and P_3.The formula for the HPI is given by:

$$\text{HPI} = \left[\left(P_1^3 + P_2^S + P_3^3\right) \div 3\right]^{1/3}$$

According to UNDP, Human development report 2004, at the start of the third millennium, over 1 billion people still lack access to safe water, nearly 1 billion are illiterate and a half a billion will die before the age 40.

The UNDP calculates, however, that the cost of eradicating poverty across the globe is relatively small compared with global income, and that political commitment, not financial resources is the real abstracts to poverty eradication. Basic Social Services could be made calculable to all people in developing countries at the cost of and 40 billion over 10 years. A further \$40 billion over 20 years could eradicate income poverty across the world. A cost of \$80 billion is less than 0.3 % of global world income of \$32,000 billion.

5) Multidimensional Poverty Index:

HPI reflected the aggregate deprivations in health, education and standard of living. However, it could not identify specific individuals, households or larger group of people as jointly deprived. To tackle this problem, HDR 2010 introduced a new measure Multi Dimensional Poverty Index (MPI) to replace HPI.

The MPI is the product of the multi dimensional poverty head count (the share of people who are multi dimensionally poor) and the average number of deprivations each multi dimensionally poor household experiences (the intensity of poverty). It has three separate dimensions consisting of 10 indicators each with equal weights within its dimension.

These are as follows:

1. **Health:** To measure health, the indicators used are nutrition level and child mortality rate.

2. **Education:** To measure education the indicators used are years of schooling and children enrolled.

3. **Standard of Living:** It is reflected through access to electricity, cooking fuel, and access to clean drinking water, access to adequate sanitation, floor and assets.

HDR 2010 estimates that about a third of the population in 104 countries, or almost 1.75 billion people, experience multidimensional poverty. More than half lives in South Asia, though the rates are highest in Sub- Saharan Africa, with significant variations across States.

2.4 Inequality: Concept and Measurement[1]

2.4.1 Concept of Inequality

In simple words, inequality is the fundamental disparity that permits one individual certain material choices, while denying another individual those very same choices. Loungani in his research paper has described the different concepts of inequality. The famous slogan "the rich are getting richer and poorer are getting poorer is cross-country inequality which explains inequality of average incomes. In other words, it describes that average incomes of the advanced nations have continued to rise, while average incomes at the other end of the income distribution, particularly in countries like Sub-Saharan have stagnated or fallen. Another concept of inequality is within-country inequality which simply explains the difference between rich and the poor within a country. The third concept is global inequality which focuses on inequality of incomes between persons rather than between countries.

2.4.2 Principles of Inequality Measurement

If there is a great deal of disparity in the incomes of people in a society, the signs of such economic inequality are often quite visible. It is easy to measure the inequality of the society comprises of just two individuals. But if we try to measure inequality between more than two individual, then it is quite difficult.

A good measure of inequality should possess the following four criteria:

1. **Anonymity Principle:** Simply means that it does not matter who is earning the income. A situation where Ram earns x and Govind earn y should be viewed as identical to one in which Ram earns y and Govind earns x. Thus permutations of incomes among people should not matter for inequality judgment: this is the principle of inequality. Formally this means that we can always arrange our income

distribution so that

$y_1 \leq y_2 \leq \ldots\ldots\ldots\ldots\ldots\; y_n$

which is the equivalent of arranging individuals so that they are ranked from poorest to richest.

2. **Population Principle:** It states that the measure of inequality should not be based on the number of income recipients. It is a way of saying that population size does not matter all that matters are the proportions of the population that earn different levels of income.

3. **Scale Independence Principle:** It simply means that our measure of inequality should not depend on whether we measure income in dollars or in cents or in rupees or for that matter, on whether the economy is rich on average or poor on average.

4. **The Dalton Principle:** It states that holding all other incomes constant if we transfer some income from a richer person to a poorer person (but not so much that the poorer person is now richer than the originally rich person), the resulting new income distribution is more equal.

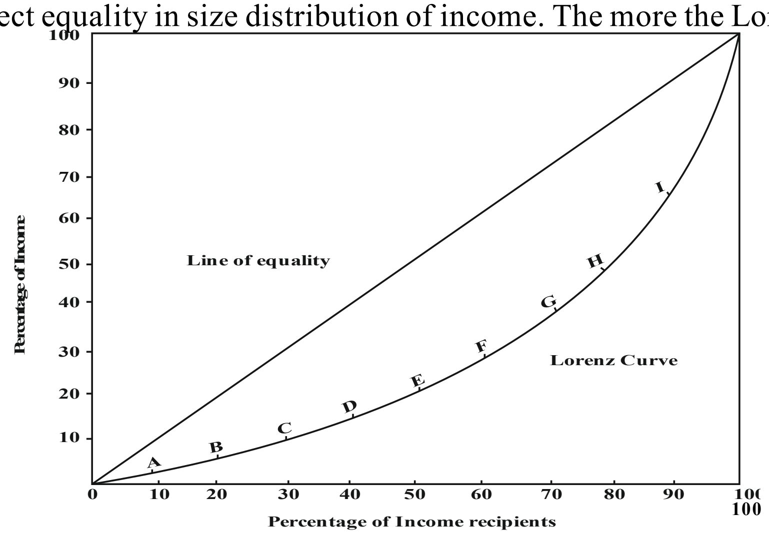
2.4.3 Measurement of Inequality[2]

There are two principle ways usually used to measure income distribution: the personal or size distribution of income and the functional or factor share distribution. One of the most common measure usually used by economists is the personal or size distribution of income. It deals with households and how much the income they receive irrespective of whether the income was earned through wages or from profits, rents, interest. It also ignores whether the income was earned from agriculture, manufacturing or services. According to Todaro, economists and statisticians therefore like to arrange all individuals by ascending personal income and then divide the total population into distinct groups or sizes. As against this functional or factor share distribution captures the share of different factors of production such as labour, capital, land and so on in national income. Instead of looking at individuals or households it attempts to explain the percentage of income received by labour and compares it with percentage of total income distributed in the form of rent, interest and profit. However, this measure has lost its relevance as it fails to take into account the influence of market forces in determination of factor prices.

Following are the different ways through inequality can be measured on the basis of size distribution. Some of the most popular measures are:

1) The Lorenz Curve:

The Lorenz curve is the graphical representation of distribution of income in any society. As shown in figure below the number of income recipients are plotted on the horizontal axis, not on absolute terms but in cumulative percentages arranged in increasing order of income. In the figure 2.2 below for example shows that point 20 we have the poorest 20% of the population at point 60 we have the bottom 60% and at the end of the axis all 100% of the population has been accounted for on the vertical axis, we measure the percentage of national income accruing to any particular fraction of the population thus arranged. It is also cumulative upto 100%, meaning that both axes are equally long. The entire figure is enclosed in a square and a 45^0 diagonal line is drawn from the lower left corner i.e. the origin of the square to the upper right corner. At every point on the diagonal the percentage of income received is exactly equal to the percentage of income recipients. If everybody had the same income, Lorenz curve would coincide everywhere with the 45^0 line, that is, with the diagonal of the box. The poorest 10% would then have the same 10% line. With increasing inequality, Lorenz curve starts to fall below the diagonal in a loop that is always bowed out to the right of the diagram. Thus the diagonal line i.e. 45^0 line shows perfect equality in size distribution of income. The more the Lorenz curve



away from the diagonal, the greater is the inequality.

Figure 2.2: The Lorenz Curve

In figure 2.2, we have plotted the Lorenz curve. Both the horizontal and vertical axes are divided into 10 equal segments. The bottom 10% of the population is receiving only 1.8% of the total income point B shows that the bottom 20% is receiving 5% of the total income, and so on. Since no country exhibits either perfect equality or perfect inequality in its distribution of income, the Lorenz curve for different countries shall be somewhere to the right of the diagonal as shown in figure.

1) Gini Coefficients:

Named after the Italian statistician who first formulated it in 1912, Gini coefficients are aggregate inequality measures. It is the short hand summary measure of the relative degree of income inequality in a country and can be obtained by calculating the ratio of the area between the diagonal and the Lorenz curve divided by the total area of the half square in which the curve lies. As shown in figure 2.3.

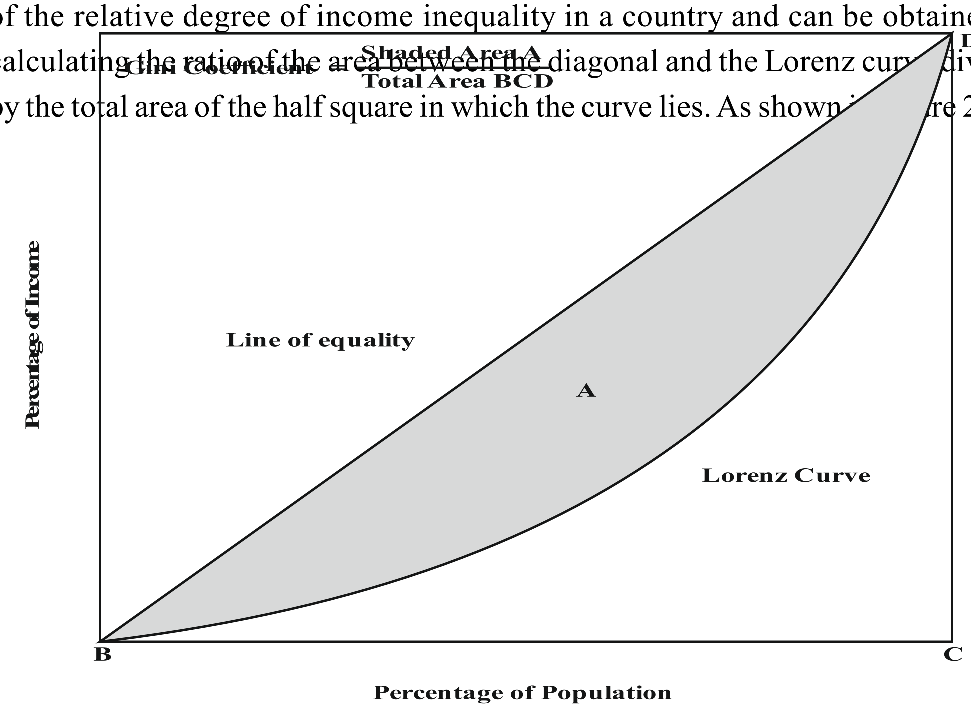


Figure 2.3 : Estimating Gini Coefficient

In figure 2.3, this is the ratio of the shaded area A to total area of the triangle

BCD. The values of Gini Coefficient lies between 0 and 1, 0 is the state of perfect equality and 1 is a state of perfect inequality. According to Todaro, Gini coefficient for countries with unequal income distribution lies between 0.50 and 0.70, while for countries with relatively equitable distribution, it lies between 0.20 to 0.35. Gini coefficient is among the class of measures that satisfy four principle criteria's for measuring income inequality.

1) The Range:

Range is the value given by the differences in the incomes of the richest and the poorest individual divided by the mean to express it independently of the units in which income is measure. Thus,

$$R = \frac{1}{\mu}(y_m - y_1)$$

Where, μ is the mean $y_m - y_1$ is difference in the incomes of the richest and poorest individuals. One of the draw backs of this measure is that if fails to satisfy the Dalton Principle.

2) The Kuznet Ratios:

Kuznet ratios are given by Simon Kuznet in his pioneering work on income distribution in developed and developing countries. It is the ratio of the incomes received by the top 20% and bottom 40% of the population. The ratios are essentially the prices of the Lorenz curve and serve as a useful shorthand in situations where detailed income distribution date is missing.

3) Coefficient of Variation:

Coefficient of variation is the most common measure of dispersion which is simply sample standard deviation divided by sample mean. It is the measure of inequality that satisfies all the four criterias and so it is Lorenz consistent.

$$C = \frac{1}{\mu}\sqrt{\sum_{i=1}^{m}\frac{n_j}{n}\left(y_j - \mu\right)^2}$$

The coefficient of variation is also used to measure convergence of income convergence of other development indicators life expectancy and literacy.

2.4.4 Effect of Inequality

Before 1950s, the analysis of the development problems was entirely focused on industrialization and growth and has overlooked the study of distribution of income. It was in 1955 when Kuznet examined how economic development affects income distribution on the long run. Popularly known as Kuznets inverted U- hypothesis, income inequality tends to increase in the early stages of economic development and decrease in the later stage.

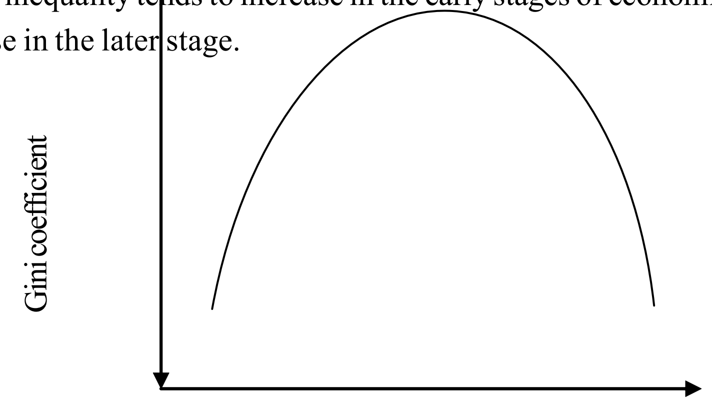


Figure 2.4 : The inverted -U Kuznet Curve

As illustrated in figure 2.4, inverted- U Kuznet curve is a longitudinal plot of changes in the distribution of income as measured by Gini coefficient seemed, when per capita GNP expanded, to trace out an inverted U- shaped curve in some of the cases Kuznet has studied. The explanation as to why inequality worsens during the early stages of economic growth can be attributed to nature of structural change.

However after 1990s it was realized by few economists that distribution is an important dimension of the development. The central problem is not any more in considering the degree of income inequality as the result of economic development but mainly focus on the role of distribution of income and wealth in the process of economic growth i.e. how inequality can effect economic growth. Our present section shall focus on this issue.

1. Inequality and Saving and Growth

As mentioned in Ray (2012), in an extremely poor country, due to high inequality, redistributive policies may bring down the rate of saving and therefore the rate of growth. Without redistributive policies, there is a section of population which saves i.e. they have the desire and means to accumulate wealth. However, for the medium income countries, the picture is entirely different. Redistributive policies may generate a surge of savings at the national level, because they create a large ambitious middle class with international aspirations. A redistributive policies here raises the average savings, because the relatively low saving rates of the poor (who can't' afford to save) and the rich (who don't need to save) are transformed into the high savings of those with aspirations.

2. Inequality, Political Redistribution and Growth

High inequality might retard economic growth by setting up political demand for redistribution. This redistribution can be of two types. The first policy could be land reforms. If land is held very unequally, the government may have the option to simply take the land from large land owners through ceiling of land holding and distribute it among small and landless workers. But for full implementation of such policies requires extra political will. And since these elected government official with large land holdings are common in developing countries, the enactment of a policy are very difficult. With this difficulty, most government resort to redistribute policies with different route. That is they increase tax on increments to stock of wealth rather than the existing wealth base. Thus marginal rates of tax on high income tend to be on the high side, there are excise duties and sales taxes on the purchase of various commodities and business and corporate profits are also taxed. These taxes altogether tend to bring down the rate of saving and investments and therefore retard economic growth.

3. Inequality and demand composition

Level of consumption and even the pattern of consumption in an economy depends not only on the income but also on the distribution of income in an economy. With the increase in income not only consumption increases but there is also shift in the pattern or composition of consumption. Evidence suggests that as income increases share of food items in consumption tends to fall.

As income rises, a new range of consumption items forms the part of budget (like purchase of durable goods, jewellery) and it tends to increase with increase in income. There the different products that are demanded by consumers must be produced and supplied. In general, these products set up derived demands for factors of production and so influence the division of payments into wages, return on capital equipments, rents on properties and so on. With a high degree of inequality, the economy shall demand more of luxury goods. If there luxury goods are produced from capital intensive techniques this would leads towards more returns to capital and thereby maintains or further increases inequality.

4. Inequality, Capital Markets and Development

In unequal societies, the poor often lack access to credit markets because they lack collateral to comfort lenders. Since credit is a pre-requisite to start a small business, educate oneself or one's children to buy inputs. Thus one can say that these poor find it difficult to borrow even if they have the potential to carry on the business. So incentive to work is affected and they remain in the state of poverty and again one can say inequality begets inequality.

5. Inequality and Human Capital

Inequality has a built in capacity to beget inefficiency. It does not permit people at the lower end of the wealth or income to fully exploit their potentialities. More inequality implies more is the inability of a section of population to become entrepreneurs, even though he has the potential and willingness to become. Low level of wealth becomes an obstacle even to have better educational choices. Even bank does not provide loans, since population at lower end faces the problem of collateral to get loan. In addition to that inequality also prevents the buildup of adequate nutrition which results into low productivity and further low income and low human capital formation of low income group people.

6. Inequality Begets Inequality

Another effect of inequality is that it captures an intrinsic tendency for inequality to beget itself. In the society where inequality is high, majority of individuals are shut out from access to credit, so that the labour marked is flooded with high labour supply and low demand for labour. This results into reinforcing the inequalities. Those who are at the lower end are unable to acquire wealth, while rich entrepreneurs make high profit of the fact labour is cheap. Thus high inequality not only give rise to inefficient out comes. It tends to beget inequality.

2.5 Let us Sum up

Poverty and inequality are the two major areas of concern for developing countries. With the expansion of national income, experience of developing countries shows that high growth trajectories have resulted into poverty and inequalities in the distribution of income and wealth. As a result poverty has further worsened. Therefore, government intervention is required at this juncture.

2.6. Examination oriented questions

1. Define the concept of absolute poverty and relative poverty.
2. Explain the different measures of inequality.
3. How would you construct a Lorenz curve and calculate the Gini ratio for the measurement of income inequality.
4. What is the effect of inequality on human development?
5. Write a short note on measurement of poverty by headcount method and income gap method. Also explain their demerits.
6. Define poverty gap?

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Population Growth : Theory and Economic Development

STRUCTURE

3.1 Introduction

The most compliant factor of production available to any economy is its population. There are two different schools of thought that focused on the relationship between population growth and economic development. On one side, economists like Simon view population as the vital and essential component of economic development. And on the other hand economists like Malthus warn about dangers of over- population. However it is well organized that a sufficiently educated labour force would seem to be absolutely necessary for sustained growth and achieving human development.

3.2 Objectives

After going through the lesson the student should:

1) Understand the concept of HRD.

2) Describe the different stages in a demographic transition and their relationship with economic growth

3) Understand the two way relationship of population growth and economic development: whether population growth is a hindrance or stimulus to economic development

4) Be able to understand the environment poverty and population linkage.

3.3 Concept of Human Resource Development (HRD)[1]

The process of economic development is not a simple affair. It is not simply a matter of the availability of physical resources of labour and capital. Though factors such as physical capital, labour and other physical resources etc impinge on economic development, the rate of economic development that is attainable is perhaps more strongly depends not only availability of these resources but also on the Human Resource Development. Human resource development plays as vital role in economic development. Rather the effective use of physical capital itself depends upon human resources.

Indicators of Human Resource Development

There are some indicators that have been employed to measure human resource development. Any activity which augments man's productive capacity contributes to the human resource development. Schultz lists five such categories through human resource development can takes place:

a) Formally organized education at elementary, secondary and higher levels.

b) Better health facilities which increases the strength, stamina and vigor and vitality of the people.

c) On the job-training increases the skill and efficiency of the workers and lead to an increase in production and productivity.

d) Various study and extension programmes for adults.

e) Migration of individuals and families to adjust to changing job opportunities.

3.4 Theory of Demographic Transition[2]

Theory of demographic transition is one of the famous concept in economic demography that explain the process by which fertility rates eventually declines to replacement level. The theory is based on actual population movements of developed nations. It attempts to explain that before economic advancement took place in developed nation these countries have more or less passed through same three stages of modern population history. In the first stage, both birth rate and death rate is high. This is the stage wherein the countries before their economic modernization had faced stable or very low population growth rate. Generally speaking, this stage depicts economical backwardness of a country. Countries in this stage of demographic are agriculturally transition dominated economies with very low per capita income. Since most of the people are illiterate and poor, for them children contribute to the household economy, to family income and are insurance for adults in old age. Under these circumstances, birth rate tends to be high. Further, with limited medical facilities, limited knowledge of sense of cleanliness, poor food and unhealthy atmosphere leads to high death rate. Hence, high birth rate marked by high death rate results into stable population growth. The second stage of demographic transition represents the beginning of a transition from slow growing population to rapidly increasing population to declining rates.

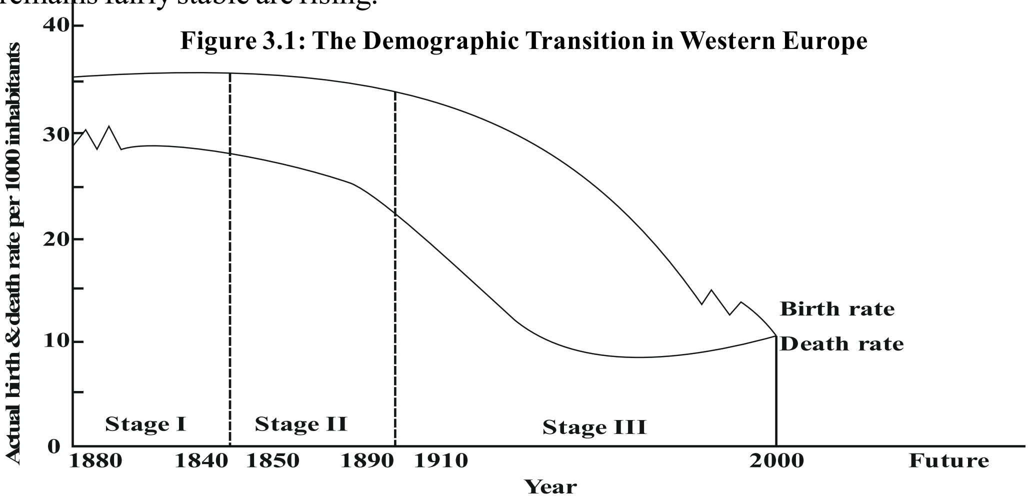
The figure represents the three historical stages of the demographic transition in Western Europe derived from Todaro and Smith. It depicts that before the starting of 19^{th} century birth rates hovered around 35 per 1000 while death rates stood around 30 per 1000 therefore resulting into 0.5% population growth per year.

This stage is also known as the stage wherein economic growth actually starts taking place. Due to which death rate declines because of improved food production and improved health and sanitation, general personal hygiene, special efforts by government to check various diseases like small pox, malaria. As against this, birth rate still remains high because of agrarian nature of society and high illiteracy rate, resulting into population explosion. It is being said that the populating growth rate is near 2% or more at this stage.

In stage three, birth rate falls due to access to contraception, increases in income, modernization of agriculture, urbanization and better education. And due to the forces of modernization and economic development, death rate also begins to fall with a decline in fertility rate. Both social and economic factors deter a large number of people from having many children, leaving with little or no population growth. As shown in figure1, Stage II, actual starting of Western Europe's demographic transition was around the first quarter of the 19th century featuring slowly falling death rate and high birth rate marking towards very high population growth.

Stage III marks the era of modernization which began only in late nineteenth century. Both birth rate and death rate showed a falling tendency. And it only at the second half of the 20th century, the birth rate is showing fluctuating tendency while death rate remains fairly stable are rising.

Figure 3.1: The Demographic Transition in Western Europe



Source : Todaro and Smith (2006)

3.5 Population and Economic Development[3]

There are two schools of thought that explain the relationship of population growth to economic growth and development. One school of thought attribute population as a hindrance to economic growth while the other school of thought explains that population is not a real problem rather it acts as a stimulus to economic growth and development.

3.5.1 Population as a limit to Growth

The following part of the section stage deal with points that explain the negative impact of population growth to the growth of an economy.

1. **Excessive pressure on land:** Empirical evidences depict that excessive

population growth lowers down the per-capita income in most of the developing countries especially of those who are dependent on agriculture. Due to high growth in population, cultivable land per capita has declined. Not only this it has also given rise to one major economic problem that is sub-division and fragmentation of holding causing low farm productivity. Thereby hindering the growth of agriculture sector.

2. **Population Growth and Shortage of Food:** Due to rapid population growth feeding the population is one of the most difficult tasks. Additional food requirements are needed for growing masses. However, there exists low agricultural productivity thus supply of food being limited; this leads toward heavy import of food grains. Therefore introduction of new technologies, provision of price incentives to farmers can go a long way to increase the production and productivity of agriculture.

3. **Population Growth, Poverty and Inequality:** There are some argument and empirical evidences that suggest that high population growth can exacerbate the problem of poverty and inequality in developing countries. It can worsen inequality of the population growth among the poor is disproportionately large. Population can affect poverty through unemployment, low wages for those in work, fragmentation of land holding and most important it is the poor who suffer the most than rich due to the overstretching of social services like school health, family planning, water and sanitation.

4. **Population Growth and Environmental Degradation:** Rapid population growth also puts a pressure on environment as there is an increasing pressure on marginal lands migration to overcrowded slums, overgrazing, overcutting of wood and over exploration of soils takes place. Not only this it also exuberate the problems of air, water pollution, depletion of ground water, soil erosion and flooding causing an serious damage to the environment.

5. **Population Growth, Health and Education:** It is said that large size of family can restrict the opportunities of parents to provide better education and health to their ward. Same is also applicable to the nation as a whole. At macro level, rapid increase in population causes the given education expenditure to be spread more

thinly which in turn affect the human resource development to take place. High fertility also affects the health of both mother and child and has increased the risk of low birth weight that may leads towards high mortality rate.

6. **Population Growth and Economic Growth:** Empirical evidences suggest a strong negative relationship between growth and economic growth. Due to heavy pressure on agriculture and natural resources, an increase in growth of population lowers the per capita income of the most of the developing countries.

7. **Population Growth and Capital Formation:** Rapid population growth lowers down the rate of savings which in turn effect the capital formation. As population increases, per capita income declines. On the other hand, expenditure on consumption increases which leads towards low savings and consequently low capita formation. Also high population growth shifts the age structure of the population more towards young population that is those who are dependent, thereby, increasing consumption and lowering down saving rates.

3.5.2 Population as an ultimate source

One of the contentious issues before the policy makers is to know the relationship between population growth and economic development. One school of thought that has developed that population growth is not a serious problem rather there are other issues that needs special consideration. They also emphasized that rather population growth is a desirable phenomenon. In the following section we shall deal with such issues.

1. **Other Issues:** As mentioned in Todaro, that the real problem of developing countries is related to one or all of the following issues:

a. Underdevelopment: According to this line of argument, as long as the vast majority of people in developing countries remain poor, uneducated and physically and psychologically weak, the large family will constitute the only real source of social security. Therefore policies should be directed to motivate people for limiting their family size.

b. World Resource Depletion and environmental degradation: As mentioned in Todaro, population can only be an economic problem in relation to the availability and utilization of scarce natural and material resources. The fact is that developed countries, with less than one quarter of the world's population, consume almost 80 per cent of the world's resources. For example, the average North America or European consumer uses up, directly or indirectly, almost 16 times as much of the world's food, energy and material resources as his or her counterpart in developing countries.

c. Problem of Population distribution: According to this view, it is not the population growth or number of people that is causing problem but problem is with respect to population distribution. There are regions around the world like sub-Saharan Africa, where there is the problem of under population in terms of potential resources. While, there are other regions which are effected by over population. Therefore efforts should be made to bring about more spatial distribution of the population.

d. Subordination of women: One of the problem of developing countries is that the women are the worst effected from evils like poverty, poor education, lack of jobs and also less mobility and have restricted access to birth control. They are considered to be inferior to men and they do not have any say in the decision making. All these factors results into high population growth. Therefore the problem can be resolved by empowering women. If they are educated and their health and economic status is improved then and only then they will understand the benefits of small family.

2. A deliberate contrived false issue: According to this line of argument, over concern of developed nations into population growth in developing countries is a deliberate attempt to hold down the development of developing countries. They are pressurizing developing nation to control the population even though they themselves went through a period of sizable population increase that accelerated their development.

3. Population growth as a desirable phenomenon: One of economic argument put forwarded is that population growth is essential for stimulating consumer demand, to generate economies of scale in production, to lower production cost and to provide a good number of low cost labour to achieve higher output. Economists like Boserup in their theory of agricultural development come up with the different view that it is the growing population in an economy which causes the agricultural development to take place. She explains that in the pre industrial stage, growing population does not create any obstacle in the way of investment needed for agricultural development. The investment likely to be made in raising of new fields, minor irrigation work, digging of canals and drainage etc is acquired by conversion of labour into capital assets and therefore, a growing population is welcome in these stages of agricultural development (as mentioned in Sadhu, Singh and Singh, 2012). According to arguments forwarded by neo- Marxist pronatalists, in many rural areas of developing countries there is a problem of unused but arable land. In most of the regions of tropical Africa and Latin America, only 12 per cent of total potential arable land is under cultivation and this is due to low rural population density. Therefore for these regions population growth is a desirable phenomenon. As mentioned by Todaro, there are some non-economic reasons also which explains that population growth is desirable. Firstly, there are countries which have under populated border regions and for them they need more people to protect against expansionists intentions of neighbouring countries. Secondly, there are some ethnic, racial and religious groups who favours large families. Lastly, military and political powers are often seen as dependent on a large and youthful population.

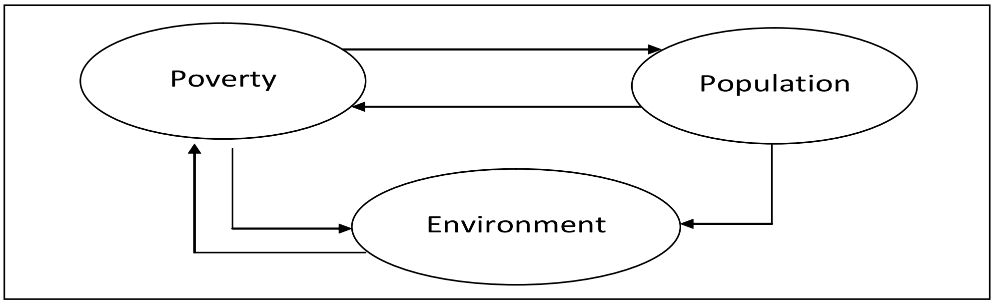
Hence it is not the population growth that is the problem but there is a need to make the population more skilled and healthy so that better economic growth can take place and that this population will now not be considered as burden rather it will act as a stimulus to the economic development.

3.6 Population, Poverty and Environment

In the history of the world, the poverty, population and environmental nexus have been the concern of all societies. How they related to each other.

What kind of relation does one expect between them is a complex question, theoretically value loaded and empirically often complex to establish. Figure 3.2 below shows the possible direct linkages between economic and environmental attributes in the form of P - P - E spiral.

Figure 3.2 : Poverty, Population and Environment (P-P-E) Linkage



It clearly shows the two way linkages between population change and other elements of the system i.e. poverty and environmental. The linkage between poverty and population is two ways in the sense that poverty affects population through lack of confidence in and insecurity of old age necessitates the need for many children. Poor been uneducated, without the power to control fertility, often results into more population growth. It is also seen that it is the poverty that compels the need for more children for help in fields and homes. High population growth also affects the poverty. More populations mean unemployment, low wages, increasing landlessness, overstretching of social services like school, health water and sanitation: thereby, affecting the poor more than that of others. Therefore improved education health care and general economic growth many reduce population pressure and also poverty.

On the other, there are empirical evidences that suggest a two-way linkage between poverty and environment. The most popular argument is that poor people generally have a more tendency to overuse resources like land, forests and water, thereby degrade the environment. Since, they are not aware of the environmental issues and consequences of their today's actions. On the other hand, there are evidences that suggests that environment degradation in the form of soil erosion, salination, flooding hurts the poor more through declining yields, less employment, loss of fish catches, shortage of drinking water and fuel woods. Various argument have also tried to establish a link between population affecting environment adversely through increased pressure on marginal lands, overgrazing, over explanation of soils, overcrowded slums, problem of water supply and excessive use of pesticides and fertilizers etc. thereby degrading the environment badly.

3.7 Let us sum up

Thus one can conclude that population can act both as a stimulus and hindrance to economic development. It is a stimulus if the population is not just population but is Human capital and can skillfully contribute to economic development. On the other hand it can become an obstacle if proper job opportunities are not provided and also if people remain uneducated, then it turns out to be a burden on economy.

3.8. Examination oriented questions

1. Write a short note on Human Resource Development.
2. Do you population growth can be a limit and as a stimulus to economic development.
3. What is the link between population, poverty and environment?
4. Describe briefly the theory of Demographic transition. At what stage in this transition do most developing countries seem to be? Explain your answer.

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Institutions and Economic Development

STRUCTURE

4.1 Introduction

A good institutional structure of an economy plays an important role in the economic development of a country. Only efficient institutions are growth promoting. Economists like Pasner and Chu defined two types of efficiency: substantive efficiency which means a rule that promotes allocative efficiency and procedural efficiency which means a rule that is designed to reduce the cost or increase the accuracy of using the system of rules. Thus, both these efficiencies if presented in an institution leads towards economic development. However, it is found that in many developing countries the rule of law and the protection of property right is in rudimentary.

4.2 Objectives

After going through the lesson the student will

1. Able to understand the meaning of institution.
2. Shall learn the role of markets in economic development of a country.
3. Get familiarize with the market failure.
4. Able to understand the role of state in economic development of a country.
5. Be able to describe the state failure.
6. Be able to understand the issues of good governance.

4.3 Meaning of Institutions

The term institution is defined in different ways. One of the most popular definition is given by North (1990). He defines institutions as the formal and informal rules of governing human interactions. Empirical evidences have tried to measure institutions by three ways- the quality of governance which includes the degree of corruption, political rights, public sector efficiency and regulatory burden: the extent of legal protection of private property and how well such laws are enforced: and the limits placed on political leaders. The other foremost modern exponents of the view that institutions are of primary importance in understanding the development process, and why some countries are rich today and others poor, are Acemoglu et al. (2001, 2002). Acemoglu (2008) identifies three important characteristics of good institutions:

- The enforcement of property rights and the rule of law, so that individuals have the incentive to save, invest and take risks (as argued above)
- Constraints on those in positions of power so that they cannot expropriate the resources of a country for their own benefit.
- Equal opportunities for all, so that everyone has the incentive to better themselves and to participate productively in society.

Both state and market can be called as institutions as well as organization. State is an institution as it consists of a set of rules for governance. And on the other hand market is also an institution as it comprises of rules for controlling voluntary transactions under the parameters of prices. State acts as an organization as it is a functional body consisting of various agencies and bureau organized according to those rules. While market acts as a functional body by organizing various marketing agents, such as retailers and wholesalers, to bridge between consumers and producers.

4.4 Market & Market Failure[1]

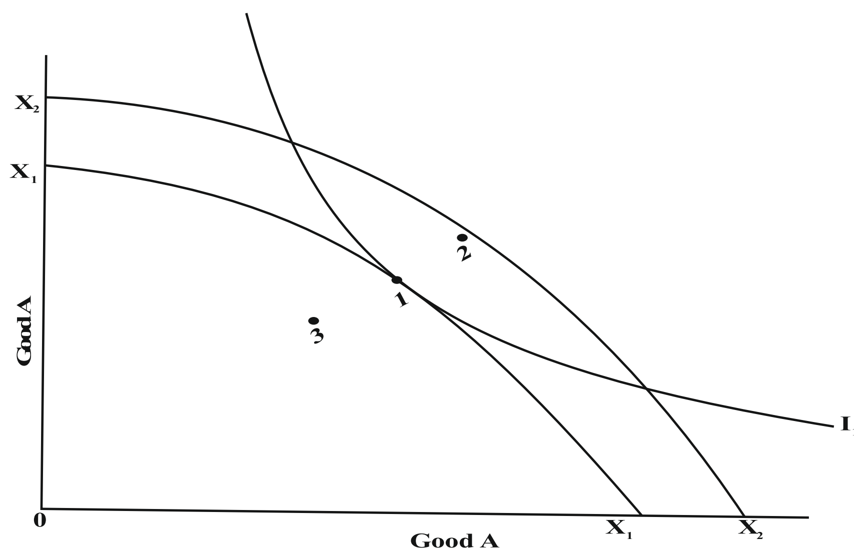
4.4.1 Role of Market in the Development Process

Economists for a long time have believed that there exists an invisible hand in a free market based economy, which bring a state of equilibrium in market. A market is the organizational framework that brings together those who demand a product and those who supply a product at an agreed price. It is at this price that ensures maximum profit to seller and maximum benefit to consumer. Market price acts as a signal to producers. If the demand for a good increases the price tends to rise and producer will be inclined to supply more.

And if demand falls, the price tends to fall in response and thereby producer will supply less. Therefore market efficiency relies on prices acting as signals, on suppliers' response and on the mobility of factors of production.

Market Mechanism has to play a very important role for efficient allocation of resources. According to Thirlwall market plays two major roles i.e. allocation role and creative role. The allocation role can be explained with the help of indifference curve and production possibility curve.

Figure 4.1 : Welfare Maximization



Source : Thirlwall (2006)

If the consumer consume to the point where the marginal utility of consumer is equal to the price of a good and producer produce to a point where marginal cost of production is equal to price, then resources will be optionally allocated since the marginal utility of production is equal to marginal cost, society then reaches at its highest level of utility consistent with production possibilities. As shown in figure 4.1, at point 1, marginal utility of production is equal to marginal cost to the society.

This is what is called as allocation role of markets. Another important function that market plays is that of creative function introduced by Kaldor (1972). According to Kaldor, it is the market that provides an environment for change that expands the production possibilities that is market ensures dynamicity that brings out the competitive forces and ensures innovations and technical progress is always at the forefront. Thus, the market provides incentives to economic growth. However, there are certain objections that are raised against functioning of the market or what is said is that markets in LDCs are permeated by imperfections of both structure and operation. Commodity and factor markets are often badly organized and the existence of distorted prices often means that producers and consumers are responding to economic signals and incentives that are a poor reflection of the real cost to society. Therefore, market is said to leading to a misallocation of resources or we can call it as market failure. There are various kinds of market failure.

1. **Market Imperfections:** Sometimes the market does not necessarily work in the way it should i.e. there is a widespread imperfection in the markets of developing countries. A market price does not provide a perfect guide to the social optimum allocation of resources. The prices of labour and capital can be either above or below its opportunity cost. Price of goods may not reflect its marginal cost of productions. Tariffs imposed, subsidies given and monopolistic tendencies, all results into distorting free market prices. Under such circumstances decisions taken by the private producers with respect to its production shall not result into efficient allocation of resources.

2. **Presence of externalities:** There is a presence of substantial externalities both positive and negative in markets of LDCs. It is generally seen that there are certain goods that are sometimes underprovided and others are over provided from a social point of view i.e. their values in terms of social benefit and social cost is not

reflected in the price. Infrastructure projects such as transport, irrigation, power generation and social capital like education and health has a high social return than private return therefore market under provide them as they have no incentive to produce them. As against this the goods with negative externality i.e. where the private return is greater than social return, the market often over provide such kind of goods these negative externalities for e.g. pollution generated by firm are the cost to the society.

3. **Asymmetric Information:** In most of the developing countries, markets are often incomplete in the sense that they do not provide complete information to both the producers and consumers. There is an imbalance of knowledge between producers and consumers. In many developing countries, producers are not clear about the market size, the presence of other producers and impolite availability. Even the consumers are not sure about availability of products, their substitutes and also even about the quality of goods. Therefore, the production and consumption decisions taken by both producers and consumers under such circumstances lead towards inefficient allocation of resources.

4. **No Market Public Goods:** Public goods are those goods which are non-rival and non-excludable by nature. It is because of this peculiar nature of public goods that the market would either not provide at all or would under provide it for example defense, law and order and the provision of basic infrastructure such as roads, sewer, drinking water. These goods are important for development objective but private suppliers will not provide them because of difficulty in charging up and even capturing the externality.

5. **Unequal Distribution of Income:** In most of the developing countries, there exists unequal distribution of income. Market mechanism have tend to exacerbate the problem further in providing social justice to the vulnerable and disaffected people which can cause civil unrest and political instability. Market fails to provide all sorts of public goods with low private returns and over provides those goods with low social returns. Therefore, the market yields undesirable results in terms of social objectives other than resource allocation.

Therefore, markets may be incomplete or missing altogether for public goods. As the actual cost of providing these goods may be less than what society is willing to pay.

4.5 State and State Failure[2]

4.5.1 Role of State in Economic Development

According to Thirlwall, all the different types of market failure in the past have led development economists to argue for government intervention in the development process as well as causing most developing countries to interfere with the market mechanism and to adopt various forms of planning for the allocation of resources.

As mentioned in Thirlwall the state has four different roles to play in the development process:

1. To provide public goods.
2. To correct market imperfections.
3. To protect the vulnerable and ensure an equitable distribution of income.
4. To provide an institutional environment in which markets can flourish.

1. **To Provide Public Goods:** One of the important role of the state is to provide public goods as market either not provide at all or it would under provide them because of non-excludable and non-rival feature of these goods. As each public goods such as roads, sewers, clean water and defense, law and order are though important for economic development but it is difficult to charge them for the market.

2. **Optimum Allocation of Resources:** The state can play an active role in bringing about optimum allocation of resources so that economic development can take place in a desired manner. Since the market can misallocate the resources in favour of rich due to profit motive whereas production of essential commodities meant for masses can be neglected.

3. **Removal of Economic Inequalities:** One of the important roles of state is to ensure an equitable distribution of income not only between people, between groups between regions but also across generations. As described by Stewart in 2001 that moral duty of any state is to help the poor and disaffected people in order to maintain civil and political stability. Since this may deters investment and growth. It is also essential for the state to maintain a balance between present consumption and investment to future so that present growth should not be at the cost of future generations.

4. **Filling Information Gap between Buyers and Seller:** During the early stage of economic development, the developing countries cannot rely on the market mechanism for providing information to producers about size of local markets, presence of other producers, availability of inputs and also to consumers with respect to quality, availability and substitutes of products. This information can be provided by government only so that efficient allocation of resources can take place.

5. **Providing Appropriate Institutional Environment for Market:** State can play vital role in providing appropriate institutional environment for the efficient working of markets. Rather both should complement each other.According to World Development Report 1997, development cannot take place without effective state and that state should act more as a partner and facilitator for the market. It also emphasized that it is good economic policies well developed human capital and openness to the World economy that go a long way for sustainable growth and development. And it is the state which can improve the capability of markets even.

Thus, the state should provide law and order and also maintains macroeconomic stability, invest in basic social services and infrastructure; protect the poor sections of society and also environment.

4.5.2 State Failure

As explained by Todaro, the principle economic argument of market failure and presumed role of government in reconciling the divergence between private and social valuations of benefits and social valuations of benefits and costs, the experience of government policy in many LDCs has shown government failure rather than market failure. There are certain areas where government has actually failed to converge the private and social valuations.

1. Factor Prices, Choice of Techniques and Employment Creation

The two main objectives of developing countries is to achieve rapid industrial growth and to increase employment opportunities. Due to the conflict between different government policies, there has been a neglect employment creation in the interest of industrial growth.

2. Rural-Urban Migration

Government policies of developing economies have strongly favoured urban development causing a major divergence between private and social valuations. Urban development policies have resulted into widespread rural-urban migration. Thereby putting up a strong pressure on urban areas causing increasing urban unemployment, problem of congestion and also higher social assets of living. On other side, agriculture remains stagnated causing a lost to agriculture output.This has resulted into net social loss to society in terms of agriculture output and heavy social cost of urban way of living.

3. Demand for Education and the Employment Problem

As explained by Todaro (2006), that economic signals and incentives in many LDCs have exaggerated the private valuations of the returns to education at the secondary and tertiary levels to a point where the private demand for even more qualification is in excess of what government can manage for society. The tendency to ration scarce high paying employment opportunities by the level of completed education and the policy of most LDC governments to subsidize the private cost of education at the higher levels have together led to a situation in which social returns to investment in further quantitative educational expansion seem hardly justified in comparison to other alternative investment opportunities.

4. Structure of the Economy

Most of the policies of LDCs have lead to exaggeration of socially incorrect signals and incentives. Policies like import substitution which included special tax concessions to foreign investors, over- valued foreign exchange, protectionism i.e. pampering domestic industries through imposition of high tariffs on imports, and quotas lead to inefficiency in the economy in the form of industrial stagnation and on the other hand heavy emphasis on urban industrial growth also lead to stagnation in agriculture.

Not only this, one also observes institutional weaknesses of the planning processes in most of the LDCs. Wide gap between plan formulation and plan implementation are also attributed to lack of political will on the part of the governments of LDCs. Thus as a result of government failure, many international organizations have started advocating the role of market as an instrument of promoting efficiency and growth. An important dimension of the New Consensus is on the role of government should be to alleviate poverty, providing health and education and providing congenial environment for proper functioning of the market**.**

4.6 Issues of Good Governance[3]

Today all the major development institutions emphasized on promoting good governance as a part of their agenda. It is nowadays seen as a means through which economic growth and development could be achieved. According to IMF, "Good Governance is important for countries at all stages of development. Approach should be to concentrate on those aspects of good governance that are most closely related to our surveillance over macro-economic policies namely, the transparency of government accounts, the effectiveness of public resource management and the stability and transparency of the economic and regulatory environment for private sector activity". IMF is primarily concerned with macroeconomic stability, external viability and orderly economic growth.

In general sense, good governance is nothing but an ideal governing system that is inevitable for political, economic, social and cultural development of a country. Here ideal governing system implies ideal orientation of state that works best to achieve self-reliance, sustainable development and social justice that results into working government efficiently. A corrupt government or poorly governed countries are the hindrances in the way of achieving economic development. It is the good governance that can help these LDC to eradicate poverty and many other social evils.

There remains considerable confusion over a basic question: what is good governance? A Keefer (2009) note there is no agreed definition of governance.

There are number of definition that are given by various international agencies to define the meaning and as well as what to include in the concept of good governance. On one hand, World Bank (2007), by contrast, highlights efficient and effective public management, transparency and accountability and the objective of development, steering clear of more political components. It also includes discussion of technical capacity, leadership and the delivery of public services.

On the other hand, according to United Nations Economic and Social

Commission for Asia and the Pacific the issues that needs to be included under the concept of good governance are

1. **Participation:** Participation by both men and women is a key cornerstone of good governance. Participation should be direct or through legitimate intermediate institutions or representatives.

2. **Rule of Law:** Good governance requires fair legal framework that are enforced impartially. It also requires full participation of human rights, particularly those of minorities.

3. **Transparency:** It means that decisions taken and their enforcement are done in a manner that follows rules and regulations. It also means that information should be freely available and directly accessible to those who will be affected by such decisions and their enforcement.

4. **Responsiveness:** Good governance requires that institutions and processes try to serve all stakeholders within a reasonable timeframe.

5. **Consensus Oriented:** There are several actors and as many view points in a given society. Good governance requires mediation of the different interests in society to reach a broad consensus in society on what is in the best interest of the whole community and how this can be achieved. It also requires a broad and long term perspective on what is needed for sustainable human development and how to achieve the goals.

6. **Equity and Inclusiveness:** A society's is well being depends on ensuring that all the members feel that they have a stake in it and do not feel excluded from the mainstream of society. This requires all groups but particularly the most vulnerable have opportunities to improve as maintain their well being.

7. **Effectiveness and Efficiency:** Good governance means that processes and institutions produce results that meet the needs of society while making the best use of resources at their disposal. The concept of efficiency in the context of good governance also covers the sustainable use of natural resources and the protection of the environment.

8. **Accountability:** Accountability is a key requirement of good governance. Not

only governmental institutions but also the private sector and civil society organizations must be accountable to the public and to their institutional stakeholders. In general an organization or an institution is accountable to those who will be affected by its decisions or actions. Accountability cannot be enforced without transparency and the rule of law.

In its work, an public governance, Organization for Economic Cooperation and Development (OECD) focuses in particular on the principle elements of good governance, namely, accountability, transparency, efficiency and effectiveness responsiveness, forward vision of government to anticipate failure problems and rules of law which transparent with regulations and codes.

4.7 Let us sum up

The concept of good governance has emerged as a model and it imply many different things in many different context depending upon the form of governance, aid organizations and authorities of developed and developing countries and economic and political agenda. But one thing is understood that nearly all major development institutions today promote good governance. Altogether some focus on economic issues like IMP and World Bank and others emphasize on political and issues of human rights. Altogether they tend to highlight seven key area that needs to be included in the concept of good governance is democracy and representation, human rights, the rule of law, efficient and effective public management, transparency and accountability, development objectives and a variety of particular economic and political institutions.

4.8 Examination oriented questions

1. What is the role of institutions in economic development?
2. What are the different functions performed by Market and why do it fails.
3. Describe the role of government and also discuss its failure.
4. Describe the concept and issues of Good governance.

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CLASSICAL THEORY OF CAPITALIST DEVELOPMENT: GROWTH AND STAGNATION

STRUCTURE

5.1 Introduction

The generalized classical theory on growth and stagnation is a combination of the contributions of Adam Smith, David Ricardo and Robert Malthus. The theory was put together by combining the common stands of thought, within the individual growth theories, of these renowned classical economists. To understand the generalized classical theory of growth and stagnation, let us first look into the individual theories propagated by each of the three economists in detail.

5.2 Objectives

After going through this lesson the students will able to:

- Understand the Adam Smith's theory of growth.
- Learn about the capital accumulation.
- To know about the David Ricardo's theory of growth.
- Understand the production function of David Ricardo theory of growth.
- Understand the merits of Adam Smith theory of growth.
- To know about the Classical theory of growth.

5.3 ADAM SMITH'S THEORY OF GROWTH

Adam Smith (1723–1790) was a Scottish philosopher and economist who is renowned as the author of "The Wealth of Nations" (1776), one of the most influential books on market economics ever written. Adam Smith was born in 1723 on an unknown date. He studied moral philosophy at the University of Glasgow and Balliol College, but eventually left the latter and made a name for himself as a traveling lecturer. He later became a professor of logic, ethics, rhetoric, jurisprudence and political economy.

Adam Smith has not received as much recognition for his theory of growth as he has for his theory of value and rent, but the fact still remains that he does provide a consistent dynamic model.

Adam Smith identified three major sources of growth:

(i) growth in the labour force and stock of capital

(ii) improvement in the efficiency with which capital is used in labour through greater division of labour and technological progress

(iii) promotion of foreign trade that widens the market and reinforces the other two sources of growth.

To understand the final growth process as stated by Adam Smith in this theory, we first need to look into the individual components, which have laid the foundation of the theory. These are Adam Smith's Production Function, his views on the process of growth of labour force and capital accumulation in the economy.

5.3.1 THE PRODUCTION FUNCTION

Adam Smith recognized only three factors of production: land, labour and capital. Considering these three factors, his production function may be expressed as

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

where,

K represents the capital

L denotes labour force

N stands for land

Adam Smith, in his theory, has not assumed his production function to have diminishing marginal productivity. However, his production function is subject to increasing returns to scale (which means that, output increases more than proportionally to an equal percentage increase in all inputs). In his view, with the passage of time, the size of the market will increase, which will lead to both internal and external economies of scale, which will eventually lower down the cost of production. This process would be initiated by improvement in the production techniques and a greater degree of division of labour.

Adam Smith asserted that, division of labour, did not merely depend on only technological improvement, but also, to a great extent, the size of market, which in turn depends on the availability of capital and the restrictions placed upon both domestic and international trade. Thus, he came to the conclusion that capital accumulation is a necessary precondition to the division of labour.

Adam Smith, recognized the importance of technological development for the improvement in productivity. However, he believed that productive forces would automatically be released into the economy, in the form of innovations and that they would get adjusted to the currently available supply of capital at that point of time. This basically means that, Adam smith believed that the economy would never suffer from the want of technical know-how and that technical knowledge and that it would keep expanding as the capital stock of the country expanded.

5.3.2 THE GROWTH OF LABOUR FORCE

The growth of the labour force is largely dependent of the rate at which population grows in a country. According to Adam Smith, rate of population growth in the long run depends on the funds available for human sustenance. Assuming that this statement is true, it can be said that the wage rate prevailing in the market is an important determinant of the size of population. In Smith's opinion, "subsistence wages or Iron Law of Wages" i.e., the lowest wage upon which a worker and his family can survive is consistent with a constant population. If it so happens that the actual wages exceed the subsistence wage, population will show a tendency to increase and if the actual wages is less than the subsistence wage then population would decrease.

The supply of labour is normally expected to be in equilibrium with the demand for labour. If the demand of labour continuously rises, causing the wage rate to increase above subsistence level, this would induced the working population to multiply faster, as a result of which supply of labour would also increase, pushing the wages down. In case, the wage rate has fallen below the level of subsistence, in time the demand for labour would restore it to the subsistence level again. In each of the above cases, any disturbance of the wage rate from its subsistence level, due to the disturbance in the equilibrium between the supply and demand for labour, would automatically set into motion a cycle, the end result of which, would lead the wage rate to equal subsistence wages.

Smith explains the demand of labour in the framework of wage fund doctrine which seeks to show that wages, depend upon the relation which exists between the supply of population and the capital available to employ workers. He asserts the demand for those of live by wages (labourers), increases with the increase of revenue and stock of a country, as, an increase in revenue and stock is an increase in wealth, and the demand of labour, therefore, naturally increases with an increase in a nation's wealth.

Since the supply of labour has a tendency to respond to the demand for it, Smith statement implies that in a growing economy, the population would be rising, in a declining economy, it would be decreasing and that in a stagnant economy, the population would be constant. Smith also throws light on the wage course of the economy. He says high wages are consistent with growing economies. By that logic, low wages would exist in delicing economies and the subsistence wages would only be present in economies which are characterized by the stationary or steady state''

5.3.3 CAPITAL ACCUMULATION

Capital accumulation has been assigned a strategic and calculated role in the growth process in Adam smith's theory. According to him, growth is functionally related to the rate of investment. This means that if a country is subject to a fixed capital stock, it is bound to suffer stagnation. Adam Smith states that, any increase in the capital stock in a country generally leads to more than a proportional increase in the output on account of constantly growing division of labour.

According to Adam Smith, the rate of investment which is an important determinant of Economic growth is determined by the rate of savings in an economy. He did not believe in the possibility of any sort of leakage occurring between savings and investment, even though the activities are performed by different sets of people. In Adam Smith's system, savings and investment have been identified with each other and both are determined by the consideration of private profit. However he also notes that, the ability to save is constricted by income.

1. Profit:

Smith's view on rate of profit is quite precise. He states that over time when a country develops and its capital stock expands, the profit rate shows a tendency to fall. This happens because of three reasons. Firstly, the competition that builds up among the competitors in the market. Secondly, the demand for labour increases (becomes greater than the current supply) and this pushes wage rates up. Higher wages leads to a smaller profit margin for the entrepreneurs. Thirdly, a larger capital requires abundant investment opportunities which may not always exist in an economy. For these reasons, when capital stock of an economy expands, entrepreneurs will only be able to use it at a lower marginal profit ratio. In other words, using a more modern expression, one could say that Adam Smith postulated a downward sloping marginally efficiency of capital curve, which means that on every extra unit of capital employed, the return from that capital keeps on decreasing.

2. Rate of Interest:

In relation to falling rate of interest and capital accumulation Smith postulated a negatively sloped supply curve of capital implying that supply of capital increases in response to a decline of interest rate. Many have found this explanation rather unconvincing. His argument was that, rentiers, in order to maintain their standard of living, lend more when the interest rates fall. But when the interest rate falls by a substantial amount, they discover that they cannot live on property income and they then are forced to turn into entrepreneurs themselves. This social change allows the accumulation of capital, despite a fall in the interest rates.

According to Adam Smith, capital accumulation will only stop when the rate of interest falls to a rate of profit that is sufficient only to compensate of the risk premium. In other words, when no profit can be made from investment, entrepreneurs lose their interest in investment activity and the economy reaches the Stationary state.

5.3.4 THE GROWTH PROCESS

Taking into the consideration, the production function, the process of growth of labour and the process of capital accumulation, we can now summarize the process of growth as visualized by Adam smith.

According to Smith, in a developing economy, both income level and capital stock rise. In addition to this, the rate of capital accumulation also shows a tendency to increase. This leads to increase in the capital stock in successive periods as investment keeps on increasing. Another important factor which contributes to the progress of an economy is the successive decline in the incremental capital-output ratio due to the influence of capital on the productivity of labour. These factors reinforce each other and accelerate the pace of development of the economy. This development continues until a point where the economy's capital stock grows large enough to eliminate any chance of profits. At this stage the economy has reached its stationary state.

In Adam Smith's system. the stationary state is distinctly different from the state of underdevelopment. Having reached the stationary state, the common characteristics of the economy becomes unchanged population, constant income, subsistence wages, complete elimination of profits, and absence of net investment. According to Smith, an economy which reaches a stationary state in its growth process has reached the highest level of propensity consistent with its present natural resources.

Adam Smith has identified the rate of capital formation as the strategic factor in the economic growth process. He stressed on the point that the rate of economic progress would only rise if the rate of investment rose. However, the savings and investment rates were primarily dependent on the excess of the market rate of profit over the minimum compensation for bearing risk. Since these factors depended mainly on the socio- economic framework in the country, institutions were his solution to the problem of economic growth. Adam Smith was firmly in favour of the policy of free trade and did not approve of any sort of government intervention (Laissez-faire). He is undoubtedly opposed to any kind of planning for economic development.

5.4 DAVID RICARDO'S THEORY OF GROWTH

David Ricardo (1772–1823) was one of the greatest theoretical economists of all time. Ricardo attended school in London and Amsterdam and at the age of fourteen entered his father's business. Initially Ricardo following his dad's business line, set up independently as a broker on the London Stock Exchange. But soon Ricardo became interested in economics in 1799 after reading the works of Adam Smith (the Wealth of Nations). He, after some initial struggle published his own book, The Principles of Political Economy and Taxation, in 1817. Two of Ricardo's most important contributions were the theory of rent and the concept of comparative advantage.

Ricardo, like Adam Smith, was much less interested in economics growth, than he was in his theory of value and distribution. Yet we must consider his individual theory of growth in the formation of the geneolds in the classical school. To understand the final growth process as stated by Ricardo in this theory, we first need to look into the individual concepts, which have laid the foundation of the theory. These are, the production function, his views on land and human resources, and the process of capital accumulation in the economy.

5.4.1 THE PRODUCTION FUNCTION

Ricardo's production function, similar to that of Adam Smith, considers only three factors of production, namely Land, Labour and Capital. But distinguishing his production function from that of Smith's, Ricardo's production function is subject to the restriction of diminishing marginal productivity, which means that the marginal increase in total output decreases eventually when additional units of variable input factor are used, given quantity of fixed factors.

Ricardo observed that marginal productivity of all the factors invariably declines unless it is monitored by technological progress. In Agriculture, introduction of new technology merely delays the decline in the marginal productivity of land, while, in industry, technology outweighs the tendency towards diminishing marginal, and as a result a tendency of increasing returns sets in. For the overall growth it is necessary to examine which of the two tendency prevails with respect to output of both the agriculture and industry both. Ricardo quoted "although then it is probable that, under the most favorable 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 decreased rate of production, whilst the power of population continues always the same". Thus the views of Ricardo, differ from those of Adam Smith with respect to pace of economic development. Smith's system which develops at an accelerate rate, but Ricardo's system grows at a continuously declining pace. From the facts stated above, we can write Ricardo's production function as $Y = f(K, N, L, S)$ K, N and L signifies Capital, labour force, and land respectively (the same as Smith's production function). The new variable S represents Technical know-how.

5.4.2 LAND AND HUMAN RESOURCES

Ricardo's views on land were precise and well defined. In his opinion land included only the original and indestructible powers of the soil. Thus, in his opinion supply of land is fixed. His theory of population growth is very similar to that of Smith's. He distinguished 'natural wage' from the 'real wage' which is exactly the same concept of subsistence wages. In Ricardo's opinion, if the market wage rate is above the natural wage rate, it induces population growth and vice versa. Only in the situation that both the rates are the same, i.e., market wage rate equals real wage rate, the population will show no tendency to change.

Other than this similarity, Ricardo's views differ greatly from those of Smith's. Firstly, Ricardo does not support the view of Adam Smith, that the growth of labour and population is proportional to the difference between the market wage rate and the subsistence (natural) wage rate. He believes that the growth force is functionally related to the difference between the rate, but he does not think that the relationship they share is equi- proportional. Secondly, Ricardo believe that there is always an upper limit to the rate of population growth.

As a rule, market wage rate generally conform to the natural wage rate, but there is still a chance that these two rates could be different from each other. Ricardo quotes that "Notwithstanding the tendency of wages to conform to their natural rate, their market rate may, in an improving society, for an indefinite period, be constantly above it; for no sooner may the impulse, which an increased capital gives to a new demand for labor, be obeyed, than another increase of capital may produce the same effect; and thus, if the increase of capital be gradual and constant, the demand for labor may give a continued stimulus to an increase of people". This statement explains the process of how wages eventually conform at the natural wage level. If the demand for labour exceeds its current supply, the market wages show a tendency to rise, which provides a stimulus to population growth. This increase in the population eventually pushes downward to the subsistence level. Low market wages do not allow population growth and over time the population would decline. Eventually the demand for labour would again push the wages to their natural level. Ricardo asserts that in long run equilibrium, the expansion rate of labour supply remains in balance with the expansion rate of labour demand and that the labour force changes propotinately to the change in supply of capital. In the short run,the rate of population growth may be slower than that of capital growth, and that this would cause a raise in the market wage rate, which would provide impetus to population growth. this would again lead to equilibrium between the demand and supply of labour in the long run.

5.4.3 CAPITAL ACCUMULATION

In Ricardo's theory of growth, Capital Accumulation play a strategic role. in his system, capital includes both fixed capital and circulating capital (the portion of an organization's investment that is continually used and replenished in ongoing operations), which grows at a proportional rate to the fixed capital. It is an increase in this variety of capital which determines the increase in the demand for labour. similar to the view propagated by Adam Smith, Ricardo eliminates any possibility of leakages between the process of savings and investment, stating that "for no one accumulates, but with the view to make his accumulations profitable". The rate of capital Accumulation depends on the ability to save (which intern depends on net income)and the will to save (which depends on the rate of profit). Net income, according to Ricardo, refers to the surplus over the total product required for maintaining labour's subsistence level. Disagreeing with Smith, Ricardo believes that the people's willingness to save and invest "will diminish with every diminution of profit, and will cease altogether when profits are so low as not to afford them an adequate compensation for their trouble, and the risk which they must necessarily encounter in employing their capital productively".

According to Ricardo, capital accumulation, an increasing function of excess profits (which means that as profits increase, capital accumulation would increase) will entirely be given up under two circumstances. One, if surplus above subsistence level falls to zero and two, if the rate of profit falls to such a low level that it is only sufficient to compensate the risk.

The dynamic process of capital accumulation, as envisioned by Ricardo, can be summarized below. For this purpose, we shall have to analyse the behavior of 'net income' and its rate of profit. According to Ricardo, profits are determined by the surplus amount left over after the subsistence level wages are paid to labour. Thus, the rate of profit would change with a change in the subsistence level of wages. Since the subsistence level of wages has a tendency to rise over time (due to diminishing returns, the natural tendency of the rate of profit is to fall. However, the introduction of innovations might keep in check the diminishing returns and thus the share of the subsistence wages in the profit might also fall. It is in these periods that profits would rise. But, Ricardo believed that these tendencies could not last for long as ultimately diminishing returns would set in and the long run trend of profits will inevitably be downwards. In the earlier period the rate at which profits fall was quite low and their share in output tends to increase, also the rate at which capital accumulation takes place is quite high. But in the latter period, when the share of profits begins to fall, it reinforces downward pressure on the capital accumulation, and force it to slows down. Ultimately, the pressure of the growing population requires the cultivation of much inferior land where the margin for profit is almost zero. In an economy which has reached this stage, the capital accumulation stops completely and further increase in population also becomes impossible. In Ricardo's system, this is the stationary point in the growth process of an economy.

5.4.4 THE DYNAMIC PROCESS OF GROWTH

In Ricardian economy, the economy does not advance towards the stationary state in a sustain manner. The progress is often interrupted for short intervals when the economy enters into state of equlibria, during which the wages stabalize and population does not grow. During these periods, the 'net income' of the economy does not fall to zero, and the rate of return on the investment is more than what is necessary to compensate the risk. because of these factors, investment is promoted, causing an increase in the demand for labour. Excess wages, above the subsistence level, promotes population growth. In this temporary phase, the rise in wages, decline the portion of profits in income, which leads to a slower rate of capital accumulation. Eventually, when the supply of labour catches up with the demand for it, the economy breaks into a new equilibrium position. The economies' previous equilibrium positions differ from this new position in at least two major aspects. One, the size of the population grows with every new equilibrium position the economy reaches, and two, the capital stock of the economy also grows larger and larger with every successive equilibrium position reached.

According to Ricardo, an economy which has reached the stationary state, is characterized by wages at the subsistence level, maximum possible population, profits which are merely enough to compensate the risk, constant capital stock and a fixed quantity product. Ricardo did not visualize any economy reaching the stationary state any time in the near future. In Ricardo's time underdevelopment did exist. In his opinion, sparsely populated countries required a more rapid growth of capital stock. This same remedy could not be applied to countries with dense population, as rapid increase in capital stock would promote more population growth, and this would make matter worse for the country. Ricardo, thus suggested that the only remedy for these densely populated countries was a population control, by a change in the consciousness of the working class.

5.5 MALTHUS'S THEORY OF GROWTH

Robert Malthus (1766–1834) was an economist who was most famous his doctrine which stated that "population increases in a geometric ratio, while the means of subsistence increases in an arithmetic ratio" which basically means that the population of mankind will eventually outstrip man's ability to supply himself with the necessities of life. Dubbed the "prophets of gloom and doom," his theories became associated with turning economic thought into a dismal science. He became renown for his pessimistic predictions regarding the future of humanity. His major contribution to economic thought came in the form of six editions to An Essay on the Principle of Population, published from 1798 to 1826.

Unlike both Adam Smith and Ricardo, Robert Malthus was more interest in the problems of Growth of the economy and population. According to him, no enquiry could be more important than that which identifies the causes differences between the potential and actual growth of a country. The concepts that would help understand Malthus' theory of growth are his views on human resources and capital accumulation, the identification of the Growth retarding factors and the interaction of different sectors in underdeveloped areas.

5.5.1 HUMAN RESOURCES AND CAPITAL ACCUMULATION

According to Malthus, population growth, to a great extent, depends on the strengths of psychological and physiological forces.He also admitted that Population growth is limited by society's riches. He wrote "an increase in population cannot take place without a proportionate or nearly proportionate increase of wealth". Malthus argued that, lack of wealth is a constraint on population growth. Thus, it is clear that the natural tendency of population growth in Malthusian system does not ensure that population or income will actually grow in a country

Effective demand which is the quantity of a good or service that consumers are actually buying at the current market price, is the main for propelling the growth process. Malthus believes that an increase in the population does not provide a stimulus to economic growth as, it may not increase effective demand because workers often may be lacking in purchasing power due to the lack of demand of their labour. Supporting both Smith's and Ricardo's views, Malthus to thought that demand for labour depends on capital accumulation.

Malthus differed from both Smith and Ricardo on the postulate that savings always equals investment and hence, any act of savings would lead to an increase in wealth of the economy. Rejecting Say's Law of Market, which states that 'supply creates its own demand, he says that savings brings about a reduction in effective demand by reducing the ability to consume of people, in turn bringing down a decline in profits and investments.

According to Malthus

$Y = R + W$, ... (1)where,

Y represents National income

R denotes profit

W states the wages

We may re-write this equation as

$R = Y - W$......(1a)

Thus, we can deduce from the above equation that profits are equal to total output(income) minus the workers wages.

Workers getting subsistence wages are too poor to save any amount from their income. In other words, workers spend/consume the whole of their income, which we can denotes as Cw. Capitalist' earning are larger than that of what they need for their consumption. Hence, they save this excess amount of their income. According to Malthus, the total amount of the capitalist' savings are not invested, and since savings only produce income to the extent they are invested, we can substitute this in equation (1a) as,

$R = (I + Cc + Cw) - Cw = I + Cc$, ... (1b) where,

Cc represents the capitalists consumption

I denotes investments

Identifying equation (1) as equation (1b) helps us in forming Malthus' argument.

According to him, National Income (Y) is created by Investment (I) and Consumption (C), which is divided into Capitalist consumption (Cc) and worker consumption (Cw). As the wages of workers equals their consumption level, profits are equal to Investment plus the capitalist' consumption. Malthus argues that abstinence to consume on the part of the capitalist only contributes to growth if the savings are then invested. In case this does not happen, the capitalist' savings would only retard growth. Nonetheless he also states that when the opportunities for profitable investment are exhausted, savings cannot be converted into investment. At this point abstinence on the part of the capitalist only reduces the amount of effective demand in the economy, thereby reducing the possibility of growth.

5.5.2 GROWTH-RETARDING FACTORS

Malthus also throws light on three main factors which he thought sometimes arrest economic growth. Firstly, he refers to a backward sloping curve of effort for both Workers and managers, meaning that the incentive to do hard work was missing on account of many factors such as market size, etc. He suggested that a remedy to the problem of small size of markets was in the promotion of international trade and by improving the transport and communication at a domestic level. Secondly, inability of an economy, to structurally transform itself into an industry based economy, may lead to economic retardation. Technological progress generates employment in the industrial sector by allowing providing jobs to people from the agricultural sector. Where technology fails, income tends to fall and there is a rise in unemployment. The introduction of land reform, so as to provide the ownership of the land to the actual land tillers so as to generate an incentive to raise output, was the solution provided by Malthus, but he himself stated that this was only temporary. Thirdly, intersectoral analysis of Malthus suggested that technological progress in a country had to be rapid enough to permit large investment in the industrial sector, whereby the impact of diminishing returns to increased employment on the land can be neutralized. Often such progress could not be accomplished in industries while diminishing returns in agriculture put a break on its development. In fact, in Malthusian economy, it is the interaction of these two sectors while lead to the stationary state.

5.5.3 SECTORAL INTERACTION IN UNDERDEVELOPED AREAS

Malthus, in terms of sectoral Interaction, explained why some economies remain underdeveloped. He asserted that in a state of Autarky, which means the condition of self-sufficiency (absence of trade),the two sectors of an economy (agricultural and industrial) constitute markets for each other's products. therefore, due to the dependency among the two sectors, if any one sector fails to grow, it becomes exceedingly difficult for the other sector to expand. Malthus contended that the development of the industrial sector in a backward economy is limited by underdevelopment of the agricultural sector in the economy. The backwardness of the agriculture and the poverty of the peasantry do no result from the scarcity of land, but it is the limited demand for agricultural products due to inadequate development of the industrial sector which prevents the peasants and the landlords from taking up any programmes which help agricultural developed. Faced with inadequate resources and limitations of the market, farmers has no incentive for more intensive cultivation. To sum up the general view of Malthus, the limited effective demand in less developed countries prevent development in both the agricultural and industrial sectors. If a small modern industrial sector does emerge in the economy, it leads to a phenomenon called dualism. because of the high level of techniques employed in the modern sector, the employment opportunities it generates are limited and therefore, the overall impact on the economy is hardly felt. Labour intensive techniques of production in the agricultural sector does permit the absorption of most of the countries labour force, but it does not generate high enough income/wages of the labourers, and therefore it does not lead to an increase in the effective demand of the economy, nor to an increase in the rate of economic growth.

5.6 THE CLASSICAL'S THEORY OF GROWTH

We have separately viewed each of the individual growth theories propagated by Adam Smith, David Ricardo and Thomas Malthus. In each case, we have seen how each of the theories the economists have visualized the economy entering a stationary state. It can be noted that there is little agreement between them, but we find that the basic approach and framework for the classical economists is the same.

The classical economists had explained growth process in terms of rates of technological progress and the population growth. In their opinion, technological progress (depending on capital accumulation) remains in lead for some time, but eventually falls when a fall in the profit rates prevent further accumulation of capital. It is as this stage that the economy falls into a state of stagnation. The main components of the Classical Theory of growth and Stagnation are the production function, technological progress, investment, the determinants of profit, size of labour force and the wage system.

5.6.1 THE PRODUCTION FUNCTION

Smith, Ricardo and Malthus all postulated the identical production function, which can be written as Y = f(K, L, N, S)......... (1) which means that output depends on the stock of capital, labour force, land and the level of technology. In the generalized classical growth model 'Land' is taken as "the supply of known and economically useful resources" and this seems like the right thing to do as it is not the amount of cultivable land and its fertility that determines the national output but the total supply of know and usable natural resources.

Most of the other classical economists, except for Adam Smith, seems to believe that the production function is liner and homogeneous, which implies that it has constant returns to scale meaning that on doubling the quantities of all the factors of production output would double. Adam Smith, on the other hand, believed in increasing returns to scale on account of improved division of labour.

In case the term land is restricted to cultivable land only, the supply of which is a fixed amount, then the ask able question to be answered would be as to how the output would respond to an increased supply of labour with a fixed supply of land.

Most classical economists believed that output would not show a uniform response to the increase in the quantity of land. The referred to four different responses of output which depended on the phase of the production, that is to say, increasing marginal returns (where an increase in the variable input results in an increase in the marginal product of the variable input), Diminishing returns(when additional units of an input result in a smaller increase in output), diminishing average returns (where the average output increases by less from additional units of an input used) and diminishing total returns.

5.6.2 TECHNOLOGICAL PROGRESS AND ITS CONSTRAINTS

Most classical economists believe that the main constraint to technological progress is Capital Accumulation. According to them, technological progress could not be assumed to be completely independent factor. In their opinion, technological progress is a capital absorbing and therefore, capital accumulation is a pre-requisite for a steady advance of technology. For this Capital Accumulation they stressed on savings and Investment as a primary factor. Putting this in equation form,

S = S(I)...........(2)

5.6.3 INVESTMENT

Investment, in the classical model, refers to Net investment, which is the net addition to the capital stock. For the classical economists profit was the sole motivator for all productive activity, and therefore, they believe that investment activity is dependent on the profit expectations of the entrepreneurs, which is largely influenced by the rate of profit. Stating the above in equation form, where R is profit and net investment, by definition, equals the increase in the capital stock, we get

I = dK = I(R).............(3)

5.6.4 DETERMINANTS OF PROFIT

By studying many theories of classical economists, it is possible to identify two main factor, which determine the level of profits in a system. They are, one, the supply of labour force (which is dependent on the population growth) and two, the technological progress.

The classical economists thought that population would grow over time leading to an increase in the labour force. Since supply of labour is fixed, the increase in population would lead to diminishing returns in agriculture which would increase labour costs and reduce profit margins. They did not believe that an improvement in Technology would lead to increasing returns from agriculture as they thought this to be the case specific to only industries. In their opinion, the tendency of increasing returns would offset that of diminishing returns in the case of industries. The trend of profit rate depended on the relative strengths of these two tendencies. This said, however, the classicists were not optimistic of the future stating that ultimately profit rate would fall, slowing down investment activity. So we can write,

R = R(L,S)........(4)

One can see that there is a Circularity in the Arguments of the classicists. For them, Technological progress depends on Investment. Investment, in turn, depends on profits, which depends among other things, on Technological Progress. “This circularity is no accident or oversight; it is precisely what the classicists- and most later economists- have wished to stress; in economic development nothing succeeds like success, and nothing fails like failure”

5.6.5 SIZE OF LABOUR FORCE

Population Growth and the Labour supply have been explained in terms of the ‘Iron Law of Wages’. They Believe that it is the size of the wage fund which decides the rate of population growth. When the wage fund grows, it leads to a temporary rise of wages levels above the subsistence level. this gives incentive to boost population growth which increases supply of labour, bringing the wage level to subsistence level again. Even now, this theory seems to provide a satisfactory description of peasant societies in Third world countries.

$L = L(W)$ .... (5)

5.6.6 WAGES

The wage fund, which is the amount of money available for paying wages to the labour, constitutes the working capital, and is created out of savings. Both Adam Smith and Ricardo believed that savings would automatically get converted into investment. Malthus however, was of a different opinion. He believed that in the absence of Effective demand, savings of the Capitalists do not find investment opportunities. Keeping this in mind, it can be said that the classical position is that the wage fund depends on the levels of investment and not savings in the economy. So we may write,

$W = W(I)$.......(6)

5.6.7 CLOSING THE SYSTEM

Now, we have seven variables and only six equations. Hence, the system is indeterminate. It can be closed by introducing the following identity. $Y = R + W$......(7)

This identity states that, total real income is the sum of profits and wages. In this determinate system, we can now clearly see the circularity which has been previously mentioned.

We can examine this circularity by breaking it down to see how the system evolves. Since the classical economics believed in a capitalist economy in which the main motivator is profit, we will start examining it from the point of profit

$dR \rightarrow dL \rightarrow dK \rightarrow dS, dW \rightarrow dL \rightarrow dR$

The above flow chart indicates four things.

It implies that any increase in profits induces investment, which thereby brings an increase in the raising of the stock of capital

A growth in the capital stock allows a steady growth in the technological progress and the wage fund

A growth in the wage fund accelerate population growth and with an expansion in the labour force diminishing returns to labour sets in.

Thus, labour costs increase and the profit margins decline.

This, in the classical model, is the end result of development activity or in other words the Stationary state.

5.7 MERITS

Two relevant insights that became evident from the Classical theory of Growth and Stagnation are as follows:

(a) The theory underlies that there is a strong relationship between the performance of the Agricultural sector and the industrial growth.

(b) The model points to the key variables of economic growth and the analysis of their interdependence.

5.8 LIMITATIONS

The two main limitations in the classical theory of growth and stagnation have been stated below:

(a) The classical economists knew the role of entrepreneurs in the process of production, yet they never assigned any important position to them in their system.

(b) Contrary to what the classical economists has envisioned, Capital had become an important factor in agriculture and is now increasingly substituting land.

This is prevented a fall in the rate of profits. Even in the industrial sector, growth caused by increasing returns has prevented profit rates from falling. Hence, investment activity has not slowed down. The classical economists were right to observe the technical progress was greatly dependent on savings and investment, but the relationship they share is not as rigid as the one they have assumed in their model.

5.9 CONCLUSION

In view of the above, we may easily conclude that the theory underlies a strong relationship between the performance of the agriculture sector and the industrial growth. The theory points to the key variables of economic growth and the analysis of their interdependence.

5.10 SELF ASSESSMENT QUESTIONS

Q1. Critically examine the Adam Smith's theory of growth.

Q2. Discuss the Malthus's theory of growth

Q3. Write notes on:

(i) Capital Accumulation (ii) The production function (iii) The growth of labour force (iv) Human resources and capital accumulation v) Sectoral interaction in underdeveloped areas

Q4. Discuss critically of David Ricardo's theory of growth of economic development.

Q5 What do you mean by Classical theory of growth.

5.11 FURTHER READINGS

Agarwal R.C : Economics of Development and Planning [Theory and Practice]

Dewett K.K : Modern Economic Theory

Jhingan M.L : The Economics of Development and Planning

Jhingan M.L : Advanced Economic Theory

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MARXIAN MODEL OF GROWTH AND COLLAPSE
&
THE SCHUMPETER'S THEORY

STRUCTURE

6.1 INTRODUCTION

Karl Marx, the celebrated author of Das Kapital', is one of the few celebrities in history who cast a spell on hundreds of millions of people by the doctrines. He has been epitomized as 'Marx the Prophet' and is ranked with Christ and Mohammad if we are to judge him by the number of his followers. As Schumpeter wrote, "Marxism is a religion. To the orthodox Marxist, as any believer in a Faith, the opponent is not merely in error but in sin". Marx predicted the inevitable doom of capitalism and it was on this prediction that communism had built its edifice. The Marxian analysis is the gravest and the most penetrating examination of the process of capitalist development. It had the greatest influence in shaping policies in the Soviet Union, China, and other communist countries. Our purpose here is to examine the Marxian process of economic development and not the Marxist system as whole.

Joseph Alois Schumpeter first presented his theory of economic growth in the Theory of Economic Development published in German in 1911 (its English edition appeared 1934) which was elaborated and refined but in no way altered in any essential respect in his Business Cycles (1939) and Capitalism, Socialism and Democracy (1942).

6.2 OBJECTIVES

After going through this lesson the students will able to:

- Understand the Materialistic Interpretation of History
- Learn about the Surplus value Unrealistic
- To know about the Cyclical Theory Wrong
- Understand the Marxian Theory and Underdeveloped Countries
- Understand the main features of Schumpeter's theory
- Learn about the role of entrepreneur as an innovator

- To know about the end of capitalism
- Understand the Schumpeter's Theory and Underdeveloped Countries

6.3 THE MARXIAN THEORY

Marx contributed to the theory of economic development in three respects, namely, in broad respect of providing an economic interpretation of history, in the narrower respect of specifying the motivating forces of capitalist development, and in the final respect of suggesting an alternative path of planned economic development."

6.3.1 MATERIALISTIC INTERPRETATION OF HISTORY

The materialistic interpretation of history attempts to show that all historical events are the result of a continuous economic struggle between different classes and groups in society. The main cause of this struggle is the conflict between 'the mode of production' and 'the relations of production.' The mode of production, refers to a particular arraignment of production in a society that determines the entire social, political and religious way of Living. The relations of production relate to the class structure of a society "uniquely characterized" by the following components: (i) the organization of labour in a scheme of division and co-operation, the skills of labour, and the status of labour in the context with respect to degrees of freedom or servitude (ii) the geographical environment and the knowledge of the use of resources and materials: and (iii) technical means and processes and state of science generally.

According to Marx every society's class structure consists of the propertied and the non classes. Since the mode of production is subject to change, a stage comes in the evolution of a society when the forces of production come into clash with the society's class structure. The existing property relations "turn into fetters" on the forces of production. Then comes the period of social revolution. This leads to the class struggle—the struggle between the haves and the have-nots-which ultimately overthrows the whole social system.

6.3.2 SURPLUS VALUE

Marx uses his theory of surplus value as the economic basis of the class struggle' under capitalism and it is on the basis of his theory of surplus value that he builds the superstructure of his analysis of economic development. Class struggle is simply the outcome of accumulation of surplus value in the hands of a few capitalists;

Capitalism, according to Marx, is divided into two great protagonists: the workers who sell their labour-power' and the capitalists who own 'the means of production'. Labour power is like any other commodity. The labourer sells his labour for what it is worth in the labour market, viz., for its value. And its value, like the value of any other commodity, is the amount of labour that it takes to produce labour-power. In other words, the value of labour-power is the value of the means of subsistence necessary for the maintenance of the labourer, which is determined by the number of hours necessary for its production. According to Marx, the value of the commodities necessary for the subsistence of the labour is never equal to the value of the produce of that labour. If a labourer works for a ten-hour day, but it takes him six hours' labour to produce goods to cover his subsistence, he will be paid wages equal to six hours' labour. The difference worth 4 hours' labour goes into the capitalist's pocket in the form of net profits, rent and interest. Marx calls this unpaid work "surplus value.' The extra labour that a labourer puts in and for which he receives nothing, Marx calls "surplus labour."

6.3.3 CAPITAL ACCUMULATION

According to Marx, it is surplus that leads to capital accumulation. This supererogatory labour simply augments the capitalist's profits. The capitalist's main motive is to the surplus value which goes to swell his profits. He tries to maximize his profits in three ways: (1) by prolonging the working day in order to increase the working hours of surplus labour. If the working hours are extended from ten to twelve, the surplus will automatically increase from four to six; (2) by diminishing the number of hours required to produce the labourers sustenance. If they were reduced from six to four, the surplus would again rise from four to six. It also tantanmounts to a reduction in the subsistence wage; (3) by the speeding up of labour i.e increasing the productivity of labour. This requires a technological change that he in raising the total output and lowering the cost of production.

Of the three methods, according to Marx, increase in the productivity of labour is the likely choice of the capitalists, since the other two methods, of extending the working hours and reduction of wages, have limitations of their own. So in order to make improvements in the productivity of labour, the capitalists save the surplus value, reinvest it in acquiring a large stock of capital and thus accumulate capital "Accumulate, accumulate! That is Moses and the Prophets," and 'Save, save. i.e., reconvert the greatest possible portion of surplus value or surplus product into capital." These are the capitalists methods.

Profits are determined by the amount of capital. As Marx says, "Capital is dead labour that vampire like only lives by sucking living labour and lives the more, the more labour it sucks." To explain the origin of profit and to analyse the relation between wages and profits, Marx separates capital into constant capital and variable capital. Capital invested in stocks or raw materials or equipment which directly assists the productivity of labour, Marx calls constant capital (c). Capital devoted to the purchase of labour power in the form of wages or direct subsistence, he terms variable capital (v). The surplus value is denoted by *s*. So the total value of product (w) = constant capital (c) + variable capital (v) + surplus value (s) or (c + v) + s.

It is on the basis of this division of the total output that Marx introduces his Departmental Schema of Simple and Expanded Reproduction.

Marx divides the total output of the economy (w) into Department 1 and Department 2. The former is related to the production of capital goods and the latter to the consumer goods. The total output of each Department is shown as

$$\begin{array}{r} w_1 = c_1 + v_1 + s_1 \\ + \; w_2 = c_2 + v_2 + s_2 \\ \hline W = C + V + S \end{array}$$

The Simple Reproduction Scheme indicates a situation of stationary state in which all that is produced is consumed. Thus net investment is zero and there is no, accumulation or surplus. Therefore, equality prevails in both the Departments. Hence the value of total constant capital in both the Departments ($c_1 + c_2$) must equal the output of Department 1 ($c_1 + v_1 + s_1$) that is

$$c_1 + c_2 = c_1 + v_1 + s_1$$

$$c_2 = v_1 + s_1$$

(By eliminating the common factor c_1

Similarly, the total consumption in both the Departments

($v_1 + s_1 + v_2 + s_2$) must equal the total output of -Department 2

($c_2 + v_2 + s_2$) that is

$$c_2 + v_2 + s_2 = v_1 + s_1 + v_2 + s_2$$

$$c_2 = v_1 + s_1$$

or

(By eliminating the common factor v_2+s_2). This shows that the value of constant capital in Department 2 must equal the value of consumed by workers (v_1) and capitalists (s_1) in department 1.

It is in Marx's Expanded Reproduction Scheme that accumulation takes place because the production of Department 1 (capitalist sector) is greater than the demand for constant capital an both the Departments, that is

$$c_1 + v_1 + s_1 > c_1 + c_2$$

or

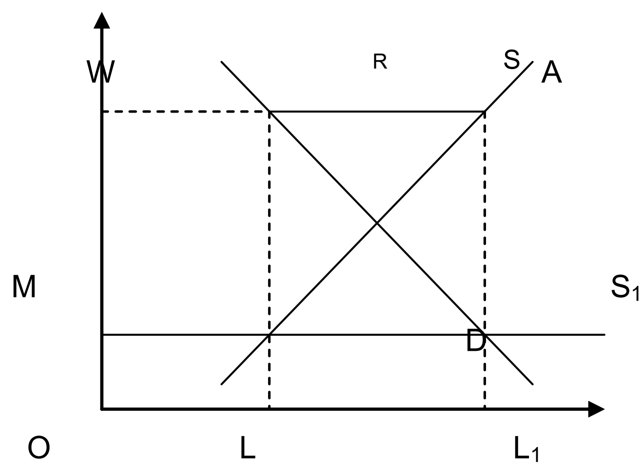
$$v_1 + s_1 > c_2$$

This shows that accumulation is taking place which is being invested in employing more labour (v_1) and the means of production (c_1) in Department 1 than in Department 2. These, in turn, increase the surplus value (S_1).

In order to analyse the nature of capitalist accumulation, Marx establishes certain relationships between c, v, and s. The ratio of constant to variable capital (c/v), at is termed as the organic composition of capital. The rate of surplus value is defined as s/v, the ratio of surplus value to variable capital or of profits to wages. This is known as the degree or rate of exploitation. This leads Marx to point out that the rate of profit is not dependent solely on the rate of surplus value. The rate of profit (r) can change even though the rate of surplus value (s/v) remains constant, if a change occurs in the organic composition of capital (c/v). The influence of technical progress is to alter the organic composition of capital, generally in the direction of raising the ratio of constant to variable capital. Hence the tendency of industrial progress is to lower the rate of profit *r*—even though there is no decrease in the rate of surplus value.

One of the consequences of capital accumulation is the concentration of cap in gigantic enterprises. Competition among capitalists forces them to cheapen their products. This can be done by introducing labour-saving machines which increase Iabour productivity. Those capitalists who are unable to replace labour by machines 'squeezed out' and their enterprises arc taken over by big capitalists.

Capital accumulation and concentration involve increase in constant capital and decline in variable capital. The rapid growth of constant capital as compared with variable capital leads to a relative decrease in the demand for labour. This process of supplanting labour by machines creates an industrial reserve army which increases as capitalism develops. The larger the industrial reserve army, the worse are the conditions of the employed workers, since the capitalist can dismiss dissatisfied and troublesome workers, being able to replace them from the ranks of the reserve army. Capitalists are also able to cut down wages to a semi-starvation level and appropriate more and more surplus value. This is the law of the increasing misery of the masses under capitalism. This is shown in Fig. 6.1 where the labour force is taken on the horizontal axis and the wage rate on the vertical axis. D is the demand curve for labour and S is the supply curve of labour. At the wage rate W, there is an increase in the industrial reserve army equal to RA(=LL_1). As the industrial reserve army expands capitalists start adopting labour-saving machines and reduce the wage rate to minimum subsistence level OM in order to have more surplus value.



LABOUR

FIG. 6.1

But when the capitalist is replacing the workers by machines, he is killing the goose that laid the go eggs. There is a continual reduction of the surplus value. Marx believes that technological progress tends to increase the organic composition of capital (c/v). Since the rate of profit is inversely related to the organic composition of capital, the former tends to decline with accumulation. Marx explained this tendency of failing rate of profit in terms of the following equation:

$$r = s/c+v = s/v \,/\, c/v+1$$

The rate of profit (r) varies inversely with the organic composition of capital (c/r) and directly with the rate of surplus values (rate of exploitation). Therefore, the rate of profit 'r' rises with the rate of surplus value s/v. Therefore the rate profit r rises with the rate of surplus value s/v and talls with the organic composition of capital c/v.

6.3.4 CAPITAL CRISIS

In order to counteract this tendency of declining rate of profit, the capitalists increase the degree of exploitation by reducing wages lengthening the working day, and by "speed ups," etc. But since every capitalist is engaged in introducing new labour-saving and cost reducing devices, the ratio of labour (and hence surplus value) to total output fails still further. The rate of profit declines all the more. Production is no longer profitable. Consumption dwindles as machines displace men and the industrial reserve army expands. Bankruptcies ensue. Every capitalist tries to dump goods in the market and in the process small firms disappear. A capitalist crisis has begun. The ultimate cause of all economic crises, Marx points out, is the poverty and limited purchase in power of the masses. Economic crisis appears in the form of an over-production of commodities, acute difficulties in finding markets, a fall in prices and a sharp curtailment of production. During the crisis, unincreases sharply, the wages of workers axe further cue, credit facilities break down and small employers are ruined.

This does not continue for ever. Revival soon starts. The low level of prices and wages, elimination of speculative ventures and destruction of capital tend to raise the profit rate which eventually leads to new investments. As Marx wrote, "A crisis always forms the starting point of large new investments. Therefore, from the point of view of society as a whole, a crisis is, more or less, a new material basis for the next turnover cycle."

In each period of crisis stronger capitalists expropriate the weaker capitalist and along with it grows the indignation of the working class, "a class at increasing in numbers, and disciplined, united, organized by the very mechanism of the process of capitalist production itself. The monopoly of capital becomes a fetter upon the mode of product centralization of the means of production and socialization of labour at last reach a point where they become incompatible with their Capitalists integument. This integument is burst as under. The knell of capitalist's private property sounds. The expropriators are expropriated. This is the historical tendency of capitalist accumulation. In elaborating the general law of capitalist accumulation. Marx provides the economic explanation of the necessity and inevitability of the revolutionary transformation from capital to socialist society. Capitalism leads to the proletarian revolution whereby the 'dictatorship of the proletariat" is established. Poverty will disappear. The state will 'wither away" and each individual will contribute to national income according to his abilities and receive according to his needs. Socialism replaces capitalism.

6.4 A CRITICAL APPRAISAL

Marx's theory of capitalist development has been accepted by his followers as a gospel truth while it has been severely criticized by his opponents for the following reason"

6.4.1 SURPLUS VALUE UNREALISTIC

The whole Marxian analysis is built on the theory of surplus value. However, in the real world, we are concerned not with values but with real tangible prices. Thus Marx has created an abstract and unreal value world which has made it difficult and cumbersome to understand the working of capitalism.

6.4.2. MARX—A FALSE PROPHET

Marx has proved to be a false prophet. No doubt Socialist societies have come into existence but their evolution has not been on the lines laid down by Marx. The countries which have toed the Marxian line of thinking have been curious those in which capitalist development lagged behind. All the communist states had been poor and are even now so as compared to the capitalist countries. There is no increasing misery of labour in advanced capital societies as asserted by Marx. On the contrary, real wages of workers have continued to rise. The workers have tended to become more prosperous with capitalist development.

6.4.3. TECHNOLOGICAL PROGRESS HELPFUL IN INCREASING EMPLOYMENT

Marx pointed out that with increasing technological progress, the industrial reserve army expands. But this is an exaggerated view for the long run effect of technological progress is to create more employment opportunities by raising aggregate demand and income.

6.4.4. FALLING TENDENCY OF PROFIT INCREASING NOT CORRECT

According to Joan Robinson, Marx's explanation of the falling tendency of profits explains nothing at all," Marx contends that as development proceeds there is an organic composition of capital which brings about a decline in the profit rate. But Marx failed to visualize that technological innovations can be capital-saving too, and that with a fall in capital-output ratios and increases it productivity and total output, profits can rise along with wages.

6.4.5. MARX COULD, NOT UNDERSTAND FLEXIBILITY IN CAPITALISM

Marx also could not foresee the emergence of political democracy as the protector and the preserver of capitalism Democracy as a political system has proved its resilience and adaptability to the changing times. The introduction of social security measures, anti-trust laws and the mixed economies have given a lie to the Marxian prediction that capitalism contains within itself the seeds of its own destruction.

6.4.6. CYCLICAL THEORY WRONG

Marx emphasized that capital accumulation led to a reduction in the demand for consumption goods and fall in profits. But he failed to realise that with economic development the share of wages in aggregate income need not fall, nor the demand for consumer goods.

6.4.7. STATIC ANALYSIS

Marx's theory, though it sought to explain a dynamic process was, in the words of Schumpeter, 'unsuited for it, its two main props being (a) labour theory of value, and (b) a modified version of subsistence theory of wages. Marx was analyzing the problem of growth with the help of tools which were essentially suited to static economic analysis."

6.5 THE MARXIAN THEORY AND UNDERDEVELOPED COUNTRIES

The Marxian theory is not applicable directly to underdeveloped countries. Man did not think of the problems of such countries. "Apart from a few illusions remarkable for their determinant note with regard to obtaining prospects for economic development in regions like Western Asia or India no special attention is given to the problem of change in underdeveloped countries. Marx was mainly concerned with problems connected with the development of capitalism in the Western World. Colonies were regarded as one of the 'highest stages" in capitalist development. Foreign domination was regarded as the principal cause of economic backwardness of the colonies.

Marx's failure to recognize the existence of population pressures makes his theory inapplicable to overpopulated underdeveloped countries. But some of the variables of his analysis do exist in such economies. In underdeveloped countries till recently under the colonial rule labour was being exploited for the benefit of the home country. There was the concentration of capital in the hands of a few capitalists: Even now in almost all the underdeveloped countries that are also politically free, wages are near subsistence levels; the 'increasing misery' of the masses is visible a 'reserve army' of the chronic and disguised unemployed exists; the problem of under-consumption is universal and the society is sharply divided between the 'two classes,' the middle class being virtually non-existent. The existence of such conditions can lead to 'class struggle and the establishment of the 'dictatorship of the proletariat.' The recent political turmoil's in some of the Latin American, African, the Middle and the Far Eastern countries have shown that the existence of Marxian 'conditions' in backward countries act like nurseries where the communist seed grows soon. "Ironically, however, it is Marx's perception of planned development expressed in his minor writings which presumably has had a greater impact on the actual economic development of countries such as Soviet Russia and mainland China. Marx's notion of planned development also seems to appeal to those backward countries which are in a great hurry to industrialize at the risk of excessive national 'belt-tightening."

As a matter of fact, it is Marx's Departmental Schema that is applicable to underdeveloped countries. Such a country is primarily a dualistic economy consisting of a capitalist sector and a subsistence agriculture and small scale sector which may be said to represent Marx's two Departments. It is the capitalist sector which yields large economic surplus, while the subsistence sector yields a small surplus. Rapid economic development is possible by reorganizing and expanding the capitalist sector (Department 1) and transforming the subsistence sector (Department 2) into the former so as to increase the economic surplus. This necessitates planning for industrialization and increase in the supply of agricultural commodities to meet the expanding demand of the capitalist sector. As pointed out by Oscar Lange, it is the commodity character of agricultural production which determines the course and rate of industrialization, along with the increased production of capital goods.

A number of underdeveloped countries like India, the Egypt, Burma and Ghana have followed the Marxian Departmental Schema in their development plans. These plans have emphasized the growth of Department 1 in relation to Department 2. The basic strategy has been to increase investments in capital goods industries and services, and to increase the supply of consumer goods by increasing investment and production in agriculture and small scale sector. The primary aim has been to create larger employment opportunities, to increase purchasing power and fresh demand, to build a strong capital base and increase productive and technical capacities within the economy.

6.6 MAIN FEATURES OF SCHUMPETER'S THEORY

The main features of Schumpeter's Theory of Economic Development are as follows:

(I) Circular Flow,

(II) The Role of Enterpreneur

(III) Business Cycle or Cyclical Process.

(IV) End of Capitalism.

6.6.1 CIRCULAR FLOW

Joseph A. Schumpeter devotes the first chapter of his hook Theory of Economic Development to the study of the concept of circular flow. According to Schumpeter "In a circular flow, from which we always start, the same products are produced every year in the same way. For every supply there awaits somewhere in economic system a corresponding demand - and for every demand the corresponding supply, all economic activities are repetitive." It means that the supply and demand are in equilibrium at each point of time and the economy is in its stationary state. Circular flow is based upon a state of perfect competitive economy which is in stationary equilibrium. In such a stationary state, there is perfect competitive equilibrium.

The costs of the firms are equal to the receipts, and prices are equal to average costs. There are no profits, no interest rates, no savings, no investments and no unemployment. According to Schumpeter this stationary equilibrium is characterized by the circular flow which continues to revive itself every year in the same system as the blood circulates in a human body.

As regards the economic development, Schumpeter in his theory states that ‘the development is spontaneous and discontinuous change in the channels of the circular flow, disturbance of equilibrium, which forever displaces the equilibrium state previously existing.” Schumpeter’s theory of development is the key element of dynamic process which basically consists of new resource combinations, so-called innovations or technological changes.

The main features of circular flow are as follows

(1) All economic activities are essentially repetitive and follow a familiar and routine course.

(ii) All the producers know the demand for goods in an economy, and adjust the supply of the output accordingly. In other words, the demand and supply are in equilibrium at each point of time.

(iii) The economic system has the optimum level of output and its maximum use. There is no possibility of wastage of resources.

(iv) Under the stationary equilibrium of the economy, the prices everywhere are equal to the average cost of production. In other words, the profits are zero or the profit opportunities do not exist at all. Interest rates tend to be zero and there is no possibility of involuntary unemployment of resources.

Innovations

An innovation may consist of: (1) the introduction of a new product; (2) the introduction of a new method of production; (3) the opening up of a new market; (4) the conquest of a new source of supply of raw materials or semi-manufactured goods; and (5) the carrying out of the new organization of any industry like the creation of a monopoly. According to Schumpeter, it is the introduction of a new product and the continual improvements in the existing ones that lead to development.

6.6.2 THE ROLE OF THE ENTREPRENEUR AS AN INNOVATOR

Entrepreneur is the key figure in Schumpeter’s analysis of the process of development. Schumpeter emphasis the role of the entrepreneur as innovator. Schumpeter’s model starts with the breaking of circular flow with an innovation in the form of new product. He occupies the central place in the development process because he initiates development in a society and carries it forward. As a matter of fact, entrepreneurship is different from managerial ship in the sense that manager simply manages the affairs of an enterprise whereas the entrepreneur also takes high degree of risk. The role of entrepreneur has been glorified by Schumpeter on the basis of functional abilities. According to him, entrepreneurs to (i) appreciate the possibilities of innovation, (ii) overcome the socio-psychological barriers against the introduction of new things, (iii) direct the means or production into new channels, (iv) persuade the hanker to provide him necessary finance for innovations, (v) induce other producers in his branch of activity for taking risk, (vi) create an environment conducive to the satisfaction of wants as the normal motive, (vii) provide leadership, and (viii) take high degree of risk in the economic world.

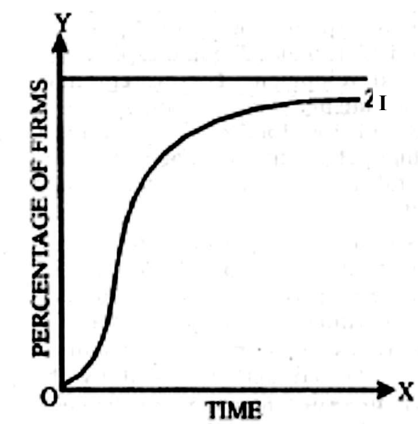
The entrepreneur requires two things to perform the above mentioned functions.

Firstly, there must exist technical knowledge, with which the entrepreneur can introduce new products or new combinations of factors of production. This, according to Schumpeter, does not pose any problem, because there always exists the reservoir of unused technical inventions, which can be explored and exploited by the prospective entrepreneurs.

Secondly in order to carry out the new inventions, the entrepreneur requires the services of factors of production. In other words, the entrepreneur must have command over the factors of production. For this he needs purchasing power in the form of credit and capital, which can be provided by banks and other financial institutions. Thus, credit and banks play an important role in the economic development of a country. Schumpeter is of the view that the entrepreneur needs credit because credit promotes industrial development which, in turn, delivers new goods. Credit also enables the entrepreneur to boy goods which he needs for conducting new experiments and innovations. Further, it is the availability of credit which gives to the entrepreneur the freedom needed to undertake risks of investments connected with innovations. Thus, credit creation is an important part of Schumpeter's development model.

Role of Profits. An entrepreneur innovates to profits. Profits are conceived "as a surplus over costs: a difference between the total receipts and outlay as a function of innovation." According to Schumpeter, under competitive equilibrium the price of each product just equals its cost of production, and there are no profits. Profits arise due to dynamic changes resulting from an innovation. They continue to exist till the innovation becomes general.

Breaking the Circular Flow. Schumpeter's model starts with the breaking up of the circular flow with an innovation in the form of a new product by an entrepreneur for the purpose of earning profits. In order to break the circular flow, the innovating entrepreneur are financed by bank-credit expansion. Since investment in innovations is risky, they must pay interest on it. Once the new innovation becomes successful and profitable, other entrepreneurs follow it in "swarm-like clusters." Innovations in one field may induce other innovations in related fields. The emergence of a motor car industry may, in turn, stimulate a wave of new investments in the construction of highways, rubber tyres and petroleum products. etc. But the spread of an innovation is never cent percent.



The spread of innovation is shown in figure 6.2 where the percentage of firms adopting a particular innovation is shown on the vertical axis and time taken on the horizontal axis. The curve OI shows that firms adopt an innovation slowly to start with but soon the adoption of innovation gains momentum. But it never reaches 100 percent adoption by firms.

6.6.3 BUSINESS CYCLE OR CYCLICAL PROCESS

The next component of development according to Schumpeter is the business cycle. The last chapter of Schumpeter's book Theory of Economic Development represents his views on business cycle or crisis. To analyse the business cycle is to analyse the economic process under capitalism. Schumpeter's approach to business cycle or crisis is historical, statistical and analytical. He believes that business cycle or crisis is not merely the result of economic factors but also of non-economic factors. Schumpeter concludes that crisis is the "process by which economic life adapts itself to the new economic conditions."

After explaining Schumpeter's approach to business cycle or crisis, we shall now proceed to discuss the working of business cycle. How booms and depression appear and collapse? Bank credit is an essential element of Schumpeter's model. According to Schumpeter, the creation of bank credit is assumed to accelerate money incomes and prices in the economy. It creates a cumulative expansion throughout the economy. With the increase in the purchasing power of the consumers, the demand for the products increases in relation to supply. The rising prices and the high rates of profits stimulate producers to raise investments by borrowing from the banks. The secondary wave of credit inflation starts with the entrance of new entrepreneur in the field of production, which superimposes on the primary wave of innovations. This may be called boom or prosperity period. The extreme optimism and speculation in business also further enhance the prosperity in the economy. In short, it is the phase when the economic activities reach their maximum heights and the idle or unemployed resources are minimized.

During the boom period, the new products start appearing in the market with the entrance of new entrepreneurs. These products displace the old ones and thus decrease their demand in the market.

Consequently, the prices of old products fall. With a view to liquidating their stocks the old firms start selling their goods at a low price and hence most of the firms incur losses and some firms are even forced to run into liquidation. Investment declines and unemployment starts, leading to a fall in the aggregate demand. As the entrepreneurs start repaying bank loans, the quantity of money in circulation is reduced and prices start falling. Profits too decline and come to Zero point. Uncertainty and risk increase. A wave of pessimism sweeps the entire economy and the boom period ends with the appearance of the phase of depression.

Schumpeter believes in the existence of the long wave of upswings (or boom) and downswings (or depression). Once the upswing ends, the long wave downswing begins and the painful process of readjustment to the "point of previous neighborhood of equilibrium" starts. The economic forces of recovery come into operation and ultimately bring about a revival. Once again the economy comes across the equilibrium, and the new boom period starts with a new set of innovations . according to Schumpeter, this process of capitalist development may be regarded as "creative destruction" wherein the old economic structures of society after destruction are ultimately replaced by the new economic structures.

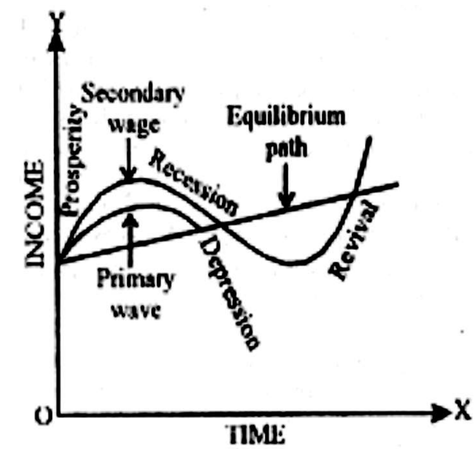


Figure : 6.3

Schumpeter's cyclical process of economic development has been illustrated in the above diagram where the secondary wave is superimposed on the primary wave of innovation. In the prosperity period, as the above figure reveals, the economic development proceeds more rapidly due to over optimism and speculation. The business cycle continues to fall below the level of equilibrium with the beginning of the recession and ultimately reaches the point of depression. In the end, the retake of economic activities leads to revival of the economy.

In the Schumpeterian analysis of development entrepreneurs have to play the central role in business cycles. They initiate the economic development in the spontaneous and discontinuous manner. The cyclical swings are the cost of economic development under capitalism.

The continued technological progress leads to increase in the aggregate and per capita income in the society and enhancement in the rates of profits of the producers. "There is, therefore, no a priori ceiling to the level of per capita income in a capitalist society. Nonetheless, the economic success of capitalism will eventually lead to its decay. The very process of capitalist development weakens the institutions and values basic to its own survival, As regards the survival of capitalism, Schumpeter stated: "The very success of capitalism undermines the social institutions which protect it, and inevitably creates conditions m which it will not be able to live, and which strongly points to socialism as the heir-apparent."

6.6.4 THE END OF CAPITALISM

Like Karl Marx, Schumpeter also believes that capitalism is self—destructive. He stated, "There is inherent in the capitalist system a tendency towards sell-destruction, those factors make not only for the destruction of the capitalist system but for the emergence of socialist civilization." Schumpeter agrees with the Marxian thesis that capitalism has itself the seeds of its own destruction and ultimately it will come to an end. The very success of capitalism will bring about its decay. It will not die for any economic limitations but die for the institutional deficiencies. According to Schumpeter Capitalism cannot survive. It will die on its own accord." It will ultimately give place to 'socialism'.

According to Schumpeter, there are three factors responsible (or the decay of the socioeconomic foundations of capitalism. They are as under:

1. The Fall or the Entrepreneurial Function. In the present big business set-up, the individual entrepreneur is not important. He is replaced by many instead of an individual. Hence, the early entrepreneurs or innovators who dared to innovate and to expand the business, were replaced by the new trained specialists, so called the new lords' of business—the managers, depersonalised owners and private bureaucrats. They undermine the functions and the position of the entrepreneur as the "Warrior Knight". In his book Capitalism, Socialism and Democracy (1950), Schumpeter stated, "There would he nothing left for entrepreneurs to do. The management of industry and trade would become a matter of current administration, and the personnel would unavoidably acquire the characteristics of a bureaucracy. Socialism of a very sober type would almost automatically come into being."

2. The Destruction of the Institutional framework of the Capitalist Society.

The destruction of institutional framework of a capitalist society also weakens the foundations of capitalism. The entrepreneur, by his self-interest or self-success tends to destroy not only his economic and social functions but also the institutional framework within which he works. In large-sized business enterprises the owners spread over a large number of shareholders. They undermine the individual proprietor's role of controlling and managing the affairs of a business enterprise. Instead, the entrepreneurial role is performed by salaried managers and thus the entrepreneurial interest is replaced by large and small stakeholders. These changes tend to weaken the concept of private property and free individual contract.

With the progress of capitalism, the collective contracting tends to evolve in place of individual contracting. The associations of labourers and consumers have contracts with the giant concerns. Thus, the freedom of individual contracting is restricted and this tends to weaken another important institution of capitalism.

Besides this, the destruction of the protecting political strata and the hostility of a capitalist society against its own social order are also important factors to destroy the capitalism. With the progress of capitalism, the industrialists and merchants become economically powerful and thus, dominate the political held, who introduce certain reforms. But Schumpeter does not find this class proper to be in power. For him, the active hostility against the social order is essential. This hostility is provided by the intellectual class which leads a move against capitalism.

3. The Disintegration of the Bourgeois Family. Capitalism has a tendency to lead to disintegration of the bourgeois family. The parents adopt a realistic approach in their behaviours towards children and start thinking against their leisure, freedom and more comforts. Their traditional idea of family is weakened. The will to accumulate more and more wealth gradually disappears, and their dream of a 'private kingdom" or a "dynasty" is no longer there. All these factors taken together are responsible for the decay of capitalist system and rise of socialist order.

6.7 A CRITICAL APPRAISAL

The Schumpeter's theory must be ranked as a major performance, one worthy of such great economists as Smith, Mill, Marx, Marshall and Keynes. No doubt 'it is replete with brilliant reasoning and insight of a great theorist', yet it is not free from criticisms.

(1) **Role of Entrepreneur Over-Emphasized.** Schumpeter's theory of economic development unduly highlights the role of entrepreneur. Entrepreneur is the prime mover of economic development. It was true almost in the 18^{th} and 19^{th} centuries when entrepreneur used to perform the functions of a innovator. However, in the modern economic world, the act of entrepreneurship, innovatorship is not the work of an individual. It is carried by the companies and that too through a group of individuals with its membership changing. As a result, no single or particular individual or entrepreneur is identified as responsible for introducing innovations. Even the inventions now-a-days are the product of Warn work and not of an individual.

(2) **Analysis of Capitalist Process not Convincing.** According to Meir and. Baldwin,, "Schumpeter's broad socioeconomic analysis of capitalist process is generally admired. Yet few seem prepared to accept his conclusion His arguments arc stimulating but not completely convincing."

(3) **Emergence of Socialism not based on Sound Reasoning.** Schumpeter has not convincingly explained as to how the capitalism will eventually be replaced by socialism. His unawareness about this factor is evident from these words, "we know nothing as yet about the precise way by which socialism may be expected to come, except that the must be a feat many possibilities ranging from gradual bureaucratization to the most picturesque revolution. As a matter of fact, Schumpeter's analysis of the end of capitalism is emotional rather real.

(4) **Analysis of Cyclical Process is Wrong.** Schumpeter idea that the economic development is the result of the cyclical process is wrong. According to Nurkse, "Economic development is related to continues changes."

(5) **Undue Importance to Bank Credit.** Schumpeter has given undue important to bank credit. Bank credit may be important in the short run when industrial concerns get credit facilities from the banks. However in the long run when the need of capital funds is greater or long term capital is required bank credit is insufficient. For this, business houses have to float new shares, debentures etc. in the market.

(6) **Innovations is not the main cause of Economic Development.** Schumpeter regards innovations as the main cause of economic development. However, this

view is for from reality because economic development of a country does not depend on innovations only but also on many economic and social factors.

(7) **Little Relevance for Underdeveloped Countries.** When viewed in the frame of under development, the Schumpeter theory is found to be grossly inadequate. In underdeveloped countries, the class of innovators is very small because of the small extent of the market and the low expectation of profits. Schumpeter has talked of a private innovators as the prime mover of economic growth, but in most of the poor countries, the government is the biggest innovator. The main impetus for development comes from the public sector rather than from the private sector. Again Schumpeter believes that development is the result of domes forces, where as the development of underdeveloped economies depends on imported technology, foreign capital joint collaboration etc.

6.8 SCHUMPETER'S THEORY AND UNDERDEVELOPED COUNTRIES

The Schumpeter's theory of economic development is not applicable to underdeveloped countries on account of the following

(1) **Lack of Entrepreneurship.** Schumpeter's theory assumes the existence of an entrepreneurial class for the economic development. However, in under-developed countries adequate entrepreneurship is lacking. In such economies, expectations of profit is low along with low state of technology who do not encourage innovational investments in new plant and equipment. Further, Lack of power, means of transport and communications and skill personnel etc. act as disincentives to entrepreneurial activity

(2) **Not Applicable to Socialist Countries.** The Schumpeter's theory of economic development is not applicable to most of underdeveloped countries who possess socialist economy. For example the introduction of social security measures rigid labour laws and highly progressive income tax rates are harmful to the development of entrepreneurial class as they tend to reduce profits.

(3) **Not Applicable to Mixed Economies.** Schumpeter's innovator is a private entrepreneur who does not fit in the present day mixed economies. In an underdeveloped country, state is the biggest entrepreneur. The main impetus for development comes from the state and semi-state bodies. In this way,

Schumpeter's innovation has a limited role to play in underdeveloped countries based on mixed economy.

(4) **Different Socio-Economic Order.** Underdeveloped countries have got a socio-economic order which is quite different from the socio-economic order that prevailed in Western Europe and America in 18th and 19th centuries. In that period some of the prerequisites of economic growth already existed. On the contrary, such prerequisites of economic growth do not exist in the underdeveloped countries.

(5) **Neglects Population Growth.** Schumpeter's theory of economic development is not applicable in underdeveloped countries be cause it does not take into account the impact of population growth on the economic development of a country. To day, population problem is the burning problem of all underdeveloped countries of the world.

(6) **Neglects Consumption.** The Schumpeterian analysis is production oriented whereas the development process is consumption oriented. In the underdeveloped countries, despite the need for larger capital, there is also emphasis on raising the consumption level of the people.

(7) **Neglects Savings.** Schumpeter's emphasis is on bank credit which is of short duration only. However, underdeveloped countries need capital for long duration which is possible through savings, public credit and other fiscal measures.

(8) **Development through Assimilation Rather Than Innovation.** According to Henry C. Wallich, "the development process in under developed countries is based not on the assimilation but on the assimilation of existing innovation."

(9) **Neglects External Effects.** According to Schumpeter, "Development is the result of changes that arise from within the economy." However, in underdeveloped countries changes do not take place from within the economy, rather they are the outcome of foreign ideas technology, capital etc.

6.9 CONCLUSION

Despite these weaknesses some of the Marxian tools pertaining to his theory of economic development have ever since become part and parcel of the theory of economic growth. Technological progress and innovations are the main stay of any theory of economic development. Similarly, capital accumulation is the fundamental idea behind economic growth. Profits are still regarded as both the hallmark of capitalist development and its Achilles' heel. Man showed that economic development does not follow a smooth course but comes about in "fits and starts." Business cycles are inevitable. He pointed out that a state of under was the main cause of depression and that for stable growth a proper balance between investment and consumption was essential. He also indicated that too low or too high wages in relation to total output can adversely affect investment and thus stifle economic growth. Industrial unemployment is also one of the major variables in his system. Thus, Marx was in a way Keynes precursor.

So for as Schumpeter theory is concerned it makes in important contribution to the theory of economic development. It is useful in explaining the past economic development of the European countries under capitalism. In the words of Meir and Baldwin, Schumpeter's broad socioeconomic analysis of capitalist process is generally admired, yet few seem prepared to accent its conclusions. His arguments are stimulating but not completely convincing. Although Schumpeter analysis is provocative, it seems one-sided and overemphasized.

6.10 SELF ASSESSMENT EXERCISE

Q1. Critically examine the Marxian theory of economic development ?

Q2. "Socialism replaces capitalism." Comment ?

Q3. State and explain the main components of Marxian theory of development and discuss how they related to economic development ?

Q4. Discuss the Marxian model of growth ?

Q5. Write notes on:

(i) Capital Accumulation

(ii) Capital crisis

(iii) Materialistic (economic) interpretation of History ?

Q6. Discuss critically Schumpeter's theory of economic development ?

Q7. State and explain the main features of Schumpeter's theory of economic development ?

Q8. Discuss the main elements of Schumpeter's theory of capitalist development ?

Q9. Write notes on the following:

1) Circular flow
2) The Role of Entrepreneur
3) Cyclical Process
4) Innovations and Innovators
5. Write a short note on Schumpeter's theory and underdeveloped countries ?

6.11 FURTHER READINGS

Agarwal R.C : Economics of Development and Planning [Theory and Practice]

Dewett K.K : Modern Economic Theory

Jhingan M.L : The Economics of Development and Planning

Jhingan M.L : Advanced Economic Theory

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THEORIES OF STRATEGIES ON ECONOMIC DEVELOPMENT

STRUCTURE

1.1 Introduction

The big push model is a concept in development economics or welfare economics that emphasizes that a firm's decision whether to industrialize or not depends on its expectation of what other firms will do. It assumes economies of scale and oligopolistic market structure and explains when industrialization would happen.

The originator of this theory was Paul Rosenstein-Rodan in 1943. Further contributions were made later on by Murphy, Shleifer and Robert W. Vishny in 1989. Analysis of this economic model ordinarily involves using game theory.

The theory of the model emphasizes that underdeveloped countries require large amounts of investments to embark on the path of economic development from their present state of backwardness. This theory proposes that a 'bit by bit' investment programme will not impact the process of growth as much as is required for developing countries

The critical minimum effort theory has been given by Harvey Leibenstein, in his book, “Economic Backwardness and Economic Growth”. This theory relates to overpopulated and underdeveloped or developing nations such as India and Indonesia. This theory is based on Malthusian theory of population.

This theory is one of the balanced growth theories. In this theory Leibenstein essentially talks about how large doses of investments in an economy can help the economy in development.

The low-level equilibrium trap is a concept in economics developed by Richard R. Nelson, in which at low levels of per capita income people are too poor to save and invest much, and this low level of investment results in low rate of growth in national income. As per capita income rises above a certain minimum level at which there is zero saving, a rising proportion of income will be saved and invested and this will lead to higher rate of growth in income.

7.2 OBJECTIVES

After going through this lesson, the students should be able to:

- Explain theory of balanced and unbalanced growth
- Elaborate the big push and minimum effort theory.
- Understand low level equilibrium trap.

7.3 THE THEORY OF BALANCED GROWTH

We can distinguish at least four versions of the balanced growth theory depending upon the size of the balanced growth programme.

(I) The first and the narrowest version oldie theory (put forward by P.N. Rosenstein-Rodan in his article Problems of industrialization of Eastern and South Eastern Europe’ first published in 1943) confined the balanced growth programme to the production of light consumers’ goods. The argument was that a single factory, even when it use more efficient methods of production, would fail to setup on its own because of the smallness of the market outlet for its output. Therefore, what is required is the simultaneous setting up of a number of factories producing different consumer; goods so that between them they create enough new employment and purchasing power to provide a sufficiently large market for each other.

(2) The second version of the theory advocates simultaneous investment in consumers' goods industries and social overhead capital. Investment in the latter is considered essential because a number of underdeveloped countries (particularly in Asia and Africa) have inadequate transport and communication facilities and insufficient power supply. However, since investments in social overhead capital are 'lumpy' this version emphasize the 'technical individuality in social overhead capital.

(3) The third version emphasizes the simultaneous setting up of industries in the consumers considered thus, this version of the balanced growth theory advocates a comprehensive and integrated programme of industrialization it is argued that for a country to initiate successfully economy development it is necessary not only to enlarge the size of the market and obtain the 'internal economies' of large-scale production, but also to obtain the external economies' which arise from simultaneously setting up industries which are technically interdependent with each other. Technical complementarities do not usually exist between a horizontal group of consumers goods industries at the same stage of production but are very important between a vertical group of industries at different stages of production.

(4) The fourth version of the theory advocates balanced growth of the industrial and agricultural sectors of the economy. This version realizes, and quite rightly so, that the expansion and broad inter balance between agriculture and manufacturing is necessary so that each of these sectors provides the market for the products of the other sector and in turn, supplies the necessary ingredients for the development of the other.

7.3.1 THE SIZE OF MARKET AND THE INDUCEMENT TO INVEST

Adam Smith had long ago asserted in his "Wealth of Nations" that the division of labour is limited by the extent of the market. Allyn A. Young reinterpreted Smith's proposition and argued that inducement to invest is limited by the size of market. Nurkse approvingly refers to Young's reinterpretation of Smith's proposition sod uses it for the analysis of the vicious circle of poverty that exists in underdeveloped countries. Underdeveloped countries suffer from shortage of purchasing power and, as a consequence, their domestic markets are limited. Since the demand for various consumer goods and services remains generally small, it is but natural that the demand for capital is also small. Now let us understand in what sense economists talk of shortage of purchasing power in underdeveloped countries. Obviously they do not mean that the purchasing power in money is lacking in these countries.

The size of market determines inducement to invest irrespective of the nature of economy. In an exchange economy the small size of the market discourages big scale use of capital, because the entrepreneurs invariably take decision in respect of the size of plant on the basis of the demand for the concerned product. Let us, for example, consider the case of automobile industry. Say under given technological conditions only three plants with annual capacity to manufacture 1 lakh, 5 lakh and 10 lakh, motor vehicles are available. Since even the smallest plant is too big for small countries like Sri Lanka, Sudan, Kenya, Fiji. Angola. etc. none of thesc countries will setup automobile industry. Demand for motor vehicles is certainly much more in bigger underdeveloped countries like India, Brazil, Argentina, Indonesia, etc. than in smaller underdeveloped countries, but even in these countries setting up of a relatively bigger plant will not be an economically viable proposition. There are bigger markets for automobiles in Germany, the U.K.. france. Italy and. Japan though their population is far less than that of India. People in developed countries are affluent and their demand for automobiles is large. Hence automobile manufacturing units on big scales have been established in these countries and the capital investment in them is massive.

When we consider the question of inducement to invest in terms of aggregate demand we notice that because of the low level of national incomes in less developed countries, their aggregate expenditure on consumer goods is low and as such investors hardly get any incentive for big investment in large scale industrial units. In the early seventies with the exception of China and India there was no Third World country whose national income exceeded the annual income of the general Motors of the United States.

In the exchange economy of the real world when an entrepreneur looks at the limited size of the market for a particular product, he decides not to enter the industry concerned. He knows that the big industrial unit employing capital- intensive technique, in spite of its technological soundness, will not prove to be an economically viable proposition. Individual entrepreneurs, however, some times make investment with the hope that they will succeed in attracting buyers for their produce through advertisement. There is no doubt that such a thing does actually happen in a free market economy. In this manner markets for individual products are expanded but advertisement will not help in expanding aggregate demand in any country. In underdeveloped countries, however, even the markets for individual products cannot be expanded as the people subsisting under sub human living conditions are not expected to increase their spending on various goods in response to advertisements made by the producers.

7.3.2 DETERMINANTS OF THE SIZE OF THE MARKET

In order to break the vicious circle of poverty in a less developed country, the inducement to invest has to be increased by expanding the size of the market. Some people believe that the size of the market can be expanded by increasing the money supply. According to Nurkse, this viewpoint is theoretically incorrect. He has traced the root of this wrong notion to an attempt to apply Keynes' theory in underdeveloped countries where prevailing conditions are entirely different from those in the developed countries. Nurkse has forcefully argued that the effective demand does no lack in underdeveloped countries in the Keynesian sense. In other words, the real purchasing power lacks due to low level of productivity and cannot be increased merely by expanding the quantity of money. If the demand is to be augmented or, one may say that, if the market is to be expanded, the supply of goods and services must be increased. In underdeveloped countries, because of the low level of production, supply is limited and since there is shortage of capital in these countries it cannot be easily expanded either.

The size of population does not affect the extent of domestic market in a decisive manner. In highly populated underdeveloped countries the size of the market remains limited due to low levels of productivity resulting in low per capita incomes. In contrast, there are developed rich countries with extensive markets in spite of their smaller population. Since their national incomes are larger due to high levels of productivity, their consumption spending are also greater than those in highly populated underdeveloped countries.

According to Nurkse, the size of the market mainly depends on the level of productivity. When we examine the problem links totality we observe that the amount of production not only determines the extent of the market, it also decides the limits of the expansion of the market. Stability in neither the output of goods and services nor in their amount of consumption will be necessary even though the population of the country remains unchanged. An improvement in the productivity level generally increases the flow of goods and services and the consumption level also rises in response to it. Therefore, underdeveloped countries should endeavour to raise their productivity levels both in agricultural and industry. In less developed countries even now farming techniques are traditional. As a consequence agriculture hardly contributes 40 to 45 per cent of the national income in these countries though working population. The low agricultural productivity is possibly the main reason why there is not much demand for industrial goods in the countryside. Once meaningful land reforms are carried out in a country, and the tiller of the soil becomes the owner of the land, scope for agricultural development is created. Farmers while enjoying the proprietary rights make all possible at tempts to raise the productivity on their farms. For this purpose they may create litigation facilities. They can also use high yielding variety of seeds, fertilizers, pesticides etc. and if farm size permits they may switch over to mechanised farming. These efforts invariably raise the farm productivity and thus farmers have larger purchasing power with them. Their living standard rises above the subsistence level and increased demands are made for all sorts of manufactured goods. This expansion of market provides incentive to investors who hopefully make larger investments. It is well known fact of history that the industrialists in France, England and some other European countries had strongly land reforms in the period of industrial revolution because they had known that it would release latent productive forces in agriculture, which, in turn, would raise the agricultural productivity. This development in agriculture was logical as it created large demands for industrial products in the countryside.

In discussion on the size of the market, it is often that in case of stability in the money incomes, it is possible to expand the market merely by lowering down the prices. This policy will, however, work only when the and the real incomes of the people rise. The size of the market may also expand if the money incomes of the people rise while the prices remain unchanged. But this too will materialize only when the real incomes of the people rise as a consequence of an increase in productive efficiency.

7.3.4 THE NEED AND RATIONALE OF BALANCED GROWTH

Rosenstein-Rodan has strongly made out a case for the balanced growth in his famous article of 1943. Marginal investment is different from its Private Marginal Product and if in some country a group of industries are set up together in accordance with their Marginal Products, the economy records a higher rate of growth than that would be possible otherwise. Individual private entrepreneur is never interested in knowing the Social Marginal Product of an investment because this does not influence his decisions with respect to his investment activity. His entire concern is with the Private Marginal Product of the investment.

Rosenstein-Rodan gives some examples to prove his fundamental argument. In these examples he underlines the point that the Social Marginal Product of an investment could be greater than its Private Marginal Product. His examples, however, are not to be confused with his basic argument and if any example is found logically inconsistent, it should not mean that the basic argument also suffers from a logical mistake. Rosenstein-Rodan's one example which has now become a classic is as to how investment in a factory in one line of production reduces the risk for some other firms in the various other lines of production. Rosenstein-Rodan in this example argues that when a new factory (shoe-making factory) is set up in a new region and employs hitherto unemployed workers, the problem this factory might face would be that there may not be enough demand for its product because the workers will not spend all their earnings on it. However, if investment is made in a number of industries simultaneously, there would be no shortage of demand. The rising income of the people engaged in these diverse industries would provide sufficient market for all the goods. Increased supply of goods would, therefore, generate its own demand. Rosenstein-Rodan's other example is the training of labour for the new technological processes of production. Such a training programme is often unprofitable from the standpoint of the society. Rosenstein-Rodan thus argues that external economies of this sort cannot be overlooked particularly in countries which are in the process of structural transformation and where optimization of social gains from given investment is of prime importance.

Nurkse was not concerned with the problem that arises from the Social

Marginal Product of an investment exceeding its Private Marginal Product. According to him, the limited size of market is the main obstacle to economic development and in order to overcome this problem there has to be an all-round improvement in the productivity. It is thus quite logical for him to argue that a large-scale investment programme should be undertaken by the underdeveloped countries to enlarge the size of their market.

WA. Lewis has advocated balanced growth for two reasons which are not clearly distinguishable from one other. The first reason why Lewis wants balanced growth is that as the economy expands the relative prices of the products of the different sectors of the economy should remain unaltered. This is necessary for preventing discouragement to any one sector that may be caused by the movement of the terms of trade against it. The other reason why balanced growth strategy is to be adopted is that in order to avoid any severe bottlenecks in the process of the economy's expansion the growth in the different sectors should be in accordance with the income elasticity's of demand for their products. For building up his argument Lewis considers a case of an economy having three broad sectors, viz., agricultural production for the home market, industrial production for the home market and exports. In his opinion, lithe industrial output for home market increases, it causes an expansion in the demand for agricultural products (the assumption of course is that the income elasticity of demand for agricultural goods is greater than zero). This demand obviously has to be met by the increased output of agricultural products. In case, such a thing does not happen, then the exports should increase to enable the country to meet its increased demand for agricultural goods by increased imports. Similarly in case of agricultural development led growth, demand for industrial products will increase, and this will require expansion in the industrial output for domestic consumption. If the industrial output for home market does not expand, exports of the country should increase sufficiently to enable it to meet its increased demand for industrial goods by increasing imports. Only in the case of an increase in exports a balancing increase in the output in both agricultural and industrial sectors for the home market would not be necessary. Lewis, however, does not favour a strategy of growth which is totally dependent on increased exports. In his opinion, such a policy may turn the terms of trade against the country which pursues it."

R.V. Findlay has pointed out that the two reasons stated by Lewis for adopting the strategy of balanced growth are not always consistent. He shows with reference to a two-goods model with given production functions that the two will not be consistent if rate of capital accumulation is the same or lower than the rate of increase in the workforce."

7.3.4 HOW CAN BALANCE GROWTH BE ACCOMPLISHED

Balanced growth may be accomplished in two ways. Where as in a mixed economy reliance is placed on price incentives for maintaining a balance among the various sectors in the process of its development, in a planned economy this objective is realised by the State through its intervention in the economy. When some country employs price incentives for achieving the objective of balanced growth, not only growth rate remains relatively modest, but the balance among the various sectors of the economy and also within each sector is brought about rather slowly. Further, it involves risk of technological problems becoming rather formidable. If all this happens, the possibility of growth rate turning out to be inadequate for a country in which pressure of population is considerable cannot be ruled out.

Nurkse asserts that presently underdeveloped countries have no choice except to follow the balanced growth path. For accomplishing the task of development, whether a country should introduce planning or it can wholly rely on private enterprise is a subject of great controversy. In Nurkse's opinion, the question about who should promote and direct the development process should not concern economists. This is simply an administrative problem. For an economist, it is enough to emphasize that irrespective of the form of administration, the investment should be dispersed over a wide range of industries so that markets for their products expand adequately. However, general consensus amongst the economists of underdeveloped countries these days is that the amount of investment that balanced growth theory requires is simply beyond the capacity of the private entrepreneurs. Therefore, the State must undertake the initiative on own or in cooperation with the private sector. Many economists also argue that even if the private sector is in a position to undertake the responsibility of initiating a balanced growth programme, the socio-economic mileu of the underdeveloped countries requires active participation of the State. In the absence of such participation, inequalities in income, wealth and economic power are bound to increase as development proceeds.

7.3.5 A CRITICAL APPRAISAL OF THE BALANCED GROWTH THEORY

1. The Inadequacy of resources. Like the theory of the big push, the theory of balanced growth also fails to take into account the inadequacy of resources in the underdeveloped countries. In fact, it is precisely because of the inadequacy of resources that these countries are underdeveloped. How can they be then expected to invest simultaneously over a large range of industries and the agricultural sector? Since the theory of balanced growth advocates investment in agriculture also, the size of the investment programme would be much larger than advocated even by the theory of the bigpush. Given the paucity of resources in these countries it is difficult to visualize how they can undertake such a massive progmmme of investment. As emphasized by A.O. Hirschman, the application of balanced growth doctrine requires huge amounts of precisely those abilities (particularly, entrepreneurial ability) which are in extremely short supply in underdeveloped countries.

2. Applies to underemployment in the developed countries. According to Hirschman, balanced growth doctrine is a right therapy for a situation of underemployment in the developed countries. In conditions of slack activity and underemployment conditions in these countries, the resources, machines entrepreneurs, etc., are all present. What is lacking is sufficient demand to work as an inducement to invest. In such circumstances, simultaneous investment in a large number of industries is a right policy since it would enlarge the size of the market and push up the demand for the products or all industries. This would enable the economy to get out of the situation of slump and underemployment. However, since the underdeveloped countries do not possess the necessary machinery, entrepreneurs, etc. simultaneous investment in a large number of Industries is just not possible. Hans W. Singer is quite right in his assertion that the doctrine of balanced growth is premature rather than wrong as it is applicable to a subsequent stage of sustained growth rather than to the breaking of a deadlock.

3. Fails as a theory of development. Hirschman argues that the theory of balanced growth fails as a theory of development. Development presumably means the process of change of one type of economy into some other more advanced type. However, the theory of balanced growth fails to perceive this and advocates that "an entirely new, self-contained modern industrial economy must be superimposed on the stagnant and equally self-contained traditional sector." This 'jumping' from one stage of development to another and considerably higher stage of development is not growth. It is a perfectly dualistic pattern of development.

4. Relationship between Industries competitive. As noted earlier, the theory of balanced growth is based on the complementarily of demand as the persons working in different industries become each other's customers and create demand sufficient to exhaust all output. However, it fails to realize that due to the scarcity of resources in underdeveloped countries, the relationship between different industries is not complementary but competitive as they have to compete amongst themselves for the same resources.'

5. Lacks historical sense. Hans W. Singer argues that the theory of balanced growth lacks historical sense. It assumes that an underdeveloped country starts from a scratch. In reality, every underdeveloped country starts from a position that reflects previous investment decisions and previous development. Thus at any point of time there are highly desirable investment programmes which are not in themselves balanced investment packages, but which represent unbalanced investment to complement existing imbalance. And once such an investment is made, anew imbalance is likely to appear which will require still another 'balancing" investment, and so on. Therefore, historically speaking, growth does not take place in a balanced way but is unbalanced.

7.4 THEORY OF UNBALANCED GROWTH

7.4.1 MEANING OF UNBALANCED GROWTH

Scholars such as Hirschman, Rostow, Fleming and singer propounded the theory of unbalanced growth as a strategy of development to be used by the underdeveloped countries.

This theory stresses on the need of investment in strategic sectors of the economy instead of all the sectors simultaneously.

According to this theory, the other sectors would automatically develop themselves through what is known as "linkages effect".

7.4.2 EXPLAINING THE THEORY OF UNBALANCED GROWTH

Prof.Hirschman that creating imbalances in the system is the best strategy for growth. Owing to the lack of availability of resources in the less developed countries, the little that is available must be used efficiently.

Accordingly strategic sectors in the economy should get priority or precedence over others where income is concerned.

1. External Economies:–

Unbalanced growth according to Prof. Hirschman generates externalities. Further explaining, we could say that the growth of industry A leads to or stimulates the growth of industry B and C and so on, similarly the growth of industry B and C will lead to the subsequent growth of industries E and F. Thus, the growth of a strategic industries apart from providing the benefits belonging to itself also stimulates the growth of other set of industries. The existing externalities are explored, and fresh ones generated.

2. Complementaries:–

Growth of output of industry A may generate the demand for the products of B and C and also may reduce the marginal cost of production in these industries.

There are technical complimentaries which stimulate the growth of related industries, following the strategy of unbalanced growth.

Thus states Prof. Hirschman, "Economic growth follows the course of imbalances in the system. Competitions, tensions as well as inducements are the inevitable outcome of the unbalanced growth, and more these are, greater the prospects of growth."

7.4.3 CLASSIFICATION OF INVESTMENT BY HIRSCHMAN:

(A) Social Overhead Capital or SOC:

Social overhead capital comprises of those basic devices without which primary, secondary and tertiary activities cannot function. This includes in it the expenditure on roads, irrigation works, power, transport and communications. The investment on these projects create more economies and this is called divergent series of investment. Such investments are undertaken by Public agencies.

(B) Direct Productive Activities or DPA:

These are those activities which are a consequence of some investment, add to the flow of final goods and services. It is called convergent series of investment because these project appropriate more economies than they have created. These series of investments are undertaken by private entrepreneurs. Thus investment in agriculture or industry would be deemed as that belonging to Direct Productive Activities.

Therefore, both SOC and DPA cannot be taken up simultaneously in less developed countries, owing to the general lack of resources. Initially, we should concentrate on either of the two, the other one would be automatically stimulated.

Hirschman, thus suggests the growth of the economy in two ways:

1) Unbalancing the economy through SOC: Growth of SOC, according to

Hirschman would stimulate investment in DPA. For example, availability of cheap electricity is expected to encourage the growth of small scale industries. Similarly, the development of irrigation works is expected to stimulate the growth of agricultural works.

2) Unbalancing the economy with Direct Productive Activities or DPA:

Investment in DPA would press for investment in SOC. Demand for irrigation, roads, transport and communication would increase, pressing for greater investment in these activities. It is through this process of linkages that the economy will grow.

7.4.4 BALANCED GROWTH PATH

Fig 7.1 demonstrates the path of development, using strategy of unbalanced growth.

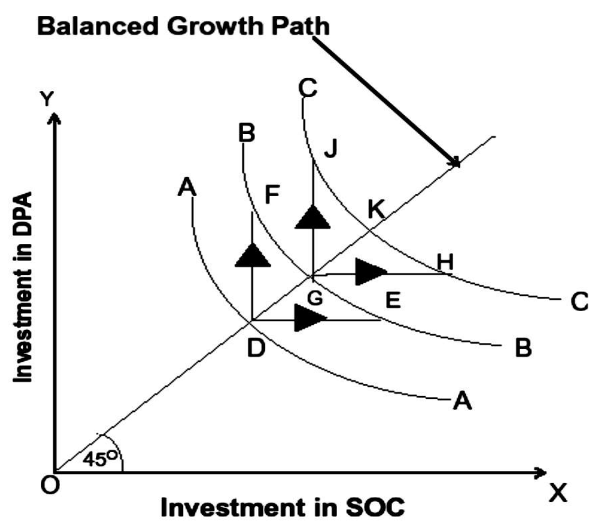

Figure 7.1

X-axis: Investment cost in Socially Productive Activities

Y- axis: Investment Cost in Direct Productive Activities

AA, BB, CC curves: equi- productive curves indicating various combinations of SOC, DPA corresponding to given level of national income

Growth process maybe explained by making initial investments either to DPA or SOC. It is because it is assumed that in underdeveloped countries SOC or DPA cannot be expanded simultaneously.

While the former is called Development by Excess Capacity of SOC, the later is known as Shortage of SOC.

7.4.5 GROWTH PROCESS

The growth process can be explained in two ways:

1. Development via excess capacity of SOC:

In this sequence development takes place when expansion of SOC reduces the cost of infrastructure in transportation, power etc. this encourages investment in DPA. If investment is made in SOC, the economy will follow DEGHK route of development. Increase in investment in SOC from D to E will induce greater investment in DPA upto point F because transportation and power will become cheaper. Investment in DPA increases until balance is restored at G. However is located at high equi-product curve BB which implies that there will be caused increase in the level of output in economy.

2. Development via Shortages of SOC:

In this sequence development takes place when investment is made first in Direct Productive Activities(DPA). The Expansion of DPA builds up pressure on SOC. In the figure, Investment is made first in DPA, the route of development is DFGJK. We increase DPA from D to F. this results in increase in production costs and DPA producers would realise the possibility of considerable economies through more investment in SOC facilities.

Thus, SOC would increase to point E and then to equilibrium point G on BB curve implying the higher level of output. If investment is further increased from G to

J, this would create pressure for more investment in SOC shifting G to H and like this the equilibrium will be struck at point K on higher iso-product curve CC the path of growth being DGK.

7.4.6 FORWARD AND BACKWARD LINKAGES

Creating unbalances are a pre-requisite of economic growth, according to Hirschman. However the question arises, how to identify the activities with which to create imbalances in the system. This necessitates the knowledge of inter linkages across different sectors of the economy.

Figure 7.2

The following are classified as linkages by Hirschman :

Backward linkages- Growth of a set of industries stimulates the growth of those which supply raw materials. Setting up a steel plant for example, would stimulate the demand for steel scrap, coal and other related goods. Production of these goods will accordingly increase.

Forward linkages- Forward linkages refer to the growth of certain industries owing to the initial growth of those which supply raw materials.

Expansion of steel industry, for example, will encourage industries making machine, tools, etc. using steel as their basic input..

Study of these linkages facilitates the choice of activities through which growth with imbalances should be generated in the system. Industries with maximum linkages ought to be developed first.

7.4.7 FEATURES OF THEORY OF UNBALANCED GROWTH

1. The theory propagates that with a view to accelerating the process of growth, investment should be first made in the key sectors of the economy.

2. The theory is based on the principles of inducement and pressures. It is the inducement or pressure generated by some initial investment that calls for subsequent investment in other activities or production.

3. The theory correlates the hypothesis of the " BIG PUSH".

4. The theory is based on real life observation.

5. The theory recognizes the significance of public sector with regard to SOC activities.

7.4.8 MERIT OF THE THEORY OF UNBALANCED GROWTH

1. **Realistic Theory:** The theory of unbalanced growth is a realistic theory. The theory suggests appropriate utilization of the scarce resources in less developed countries. The theory considers all aspects of growth planning.

2. **More Importance to Basic Industries:** The theory underlines the significance of basic industries in the process of growth. This will automatically press for the growth of consumer-goods industries.

3. **Economies of Large Scale Production:** The strategy of unbalanced growth generates economies of large scale production. Establishing key industries calls for the establishment of ancillaries, generating all round increase in income and employment.

4. **Encouragement to New Inventions:** Unbalanced growth generates pulls and pressures in the system, calling for new inventions and innovations.

5. **Self-reliance:** Self-reliance is the under-current of the theory of unbalanced growth. It starts with the realistic assumption of chronic scarcity of resources in less developed countries and contemplates to initiate and accelerate the process of growth in accordance with the needs and means of the country concerned.

6. **Economic surplus:** The strategy of unbalanced growth is expected to generate greater surplus in the system. This is because of its emphasis upon the capital-goods industries. This strategy is also expected to produce a very strong multiplier effect in the system, stimulating income and employment.

7.4.9 CRITICISM OF THE UNBALANCED THEORY OF GROWTH

1. **Inflation**- The theory gives undue emphasis to development through industrialization, not withstanding the significance of agriculture. Because of long gestation lags in industries, flow of goods is expected to be constricted during the short period, causing inflation.

2. **Wastage of Resources**- Being concentrated on a couple of industries, resources may not be appropriately utilized. Some sectors of the economy will grow at a faster rates while other sectors will remain neglected.

3. **No mention of obstacles**- Paul Streeten observes that the theory only mentions the establishing key industries presses for the establishment of other industries. But the theory is obvious to the possible difficulties in establishing key industries to begin with. It is not an easy task to establish key industries right at the beginning of a development programme.

4. **Increase in uncertainty**- The theory inherently assumes that the success of the growth process depends on external trade and foreign aids. This increases uncertainty of the growth process.

5. **Unbalance is not necessary**- The critics are of the opinion that deliberately introducing unbalances in the system is not so much needed in the less develop countries. These imbalances are caused on their own due technical indivisibility and uncertain behaviour of demand and supply forces.

6. **Neglect of the degree of unbalance**- How much to imbalance and where to imbalance are not known by the theory of unbalanced growth. It only tells of the need to imbalance.

7. **Linkages effects are not based on empirical data**- Prof. Hirschman has advocated to start only those industries that have maximum linkages effect. But these effects are not based on statistical data pertaining the less developed countries.

8. **Lack of basic facilities**- 'Unbalanced Growth Theory' assumes the availability of certain basic facilities in terms of necessary raw materials, technical know how and developed means of transport. However in less developed countries mostly these are insufficient.

Dissimilarities between Balanced Theory and Unbalanced Theory:

1. The theory balanced growth advocates the simultaneous growth of all sectors of the economy. The theory of unbalanced growth, on the other hand, focuses on the growth of some key sectors of the economy to begin with.
2. Balanced growth hypothesis seeks to accelerate the process of growth through simultaneous investment across all sectors of the economy. The unbalanced hypothesis however, seeks to accelerate the process of growth through imbalances in the system.
3. Balanced growth requires a lot of capital investment right from the beginning of the growth process. Unbalanced growth requires relatively much less investment.
4. Balanced growth strategy is a long period strategy of growth, while unbalanced growth is a short period strategy for growth.
5. Size of the market is the principal limiting factor as according to the balanced growth theory. But according to the unbalanced growth theory, it is decision making and entrepreneurial skill.

7.5 THE BIG PUSH THEORY-THE THREE INDIVISIBILITIES

According to Rosenstein-Rodan, there exist three indivisibilities in underdeveloped countries. These indivisibilities are responsible for external economies and thus justify the need for a big push. The externalities are as follows-

1. Indivisibility in production function
2. Indivisibility of demand
3. Indivisibility in the supply of savings

7.5.1 INDIVISIBILITY IN PRODUCTION FUNCTION

Indivisibilities in the production function may be with respect to any of the following:

- Inputs
- Processes
- Outputs

These lead to increasing returns (i.e., economies of scale), and may require a high optimum size of a firm. This can be achieved even in developing countries since at least one optimum scale firm can be established in many industries. But investment in social overhead capital comprises investment in all basic industries (like power, transport or communications) which must necessarily come before directly productive investment activities. Investment in social overhead capital is 'lumpy' in nature. Such capital requirements cannot be imported from other nations. Therefore, heavy initial investment necessarily needs to be made in social overhead capital (this is approximated to be about 30 to 40 percent of the total investment undertaken by underdeveloped countries). Social overhead capital is further characterized by four indivisibilities:

1. **Irreversibility in time:** It must precede other directly productive investments
2. **Minimum durability of equipment:**. Any lesser level of durability is either impossible due to technical reasons or much less efficient
3. **Long gestation periods:** The investment in social overhead capital takes time to generate returns and its impact in the economy is not immediately or directly visible
4. **Irreducible minimum social overhead capital–industry mix:** Investment needs to be of a certain minimum magnitude and spread across a mix of industries, without which it will not significantly impact the process of growth.

7.5.2 INDIVISIBILITY (OR COMPLEMENTARILY) OF DEMAND

Developing countries are characterized by low per-capita income and purchasing power. Markets in these countries are therefore small. In a closed economy, modernization and increased efficiency in a single industry has no impact on the economy as a whole since the output of that industry will fail to find a market. A large number of industries need to be set up simultaneously so that people employed in one industry consume the output of other industries and thus create complementary demand.

To illustrate this, Rosenstein Rodan gives the example of a shoe industry. If a country makes large investments in the shoe industry, all the disguisedly employed labour from the other industries find work and a source of income, leading to a rise in production of shoes and their own incomes. This increased income will not be expended only on buying shoes. It is conceivable that the increased incomes will lead to increased spending on other products too. However, there is no corresponding supply of these products to satisfy this increased demand for the other goods. Following the basic market forces of demand and supply, the prices of these commodities will rise. To avoid such a situation, investment must be spread out amongst different industries.

The situation may be different in an open economy as the output of the new industry may replace former imports or possibly find its market by way of exports. But even if the world market acts as a substitute for domestic demand, a big push is still needed (though its required size may now be reduced due to the presence of international trade).

7.5.3 INDIVISIBILITY IN THE SUPPLY OF SAVINGS

High levels of investment require a corresponding high level of savings. We cannot always rely on foreign aid as the huge levels of investments in the different sectors need to be made not only once, but multiple numbers of times. Hence domestic savings are a must. But in an underdeveloped economy, this is a challenge due to the low income levels. Marginal rate of savings needs to be increased following the rise in incomes due to higher investment.

7.5.4 HOW THE BIG PUSH WORKS.

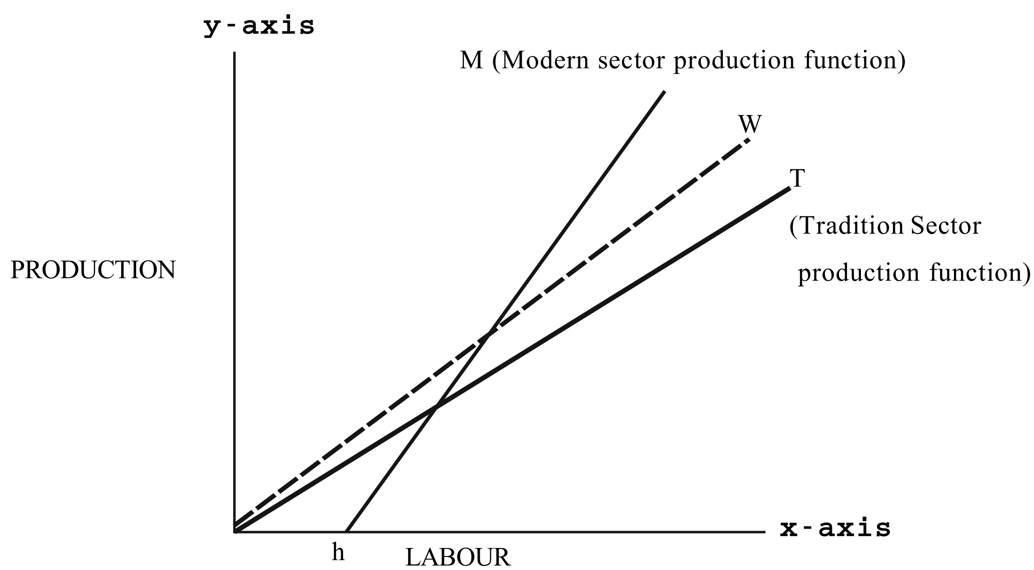

Figure 7.3

Consider a country whose economy is characterized by a large number of sectors which are so small that any increase in the productivity of one sector has no impact on the economy as a whole. Each sector can either rely on traditional methods or switch to modern methods of production which would increase its efficiency. Let us assume that there are workers in the economy and *n* sectors. Each sector therefore has *l/n* workers.

Using traditional technology, a sector would produce *l/n* amount of output, with each worker producing one unit of the commodity.

Using modern technology a sector would produce more as the productivity would be greater than one unit per worker. However, a modern sector would require some of the workers (say) to perform administrative tasks.

In figure 7.3, the x-axis represents the labor employed and the y-axis represents the level of production. The production in the traditional sector is given by the curve T and the production in the modern sector is given by M. The curve M has a positive intercept on the x-axis, implying that even with zero production, there is a minimum level of workers who still remain employed for carrying out administrative activities. With our assumption of *l/n* workers in the economy, the modern sector will have a higher level of productivity than the traditional sector. The production function of the modern sector is steeper than that of the traditional sector because of the higher productivity of workers in the former. The slope of both production functions is 1/*m* where *m* is the marginal labor required to produce an additional unit of output. This level of is lower for the modern sector than it is for the traditional sector.

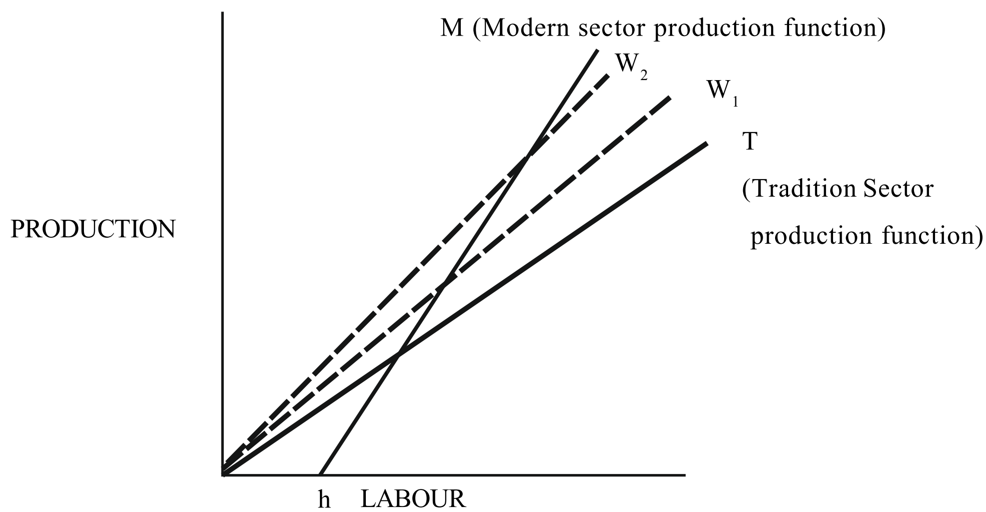

Figure 7.4

Assume that the traditional sectors pays workers one unit of output which is subsequently spent equally by them in all sectors. The modern sector pays higher wages to workers. If all the workers are employed by the traditional sector, then the demand generated for the output of each sector is $D_1 = 1/n$ We have two possible cases:

Wages are low – When low wages are prevalent in the economy, say w_1, a firm which faces demand D_1 will need to employ l^* workers if it wants to modernize. This will cost the firm $w_1 l^*$.

Now, wages are low. Therefore

$w_1 l^* > D$

This implies that costs (given by $w_1 l^*$) are lower than the earnings (given by D_1). So the firm makes a profit and will choose to modernize (even if other firms do not).

Wages are high – When high wages are prevalent in the economy, say w_2, a firm which faces demand D_2 will make losses if no other firms choose to modernize.

This is because

$w_2 l^* > D$.

This implies that costs (given by $w_2 l^*$) are higher than the earnings.

However, if all the other firms have modernized, the firm faces a higher demand, arising out of higher income levels of workers of these modernized firms. The firm will hence choose to modernize as well so that it makes profits:

7.5.5 INDIVISIBILITIES AND EXTERNAL ECONOMIES

The concept of externalities is relevant for the Industrialization of underdeveloped countries, where decisions are to be made regarding distribution of savings among alternative investment opportunities. These arise from the interdependence in market economies.

Pecuniary economies are external economies transmitted through the price system, as prices are the signalling device (under conditions of perfect competition in a market economy). They arise in an industry (say industry X) due to internal economies of overcoming technical indivisibilities. This reduces the price of its product, which will benefit another industry (say industry Y) which use this output as an input or a factor of production. Subsequently, the profits of industry Y will rise, leading to its expansion and generating demand for the output of industry X. As a result, industry X's production and profits also expand.

However in underdeveloped countries, conditions of perfect competition are not present due to the decentralized and differentiated nature of the market. Prices fail to act as a signalling system in the following ways:

(a) Prices express the situation as it is and do not predict future economic situations

(b) Prices can decide present productive activities but cannot determine investments which would be appropriate for developing countries

(c) The response of the private sector to price signals is inadequate and imperfect due to the differentiation and decentralization in developing countries

(d) This justifies the need for centralized pan-industry planning of investment in developing countries, as the private sector cannot undertake such planning.

(e) Enlargement of the market size is another important externality which arises from the complementarily of industries. There exists an incentive to expand the scale of operations because the employees of one industry become the customers of another industry. In terms of products too (as in the above example of industries X and Y), one industry generates demand for the output of the other when the scale of operations increase.

Marshallian economies also accrue to a firm within a growing industry, resulting from agglomeration of industrial districts or clusters in a particular area. These occur due to the following advantages of agglomeration identified by Alfred Marshall:

1. Spillover of information
2. Specialization and division of labor
3. Development of a market for skilled labor.

Availability of skilled labour is an externality which arises when industrialization occurs, as workers acquire better training and skills. This is not achievable by mere establishment of a few industries, but requires a large program of industrial growth. It is one of the most important external economies because absence of skilled labor is a strong impediment to industrialization.

7.5.6 ROLE OF THE STATE

The large-scale programme of industrialization advocated by this model requires huge investments which are beyond the means of the private sector. The investment in infrastructure and basic industries (like power, transport and communications) is 'lumpy' and has long gestation periods. The role of the state in this theory is therefore critical for investment in social overhead capital. Even if the private sector had the requisite resources to invest in such a programme, it would not do so since it is driven by profit motives. Many investments are profitable in terms of social marginal net product but not in terms of private marginal net product. Due to this there is no incentive for individual entrepreneurs to invest and take advantage of external economies.

7.5.7 CRITICISMS

The theory has been criticized by Hla Myint and Celso Furtado, among others, primarily on the grounds of the massive effort required to be taken by underdeveloped countries to move along the path of industrialization. Some of the major criticisms are as follows.

1. **Difficulties in execution and implementation:** The execution of related projects during the course of industrialization may involve unexpected or unavoidable changes due to revisions of plans, delays and deviations from the planned process. Hla Myint notes that the various departments and agencies involved in the process of development need to coordinate closely and evaluate and revise plans continuously. This is a challenging task for the governments of developing countries.

2. **Lack of absorptive capacity:** The implementation of industrialization programmes may be constrained by ineffective disbursement ,short-term bottlenecks, macroeconomic problems and volatility, loss of competitiveness and weakening of institutions. Credit is often utilized at low rates or after long time lags. There is often a loss of competitiveness due to the Dutch disease effect.

3. **Historical inaccuracy:** When viewed in light of historical experience of countries over the last two centuries, no country displayed any evidence of

development due to massive industrialization programmes. Stationary economies do not develop simply by making large-scale investment in social overhead capital.

4. **Problems in mixed economies:** In a mixed economy, where the private and public sectors co-exist, the environment for growth may not be a conducive one. Unless there is a complementarily between the sectors, there is bound to arise competition between them, with the government departments keeping their plans confidential out of fear of speculative activities by the private sector. The private sector's activities are simultaneously inhibited due to lack of information of government policies and the general economic situation.

5. **Neglect of methods of production:** Rather than capital formation, it is productive techniques which determine the success of a country in economic development. The big push model ignores productive techniques in its support for capital formation and industrialization.

6. **Shortage of resources in underdeveloped countries:** Eugenio Gudin criticizes the theory of the big push on the grounds that underdeveloped countries lack the capital required to provide the big push required for rapid development. If an underdeveloped nation had ample capital supply and scarce factors, it would not be classified as underdeveloped at all. Limited resource availability is the first impediment to such countries. Though this problem may be overcome by foreign aids, industrialization may not take off as expected if the aid flows are volatile.

7. **Ignores the agricultural sector:** With its heavy emphasis on industry, the model finds no place for agriculture. This is a gaping flaw in the theory, as in most underdeveloped countries it is this sector which is large and has labor surplus. Investments in agriculture need to go hand-in-hand with those in industry so as to stimulate the industrial sector by providing a market for industrial goods. If neglected, it would be difficult to meet the food requirements of the nation in the short run and to significantly expand the size of the market in the long run.

8. **Inflationary pressures:** It follows from the neglect of the agricultural sector that food shortages are likely to occur with industrialization. Though it would

take time for investments in social overhead capital to yield returns, the demand would increase immediately, thus imposing inflationary pressures on the economy. Cost escalations may even cause projects to be postponed and the development process in general to slow down.

7.6 THE CRITICAL MINIMUM EFFORTS THEORY-ASSUMPTIONS

There are two points which are assumed to be true in this theory:

(a) The output is subject to diminishing returns with respect to population growth.

(b) Population Growth is a function of per capita income and Rate of Investment is a function of per capita income.

Also there are three other important points apart from the assumptions, which are of prime importance to Harvey Leibenstein's theory:

(a) For every disturbance, no matter how large it is, the long run population growth effects will be more significant than the effects of induced investment.

(b) The system is quasi-stable for small displacement but not large ones.

(c) Equilibrium is unstable to begin with.

7.6.1 THESIS

The critical minimum effort theory is more or less an extension of the Harrod-Domar model.

Harvey Leibenstein's thesis is based on the following propositions: Nelson (1956) and Leibenstein (1957) proposed that when population will increase per capita income will also increase along with it, and thus the per capita income of the economy rises above the minimum subsistence level. Both, Nelson and Leibenstein said that even though the income rises initially, there is an upper limit to it, which is about 3-4% per annum, after this point a rise in the per capita income will not be accompanied by a rise in the rate of growth of population, instead it may also decrease after a certain point (this is because at high income levels people want to keep their family size small so that they can maintain high standards if living.)

Nelson and Leibenstein have sressed on the importance of Social structure, Human capital, and Entrepreneurship, but they say that the development of these and investment in these sectors alone can not attain critical minimum effort.

In the graph, it can be seen that with rise in population, the per capita income decreases. So as there is population growth the per capita income of the economy will decrease. The line drawn parallel to the X axis is the zero poulation growth line. When the per capita income is above this zero growth line then population growth will be positive, below it is will be negative.

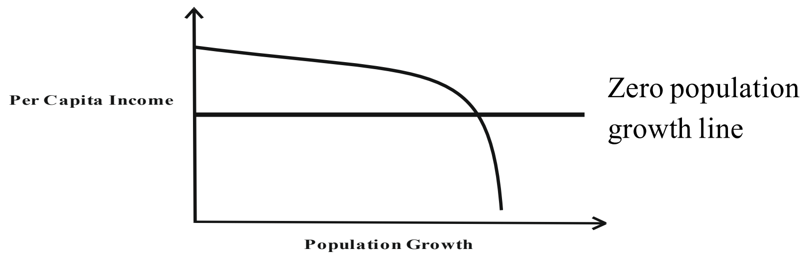

Figure 7.5

This shows that the increased per capita income leads to an increase in the population growth rate and eventually the economy is brought back to the old level of low level equilibrium. Thus population acts as an income depressing factor.

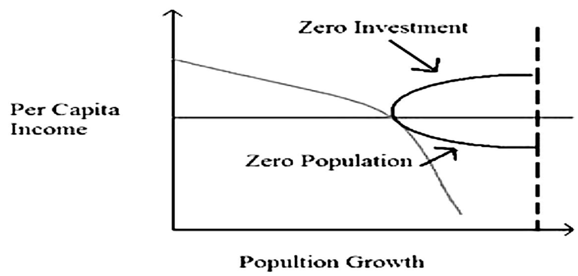

Figure 7.6

In this figure, the initial equilibrium point is where the blue line intersects the horizontal line parallel to the X axis. Now if there is any displacement in the system in the form of lets say investments then the system will be brought back to this equilibrium point.

The zero investment point is above the zero population point due to time lag. The population needs some time to increase. If it would have been the other way then the economy would never be able to come out of the trap.

7.6.2 EXPLANATION

Critical minimum effort theory is one of the balanced growth theories. It talks about how a minimum amount of push is required by an economy for it to be set on the path of development. This push can be in the form of investments. The "minimum" amount of effort that is required is "critical" for the economy to move towards development hence this theory is called critical minimum effort.

Because of the high population in underdeveloped countries the capital accumulation and labour supply are not sufficient to increase the per capita income.

So, it is necessary that the initial investment levels are sufficiently above a minimum magnitude. So, it is not necessary that all efforts to raise the per capita income are successful, some are just too small or below the minimum required level. Now, since this type of investment sometimes becomes difficult for underdeveloped nations. Leibenstein stresses on the fact that the investment can be spread over a period of time and does not necessarily have to be made instantaneously.

The main idea of the theory is that the vicious circle needs to be broken and the per capita income should increase.

Harvey Leibenstein bases his theory on the following four main hypotheses:

1. A backward economy is an equilibrium system whose equilibrium state possesses a degree of quasi stability with respect to per capita income.
2. If the equilibrium of a backward economy is disturbed, forces that tend to raise per capita incomes set in motion, directly or indirectly, forces that have an effect of depressing per capita income.
3. In the disequilibrium state in the backward economy for at least the lower incomes above the equilibrium level, the effects of the income depressing forces are greater than the effects of the income raising forces.
4. During any period there is some absolute maximum to the effects of the income depressing forces, but the absolute maximum (if there is one) of the effects of per capita creating forces is greater than that.

From the above hypotheses, we can conclude that "in order to achieve the transition from the state of backwardness to the more developed state it is required (a necessary but not sufficient condition), the economy should receive a certain stimulus to growth and which should be greater than a certain critical minimum size."

7.6.3 STIMULANTS AND SHOCKS

Leibenstein has used these 2 terms stimulants and shocks in his theory quite often. He defines stimulant as any event that changes the value of a variable away from its equilibrium value so that due to this event there is an initial increase in the per capita income.

Shock on the other hand has been defined by Leibenstein as any event external to the system due to which per capita income is reduced initially.

Now in underdeveloped economies shocks are more powerful than stimulants so what should be done in such a scenario is that the levels of incomes should be risen to such an extent that stimulants become stronger than shocks and the growth in incomes becomes self-sustaining.

7.6.4 FACTORS DETERMINING THE NEED FOR A MINIMUM EFFORT

Leibenstein in his theory discusses the factors that determine the need for the minimum effort required by the developing economies:

Internal Diseconomies: Because of presence of indivisibilities in the factors of production it is necessary for the economy to have investment of a certain minimum size.

External Economies Interdependecies and Balanced Growth: In a closed economy, industries are interdependent on one another. So industry 1 will require materials from industry 2, and so on. Therefore for one to exist the other must also exist. So this shows that the minimum investment required for all these industries to exist should be of considerable amount. This leads to a notion of balanced growth. Leibenstein says that if there were no technological indivisibilities then balanced growth could be easily achieved with any level of investment. But due to presence of indivisibilities balanced growth requires a substantial minimum amount of investment.

Overcoming Induced and Autonomous Depressants: The developing or underdeveloped economies have both autonomous and induced factors depressants.To overcome these factoes investments above a certain minimum size is required.

Non-Economic Aspects and Growth Momenetum: The underdeveloped countries have old and traditional attitudes and mindset, which has to be changed as these inhibit growth. Economic growth requires the promotion of the following type of attitudes:

(i) a strong profit incentive

(ii) willingness to accept entrepreneurial risk

(iii) an eagerness to promote technical and scientific progress.

If a country wants to achieve balanced growth, then critical minimum effort is almost a pre-condition.

7.6.5 CRITICAL EVALUATION

The theory critical minimum effort is better than big push theory in the sense that it is more practical than the latter as critical minimum effort theory can be better timed and can be broken up into a series of smaller efforts.

Critical minimum effort theory as opposed to big push theory does not stress on the fact that a lump some amount of investment has to be made instantaneously. So it is more relevant for under developed nations.

- The theory is also consistent with the concept of decentralized democratic planning as practiced in India.
- It is wrongly said in the theory that increase in per capita income would lead to a decrease in population size due to a low birth rate. Instead population depends upon a number of economic and non economic factors.
- Critical minimum effort theory completely ignores the monetary and fiscal policies which are important factors in deciding the investment and income levels of an economy.
- It is true only for a closed economy. It does not take into consideration international trade, foreign capital, etc.
- But still Critical minimum effort theory is a very important balanced growth theory.

7.7 THE LOW LEVEL EQUILIBRIUM TRAP THEORY

The theory developed by Richard R. Nelson in his article, A Theory of the Low-Level Equilibrium Trap published in 1956. According to Nelson the malady of underdeveloped economies can be diagnosed as a stable equilibrium level of per capita income at or close to subsistence requirements. At this low stable equilibrium level, both the rate of investment and saving are low. If per capita income is increased above the minimum subsistence level, it encourages growth in population. The population growth, in turn pushes down per capita income again to subsistence level. Thus, the economy is caught in low level equilibrium trap. Getting out of the trap requires increasing the rate of growth of income to the levels higher than the rate of increase in population. In Nelson's opinion following four conditions are conducive to trapping:

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

7.7.1 MODEL

Nelson uses a model with three equations. First, there is an income determination equation. Income depends on the stock of capital, the size of the population, and the level of technique. Second, net investment consists of saving-created capital plus additions to the amount of land under cultivation. Third, there is the population growth equation according to which in areas with low per-capita incomes short-run changes in the rate of population growth are caused by changes in the death rate, and changes in the death are caused by changes in the level of per-capita income. Yet once per capita income reaches a level well above subsistence requirements, further increases in per-capita income have a negligible effect on death rate. With these three sets of relationships, it is easy to see that an underdeveloped economy is caught in a low level trap.

7.7.2 INCOME DETERMINATION EQUATION

In first case the economy is at minimum subsistence level of per capita income. When per capita is less than that of the minimum subsistence level the population decreases. After a stationary point when per capita income increases then the subsistence level population increases until it reaches a physical limit. Population growth increases till it reaches its upper physical limit after which it declines. The declines occurs because at high percapita income levels, people become conscious about their living standards and try to adopt a small family norm.

7.7.3 NEW INVESTMENT IS EQUAL TO CAPITAL CREATED OUT OF SAVINGS

In this case, there is a certain level of income in the economy with no savings as all the income is spent on consumption. Also the level of investment is zero. There is negative investment in the economy when savings are negative implying a situation where consumption is greater than income i.e. people live on past capital. However, when per capita income rises then savings also rises from zero level which leads to rise in the investment level in the economy. As there is continuous increase in the per capita income there is a rising proportion of total income saved and invested.

7.7.4 POPULATION GROWTH EQUATION

Whenever the per capita income reaches a level above the subsistence level any further increase in it will have a negligible effect on death rates. Moreover changes in death rate are due to changes in per capita income.

7.8 CRITICAL APPRAISAL

The phrases 'low level equilibrium trap' and 'vicious circle of poverty' have become popular in economic literature and so have the perceptions of getting out of these states like Big Push, Critical Minimum effort etc.. Most of the economists agree with Leibenstein that if the underdeveloped countries have to get out of low level equilibrium trap they must undertake investment programmes of such magnitude that the growth of per capita income breaks the population barrier. However, H. Myint points out two sets of difficulties in applying this theory to underdeveloped countries:

First, it is not always possible to draw a rigid functional relation between the level of per capita and the rate of growth of population and rate of growth in total income. Main causes of growth in population in most of the underdeveloped countries in recent decades have been reduction in death rates due to improvements in public health and the control of epidemics and endemics, which were not closely related to prior rise in per capita income level. The functional level of per capita income and the level of growth in total income is still more complex and, according to Myint takes place in two steps. The relation between the level of per capita income and the rate of saving and investment is modified by number of factors such as pattern of distribution of income and effectiveness of financial institution in mobilizing savings. The relation between investment and the resultant output is also not given by stable capital-output ratio, but depends on how far the productive organization of the country can be improved and how far land- savings innovations can be adopted to overcome the tendency to diminishing returns on additional investment which will continue even after the population growth has levelled off at 3 percent per annum.

Second introduction of the time element creates some complications. Myint argues that it illustrates a set of timeless functional relationship rather than the time series of growth and population and income. The stable and the unstable equilibrium has been taken from the Trade Cycle Theory which deals with turning points in the level of short run economic activities in the developed countries. We, therefore, may question how far this type of analysis originally designed to illustrate the gear shifts in short run economic activity of a fully developed countries is useful for the studr of the problem of long term economic development of the underdeveloped countries which is concerned with the construction of the engine of growth itself.

7.9 CONCLUSION

Starting from this low level equilibrium trap, any small increase in per capita income will not be able to sustain itself or lead to further increase in per capita income because the rate of growth in population is higher than the rate of growth in total income. Consequently, per capita income will fall to previous low equilibrium level.

This happens till the time rate of growth in population is greater than the rate in growth of total income. It is only when the level of per capita income is increased by a discontinuous jump that the country can hope to come out of the low level equilibrium trap, because the rate of growth exceeds the rate of growth of population. Nelson's thesis advocates that if the country is to break the shackles of low level equilibrium trap, its rate of growth of total income must be higher than 3 percent per year. This can be done only when, to use Leibenstein's terminology, that amount of minimum effort is undertaken which pushes up the level of per capita income.

7.10 SELF ASSESSMENT EXERCISES

Q1. What is meant by Balanced Growth? Discuss the need and rationale of balanced growth ?

Q2. Define unbalanced growth. Explain the theory of unbalanced growth ?

Q3. Briefly explain the big push theory on economic development ?

Q4. What is meant by Low level equilibrium trap? Discuss the difference between model and income determination equation ?

Q5. Explain the critical appraisal on economic development ?

7.11 FURTHER READINGS

Agarwal R.C : Economics of Development and Planning [Theory and Practice]

Dewett K.K : Modern Economic Theory

Jhingan M.L : The Economics of Development and Planning

Jhingan M.L : Advanced Economic Theory

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THEORIES OF DUALISM AND DEPENDENCY

STRUCTURE

8.1 Introduction

The underdeveloped countries of today are generally characterized by a dualistic economic structure-a modern economy existing side by side with a traditional or backward economy. As a matter of fact, almost all underdeveloped countries have a dualistic economy. Thus, dualistic economy is a co-existence of two opposite economies, i.e., modern economy and the backward economy. The modern economy enjoys all facilities and amenities of the modern life whereas the traditional economy remains devoid of all such things. The existence of these two different economies creates a problem known as the 'problem of dualism'. It is a concept broadly discussed in the developed economies. This concept of dualism has been examined and discussed at considerable length including questions relating to nature, features and implication of dualism at different plateforms.

The three main theories of dualism i.e. (I) The Theory of Social Dualism as propounded by Dr. J.H. Boeke, (II) The Theory of Technological Dualism, as propounded by Benjamin Higgins and (Ill) The Theory of Financial Dualism as propound by Prof. H. Myint.

8.2 OBJECTIVES

After going through this lesson the students should be able to:

- Learn about the types of dualism.
- understand the characteristics of dualistic economy.
- describe the production function in industrial sector
- understand the criticism of financial dualism
- learn about the meaning of dependency

- various approaches that deal with the concept of dependency;
- the criticism against the dependency theories

8.3 ELEMENTS OR CHARACTERISTICS OF DUALISM

According to Prof H. W Singer, there are four main elements or Characteristics of dualism. They are as follows:

1. It possesses different set of conditions, out of which some are Superior and others are inferior. There is co-existence of modern and traditional methods of production, the co-existence of wealthy, educated people with illiterate, poor people, the co-existence of wealthy industrialized nations with poor agricultural nations.
2. The co-existence is chronic. Any discrepancy between superior and inferior will not eliminate itself over time. The co-existence of international wealth and poverty is not a temporary phenomenon which would be removed with the passage of time. It is deep rooted.
3. The degree of difference between superiority and inferiority fails to show any mark of diminishing, rather it has an inherent tendency to increase. For instance, the difference of production techniques between the workers of developed and less developed countries seems to be broadened over time.
4. The interrelations between superior and inferior elements are such that superior element does little or nothing to improve or pull up inferior element. But the universal truth is that superior element always tries to push down the inferior element.

8.4 TYPES OF DUALISM

(1) The Theory of Social Dualism. Dr. J.H Boeke, a Dutch economist, propound the theory of social dualism. This theory of social dualism is a general theory of economic and social development of underdeveloped economies based primarily on his studies of the Indonesian economy. In 1953, he showed the difference between superior and inferior elements of social and cultural conditions. He thinks that dualism creeps up due to the differences between the pre-capitalist traditional society and capitalist modern society.

(2) The Theory of Technological Dualism. Prof Benjamin Higgins propounded the theory technological dualism. It implies the use of different production functions in the advanced sector and the traditional sector. Dualism is a situation in which productive employment opportunities are limited, not because of lack of effective demand but because of resources and technological restraints in the two sectors.

(3) The Theory of Ecological Dualism. In 1963, Greetz had made different explanations for dualism. He was of the view that different ecological systems influence dualism. Climatic conditions and natural resources endowments of different regions create elements of superiority and inferiority.

(**4) The Theory of Enclave Dualism**. Prof. H. W Singer Frutado and H. Myint have explained enclave dualism. They argue that technological dualism proposes to describe a situation that arises when a capitalist wedge is introduced into the traditional economic structure. This wedge is in the form of productivity. The extractive industry like mines, oil wells and plantations etc. are capital intensive and so modem imparted technology is being used. In fact, this sector becomes an enclave for export. This sector coexists with low productivity and labour intensive technology.

(5) The Theory of Financial Dualism. Prof H. Myint has propounded the theory of financial dualism. Financial dualism refers to the coexistence of different interest rates between the organized and unorganized money markets in the underdeveloped countries. The rate of interest in the unorganized market in the traditional sector is much higher than the rate of interest in the organized money market in the modern sector.

(6) The Theory of International Dualism. Prof. H. Myint and G. Myrdal propound the theory of international dualism. Prof. M.P Todaro has further expanded this theory. International dualism has been explained as pockets of wealth within broad areas of poverty. It has also been described as the persistence of increasing divergence between rich and poor nations of the world. International trade is responsible for international dualism.

8.5 THE THEORY OF SOCIAL DUALISM

Dr. J. H. Boeke, a Dutch economist, propounded the theory of social dualism. This theory is applicable only to underdeveloped countries. It is based on the social development of underdeveloped economies on his study of Indonesian economy. Today, the underdeveloped countries are characterized by dualistic economic structure.

8.5.1 MEANING OF SOCIAL DUALISM

According to Dr J.H. Boeke, there are three characteristics of a society in the economic sense. They are (i) social spirit, (ii) organisation forms, and (iii) the technique dominating it. Their interdependence and interrelation are called the social system or social style. It is not necessary that a society be exclusively dominated by one social system. If atleast one social system prevails, the society may be called homogenous. But when two or more social systems prevail simultaneously, the society may be called a dual society. Boeke qualifies the term dual society to societies "showing a distinct cleavage of two synchronic and full grown social styles which in the normal historical evolution of homogenous societies an separated from each other by transitional forms as for instance, precapitalism and high capitalism by early capitalism, and which there do not coincide as contemporary dominating features." Without these qualifications, it would be impossible to distinguish between homogenous and dualistic society. If on the other hand, one social system is imported from abroad and this system fails to oust or assimilate the prevailing social system, a dual society obviously exists. The most frequent form of the social system imported from abroad in underdeveloped countries is western capitalism which has penetrated into precapitalistic agrarian community of these countries. The imported social system is under western influence and supervision and uses advanced techniques and where the average standard of living is high. On the contrary the native or prevailing social system is traditional with low level of techniques along with low standard of living of the average person. Boeke calls it a social dualism.

He believes that dualism arises from a clash between the social systems of east and west. To substantiate his View-point Boeke quotes Rudyard Kipling's famous phrase, "East is East and West is west, and never the twain shall meet." This phrase makes the point amply dear that the social system of East is radically different from the social system of West. It is due to the clash between these two social systems that social dualism arises in the less developed countries, with the result that less developed economics are often called dualistic economies.

8.5.2 CHARACTERIZES OF A DUALISTIC ECONOMY

The main characteristics of dualistic economy are as follows

(1) Limited Needs. The foremost characteristic of eastern or the pre-capitalist indigenous sector of the dualistic economy is the limited needs of the society in sharp contrast with the western society where the wants are unlimited. The reason for limited needs of the dualistic economy is simple habits and simple way of living of the people. The people of the eastern society (backward society) do not aspire for more and more, rather they feel satisfied when their immediate needs are duly met. In simple words, the people remain contented with their present lot. Because of limited human needs, economic motivation to produce either does not exist in the eastern society or is very weak. This, in turn, leads to low level of economic activity.

(2) Overriding Importance of Social Needs. Another main characteristic of dualistic economies as pointed out by Dr. Boeke is that they give greater importance to social needs as compared to western economies. According to Dr. Boeke, "Possessions in the shape of cattle, land, clothes and houses, the fulfillment of social duties in all circumstances of life, must be regarded as largely the satisfaction of social needs. It is not their economic usefulness nor the individual services they render, but their possessor which determine the value of the goods. It is a matter of secondary importance whether the land produces reasonable profit in proportion to the money paid for it or not; whether the cattle can be made reasonably useful to their owner and own his business or not; whether the clothing cover protects, warms the wearer or affects him pleasantly any way. For it is not the use of these objects to the subject himself that gives them their worth in his eyes; it is what the community thinks of them that sets the standard".

(3) Unorganised Labour. Another important characteristic of dualistic economy is that labour is unorganized, passive, silent and casual. Labour is unskilled and immobile too. People hesitate to leave their huts and homes, as they are very much attached to these things. Because of the immobility, the labour remains unorganized and as such his bargaining power is weak. People are orthodox in their outlook and passive in action. They do not take initiative for any adventure. In contrast, the people in western economy are progressive, dynamic, and forward looking. They display their interest in every type of adventure.

(4) Accent on Self-Sufficiency. Another important characteristic of dualistic economy is that the eastern society considers family as an unit and the individual self-sufficiency is the dominant idea. People are not easily induced to organize production or to collect investment. Thus, the main object of production is not profit making but satisfying per needs.

(5) Absence of Enterprising Spirit. Another characteristic of the dualistic economy is that people are not adventurous and thus lack the requisite enterprising spirit. In contrast, the people of the western society are more adventurous, enterprising, forward looking and risk taking. There is complete absence of profit-seeking activities in the eastern society. People indulge in speculative activities and pay little attention to the profit-giving activities. They do not believe in capital investments attended by risks. They lack initiative.

(6) People of dualistic economy are fatalists and hesitate to use the modern technology.

(7) People lack in organizational skill and ability.

(8) There is absence of professional trading.

(9) Lack of elasticity of supply.

(10) Export is the main objective of foreign trade in eastern society as distinct from a western society where it is only the means which makes imports possible.

(11) People are immobile and thus are relectant to leave the village community.

(12) Migration takes place within the country and immigration takes place through state intervention.

(13) Urban development takes place at the cost of rural life.

(14) Goods are evaluated according to their prestige value rather than value in use.

8.5.3 INAPPLICABILITY OF WESTERN ECONOMIC THEORY

These contrasting characteristics of a dual society make it unsuitable for the application of western economic theory. Eastern and Western economics are basically different, the former is pre-capitalist and the latter is capitalist. Therefore, Boeke advises that, "we shall do well not to try to transplant the tender, delicate, hot houseplants of western theory to tropical soil, where an early death avaits them. Boeke does not spell out any scheme for economic development in such societies. He only says, industrialization or agricultural development must be a slow process, small-scale and suitable for dualistic framework along with democratic ways. He suggests that the required leadership must come from the people themselves, who should work with faith, charity and patience for economic prosperity of the country.

8.5.4 A CRITICAL APPRAISAL

Boeke theory of dualistic development has been severely criticized by Prof. Benjamin Higgins on the following grounds:

(I) Wants limited -not true. Higgins contends that Boeke's assertions that people in underdeveloped countries have limited wants or backward sloping curve of effort and risk taking are not true.

(2) Bleak Possibility of Thchnological Progress. Boeke's pessimism in regard to bleak possibility of technological progress in underdeveloped countries cannot be shown on the basis of experience because in underdeveloped societies a large number of industries organized on western lines are functioning well.

(3) Trade Unions not Visualized. Boeke's dualistic theory ignores the role of trade union because according to Prof. Boeke the workers are unorganized, passive, silent and casual in underdeveloped countries. In fact, trade union activities are becoming more and more streamlined all over the world. Even casual labourers are organized in tea coffee and rubber plantation industries where there are strong trade unions.

(4) Not peculiar to Underdeveloped Economies. Prof. Boeke takes one-eyed view by saying that phenomenon of dualism is only confined to eastern economies and he also admits that social dualism exists in underdeveloped economies of Africa and Latin America. To some degree, it exists in almost every economy. According to Prof. Higgins "even in most advanced countries such as Italy, Canada and United States, there are areas in which techniques lag behind those of advanced sectors and in which standards of economic and social welfare are correspondingly low." It means, dualism to some extent is also found in developed countries.

(5) Casual Labour not Organized—not true. Boeke's characterization of eastern casual labour as unorganized, passive, silent is not true. The fact is that trade union activities are becoming more and more organized and active even in underdeveloped countries like India, Indonesia and elsewhere. However, casual Labour may not be fully organized in agriculture but in tea, coffee and rubber plantations the trade union movement is the strongest one.

(6) Applicable to Western Societies. Boeke is of the opinion that the western economic theory is not applicable to the problems of eastern economies. However, this viewpoint has been criticized by Higgins holds the view that tools of western economic theory pertaining to fiscal and monetary policies can be applied the minor modifications for the solution of the crucial problems like balance of payments, disequilibrium and unemployment etc. of eastern economies. Further, whenever chronic inflation exists or threatens western economies, people prefer speculative profit to long-term investments. Western economists, according to Higgins, "have recently developed a whole field of analysis relating to 'liquidity preference' and safety preference', to take account of the reluctance of investors the world over to accept risk or illiquidity and their strong preference for keeping their capital safe and in Liquid form."

(7) Social Dualism is not a Theory. Social dualism has been criticized on the ground that it is not a theory, but a mere description of the nature of underdeveloped economies. There is a weight in this criticism because Boeke's dualistic theory only explains the various traits of the eastern economies, but fails to furnish the social and economic theory of underdeveloped countries. A theory of underdeveloped is one which explains the various aspects of the problem, but dualistic theory fails on this account too.

(8) Eastern Labour not Immobile. It is not possible to accept the Boeke's argument that people in eastern economies are reluctant to leave village community. Rapid urbanization in eastern economies is a specific proof of the migration of the village people to cities. In fact, the attraction of the urban life, such as cinemas, shops, cafes, sports events and employment opportunities have always led to migration from villages to cities

8.6 THE THEORY OF TECHNOLOGICAL DUALISM

Prof Benjamin Higgins propounded the theory of technological dualism. It is an alternative to Boeke theory of social dualism which failed to solve the problem of unemployment which is the basic problem of underdeveloped countries like India.

8.6.1 MEANING OF TECHNOLOGICAL DUALISM

Technological dualism implies the use of different production functions in the advanced sector and the traditional sector of an underdeveloped economy. According to G.M, Meier, "Technological dualism is associated with the structural unemployment or technological unemployment — a situation in which productive employment opportunities are limited, not because of the lack of effective demand, but because of resource and technological restraints in two sectors.” As such the theory of technological dualism relates to the factor-proportion problem. This problem has been discussed by Dr. R.S Eckaus in his leading article entitled “The Factor Proportions problem in underdeveloped areas.” He is of the view that unemployment difficulties of underdeveloped areas are not basically due to lack of effective demand but due to the market imperfections, limited opportunities for technical substitution of factors and inappropriate factor endowments. According to C. P Kindleberger, the problem of unemployment in underdeveloped areas arises due to structural disequilibrium at the factor level and this factor of structural disequilibrium has been explained by him in the following words:

“Disequilibrium at the factor level may arise either because a single factor receives different returns in different uses or because the price relationships among factors are not in line with factor availabilities. Disequilibrium in factor proportions, which is the cause of unemployment or under-employment in the underdeveloped areas, can wise due to two factors (i) imperfect functioning of price system (ii) limitations in the existing technology or the structure of demand.”

8.6.2 CHARACTERISTICS OF TRADITIONAL RURAL SECTOR

The main characteristics of traditional rural sector are as follows:

(i) Production techniques are relatively labour intensive.

(ii) It is engaged in peasant agriculture and handicrafts or very small industries.

(iii) It has a variable technical coefficients of production so that products can be produced with a wide range of techniques and alternative combinations of labour and capital.

8.6.3 CHARACTERISTICS OF MODERN SECTOR

The main characteristics of modern sector are as follows:

(i) Production processes are capital intensive.

(ii) It is composed of plantations, mines, oil fields or large-scale industry.

(iii) In this sector there is very limited degree of technical substitutability of factors so that production is characterized by fixed technical coefficients.

8.6.4 THE PRODUCTION FUNCTION IN INDUSTRIAL SECTOR OR MODERN SECTOR

In order to illustrate technical dualism, Prof. B. Higgins assumes two factors of production (labour and capital) and two goods. Out of two sectors modern sector or industrial sector is composed of heavy industries, plantations, mines and oil fields etc. The production in this sector can be carried on with limited techniques because the technical coefficients are generally fixed. The production processes are relatively capital intensive in the sense that large amounts of capital are used with small amount of labour. The situation of industrial or modern sector can be explained by means of the diagram given below:

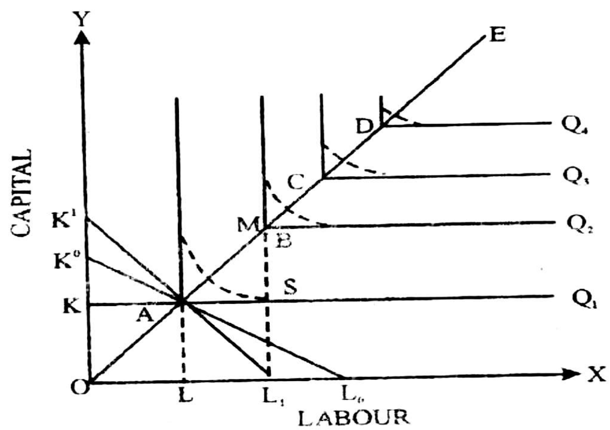

Figure 8.1

In the above diagram units of labour are measured on X-axis and units of capital are measured on Y-axis. Q_1 is an isoquant curve representing combination of OK units of capital and OL units of labour producing a certain level of output. The curves Q_2. Q_3 and Q_4 represent high levels of output which are only possible by increasing the units of capital and labour in the same proportion. Thus points A, B, C, D indicate fixed combinations of capital and labour used to produce different levels of output. The line OE joining these points is the expansion path of the industrial sector and its slope represents constant proportions of the two factors. The line K_1L_1 shows that the production process is capital intensive, more capital is required to produce a given output relatively to labour. To produce Q_1 output OK unit of capital and OL units of labaur are used. If however the actual factor endowment is at S instead of at A, it means that more labour units (OL_1) are available to produce the same Q_1 output, the units of available capital remaining the same (OK). Since there are fixed capital coefficients, the excess labour supply will not affect production techniques at all, LL_1 units of labour will remain unemployed. It is only when capital stock increases to SM that it is possible to absorb this excess labour supply in this sector, otherwise it will have to seek employment.

As a matter of fact, in actual working of the industrial sector, the technical coefficients are not rigidly fixed, rather they are flexible. The dotted portions of the isoquant curves in the above diagram indicate a situation in which there is actually some flexibility in factor proportions.

8.6.5 PRODUCTION FUNCTION IN AGRICULTURAL (TRADITIONAL) SECTOR

After discussing the production function in the industrial sector, Prof. B. Higgins further explains the production function in the agricultural sector where the technical coefficients are variable by means of the diagram given below:

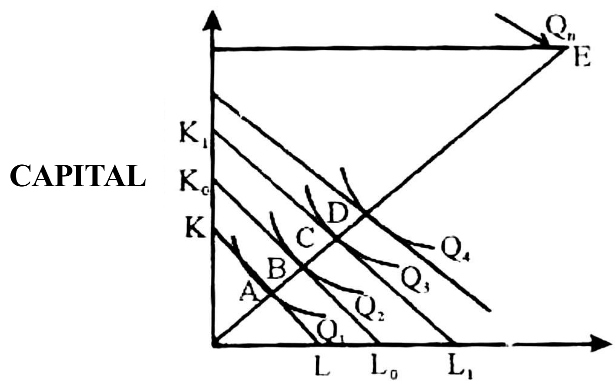

Figure 8.2

In the above diagram, units of labour are measured on the horizontal X axis and units of capital on he vertical Y-axis. Q_1, Q_2, Q_3 amd Q_4 are the isoquant curves on the assumption that technical coefficients are variable and wide range of techniques and combination of labour and capital will give the same output. The combination of labour and capital will actually depend on the factor endowments and their relative prices. In this context capital includes the improved land. We begin with the production at Q_1 in each sector. The industrial sector expands with the inflow of capital from abroad and output increases along the expansion path OE. But industrialization of this sector generates a population explosion. In some countries the growth of population exceeds the growth of capital in the industrial sector. Thus, the increased population will have to seek employment and livelihood in the agricultural sector or "variable coefficient sector." As a result the migration of labour from industrial to agricultural sector starts.

At the beginning of the expansion process of agricultural sector, no factor of production is relatively abundant or scarce. But as the migration of the population continues, it may be possible to bring more Land under cultivation, so as to keep the ratio of labour to land relatively constant. As land is the only form of capital available in the agricultural sector, so the amount of land that can be actually cultivated by one family in any case will be limited. Though for a short period the optimal combination of labour and capital (improved land) may be possible as output rises from Q_1 to Q_4 but eventually the land would be relatively scarce and labour a relatively abundant factor. Since technical coefficients are variable in this sector, production process would be more lahour intensive. Finally a point would be reached when all available land would be cultivated by this highly labour intensive technique. Consequently marginal productivity of labour would fall to zero and disguised unemployment would begin to appear.

Thus the continuous growth of population, with the limited availability of capital (improved land) would cause surplus labour to rise, which in turn would aggravate the problem of disguised unemployment in the traditional rural sector. Under these circumstances, there would be no incentives for the farmers either to make more investment or to introduce labour saving innovations.

This problem of disguised unemployment is aggravated by technical progress in the long run. As the technical progress takes the form of capital incentive techniques involving the fixed proportions, it fails to ease the situation. Prof Higgins argues that during the last two centuries there has been little or no technical progress in the peasant agriculture or handicrafts, while in the industrial sector, (i.e., plantation, mining and petroleum etc.) rapid technological progress took place. On the basis of the above discussion, it can be concluded that the technological dualism accentuates the problem of unemployment in underdeveloped countries because of the fixed factor proportions in the industrial sector and growing population in the rural sector.

8.6.6 A CRITICAL APPRAISAL

Prof. Higgins tries to present an historical evolution of the modern and traditional leading to a steady rise in underemployment in the latter sector. Technological dualism appears to be superior to Boeke's social dualism. It is realistic for it takes into account how disguised unemployment gradually arises in the rural sector of the dualistic societies.

(1) Coefficients not Fixed in Industrial Sector. The theory assumes that production in the industrial sector is carried on with fixed proportions between labour and capital. However, this assumption is not valid as it is not supported by empirical data. Modern age is a dynamic age and to talk of fixed coefficients in this dynamic age appears to be quite unconvincing. Change is the rule of life and hence everything is likely to undergo a change in the dynamic world, nothing remains fixed or constant. Thus, the assumption of fixed coefficients is untenable.

(2) Factor Prices do not Depend upon Factor Endowments. This theory indicates why factor endowments and different production functions have led to the rise of disguised unemployment in the rural sector. This is vitally connected with the pattern of factor prices. But factor prices do not solely depend on factor endowments.

(3) Neglect Institutional Factors. Moreover, there are many institutional and psychological factors that also influence factor proportions which have been neglected by Higgins.

(4) Use of Labour Absorbing Technique ignored. This theory indicates that highly capital intensive techniques are used in industrial sector while such techniques are generally labour absorbing. In this way, it has totally ignored the use of other techniques which are also labour absorbing. Further, all imported techniques are not labour absorbing.

(5) Concept of Disguised Unemployment is Ambiguous. Higgins theory of technological dualism does not clarify the nature and extent of disguised unemployment in the rural sector. Similarly, he fails to assess the extent of excess labour supply in industrial sector. In this way, the technological dualism seems to be quite ambiguous.

8.7 THEORY OF FINANCIAL DUALISM

8.7.1 MEANING OF FINANCIAL DUALISM

The theory of financial dualism was developed by L M. Myint. Financial dualism refers to the co-existence of different interest rates between the organized and unorganized money markets in underdeveloped countries. The rate of interest in the unorganized money market in traditional sector is relatively much higher as compared to the rate of interest in the organized money market in modem sector.

According to Prof. Myint, the unorganized money market consists of the non-institutional lenders like village money lenders, shopkeepers, traders and landlords etc. They charge very high rate of interest on account of several factors.

The main factors are

(i) There is acute shortage of money due to small savings.

(ii) Substantial amount of money is hoarded in gold, silver and land.

(iii) The risks and costs of lending money are quite high due to a large number of small borrowers.

(iv) The village shopkeepers, traders, landlords and money lenders occupy key position in the village economy and have monopoly powers over the peasants.

(v) The security offered against the loan is quite nominal. Usually unsecured loans are given against personal security of the peasant.

(vi) There is flexibility in loan transaction and blending of money lending with other type of activities such as selling of goods on credit at comparatively very high prices.

On the contrary, in the organized money market of the underdeveloped countries, the rates of interest are low and the credit facilities are available in abundance. The organized money market consists of commercial banks and other organ financial institutions which lend short-term as well as long-term credit at low rate of interest to modern business sector. Prof. Myint points out two differences between the old financial dualism which existed in the open economy of colonial period and new financial dualism which now exists in the closed economy of the underdeveloped countries following domestic industrialization policies.

As regards currency system, under the old colonial period it was automatic and ensured free convertibility at fixed exchange rates. Thus, there was no shortage of foreign exchange and no balance of payments problem. However, the present underdeveloped countries are faced with chronic inflation and balance of payments problems. Consequently, small business units like peasants, small traders, handicraft producers etc. in the traditional sector were required to face not only the problem of high interest rates but also of foreign exchange, balance of payments and imports etc. Under the colonial system, the organized money market of the underdeveloped countries consisted of the branches of the western commercial banks which were linked with international financial market.

The modern sector in the colonial system consisting of mines, plantations and foreign trading enterprises was in a position to borrow money at low rate of interest both from commercial banks and from the international capital markets. However, now the underdeveloped countries have attained the monetary freedom with the establishment of their own central banks. Further, they have introduced foreign exchange control measures and have restricted profit remittances as well as transfer of funds by foreign commercial banks. As a result, the organized money market of the underdeveloped countries has been separated from the world capital market, Coupled with this, they have been following cheap money policy. This has led to a situation in which there is the scarcity of the requisite capital in the underdeveloped countries and the central banks arc maintaining lower interest rates than prevailing in the capital market of the rich developed countries and thereby overvaluing their exchange rates. It has resulted in the repeated devaluation of their currencies leads to inflationary pressures.

Inflationary pressures reduce the foreign exchange reserves resulting in balance of payment crisis. Thus, there is great demand for foreign exchange even at overvalued exchange rates. In order to overcome this difficulty, they have concentrated on foreign exchange and import control measures as well as monetary fiscal measures and other direct measures.

According to Prof Myint, this had led to the aggravation of the economic dualism between traditional sector and modern sector. As a matter of fact, these fiscal and monetary measures have favoured the modern industrial sector as against the traditional sector. The cheap money policy by maintaining artificially low rates of interest has made credit available to large industrial concerns at favourable terms. The low rates of interest have discouraged the flow of capital funds from abroad and public savings in the country. It has resulted in heavy demand of loans. The bulk of domestic savings at low rates of interest has been diverted to the modern industrial sector. Thus, the supply of capital to the traditional agriculture sector and small industries has been reduced considerably with the result that they are forced to arrange the same even at higher rates of interest.

On the contrary, the agricultural traditional and small sectors suffer from the problem of foreign exchange and import controls on several grounds, such as,

(i) They get imported consumer goods at relatively high prices

(ii) They fail to obtain the foreign exchange and import permits easily,

(iii) They also suffer because the government expenditure or public services favours the urban areas as against the rural areas.

(iv) Public utility services like transport, communications and electric power are easily available at favourable terms to modern industrial sector than to the traditional sector.

(v) They are easily victimized by the red-tapism and corruption prevailing in the society.

8.7.2 SHORTCOMINGS OR CRITICISM OF FINANCIAL DUALISM

According to Prof. H. M. Myint, the efforts made to control the activities of the small money lenders and to provide cheap and easy credit facilities in the 'traditional sector through commercial banks and cooperative credit societies have failed on account of the following reasons:

(i) High overhead costs and salaries of the officials of commercial banks and cooperative credit societies in rural areas.

(ii) The red-tapism in dealing with small borrowers.'

(iii) Lack of necessary coordination between head office and its branches.

(iv) Gross favoritism in giving subsidies and loans.

(v) Rigid rules of assessing credit worthiness.

(vi) Unsympathetic attitude of cooperative credit societies in granting loans.

(vii) Non-availability of sufficient capital funds.

(viii) The credit discrimination against trading activities.

8.7.3 SUGGESTIONS TO IMPROVE THE FINANCIAL DUALISM

Prof H. M Myint suggests the following three types of policies to reduce financial dualism in traditional economics:

(1) Such countries should raise the official interest rates in their organized markets.

(2) In order to create a more integrated domestic capital market free access on equal terms to capital funds should be provided both to the modern and traditional sectors.

(3) The interest rates in the traditional sector should be reduced by providing unlimited access to credit funds on equal terms both to the cooperatives and moneylenders so that they may compete to lower the interest rates for the small borrowers.

8.8 THEORY OF DEPENDENCY

8.8.1 MEANING OF DEPENDENCY

Dependency may be defined as the state of one who receives charity or relief from the community, any of those goods and services which other members of that community receive in return for their labour or property or by virtue of their favoured position in the establishment order. In the similar way, the concept of dependency can be explained in terms of economic relations among nations — particularly between the western and the third world countries. A Brazilian social scientist, Dos Santos (1970), affirmed that:

By dependence we mean a situation in which the economy of certain countries is conditioned by the development and expansion of another economy to which the former is subjected. The relation of inter-dependence between two or more economies, and between these or world trade, assumes the form of dependence when some countries (the dominant ones) can do this only as a reflection of that expansion, which can have either a positive or a negative effect on their immediate developments.

Dependency theory, as such is a school of thought which attempts to explain the causes of economic development. All the dependency theorists share a common view that the force of international capitalism setting up a global division of labour has been the chief force responsible for shaping the history of the South. Capitalism—

originally as mercantilism, then as free trade, later as finance capital, and finally under the auspices of the MNC—has created a world economic system binding together the globe. Dependency literature therefore, can be viewed as a subset of the so-called world system with profound changes it has witnessed. The distinguishing feature of all the dependency writers is that they treat the social and economic development of underdeveloped countries as being conditioned by external forces: namely, the domination of these countries by other, more powerful countries. They posit that under-development can he explained in terms of relations of' domination in exchange, almost to the exclusion of an analysis of the forces and relations of production. However, there are varied approaches to deal with the concept of dependency.

8.8.2 APPROACHED TO DEPENDENCY THEORY

All the major approaches to a theory of dependency assume an anti-imperialist stance. These approaches are distinguishable through Non-Marxist and Marxist categories. For centuries, dominant nations have intervened in the internal affairs of other nations. The establishment of international financial institutions helped to ensure the hegemony of dominant nations over dependent ones. Even the establishment of aid programmes such as the Alliance for Progress designed as a device to serve U.S Capitalism. All these approaches arrived at one point that the problems of the Third World arise from the pattern of growth pursued by the First World- "Underdevelopment is the product of developments".

APPROACHES TO DEPENDENCY

Non Marxist Anti-Imperialist	Marxist Anti-Imperialist
Desarrollista, Structuralist and Nationalist	Monopoly capitalism
Autonomous development (Prebish, Furtado, and Sunkel)	(Bara and Sweezy)
Internal Colonialism (Gonzalez Casanova)	Sub imperialism (Marini)
Poles of development (Andracle Rodney)	Capitalist development of underdevelopment (Frank, New dependency (Das Satos) Dependent capitalist Development (Cardoso)

Most popular and significant among these approached is "Capitalist development of underdevelopment as propounded by A.G Frank and Rodney.

8.8.3 CAPITALIST DEVELOPMENT OF UNDERDEVELOPMENT

Andre (Junder Frank (1966) was among the first advocates of dependency theory and perhaps the most widely known dependency theorist. Frank used Brazil and Chile as case studies to backup his theory. He distinguished centre and peripher by referring to 'metropole' (for western world) and Satellite' (for third world). The most emphasized aspect of his theory is 'surplus extraction'. He argues that a 'surplus' is extracted from underdeveloped countries by advanced capitalist countries. The underdeveloped country is impoverished and fails to grow because it loses access to its surplus. Correspondingly, this surplus is appropriated by and invested in the advanced capitalist countries where it is one of the primary causes of rapid economic development. The extraction/appropriation dichotomy both causes and perpetuates the inequalities among countries. One can deduce from this analysis that in the colonial period it primarily took the form of the direct appropriation of products (looting and plundering), while in the modem period it takes the form of the repatriation of profits.

Frank set forth a number of premises to frame his theory in *his* work Capitalism and Underdevelopment in Latin America.

First, underdevelopment is not original or traditional. The new developed countries may once have been undeveloped., but they were never underdeveloped. Contemporary underdevelopment (dependency) is due to the relationship between the now developed metropolitan countries and the underdeveloped satellite countries, which reflects the development of an exploitative capitalist system on a world scale.

Second, the view of dual societies (as given by Raul Prebiselh) — one modern, capitalist, and developed and the other isolated, feudal or pre-capitalist, and underdeveloped is false because the underdevelopment of backward areas, is a product of the same historical process of capitalist development that shaped the development of the progressive areas.

Third, metropole-satellite relations (the western world and third world countries) are found at the international level as well as in the economic, political and social lives of the colonies and neo-colonial countries.

Fourth, In the times of war and depression allowed some kind of autonomous capitalist development in the satellite but within the present capitalist system such development is destined to result in underdevelopment.

Fifth, the most underdeveloped and dependent regions are those that in the past had the closet ties to the metropole. They were the greatest exporters of primary products and a major source for capital, but they were abandoned once business declined.

Thus, the theory of a capitalist development of underdevelopment linked the development of the western countries to the underdevelopment of the third world countries. Frank perceived underdevelopment to be related to exploitation. The underdeveloped countries are the products of capitalist, imperialist, and colonialist exploitation; they are underdeveloped, not developing, because they are not escaping from their backward conditions. Like Frank, Rodney too, examined metropoles and satellites and the dependent relationship between them.

Frank emphasized commercial monopoly rather than feudalism and precapitalist forms, as the economic means whereby national and region at metropolises exploit and appropriate surplus from the economic satellites. The different means through which western world or metropolises perpetuate the dependence of the satellites are:

- Role of MNCs (multinational corporations) in controlling the world trade.
- Capturing of world market by western capitalist classes owing MNCs.
- Use of military intervention for influencing the third world regimes.
- Use of aid and assistance to pressurise as well as influence the policies of the third world.
- Use of International Monetary Institutions.
- Cultural Imperialism.

All the exchange and trade relations are heavily in favour of the western countries. 'Thus, capitalism on a worldwide scale promotes developing metropolises at the expense of underdeveloping and dependent satellites. Frank's theory, as such, transcends a structural functional position and thus gives a dynamic rather than a static character to his argument.

8.8.4 OTHER APPROACHES OF DEPENDENCY THEORY

While analysing the concept of dependency, it also becomes necessary to be acquainted with the views of other writers and their approaches.

Desarrollista (development), Structuralism and Nationalist autonomous development.

The UN sponsored ECLA (Economic Commission for Latin America) under the aegis of Paul Prebisch (of Argentina), held the view that the developing nations are structured into dual societies — one advanced and modern, and the other backward and feudal. The basic argument is that, as capitalist penetration has occurred successfully in Latin America, Asia, and Africa under the impetus of western imperialism, one part of the local economy of each region has developed into a modern enclave. The basis of modern sector is to export trade. Here capital accumulates, skills are learned, and class interests are formed whose hidden- needs make them tied with foreign concerns.

Alongside the modern economy, exists traditional sector. As its name implies, the traditional sector has a technology, culture and social institutions inherited from its part. The modern economy works to disintegrate traditional society. Cheap manufactured goods destroy traditional artisanship, the expansion of plantation agriculture displaces large numbers of peasants, forcing them into poorer land. In short, the modern sector of the dual economy acts like a leech on the body of its very exploitation consolidating its own power.

The ECLA approach was anti-imperialist in the sense that it linked Latin American underdevelopment to the international economic system. Furtado examined the inequalities in Brazil throughout historical periods, tracing the shift of major economic activity and production from the north-east to the centre-south region. He argued that the state was to serve the masses by preventing a concentration of income in the privileged sectors, by widening the market to all segments of the population, and by influencing technological change. Sunkel in support of this argument stated that this transformation of the existing structures was necessary for autonomous growth; he believed that participation of the masses, including the marginal population, was essential.

Internal Colonialism

The theory of internal colonialism was proposed by the Mexican sociologist

Casanova, to which Sunkel also alluded. Casanova argued that the same conditions of traditional colonialism are found internally in nations today. The conditions of monopoly and dependence in the sense that the metropolis or core areas dominate the isolated communities or the peripheral areas; relations of production are central in terms of exploitation and discrimination of the peripheral sector by the core. This led to the marginalisation of the people, low levels of education, unemployment and underdevelopment, and lack of nourishment such experience is similar to that ofcolonised people. Thus, resistance can be mounted against monopoly capitalism turned inward and capitalist exploitation.

Poles of Development

This theory, as elaborated by the Brazilian geographer Andrade, assumes that under developed economies are characterised by a lack of infrastructure in transportation and communication; by a dual economy, with advanced areas existing alongside subsistence ones; and by dependence upon external decisions even pertaining to the production of primary products. These conditions may be overcome by diffusing capital and technology to underdeveloped centres. Through careful planning a balance in the economy can be achieved resulting in autonomous development.

Dependent Capitalist Development

Cardoso, another dependency theorist, put forth the concept of 'Dependent capitalist development'. He contended with the idea that capitalism promotes underdevelopment. He argued that capitalist development can occur in dependent situations. Dependent capitalist development had become a new form of monopolistic expansion in the third world. This development has benefited all classes associated with international capital, including the local agrarian, commercial, financial, and industrial- bourgeoisie and even the working class employed in the international sector, but it undermines national interests that are not linked to the multinational corporations, such as local entrepreneurs. The result is the fragmentation of interests between those associated with the multinationals and those marginalised by them. Under such conditions, the bourgeoisie often becomes unstable, prompting military intervention and rule.

Monopoly Capitalism

The major contemporary line of thinking on this subject was set forth by Paul Baran and Paul Sweezy. They argued that it is imperialism which constitutes a monopoly stage of capitalism composed of large scale enterprises. Baran and Sweezy like Frank, emphasized that the surplus extraction from the third world underdeveloped countries by the developed countries is the main factor of the division of the world into rich and poor countries. Historically, the looting and plundering of the colonies by the 'metropolitan' countries was the main cause of the latter's growth and of the stagnation of the colonies; and this same dynamic explains the persistence of underdevelopment today.

Subimperialism

Ruy Mauro Marini, a Brazilian Economist in Theory of Subimperialism and Super Exploitation has argued that the underdevelopment of capitalism is limited by the size of the capitalist market. In the underdeveloped capitalist countries, the role of the working class is that of producers and the product of its labour is exported. Since the product is exported, there is no need for this working class to serve as consumers and its wages can be forced down without limit. Thus the workers are super exploited in the "dependent country" and there is no mechanism for their wages to rise since they are not needed for realisation. Since wages do not rise, the internal market does not expand, accumulation in the dependent country is retarded or 'deformed'. The commodities exported from the underdeveloped country are realised by the consumption of the working class in the developed capitalist countries. In essence, Marini is arguing that the 'surplus value' is produced in the periphery and appropriated at the centre. Under-consumption merely provides the mechanism by which this appropriation occurs. Thus, the economy becomes highly dependent over the western countries.

New Dependency

Dos Santos took exception to Frank's emphasis on 'surplus-extraction' as the principal cause of underdevelopment. Dos Santos outlined the concept of 'new dependency' which emerged after the Second World War, based on the investments by MNCs. The theory of new dependency attempts to demonstrate that the relationship of dependent countries can not be altered without a change in internal structure and external relations. Further, the structure of the dependency deepens, leads dependent countries to underdevelopment, and aggravates the problems of the people, as those countries conform to an international and internal structure strongly influenced by the role of MNCs as well as by the capital markets.

Arghiri Emmanuel (1972) in "Unequal Exchange" and Samir Amin (1976) in "Unequal Development" too, like Frank and Baran, see underdevelopment as conditioned by external forces and the cause of underdevelopment as located in exchange relations. For both of them, the extraction and subsequent appropriation of surplus value is accomplished through unequal exchange between the underdeveloped and the advanced capitalist countries. They argue that as a consequence of the equalization of the rate of profit in the international market, advanced countries appropriate more labour time in exchange than they generate in production, resulting in the backward to the advanced capitalist countries. Because of their control over the world market, the western countries are appropriating more surplus. In his book "Delinking", Amin argued in favour of sub-sufficient development as well as socialist transformation of the economy of the third world countries and to delink the economic relations between the third work and the western countries.

In recent years, within the dependency theorists, 'mode of production schools' have emerged. Adan Foster and Meilla Ssoux have argued that in the third world both the capitalist mode of production as well as pre-capitalist mode of production exists. Because of this articulation between the capitalist and feudal mode of production, the exploitation of the third world labour classes becomes much more evident. The feudal relations of production often help the local as well as western capitalist classes in exploiting the labour classes thereby the underdevelopment of the third world countries become much more evident.

However, there are many theoretical problems with this analysis of dependency theorists. Critics generally, accused dependency writers of lacks of a unified dependency approach. So, it is useful to turn towards a critique of dependency paradigm.

8.8.5 A CRITICAL ASSESSMENT

In setting forth its centre-periphery thesis, ECLA (Economic Commission for Latin America) correctly linked underdevelopment to the international system and thus affirmed it as an underlying assumption of dependency theory. But, the thesis neglects a close examination of the policies and specific needs of the nations of the centre, and it mistakenly attributes backwardness to traditional or feudal oligarchies. Again it is wrong to assume that development would be promoted by a progressive national bourgeoisie, and suggested import substitution as a solution to consumptive dependence on the outside world. Although, the development of underdevelopment thesis of Frank has influenced many theorists, yet it has suffered from substantial criticism as well. The underdevelopment must be analysed in terms of classes, but the descriptions of class structure offered in dependency theory are overly schematic. Another criticism sees dependency as an external phenomenon imposed upon the periphery rather than as an integral element. Another view holds that theory statically describes forms of dependency and fails to show changes. It is also believed that the term lacks specific content. Critics also blamed that Frank's theory departs from the rigor of Marxism.

Baran and Frank emphasized that 'surplus extraction' as the cause of the division of the world into rich and poor and extraction is an aspect of the relationship among countries. No reference was given to classes, whereas in fact, the productions and subsequent appropriation of a surplus product is an aspect of the relationship between classes.

Again, Frank's theory does not deal with how the surplus product is produced and initially appropriated, but considers only how it is exchanged. The analysis makes little reference to the forces and the relations of production or the 'mode of production' as elements in the analysis of development and underdevelopment. What in essence it suggested is that capitalism does not develop primarily on the basis of the 'exploitation of the proletariat', but upon the basis of the exploitation of countries.

Further more, the idea of repatriation of profits as one mechanism for the extraction of the surplus product lacks internal consistency. If as dependency theorists assume, 'capital' is invested in the underdeveloped countries because the rate of profit there is higher than in the advanced capitalist countries, it would appear contradictory for there to be a general tendency for profits to be repatriated, appropriated and invested in the developed countries. One would logically assume that profits would be reinvested in the underdeveloped country to take advantage of the higher rate of profit Agustin Cueva believed that Frank failed to root his discussion of capitalism in an analysis of the prevailing modes of production. He even went on to accuse Dos Santos of confusing the worldwide expansion of capitalism with economic growth in the periphery.

Similarly, Sunkel elaborated on the need for national development but departed from the mainstream of ECLA thinking. Sunkel referred to mechanism of dependency (like agricultural stagnation, commodity concentration of exports, foreign ownership of industry, and foreign public debt) and incorporated them into a global view of an external dependence. His policy suggestions focused on changes in the structure of internal production and in the structure of institutions, namely the multinationals, reinforce the mechanism of dependency.

Although these writers rejected old developmental formulas, they also set into motion a new orthodoxy. Their search for a national and autonomous development was offset by the challenge of other theorists, who believed that independent capitalist development was not feasible and instead, socialism must be introduced along with a planned political economy and an intensive utilization of natural resources.

The internal colonial model of Casanova stresses national rather than external conditions. The emphasis on internal forms or conditions of colonialism may be misleading. The belief that autonomous development under capitalism may resolve the contradictions of dependency in backward nations overlooks the force of international capital, technology, and markets. Therefore, the concept suffers from weak conceptualization.

Cardoso's theory of dependent development has been the subject of criticism in the sense that, rather than utilizing class as a central concept, he focused on the structural relations of various groups and he overlooked the role of class struggle.

8.9 CONCLUSION

Dr. Boeke fails to provide a distinctive economic and social theory for underdeveloped economies. The dualistic theory undoubtedly explains the various traits of eastern economies but fails to furnish an integral approach to the social and economic theory of such countries. On this ground, dualistic theory failed bitterly. Similarly Boeke's use of the tender, delicate, hot plants of western theory seems to have in mind only flea-classical theory. But this economic theory is inapplicable in many ways even to the western world. In this way, it can be concluded that this theory does not provide answer to problems of underdevelopment. In the end, there are no special economic theories or methods of analysis fashioned uniquely for the study of underdeveloped world.

Despite the above criticism, we may conclude that Higgins' theory of technological dualism is superior as compared to Boeke's theory of social dualism. It appears to be more convincing in saying that technological dualism is the real cause of structural and technological unemployment in the dualistic economies.

Though the dependency theories are criticized for the lack of conceptual clarity in their interpretations, still, there is no sufficient evidence to reject the dependency hypothesis fully. Many thinkers like Tyler and Wogard (1973) have affirmed the thesis of Baran, Frank and other dependency theorists that less developed peripheral nations are exploited and kept relatively backward by their dependence on advanced capitalist nations, Szymanski noted that within the dependent countries, the greater the dependence, the more rapid the economic growth.

8.10 SELF ASSESSMENT EXERCISE

Q1. Critically examine Boeke's theory of social dualism ?

Q2. State and explain Myint's theory of financial dualism ?

Q3. What is meant by dualism? Give its main elements ?

Q4. What is dualism? Explain its main types ?

Q5. State and explain the meaning of technological dualism ?

Q6. How do you define the concept of Dependency ?

Q7. "Underdevelopment is the product of developments". How do you understand this ?

Q8. The most emphasized aspect of A.G Frank theory is "Surplus extraction". Explain ?

Q9. Frank set forth four premises to frame his theory. What are they ?

Q10. How do you understand the ECLA approach of Dependency ?

8.11 FURTHER READINGS

Agarwal R.C : Economics of Development and Planning [Theory and Practice]

Dewett K.K : Modern Economic Theory

Jhingan M.L : The Economics of Development and Planning

Jhingan M.L : Advanced Economic Theory

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Agriculture : Role, Transformation and Rural Development

STRUCTURE

9.1 Introduction

Traditionally, the role of agriculture in economic development has been viewed as passive and supportive. However, based on historical experience of western countries, economic development was seen as requiring a rapid structural transformation of the economy from one predominantly focused on agricultural activities to a more complex modern industrial and service society. Today, development economists have realized that agriculture sector must play an indispensable part in overall strategy of economic development, especially for low income developing countries. For the economic development to take place in agriculture, the sector also passes through certain phases which are a pre- requisite for rural development to take place.

9.2 Objectives

After going through the lesson the student should:

i) Understand the role of agriculture in economic development.

ii) Be able to understand the economic aspect of transformation of agriculture sector.

iii) Be able to understand the essential conditions required for rural development.

9.3 Role of Agriculture in Economic Development *

Thirlwall explains four major contributions of agriculture to the process of economic development: product contribution, a factor contribution a market contribution and a foreign exchange contribution[1].

1) Product Contribution

One of the major contributions of agriculture sector is to provide marketable surplus. Marketable surplus is the difference between total agriculture output and subsistence needs. The product contribution of agriculture refers to the fact that agriculture must supply food above subsistence needs in order to feed labour working in alternative occupations. Economic progress in the early stages requires an increase in marketable surplus. If marketable surplus does not rise according to the demand, the price of food will tend to rise. This will turn the terms of trade against industry, higher wages will have to be paid to workers in industry which will lead towards less profit and less capital accumulation and less industrial growth.

2) Factor Contribution

The factor contribution refers to the fact that agriculture must supply labour as well as capital to industry and other activities at least in the early stages of economic development. Labour contribution of agriculture is realized from the concept of surplus labour as explained in famous Lewis model of economic development with unlimited supplies of labour. If surplus labour is released from agriculture to industry, this would lower the cost of industrial labour which means fast industrial expansion. Secondly, agriculture not only supplies cheap labour to industry but also supplies saving and capital accumulation. Historical experiences show that industrial revolution in Britain

* This part of the material is heavily dependent on Thirwall 2006.

was partly financed by voluntary saving done by rich landlords and further investing it in industrial activities. Not only this even peasant farmers investing small savings in rural banks can become the part of capital accumulation.

3) Market Contribution

This is well documented in the historical experience of development countries that in the early stages of development the agriculture sector is likely to provide the largest market for industrial goods. Even in World Bank's 1979 World Development Report remarked that a stagnant rural economy with low purchasing power holds back industrial growth in many developing countries. Therefore, low farm prices can be considered good for industry from supply side. But on other side, low farm prices are bad for industry from demand side. As it implies low purchasing power of farmer which further leads to low demands for industrial goods. And low demand means low industrial growth. Therefore, there needs to be an equilibrium terms of trade between the two sectors to achieve balanced growth.

4) Foreign Exchange Contribution

In the initial stages of economic development, the only source of foreign exchange earning comes from the export of primary sector commodities. For economic development to take place, capital goods are the pre-condition for necessary development process. Since developing countries lack these types of goods, foreign exchange earnings from exports of agricultural goods provides an access to import of capital goods thus expanding the industrial growth.

9.4 Transformation of Agriculture

For a mixed market developing economies modernization of agriculture may be described as gradual and sustained transition from subsistence to diversified and specialized production[2]. This transformation involves much more than reorganizing the structure of the farm economy and applying new agriculture technologies to transform traditional agriculture the entire social, political and institutional structure of rural societies needs to be changed which further required profound steps. According to Wertz, the evolution of agricultural production from a pre-dominantly subsistence level and small scale peasant orientation to specialized agriculture, there are different broad stages which evolve over time and leads towards agricultural and rural development.

1. Subsistence Farming: Risk Aversion, Uncertainty and Survival:

Subsistence farming is one of the most primitive forms of farming wherein the goods are produced only for self consumption. For the farmers agriculture is the means of subsistence. Only few staple food crops are grown which includes wheat, barley, rice or corn. And that too with the help of family labour only.

Simple traditional methods and tools are used. Therefore, output and productivity and capital investment is very low. In this type of farming farmers' fear for their survival as their family is at stake. Due to fragmented markets and lack of communication between rural and urban areas, the farmer is reluctant to produce more. He usually cultivates only as much land as his family can manage without the need for hired labour. There are technological limitations and even the environment is static because of rigid social institutions. For most of the year the labour is underemployed because of seasonal nature of agriculture. Failures of rain, dependence on moneylenders are the hindrances on the farmer existence and cause him to feat for his survival. One another feature of subsistence farming is that there operates law of diminishing returns as more labour is applied to shrinking parcels of land. One of the common feature in most of the developing countries is that there agriculture is still in its subsistence form. Since these peasants live in static environment, there is always a fear of uncertainty that surround them while some arguments are given that these peasants are irrational and that they will not be ready to adopt new technology. On the other hand, the justifications that are given is that these subsistence farmers are more rational when confronted with alternative opportunities. But is it only due to fear of survival and uncertainty that they do not want to take any sort of risk in the form of adopting a new technology. There is always a sense of insecurity that surrounds them because human life is at stake with limited access to institutional credit and insurance if a farmer is asked to shift from traditional technology that he has known from last many years to a new modern technology in the form of use of hybrid seeds which is given him ore production or yield but many have greater risk of crop failure. In such circumstances, the farmer will be reluctant to adopt this new technology. A risk aversion peasant farmers will always prefer a technology of food production that may result into low production bill probability of getting this production is high that is risk attached to crop failure is low than to that new technology where though production is high but risk of crop failure is also high. Therefore, for developing countries if they actually want to raise agriculture productivity among small farmers or substance farmers besides coming up with new technology, government should provide the farmers adequate credit and insurance against the risk of crop failure. For the transformation of agriculture from subsistence to diversified farming will only take place only when government assure them risk cover as well as provide them guaranteed price as well as complementary expects like fertilizers, irrigation etc. so that risk attached to new technology could be minimize. Then, one can expect that these peasant farmers will actually now behave rationally and shall response to economic incentives and opportunities and would result into agriculture transformation.

2. Mixed and Diversified Farming

It is not desirable to instantly think of transforming a traditional agrarian system that has been there for many generations into a highly specialized commercial farming system. Therefore from subsistence to specialized production should be adopted. This is the stage of diversified or mixed farming. In this stage, new cash crops such as fruits, vegetables, coffee and tea are established along with new economic activities like animal husbandry and can be taken because of disguised unemployment and due to seasonality work of farms. So that advantage land and family labour can be taken up. Some labour saving devices are also introduced during the peak season when labour is in short supply. With the use of new and better seeds, fertilizers and simple irrigation techniques the yield of staple crops like wheat, maize and rice would increase and can free part of the land for cash crops cultivation while ensuring an adequate supply of the staple food. This would result into marketable surplus which the farmer can sell in the market and earn income. Thereby farmers' living standard and also his farm investments would increase.

If a farmer is given a reasonable and reliable access to credit, fertilizer, water, crop information and marketing facilities, transformation of traditional agriculture can become possible with better social, commercial and institutional condition, farmers ability and skills can be enhanced which may result into increase in productivity. Evidences suggest that under proper conditions farmers actually response opportunities and ready to bring about radical changes on their farms.

3. Specialized Farming

Specialized farming is the most advanced stage of agriculture. This type of farming is most prevalent in advanced industrial nations. The emergence of this specialized phase of agriculture evolved in response to and parallel with development areas of the national economy. It is the general use in living standards, biological and technical progress and the expansion of national and international markets that has provided a stimulus to its growth.

In this type of farming, production for self consumption is no longer the goal rather profit is the only motive synthetic (irrigation, fertilizer, pesticides hybrid seeds etc) and natural resources. It is the capital formation, technological progress, scientific research and development play major role in stimulating higher levels of output and productivity.

The size of farm and function varies in specialized farm. They range from intensively cultivated fruits and vegetable farms to the vast wheat and corn fields of North America.

Thousands of hectares of land is cultivated with the use of sophisticated labour saving mechanical equipment ranging from huge tractors and combine harvesters to air borne spraying techniques.

In specialized farm more emphasis is on cultivation of one particular crop and that too with the help of capital intensive techniques and stress is on achieving economies of scale i.e. to reduce cost and maximize profits. This type of farming is no different from large industrial enterprises and in most of the developed nation, largest specialized farming operations are owned and managed by large agro- business multinational corporate enterprises.

Thus these three types of farms co-exist in almost all LDCs at any given time and for the majority of LDCs subsistence farming is the dominant one.

9.5 Strategy towards Rural Development[1]

It has long been accepted that a majority of the world's poor people live in rural areas. And these poor people pass through series of problems which affect their survival and quality of life. Therefore, one of the objectives of developing nations is to bring about agricultural and rural development. And this very objective can be achieved through increase in small-farm incomes, output and productivity and also some basic conditions essential to achieve objective of rural development are required to be fulfilled.

A policy analysis of rural development in developing countries should focus on three key areas:

a) Technological change and innovation.

b) Appropriate government economic policies.

c) Supportive social institutions.

1) Technology and Innovation

New agricultural technologies and innovations in farm practices are pre-conditions for sustained improvement in the level of output and productivity. The main source of technological innovation that can increase farm productivity is mechanized way of farming, introduction of HYV seeds, provision of irrigation and fertilizer, pesticides and insecticides. As far as mechanized way of farming is concerned no doubt it would help to increase output and efficiency of agriculture. Especially where land is extensively cultivated and labours is scare. But one of the associated problem with adopting this technology is that in most of the developing countries, land is small in size and fragmented on one side and on other side labour is in abundance supply so the introduction of heavily mechanized techniques may not suit the physical environment and can also lead towards rural unemployment. On the other hand, there are also arguments that introduction of machines shall result into increasing labour and land productivity which would rather improve the agriculture sector. Secondly, introduction of hybrid seeds, irrigation, fertilizers, pesticides and insecticides are considered to be land augmenting technologies and help to improve the quality of existing land. As explained by Todaro, these measures are technologically scale neutral; theoretically, they can be applied equally effectively on large and small farms and are well suited for tropical and sub-tropical regions.

2) Institutional and Pricing Policies

Institutional and pricing policies are one of the most important source that can have a greater impact on lives of rural people and thereby increases small scale agriculture. Unfortunately, the government policies with respect to technological innovation are often biased. It is the big land lords those who gain more as has happened in case of India. Many evidences suggested that green revolution has benefited big landlords more than the small and marginal farmers which have further impoverished the masses of rural peasants'. Big land lords often with more income level can have an access to all the technologies and support services and are able to gain a competitive advantage over small holders. While large farmers obtain access to credit at low interest from institutional sources and on the other hand small farmer still resort to local money lenders because of comfort level and easy accessibility. This results into widening gap between rich and poor and thereby few progressive farmers are net gainers. Therefore, the role of active government policies and social institutions can go a long way to evolve the agrarian structure and benefit the small and marginal farmers. Not only this, even utmost care had to be given while framing the pricing policies for agricultural commodities especially food grains and other staple food produced for local market since policy makers of developing countries in order to promote rapid industrialization process have deliberately kept the food grain prices at a low level, resulted into low income of farmers and low output. With no incentive to expand output leads toward fall in the supply of food grains in relation to demand. Thereby, it is been suggested for developing countries that for progressive small scale agriculture not only technological policies but also appropriate institutional and credit policies should be framed.

Conditions required for Rural Development

There are certain necessary conditions that are required for proper rural development.

1) Implementation of Land Reforms

For rural development to take place, it is essential for government to take up those policies which benefit not only large farmers but also small farmers. Since a small farmer is more attached to his farm, a provision of secure tenure rights to the individual farmer shall go a long way to improve his standard of living but if he is driven off his land and is gradually impoverished through accumulated debts, not only his material well being is damaged but also his self respect and his desire to work more is badly affected. For more efficiency and equity objectives, land reforms are a necessary condition. It usually leads towards a redistribution of the rights of ownership or use of land away from large land owners and in favour of cultivators or land less labourers. Economist like Myrdal stresses that land reforms holds the key to agricultural development in Asia. A report by FAO, argued that land reform is the need of the hour because of growing income inequality and unemployment. And even the benefits of technological advancements cannot be fully exploited without institutional change through land reforms takes place in developing countries.

2) Provision of Credit and Marketing Facilities

For proper rural development to take place and to achieve small scale agricultural development, provision of credit through setting up of rural bank and imbursement of loan at a lower or no rate of interest by taking special needs of small and marginal farmers. Other support services like removing marketing inefficiencies can be the other step. For proper distribution network, marketing system can be improved by providing storage transport facilities not only this other supportive policies like removing factor price distortions can also go a long way to improve rural economy. Even where land reforms are not required but productivity and income is low, this broad network of external support services, along with appropriate government pricing policies related to both farm inputs and outputs, is an essential condition for rural development.

3) Integrated Development Objectives

Majority of population found in rural areas of developing countries are illiterate and lack skills required for human and as well as rural development. Schultz says that transformation of agriculture sector cannot take place until government investment in education does not take place. The third condition for rural development encompasses increased provision of education health and nutrition along with increased industrialization would help to bring more equality among rural and urban areas and also leads towards capacity of rural sector to sustain and accelerate the pace of improvement over time.

9.6 Let Us Sum UP

Thus agriculture and rural development is today seen as pre- requisite for economic development of a country. There is a need to transform the agriculture with proper policies of the government focusing on providing all sort of securities to the farmers in the form of provision of adequate credit, insurance against crop failure, providing irrigation and seeds along with proper implementation of land reforms.

9.7 Lesson End Exercise

Check your progress exercise-1

Note: Use the space below for your answer. Use separate sheet if required.

1) What is the role of agriculture in economic development?

2) What is meant by marketable surplus?

3) Explain how marketable surplus leads towards industrial growth?

4) Explain how low farm prices can prove bad to industrial growth from the demand side?

9.8 Examination Oriented Questions

1. What is the role of agriculture in economic development?

2. What strategies are required for rural development to take place?

3. How the transformation of agriculture sector can take place in developing countries?

9.9 References/ Suggested Readings

1. Dewett, K.K. and Satish Wadhawan (1985), *Economics of Growth and Development*, S. Chand and Company, New Delhi.

2. Johnston, B.F. and J. Mellor (1961), "*The Role of Agriculture in Economic Development*, American Economic Review, September.

3. Lekhi, R.K. and Joginder Singh (2008), *Agriculture Economics, An Indian Perspective*, Kalyani Publishers, New Delhi.

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Industry: Rational, Pattern and its Complementarity with Agriculture

STRUCTURE

10.1 INTRODUCTION

The process of industrialization is regarded as a panacea for many economic and non-economic ills by developing countries. The hope of poorer countries lies in the prospects of greater returns accruing from manufacturing industry. Even agriculture cannot be modernized if industrial development cannot take place. Rather both the sectors complement each other in the process of industrial development.

10.2 OBJECTIVES

After going through the lesson the student should:

i) Understand the rationale of industrialization in economic development.

ii) Be able to understand the economic aspect of pattern of industrialization.

iii) Be able to understand the complementarity between agriculture and industry.

10.3 RATIONALE OF INDUSTRIALIZATION

Over the past many decades, most developing countries have mounted sustained efforts to build up modern manufacturing industries. Technological dynamism that is presented in industrial sector has made even resource poor countries to invest their scarce resources effectively and have made them capable of entering export markets and diversify their industrial structure. Empirical evidences suggest that process of industrialization can go a long way to achieve the level of economic growth and development. According to Szirmai, virtually all cases of high, rapid and sustained economic growth in modern economic development have been associated with industrialization. Following points deals with rationale behind industrialization i.e. why do countries opt for industrialization during their development process.

1. **Increase in Per-Capita Income:** There are strong empirical evidences that suggest there is a high degree of correlation between industrialization and per capita income of developing countries. With the process of industrialization optimal utilization of the scarce resources becomes possible.

2. **Change the structure of the economy:** Recent research work also suggest that economic development requires structural change from low to high productivity activities and that the industrial sector is a key engine of growth that can bring about structural transformation. Virtually all cases of high, rapid, and sustained economic growth in modern economic development have been associated with industrialisation, particularly growth in manufacturing production (Szirmai, 2009).

3. **Capital Accumulation:** Industrialization helps to enhance the income as well as savings of the economy. As compare to agriculture, industry offers special opportunities for capital accumulation. By focusing on industrialization not only income but also capital accumulation would take place.

4. **Opportunities for Scale Economies:** Historically, it is the industrial sector that has the potential to achieve economies of scale. This is partly due to the nature of technologies which are most productivity applied in large scale production.

5. **Linkage and Spell over Effects:** According to Szirmar, linkage and spell

over effects are stronger in manufacturing than in agriculture. Linkage effects create positive externalities to investment in given sectors. Spill over effects create externalities of investment in knowledge and technology. Spillover effects between manufacturing and other sectors are also very powerful. According to a study by UNCTAD, the manufacturing sector is one of the primary sources of technological advance in the economy as a whole. It is here that most product and process technologies are developed. One of the important spillover effects in modern economies is that from the industrial sector to other sectors, such as the service sector. Thus, advances in ICT hardware technologies produced in the manufacturing sector (silicon chips, glass fibre cables) fuel technological change in the software producing and software using service sectors

6. **Labour Absorption:** In over populated LDCs, large number of labourers are either under employed or in the form of disguised unemployment whose marginal product is zero or negligible. According to Lewis, this surplus labours can be transferred from agriculture to industry with little or no less to agricultural output. This would enhance agricultural productivity. Thus it is industry which has the capacity to absorb surplus labour from agriculture.

7. **Overcoming deterioration in the terms of trade:** LDC are generally agricultural dominated and export only primary commodities and since prices of these commodities are more prone to fluctuation and it is generally seen the over past many decades prices of manufactured commodities are increasing white primary commodities are falling, this has led to deterioration of terms of trade. Therefore it is the process of industrialization that go a long way to free these LDC from the adverse impacts of terms of trade.

8. **Product Market for Agriculture:** It is through industrialization that agriculture demand for various products can be met. It is the industry that provide various industrial products like tractors, tools and implements, fertilizer, pesticides, storage to agriculture without these product even agriculture growth and development cannot take place.

Therefore, we can say that industrialization can go a long way to bring about structural transformation and provide various incentives for strengthening the economies of LDCs.

10.4 Pattern of Industrialization

There are few attempts that are made to study the systematic pattern of industrial growth. Amongst these Chenery's work is quite illuminating. In his thesis by using regression equations, he has tried to analyze the behaviour of the particular groups of industries during the growth process. His study is based on behaviour of output of individual industries and also for groups of industries.

By classifying the industries into three categories i.e. 'early', 'middle' and 'late' industries, Chenery has tried to explain the pattern of industrial growth that countries tend to adopt as their growth process proceeds.

In the category of 'early' industries, he includes the products of those entrepreneurs as those engaged in food processing, leather goods and textiles. According to Chenery, these industries have low income elasticity. So that a considerably low level of income commensurate with the maximum output of this industry. However, in case of small primary-oriented countries the exports being concentrated in this very group of industries their output curve tends to have a sleeper and longer continuing upward trend.

In the category of 'middle' and 'late' industries, he includes those industries which make the maximum contribution to industrial output when the economy is respectively in the 'middle' and 'higher' ranges of its per-capita income. However, the behaviour of these industries is governed by the nature of the country in which they operate. In case of small primary-oriented countries both the resources and the scale effects tend to retard the growth of such industries. As such the contribution of such industries towards the GNP is likely to be very small at lower levels of income. But it would increase at an increasingly rapid rate as the income rises.

As against this in case of industry oriented small countries, the resource and the scale effects happen to pull each other in the opposite directions and therefore, to some extent cancel each other. But in case of large countries the output of the middle industries though it may be growing rapidly to start with, would tend to level off asymptotically at medium levels of income. However, in the higher ranges of income level the continued growth of the industrial sector would exclusively depend upon the still rising demand for the late industries.

Thus Chenery's analysis is based to the fact that industrial sector does not grow smoothly and simultaneously across the entire front.

10.5 Complementarity between Agriculture and Industry[2]

Traditionally, agriculture sector role in the economic development was viewed as passive and supportive. However, based on the historical experiences of western countries, today economic development is seen as requiring a rapid structural transformation of the economy from agriculture sector to a more complex modern industrial and service sector. It is now realized that this transformation of societies cannot take place until and unless agriculture sector is develop and it is the agriculture which is playing an indispensable part in any overall strategy of economic progress without agricultural growth would not be succeeded. Rather ignorance of agriculture would create severe internal imbalance in the economy.

Today Agriculture and industry are considered to be interdependent to each other. The development of one sector depends on the development of the other sector. It is the rising productivity that supports and sustains industrial development. While agriculture meets the food requirements of industry and industry in turn supplies wide range of consumption goods. It is now seen that agriculture sector has the potential to provide a scope of capital accumulation in industry through marketable surplus. The higher the surplus, the cheaper industry can obtain food and more is the scope of saving and capital accumulation taking place in industry. This phenomenon is called as supply side. Therefore it implies lesser the food price more is the saving on the part of industry. On the other hand there is a demand side phenomenon also. Agriculture sector is also a market for industrial goods. Higher the food prices, the greater would be income of the agriculturist or higher would be the purchasing power of farmer. Thus there arises a conflict between low food prices being good for industrial supply and high food prices being good for industrial demand. Johnston and Mellor (1961) remarked there is clearly a conflict between emphasis on agriculture's essential contribution to the capital requirement for overall development, and emphasis on increased form purchasing power as a stimulus to industrialization. Therefore complementarity between the two sectors is recognized from the outset and there must be an equilibrium terms of trade that balances supply and demand in both sectors. The basis of the model original comes from Kaldor, 1979 (Thirwall, A.P).

This complememtarity model brings together both agriculture and industry in an equilibrium frame work where terms of trade between agriculture and industry provides the equilibrating mechanism ensuring that supply and demand grow at the same rate in each sector.

To start with, let take model on growth in agriculture sector in relation to the terms of trade, then industrial sector growth model and then bring the two models and sectors together.

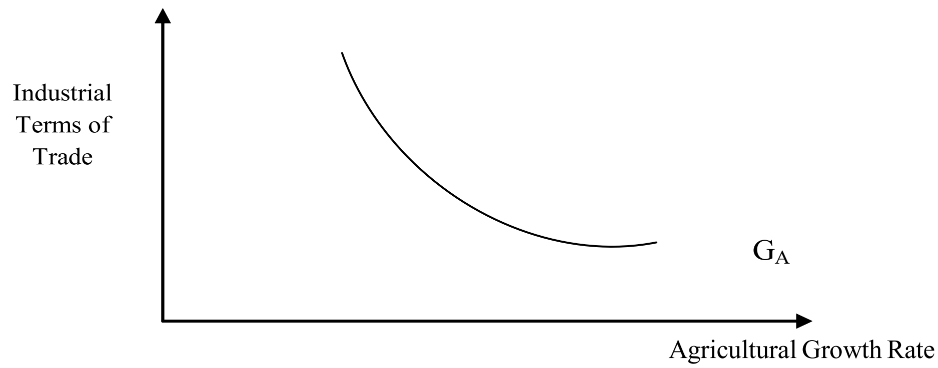

Figure 10.1 : Industrial terms of trade and agricultural growth rate

Growth rate of agriculture will be a function of how much it invests relative to output and of the productivity of investment. In other words how much of the investment goods it can obtain from industry in exchange for food that it saves depends on what is the price of industrial goods relative to food i.e. on terms of trade between industry and agriculture. The higher the price of investment goods, the lower amount of food and the lower the growth of supply capacity.

That there exists an inverse relation between the industrial terms of trade and the agriculture growth (G_A) rate and this is depicted in figure 10.1.

The growth rate in industry shall also be a function of its investment ratio and the productivity of investment. However, there is a limit to it i.e. beyond a certain minimum terms of trade below which industry would not be able to invest anything since all output would be required to be paid to workers for wage goods i.e. for food. If all the wages are consumed, the cost of food input per unit of output in industry will depend on the real wage rate in industry divided by the productivity of labour that is $\frac{(W)}{(O/L)} = \left(\frac{W}{0}\right)$. Where W is the real wage and W is the wage bill. Industrial prices must cover W/O and this sets the lower limit to industrial prices relative to food prices. At the other extreme, industrial growth cannot exceed a certain maximum where the price of food is so low relative to industrial goods that all industrial goods are not sold but are retained for investment in industry. This positive relationship between industrial terms of trade and the industrial growth is depicted in figure 10.2.

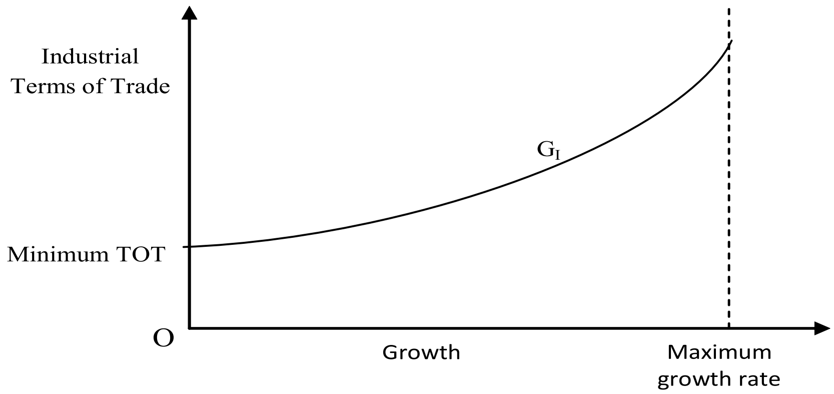

Figure 10.2 : Industrial terms of trade and industrial growth rate

Now let us assume that income elasticity of demand for agricultural and industrial goods is unity, then at a given terms of trade the rate of growth of agricultural output represents the rate of growth of demand for industrial goods and the rate of growth of industrial output represents the rate of growth of demand for agricultural output and where G_A and G_I cross there will be a balanced growth of agriculture and industry (G*) at equilibrium terms of trade (P*) as shown in figure 3.

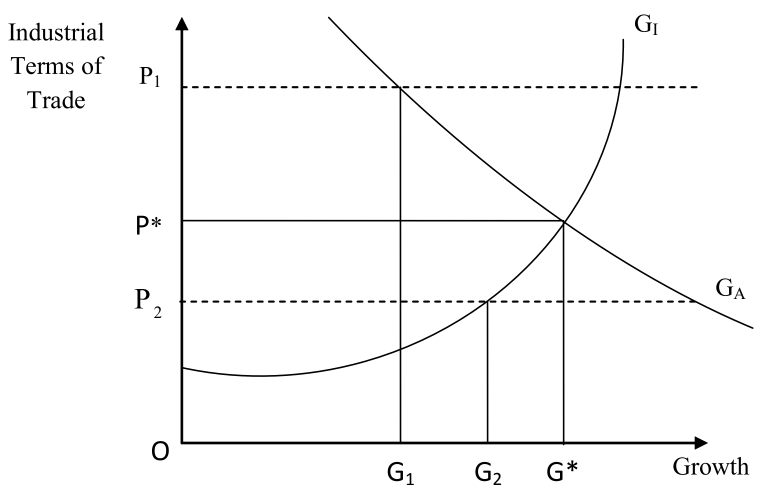

Figure 10.3 : Growth equilibrium and disequilibrium

Implications

If terms of trade are not in equilibrium i.e. if the price of food is too low or too high in relation of industrial goods then industrial growth is either demand constrained or supply constrained. For example see figure 10.3, if the terms of trade is at P_1 prices i.e. prices of food are too low, which means purchasing power in agriculture is low. This would lead towards demand constrained industrial growth i.e. G_1. Industry will not be able to sell its goods. On the other hand if a term of trade is below equilibrium at P_2, industrial growth would be supply constrained to G_2. Because prices of food are too high this would result into high demand for wages and that further would impair capital accumulation. Since industry would not be able to supply. So it is only at G* where growth is maximized at P* terms of trade.

10.6 Let us sum up

Hence one can conclude that though industrialization process is most important for the economic development of developing countries. Even the development cannot go a long way until and unless both agriculture and industry complement each other.

10.7 Examination Oriented Questions

1. What is the rationale and pattern of industrial development in developing countries?
2. Explain rationale of industrialization process in developing economics ?
3. Explain how marketable surplus is important for industrial growth ?
4. In what ways do the agricultural and industrial sectors of an economy complement one another?

10.8 References/Suggested Readings

1. Dewett, K.K. and Satish Wadhawan (1985), *Economics of Growth and Development*, S. Chand and Company, New Delhi.
2. Johnston, B.F. and J. Mellor (1961), "The Role of Agriculture in Economic Development, American Economic Review, September.
3. Lekhi, R.K. and Joginder Singh (2008), *Agriculture Economics*, An Indian Perspective, Kalyani Publishers, New Delhi.

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Choice of Techniques and Appropriate Technology & Labour Markets and Developing Countries

STRUCTURE

11.1 INTRODUCTION

Generally, technology has been defined as 'the knowledge being applied by human beings to improve production or marketing process. The rapid progress of modern economic societies has become possible due to changes caused by technological and scientific progress. There are different types of techniques that are available and can influence the composition of production function relative to cost price structure, demand pattern use of resources, so on and so forth. In principle, we often talk about techniques of production labour intensive techniques of production and capital intensive techniques of production. One of the problem before developing countries is how best to utilize the available resources in order to achieve higher growth. And often they come across the problem of choice of techniques.

11.2 Objectives

After going through the lesson the student should:

1) Understand the different types of techniques that are available.

2) Describe the nature of techniques used in developing countries.

3) Understand the factor price distortions and appropriate technology for developing countries.

4) Be able to understand the characteristics of labour markets in developing countries.

5) Understand the structure of labour markets in developing countries.

11.3 Choice of Techniques and Developing Countries

11.3.1 Choice of Technique: Price Intensive Model

Choice of techniques refers to the type of combinations for any particular project. The conventional economics of technical choice on the bases of price incentive model is explained in figure 11.1. Assuming that there are two types of techniques, one is labour intensive and other is capital intensive and following the principle of economics, producers are assumed to face a given set of relative factor prices and to use the combination of capital and labours that minimizes the cost of producing a desired level of output.

Labour intensive technique thus implies the use of more labour in comparison to capital and this depends on prices of factors of production. Assuming the same production function in the two sets of countries labelled P and holding everything as constant, the lower the relative price of labour in the developing countries, given by the price line PP_1, gives a more labour intensive choice of technique than in the developed country, where the relative price of labour is given by the steeper line PP1as shown in figure 11.1 below. For economists like Nurske holds the view that developing countries should adopt labour intensive techniques of production in the early stages of industrial development. The main argument usually advanced in favour of it that this would lead towards increasing employment opportunities and since capital is expensive and scarce the use of labour intensive techniques would be more appropriate. Not only this, these techniques are indispensable for counteracting inflationary pressures in a developing country as the use of this techniques increases the supply of consumable goods. While on the other hand, the other alternative commonly suggested is the capital intensive techniques. Capital intensive technique implies the use of more capital in relation to labour as shown in figure 11.1.

In developed countries where capital is cheap and labour is expensive and choice of technique preferable would be capital intensive as shown in figure 1 below, the relative price of labour is given by PP_2 and the capital labour ratio is given by the ray from origin DC and in less developed countries, the capital labour ratio is given by the ray LDC; both rays pass through the point of tangency between the prices line and production function (A) and (B) respectively. There is an another school of thought given by Galenson and Lerbenstein which opine that for successful economic development it is desirable for developing countries to opt for capital intensive techniques since the growth rate is much faster under this types of technology than with labour intensive technology. Since capital intensive techniques are more profitable than labour-intensive techniques because of high productivity of capital in relation to cost and also the use of capital intensive techniques would lead to the production of quality products and lowering of costs.

Choice of Technique : Price Incentive Model

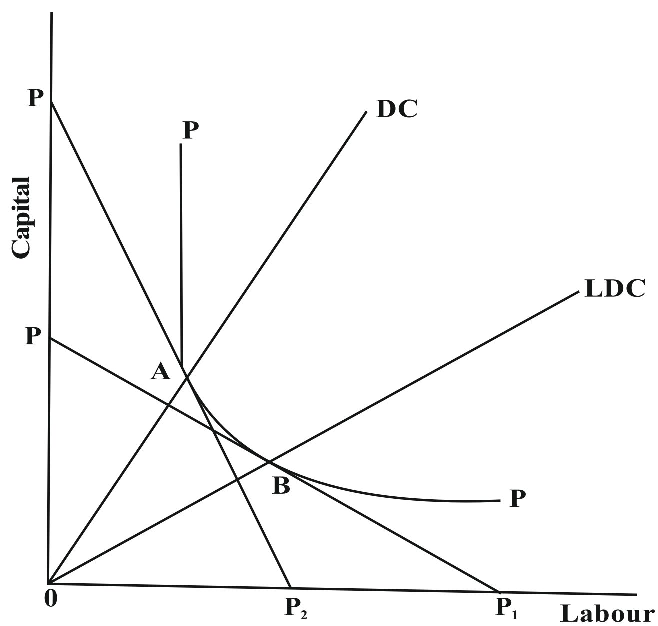

Figure 11.1 : Choice of technique LDC: Price Incentive Model

Thus, according to price incentive model, optimum capital – labour combinations (efficient or appropriate technologies) are determined by relative factor prices. If capital is cheap relative to labour , production should be capital intensive and if labour is cheap, production should be labour intensive, then only optimum production will occur. It also follows that for any techniques of production currently in use, a fall in the relative prices of labour, all other things being equal, will lead to a substitution of labour for capital in an optimal production strategies.

11.3.2 Capital Intensive techniques in developing countries: Factor price distortions

As explained in Thirlwall (2010), in practice, however, it is often the case that for the same outputs produced, the capital intensity of techniques is not very different between the two sets of countries, and that the capital labour ratio differs between developed and developing countries in the aggregate only to the extent that the composition of output differs; that is, because there are large sectors in developing countries where very little capital is employed at all, as in subsistence farming. In the modern sectors of developing of countries, however, techniques are much more capital – intensive than would be predicted on the basis of knowledge of factor endowments. Given the supply of labour available and given the rate of investment, the more capital-intensive the techniques, the less employment and the more unemployment there will be. Unemployment and under employment are major preoccupation in developing countries and one reason why the prevailing techniques of production might be regarded as in appropriate: There are number of reasons why technological choice sometimes appears to be little different in developing countries than in technologically advanced countries.

1) First reason is that the market prices of factors of production frequently do not reflect relative abundance or scarcity. This tendency is often exacerbated by developing countries themselves, which give generous subsidies to scarce capital and encourage high wages in the modern manufacturing sector by the government paying high wages to its own employees. Since policy makers they believe that using capital intensive techniques would increase the level of output and saving so it is justified using capital intensive techniques.

2) Second reason could be that although labour may be abundant and the money

wage may be lower than in developed countries, it is not necessarily cheaper or less costly to employ, because its productivity may be lower. In other words, the so-called efficiency wage or wage costs per unit of output may differ very little between the developing and developed countries. This would mean that the production function for the developing country in figure 11.1 will lie outside the production function for the developed country in such a way that even if the relative money wage of labour is lower in the developing country, it is profitable to choose a relatively capital intensive techniques.

3) Thirdly, in certain instances capital intensity is explained by skill constraint. In contrast to capital intensive, labour intensive techniques require a great deal of skilled labour, while in capital intensive techniques require a semi-skilled labour to undertake routine task. Since in developing countries there is a short fall off skilled workers, capital may substitute for skills and constitutes a rational response.

4) Another factor that accounts for relative capital intensity of the modern sector of developing countries is the fact that many, if not most of the techniques of production are imported from abroad with a heavy bias in the labour saving direction – The techniques may either be employed by indigenous firms or as increasingly seems to be the case, by large foreign owned MNCs which invest in the country and bring their technology with them. In this case the technology may be inappropriate not because the technology available is circumscribed by the global profit maximizing motives but because since labour is scrace and expensive it is profitable for developed nation to produce techniques which are labour saving by nature. And since capital is scare in developing countries. One an expect them to manufacture techniques which are capital saving but typically the capital good sector that manufacturers capital goods is non-existent in developing countries.

11.3.3 Factor Price Distortion and Appropriate Technology

Thus the net result of these factor price distortions and other factors is the encouragement of inappropriate capital-intensive methods of production in both agriculture and manufacturing. Note that from the private-cost minimizing view point of individual firms and farms, the choice of a capital intensive technique is correct. It is their rational response to the existing structure of price signals in the market for factors of production. However, from the view point of society as a whole, the social cost of underutilized capital and especially labour can be very substantial. Government policies designed to get the prices right that is to remove factor price distortions – would contribute not only to more employment but also to a better overutilization of scrace capital resources through the adoption of more appropriate technologies of production.

Therefore, according to Meier, more appropriate technology may be roughly defined as technology whose resource use is more in keeping with LDC resource availability and whose products are more suited to low income consumers. This means that more appropriate technology will be more labour – intensive, less skill intensive, smaller scale, use more local materials and produces simpler low income products than most of the developed nations technology currently being transferred to low income countries. Technology may be more appropriate in one respect, and no more so in other; or more in some respect, less in others. More appropriate technology may be less efficient, either in the economic sense that it is less profitable or in the stricter sense that it uses more of all resources to produce the same output. If it is socially or technically efficient as compared with the inappropriate alternative, then the economy would suffer from some output loss in adopting it. In such a situation it would only be worth while adopting if it were believed that learning effects would be such as to outweigh initial inefficiency or that income or that income distribution and similar effects are such as to out weigh the loss in output. If we assume that these effects may be incorporate into the measure of social efficiency, then an economy should not adopt more appropriate techniques if they can be shown to be socially efficient.

11.4 Labour Market and Developing Countries

In any economic activity labour employed can be interpreted both as a cost and a benefit. If it has an alternative use then it is a cost and can be a benefit to the economy, if in some situations because of market imperfection, it may be possible to augment production by organizing the labour in a better way and secondly, with the increased employment of poor people in industry at low wages results into increase in the capital formation and further into industrial growth of developing countries. Like product market, labour services are also bought and sold in a market called labour market. Unlike developed countries, there exists structural complexity of LDC labour markets and is different from developed country's labour market.

11.4.1 Characteristics of Labour Markets in developing countries

1. **Dominance of agriculture:** The important characteristics of labour market in developing countries are that most of the people are engaged in agriculture and other primary industries. This pattern is quite pronounced in the poorest countries and changes with the change in the level of development. The historical experience of today's developed countries suggests that with the increase in the per-capita income, the share of agricultural workers tends to fall while the share of both industrial and service workers rise.

2. **Low Wages:** Another feature of LDC labour is that labours are paid low wages. It is because that they are available in abundance relative to other resources like capital which is scarce. This is from supply demand analysis perspective labour is generally paid less in comparison to other complementary resources. Another reason that is put forwarded is that these labourers are not only in abundance but they also lack education and skills which results into low productivity and low wages. Not only this LDC workers lack even the capacity to do physical labour because of their poor health and nutritional status, thus making them less productive and that result into low wages.

3. **Wages Differentials among different skills and education:** One of the other features of labour in LDC is that there exist differences among the wages received by different skills and education level. These wage differentiate in LDCs are much wider than the developed countries because of segmented labour markets.

4. **Underutilization of Labour:** Another characteristic of labour in LDC is that large numbers of them remains underutilized. It is not just because of high unemployment rate that exists in developing countries but also due to the phenomenon of disguised unemployment. A labour is said to be disguised unemployed if his contribution to output is less than what he can produce by working for normal hours per day. His marginal productivity is negligible and by withdrawing such labourers, from output can be increased. Another notable feature of LDC labour is that due to the seasonal nature of farm operations, most of the time in a year these farm labourers they remain in a state of unemployment. This is called as seasonal unemployment. These two types of unemployment are the common feature of agriculture sector of LDCs

which depicts the underutilization of labour force.

5. **Rapid Growth of Labour Supply:** The LDC contains a huge reservoir of surplus labour. The rate of population growth has increased with more than 1.5 percent to 2 percent per annum and as a consequence rate of labour forces has also increased in LDCs. Social factors have also affected the labour supply in most of the LDCs. Like in India since independence, education among women has changed their attitude towards employment. Many of them have now entered the labour market and are competing with men.

Thus low wages and productivity, large wage differentials and rapid growth of labour supply combined with underutilization of the existing supply are the common features developing countries.

11.4.2 Structure of Labour Markets in Developing Countries

Labour market is the market wherein labour services are being bought and sold just like other goods and services. In LDCs these labour markets are generally imperfect. The following section shall explain the pattern and structure of labour markets in LDC which may help to describe wage and employment determination therein.

A typical LDC is represented by a 3-tiered employment structure i.e. urban formal sector, an urban informal sector and rural employment.

1. **Urban Formal Sector**

It is a kind of market that exists in urban area where almost everyone would like to work if given an opportunity. It is made up of the government and the large scale enterprises, such as banks, insurance companies, factories and trading houses. In some of the developing countries where private sector plays a minimum role, the public sector makes up almost the entire urban formal sector. The main attraction of formal sector employer is that they are paid higher wages and offer steadier employment. The main cause of higher wages is that labour is well educated. Wages (W_F) are held above the market clearing levels by the legislation, custom and other factor as shown in figure 11.2. At this wage rate there is always a large supply of labour that wanted to go for work and are waiting for job. In figure 11.2 $E_F - L_F$ is the supply of labour ready to work and is waiting for the opportunity. A single announcement of job opening would attract hundreds or even thousand to apply for job.

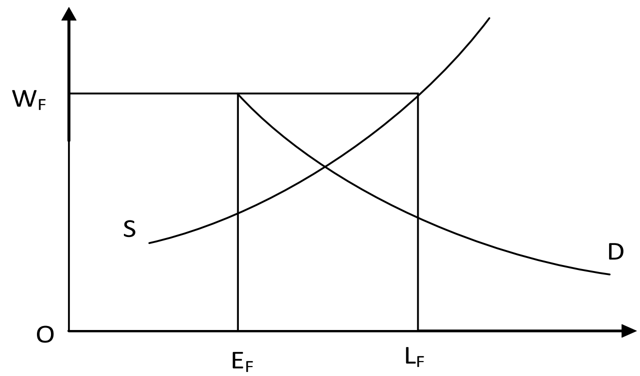

Figure 11.2 : A Formal Market

2. Urban Informal Sector

Urban informal sector, there exists small enterprises producing a wide range of goods and services, sometimes these shops and curb side establishments even compete with large enterprises and even produce those goods which formal sectors firms do not find it profitable to enter. This is also the market which provides job to rural migrated labour. They are also the one who seek an opportunity to work at urban formal sector but are unable to get it and end up at urban informal sector. However, these migrated labourers often in the long run turns out be the residents and veterans at their particular lines of work. One reason for these rural migrants to enter this informal urban sector is that it is very easy to find a work here. Since they are not that educated rather uneducated they enter the informal sector by setting oneself as street hawker or in dozens of other lines of

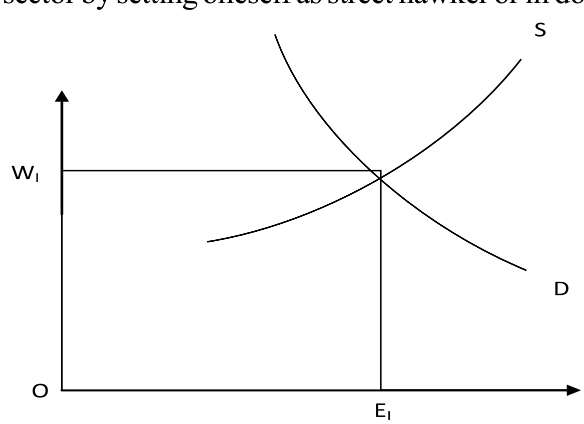

Figure 11.3 : Urban Informal Sector

work with a small amount of capital and those who lack capital they are able to find a job at a wage rate lower than urban formal sector. The urban informal sector can provide incredible amount of low wage employment.

Since it is easy to enter this urban informal sector, the market tends to be in equilibrium. As shown in figure 11.3 urban informal sector is in equilibrium at W_I wage rate with E_I amount of labour. The urban informal wage rate is less than the urban formal wage rate.

3. Rural Market

In a typical rural sector, it is the family labour that commonly works in rural farm. They are working not for wages but for a share in the output of a family. Still there is always a market for hired labour. Agricultural labourers are those small farmers who have very small holdings and are compelled to work on other farms to earn their livelihood. The other category of labour is the landless farmers who work on leased land. These agricultural labourers typically make up the very lowest income stratum in a poor country and are ready to work at lowest wages paid in cash or even in kind. The agricultural labours are basically unskilled and consequently their bargaining power is low. Thus supply of labour is highly elastic. Figure 11.4 shows the typical rural market that exists in LDCs. The wages W_R is lower than the wages given in urban informal sector. And hence agriculture labourer are the most exploited and unorganized class in the rural population of LDCs. As assumed by dual economy models of development in rural areas of low income countries employment commonly means work by family members, not for wages but for a share in the output of a family enterprise. Still there is always a market for hired labour, at least on a seasonal basis.

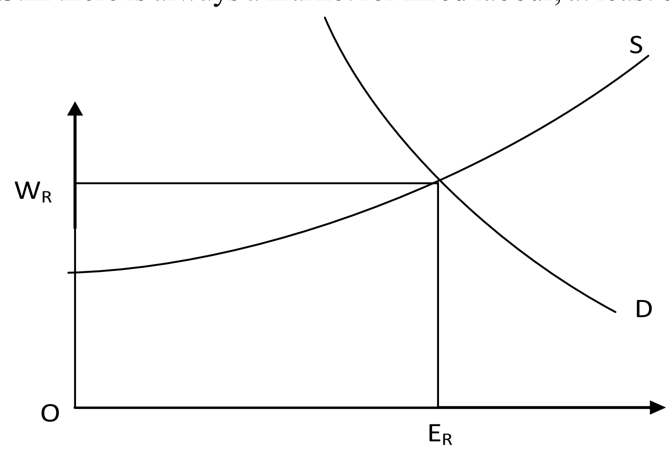

Figure 11.4: Rural Market

Depending on the amount of population pressure and prevailing pattern of land tenure, there will be a large or small number of people who must depend on wage employment because they have no land for farming purpose or have nothing else to support their family. These agricultural labourers typically make up the very lowest income stratum in a poor country.

11.5 Let us sum up

Thus low wages and productivity, large wage differentials and rapid growth of labour supply combined with underutilization of the existing supply are the common features labour markets in developing countries. Not only this, structure of labour market in a typical LDC represented by a 3-tiered employment structure i.e. urban formal sector, an urban informal sector and rural employment are imperfect, which leads towards different wages and productivity.

11.6 Examination Oriented Questions

Q1. What are the different types of techniques that are available?

Q2. What do you understand by the efficiency wage of labour, and how does this concept help to explain the relative capital intensity of production and goods traded ?

Q3. Explain factors that as are responsible for high degree of capital intensity of production in the manufacturing sector of developing countries ?

Q4. What should be the appropriate technology suitable for labour surplus countries like India?

Q5. What are the characteristics of labour markets in developing countries?

Q6. What is the structure of labour markets in developing countries?

11.7 References / Additional readings

1) Thirlwall (A.P), (2006), *Growth and Development with special references to Developing countries* 8th Edition, Palgrave Macmillam, New York.

2) Meir, G.M (1995), *Leading issues in Economic Development*, Oxford New Delhi.

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International trade as an Engine of Growth and Trade Strategies of Development : Import Substitution versus Export Promotion

STRUCTURE

12.1 Introduction

If we exclude a handful of nations like North America, Western Europe and Japan, most of nations of the world are classified as less developed or developing countries. Developing countries are characterized by low average real per capita income, a high proportion of the labor force engaged in agriculture and other primary activities, low life expectancy, high rates of illiteracy, high rates of population growth and low rates of growth in average real per-capita income. Most economists today believe that international trade can contribute significantly to the development process.

12.2 Objectives

After going through the lesson the student should :

i) Understand why trade is an engine of growth.

ii) Be able to understand the static and dynamic gains from trade.

iii) Be able to know the popular arguments on free trade verses protection

iv) Be able to understand the different trade strategies followed in the process of economic development.

12.3 Trade as an Engine of Growth

The role of trade in economic development particularly in the developing countries has been widely debated. Many economists view trade as a powerful engine of growth but still there are many who highlights the harmful effects of trade on developing countries. Economists like Haberler and Cairncross are strongly in favour of trade. Gunnar Myrdal, Prebisch, Singer and several others maintained that gains from trade are biased in favour of developed nations and foreign trade has hindered the industrial development of poor nations.

Trade has number of benefits. It promotes growth and enhances economic welfare by stimulating efficient utilization of factor endowments of different regions and enabling the people to obtain goods from efficient sources of supply. Trade makes available those goods to people which they cannot produce at home due to number of reasons. Trade has beneficial effects for the consumer as it enhances the choice of the consumers. The income arising out of trade as explained by foreign trade multiplier leads to economic expansion. The benefits of trade were highlighted by Adam Smith who is the father of economics. Adam Smith highlights the role of trade in increasing the division of labour and specialization and increase in productivity and national wealth. J.S. Mill also states the dynamic effects of trade on the productive power of the world David Ricardo also put stress on the role of trade. According to David Ricardo's comparative Advantage trade theory, if each nation specializes in the production of the commodity of its comparative advantage, world output will be greater and through trade, each nation will share in the gain.

According to Haberler, International division of labour of international trade, enable every country to specialize and to export those things that it can produce cheaper in exchange for what other can provide at a lower cost, have been and still are one of the basic factors promoting economic well being and increasing national income of every participating country.

D.H. Robertson made the profound observation that trade is 'an engine of growth'. He made this observations in context of 19^{th} Century developments, number of economists maintain that it is equally true of today. Haberler has argued that international trade has made a tremendous contribution to the development of LDCs in the 19^{th} and 20^{th} century and can be expected to make an equal contribution in the future. Further according to Haberler, it is necessary that to follow a 100 percent free trade policy is conducive to most rapid development and marginal interference with the free flow of trade may speed up development.

Importance of International Trade

Haberler highlights the importance of trade by listing the following benefits from trade:-

1) Trade provides material means i.e. Capital goods, machinery and raw and semi-finished material which are very essential for economic development of a country.

2) Trade is a vehicle for the international movement of capital, from the developed countries to less Developed countries.

3) Trade is the means and vehicle for the dissemination of technological knowledge, the transmission of ideas, for the important of know-how, skills, managerial talents and entrepreneurship.

4) Free international trade is the best anti-monopoly policy and the best guarantee for the maintenance of a healthy competition.

5) Trade can lead to the full utilization of otherwise underemployed domestic resources.

6) When size of market expands, trade makes possible division of labor and economies of scale.

The importance of trade is highlighted in the vent for surplus theory:

12.3.1 Vent for surplus theory

Trade by providing a vent for surplus enables the domestic as well as nations firms to achieve optimum utilization of productive capacity. According to this theory, When a firm is not able to realize optimum capacity utilization because of domestic market constraints, international trade can help to increase capacity utilization and the profitability of the domestic business. It is shown in the figure 12.1.

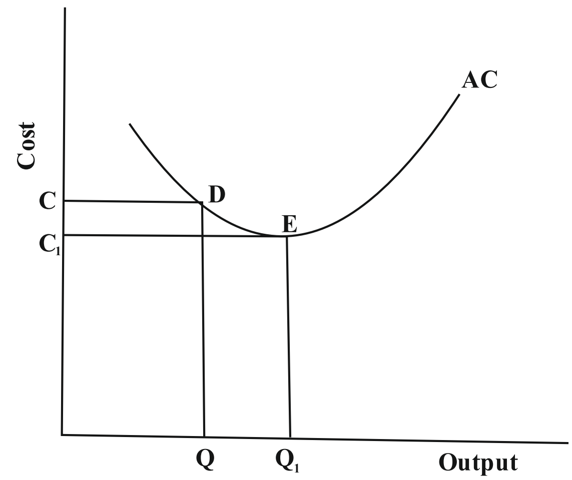

Figure 12.1 : Vent for Surplus

In the figure12.1, AC is the Average cost curve. The Optimum utilization of the firm is at point Q_1 i.e., the point where its average cost of production per unit will be the cost lowest. But due to domestic market or demand constraint, the firms output level is Q and the corresponding average cost is C. It means average cost is higher and the output is lower than optimum output. Now if the company can export QQ_1, output, it can operate at optimum capacity and also reduce the average cost from OC to OC_1, i.e., by CC_1. Even if the firm exports on no profit and no loss basis, it will increase the profitability of the firm. The profit of the firm was in terms of the fall in the average cost of producing the output OQ. Therefore the profit of the firm was increased by CC_1 and the total profit of the firm from domestic business will increase by CC_1ED. Therefore in this case, trade increases the profit from domestic business without any increase in price or domestic sales.

The doctrine of vent for surplus embodied in Adam Smith's Theory of international trade highlights the role of trade in respect of a country where the resources are underutilized. There are two leading ideas in the Adam Smith's Vent for Surplus theory.

1) International trade overcomes the narrowness of the home market and provides an outlet to the surplus production over domestic requirements.

2) By expanding the market. International trade also improves the division of labour and raises the general level of productivity within the country.

The vent for surplus theory advocates that trade would help a country to achieve better utilization of its resources and move to a higher level of consumption and welfare.

12.4 Gains from Trade

The benefit from trade in traditional trade was measured by the increase in the value of output and real income from domestic resources that trade allows. In modern trade, Gains from trade were measured by the balance of payments effects of trade. The gain from trade is the difference between the value of things that are obtained and the value of things that are given up. Through the international division of labour, a country is supposed to obtain more than it gives up.

The gains from trade can be divided into two types –

1) Static Gains
2) Dynamic Gains.

Static Gains are those gains which occur from international specialization according to the doctrine of comparative advantage. While dynamic Gains are those gains which accrue from the impact of trade on production possibilities. Examples of dynamic Gains are economics of scale, international investment and the transmission of technical knowledge. Trade provides vent for surplus commodities which employed the domestic resources which are unemployed.

12.4.1 Static Gains from Trade

The Static Gains from trade are based on the law of comparative advantage. For e.g., consider two countries A and B, both the countries have the ability to produce both the commodities X and Y. But according to comparative advantage model, Country

A has comparative advantage in the production of commodity X and country B has a comparative advantage in the production of Y. Therefore, it will be profitable for country A to specialize in the production of commodity X and for country B to specialize in production of Y. The surplus production of X and Y in excess of domestic needs need to be traded provided that the international rate of exchange should be between the domestic rates of exchange.

Comparative advantage is based on opportunity cost concept measured by the marginal rate of transformation between two commodities, as given by the slope of production possibility curve. The domestic price ratios between two commodities will equal their marginal rate of transformation given perfect competition. Now we will explain the static gains from trade with the help of a figure 12.2.

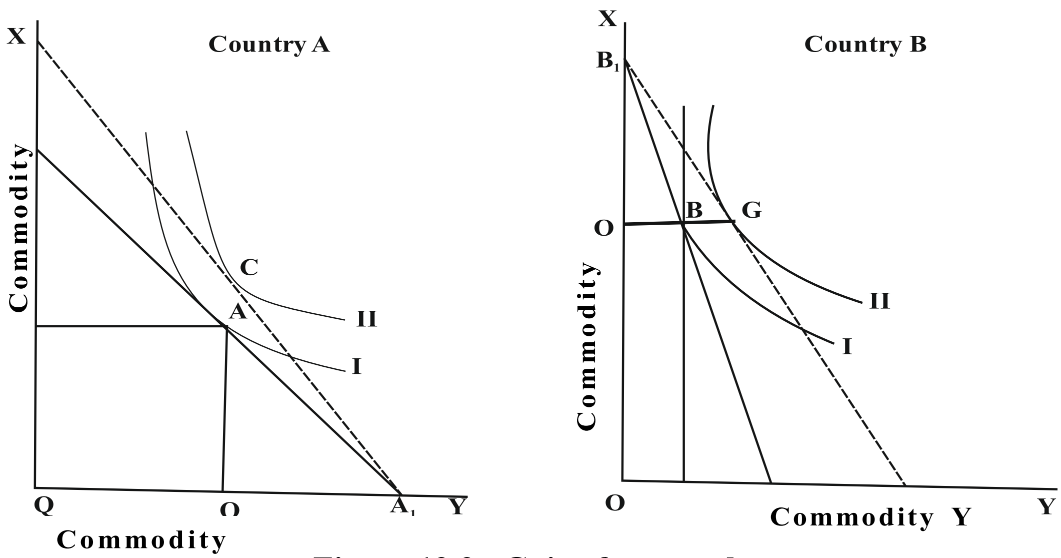

Figure 12.2 : Gains from trade

In figure 12.2, the production possibility curves are drawn to show the different combination of goods x & y that can be produced with each countries given factors. Production possibility curves are linear i.e. constant marginal rate of transformation. Curves 1 and 2 are indifference curves showing the level of community welfare. Suppose that the marginal rate of transformation between X & Y in country A is 10/8 and in country B is 10/2. It means commodity X is relatively cheaper in country B than in A and Y is relatively cheaper in country A. It means country A specializes in production of commodity Y and country B specializes in production of X. Before trade country A and B produces at A and B and their level of utility is represented by indifference curve 1. After the opening of trade there could be only one price ratio between x & y which is determined by the interaction of demand and supply in both countries and will lie somewhat between each country price line. After trade, production in country shifts to A_1 and in country B to B_1. Country A now produces only good Y, trading OA, of Y, can now consume OC of which it obtains from country B. Country B now produces only good X_1 trading OB_1 of X, can now consume OC, of Y, which it obtain from country A. Now both countries move to higher indifference curve 2. i.e. higher levels of welfare.

Due to international division of labour, world production increases and also world welfare. Specialization enables a country to produce maximum from a given set of factor resources. It enables a country to obtain foreign products cheaply.

The consumption of both commodities in both countries rises or falls depends on the international rate of exchange. The static gains from trade are the same gains as from trade creation that accrues with the establishment of custom union that is when high cost suppliers are replaced by lower cost suppliers as tariffs are reduced. It is the doctrine of comparative costs that provides the rationale for the formation of custom unions or regional trading agreements between countries. There is nothing in the comparative cost doctrine that ensures equality in the distribution of gains from trade creation.

12.4.2 Dynamic Gains from Trade

The dynamic benefit of trade is expansion of total market by the export market for the domestic producer. The total gain from trade will exceed the static gains and a more efficient allocation of resources if the production function is subject to increasing returns. There is also a close connection between increasing returns and the accumulation of capital. A country which is small having no trade there is limited scope for large scale investment in advanced capital equipment; specialization is limited by the extent of the market. But a poor developing country can trade; when there is some scope and prospect of industrialization because of the size of the market.

It means larger the market, the easier becomes capital accumulation when there are increasing returns to scale i.e. large countries like India and China are in more favourable position than small countries such as Mauritius and Srilanka. The population of India and China offers a basis for the establishment of capital goods industries for the production of manufactured goods because whatever be the production there are markets or large no. of consumers which are ready to consume. But this is not the case with smaller countries because they need substantial protection for a commodity before it can be produced economically and compete in world markets.

The other important dynamic effects of trade constitutes as a stimulus to competition are the acquisition of new knowledge, new ideas and the dissemination of technical knowledge. The possibility of capital flows through foreign direct investment, division of labour and increased specialization leads to adoption of modern methods of production and changed in the attitude of the people and also a change in institution. In the figure 12.2, the effects of dynamic benefits are to shift outward the production possibility curve of both countries that leads to a higher level of community welfare.

12.5 Free Trade versus Protection

Free trade refers to the trade that is free from all artificial barriers to trade. The artificial barriers are tariff, quota or quantitative restriction, exchange controls etc. Under the situation of free trade, there is only one market i.e. world market where there is free movement of goods and factors like labour, capital. One economy can sell their products in the other economy and consumers have a large choice of goods.

Protection, on the other hand, refers to the government policy of giving protection to the domestic industries from foreign competition. Government imposes tariffs and physical quotas (in parts) for a variety of reasons. First, with the imposition of tariff and quotas, it gives protection to its domestic industries and secondly, it raises the revenue of the government. Tariffs are also used to restrict the importation of unnecessary products. It can improve the balance of payments problem.

There are a number of arguments for and against both free trade and protection.

Arguments for Free Trade:-

1) Under free trade, each country specializes in the production of those goods in which it has comparative advantage and import those goods from other countries in which it has comparative disadvantage. Therefore free trade leads to the most economic utilization of the productive resources of the world.

2) Free trade puts pressure on all the firms for increased efficiencies product improvement and technical change, therefore raising factor productivity and lowering the cost of production.

3) Under free trade, division and labour occurs on an international scale leading to greater specialization, efficiency and economy in production.

4) Free trade benefits the consumers in different ways. It enables them to obtain goods from the cheapest source. Free trade makes available large varieties of goods to the consumers.

5) Under free trade, there is not much scope for corruption which is common under protection.

6) It generates the much needed foreign exchange that can be used to import food if the agricultural sector lags behind or suffers droughts or other natural calamities.

7) It accelerates overall economic growth, which raises profits and promotes greater saving and investment and thus furthers growth.

8) It attracts foreign capital and expertise, which are very scare in

supply in LDCs.

9) It eliminates costly economic distortions caused by government interventions in both the export of foreign exchange markets of substitutes, market attraction for the corruption and rent seeking activities that usually result from overactive government sector.

10) It promotes more equal access to scare resources which improves overall resources allocation

11) It enables LDCs to take full advantage of reforms under the WTO.

Arguments against free trade

Trade has beneficial effects to nations of the world as a whole. It can also have harmful effects on some countries and the world as a whole. The International trading system is biased in favour of developed nations as against developing nations particularly the poor nations because these countries have poor bargaining power, the participation gap, their dependence on the developed countries for various needs etc. The following points will highlight the harmful effects of trade:-

1) Trade may lead to indiscriminate exploitation of natural resources, particularly the LDCs. It has been resulting in the drain of resources from developing countries to developed nations.

2) Trade also causes environmental problems due to indiscriminate exploitation of resources and location of polluting and hazardous industries in the developing world for the benefit of developed world.

3) The deterioration of the terms of trade of the developing countries causes large income transfers from the developing to the developed nations.

4) International trade may give rise to demonstration effect in the developing countries. Demonstration effect is a term associated with Nurske refers to the tendency of poor people to initiate the life styles of the rich. It is the tendency of the people of the

developing countries to follow the consumption habits of the people of the advanced countries by importing. This could have harmful social and economic effects. It could also have some favourable effect if it can encourage the development of the domestic industries of the developing countries.

5) Another harmful effect of trade is backwash effect. Some of the domestic industries of the developed countries particularly small scale units, which are not able to compete with the developed industries of the advanced countries, could be destroyed or damaged by unregulated imports.

Arguments for protection

Free trade has benefits but in reality, government Resorts to some manner of protective measures to safeguard the national interest. It is important to note that 45 countries which was earlier a free trader has now become a protectionist because its industries are threatened by increasing global competition. Below mentioned are some arguments in favour of protection.

1) **Infant Industry:** This argument advanced by Akoander Hamilton, Frederick list and others asserts that a new industry having a potential comparative advantage may not get started in a country unless it was given protection against foreign competition. An established industry is stronger than an infant, and then there would be unequal competition.

2) **Diversification:** It is very essential for an economy to have a diversified industrial structure if it has to be strong and self-reliant. An economy that depends on a very limited number of industries is subject to many risks. A depression or recession in these industries will seriously affect the economy. Hence, a diversified industrial structure is necessary and protection should be given accordingly.

3) **Improving Balance of payments:** A LDC can improve its balance of payments position by restricting import. The developing countries may have the problem of limited foreign exchange. Therefore it becomes imperative to control imports that the limited exchange will be available for importing the necessary items.

4) **Anti-Dumping:-** Protection is an anti-dumping measure Dumping provides temporary relief to the consumers but can do harm to the domestic industry. The foreign firms will obtain the monopoly powers after ruining, the domestic industry by dumping and export the home market. Dumping represents a transmission of the recession from abroad to the home country. All these points, out the need to protect domestic industries against dumping.

5) **Bargaining:** A country which already has a tariff can use it or a means of bargaining to obtain lower duties from other countries on its exports.

6) **Employment:** Protection will restrict imports and import competing industries will grow and because of its spread effects, it will also help the growth of other industries. It is a measure to stimulate the domestic economy and expand employment opportunities.

7) **National Defence:** Our dependence on foreign countries for our defence requirements is our stupidity. Certain industries like defence industries should be developed in the home country. Protection should be provided to these industries if it is necessary for their growth and survival.

8) **Key Industry:** It is argued that a country should develop its own key industries because it facilitates the development of other industries and the economy. If we do not have our own source of supply of key inputs, we have to depend on foreign suppliers. The key industries should be given protection if it is necessary for its growth.

9) **Strategic Trade Policy:** It advocates protection and government cooperation to certain high tech industries in the developed countries is similar to the infant industry argument of developing countries. According to this argument government support should be given to gain comparative advantage in the high technology industries which are crucial to the future of the nation, such as semiconductors, computers and telecommunication etc. It is also essential to prevent market monopolization. The examples of industries developed with the support of the strategic trade policy include the steel industry in Japan in the 1950s, semiconductors in the 1970s and 1980s of the development of the supersonic aircraft, Concorde in Europe in the 1970s of the development of the Airbus aircraft in the 1980s.

Arguments against protection:

The following are the main defects with protection:-

1) Free trade provides a variety and choice to consumers but protection is against the interest of the consumers as it increases price and reduces variety of choice.

2) Protection given to the domestic firms given them a chance to have monopoly power over the market.

3) The firms which are in efficient feel secure under protection and it discourages innovation.

4) Free trade is against the corruption but protection opens the arena to corruption.

5) Protection reduces the total volume of trade as only domestically produced goods are available in small numbers as foreign goods are available in large number.

6) Protection leads to the under utilizations of world's resources as these protected industries feel secure under protection and have not to compete with foreign industries.

12.6 Prebisch – Singer Thesis (Secular Deterioration Thesis)

Economists like Gunnar Myrdal, Paul Prebisch and Hans Singer argued that primary products exporting countries, particularly those of the third world have been experiencing secular or long term deterioration in their terms of trade. According to the argument of Prebisch – Singer thesis, the least developed countries had to exports increasing amounts of their primary products in exchange for the imports of manufactured goods from the most advanced countries. The secular deterioration in the terms of trade of the LDCs was the important cause for these countries economic backwardness.

This secular deterioration in the terms of trade of the LDCs means a large transfer of income from Less Developed nations to the developed nations. It has been claimed in the support of the secular deterioration that between the latter part of the 19^{th} century and 1939, there was a fall in the prices of primary products in relation to the prices of manufactured goods. On average, a given bundle of primary products reduced, in exchange to 60 percent of the quantity of manufactured that could be secured earlier. It can be concluded from this, that there must have been a comparable worsening of the terms of trade of the LDCs. Some studies have indicated that the terms of trade, of the developing countries have deteriorated in the recent decades also.

Causes of Secular Deterioration: - Prebisch-Singer thesis highlights three causes for the deterioration of the terms of trade of the primary exporters.

1) **Differences in the Elasticity of demand:-** The demand for primary products is income – inelastic i.e. as income increases, the demand for primary products increases less than in proportion to the increase in income. On the other hand, the demand for manufactured goods is income elastic i.e. as income increases the demand for manufactured goods increases more than in proportion to the increase in income. Such a demand bias causes the terms of trade of primary product exporters to deteriorate over time.

2) **Technological Change:-** Raw material saving innovations have tended to reduce the demand for primary products. For example, the development of low cost synthetic substitutes. Synthetic rubber can substitute natural rubber. Fall in the demand for primary products due to such innovations naturally cause a fall in their prices.

3) **Monopoly Power: -** The higher degree of monopoly power that exists in industry than in agriculture makes it possible to charge a higher price for the manufactured products as compared to the agricultural products.

12.7 Import Substitution versus Export Promotion

During the 1950s, 1960s and 1970s, most developing nations made a deliberate attempt to industrialize rather than continuing to specialize in the production of primary commodities for export. Industrialization can be expected to provide (1) Faster technological progress (2) the creation of jobs to solve the problem of unemployment and underemployment problems (3) higher multipliers and accelerators through greater backward and forward linkage in production process. (4) Rising terms of trade and more stable export prices and earnings and (5) solution to the BOPs problems. The desire of developing nations to industrialize is considered natural because all rich nations are industrial while most poor nations are primarily agricultural.

Having decided to industrialize, developing nations had to choose between industrialization through import substitution or export promotion industrialization. Within these two broad approaches to development, a lively debate has been carried on in the development literature since the 1950s. It is the debates between free traders who advocate outward looking export promotion strategies of industrialization and the protectionists who are the advocates of inward looking import substitution strategies. The import substitutes were predominating in the 1950s and 1960s and the export promoters gaining the upper hand in the late 1970s and particularly among Western and World Bank's economist in the 1980s and 1990s.

The advocates of import Substitution (IS) believes that LDCs should initially substitute domestic production of previously imported simple consumer goods (1st Stage IS) and then substitute through domestic production for a wider range of manufactured items (2nd Stage IS) - behind the protection of high tariffs and quotas on these imports. In contrast, the advocates of Export Promotion (EP) of both primary and manufactured goods put forward the efficiency and growth benefits of free trade and competition, the importance of substituting large world markets for narrow domestic markets, the distorting price and cost effects of protection and the successes of the East Asian export oriented economies of South Korea, Taiwan, Singapore and Hong Kong. The firms in these economies and in China have learned a great deal from the firms in the United States, Japan and other economies.

But in practice, the distinction between IS and EP strategies is much less pronounced. Most of the LDCs have employed both strategies with different degree of emphasis at one time or another. In the 1950s and 1960s, the inward looking industrialization strategies of the larger Latin American and Asian countries were heavily IS oriented by the end of the 1960s, some of the key Sub-Saharan African countries began to pursue IS strategies and some smaller Latin American and Asian countries also joined in since the mid 1970s, the EP strategy has been increasingly adopted by a growing number of countries.

We are now in a position to examine the issue of outward looking export promotion versus inward looking import substitution in more detail under the four categories:

1. Primary inward looking policies i.e. mainly agricultural self-sufficiency.
2. Secondary inward looking policies i.e. manufactured commodity self-sufficiency through import substitution.
3. Primary outward looking policies i.e. encouragement of agricultural and raw material exports.
4. Secondary outward looking policies i.e. promotion of manufactured

exports

12.7.1 Import Substitution Strategy

During the period of 1950s and 1960s developing countries experienced a decline in world markets for their primary products and also face the problem of growing balance of payments deficits on their current account. A general belief in the magic of industrialization as well as the terms of trade arguments of the Prebisch Singer hypothesis, they turned to an import substitution strategy of urban industrial development.

Some countries still follow this strategy for both economic and political reasons, although pressure from the IMF and World Bank impose high opportunity cost. Import substitution is an attempt to replace commodities that are being imported i.e. manufactured consumer goods with domestic source of production and supply. The common strategy is first to erect tariff barriers or quotas on certain imported commodities then to try to set up a local industry to produce these goods. It involves joint ventures with foreign companies which are encouraged to set up their plants behind the wall of tariff protection and given all kinds of tax and investment incentives. Though the initial cost of production may be higher than former import prices but the argument is that the industry will eventually be able to reap the benefits of large-scale production and lower costs or the Balance of Payments will be improved as fewer consumer goods are imported. Eventually the infant industry will grow up and be able to compete with world markets and then it will be able to generate net foreign-exchange earnings and also it has lowered its average costs of production. Let us see how the theory of protection can be used to demonstrate this process.

Theory of Protection and Tariffs

Import substitution strategy involves the imposition of tariff on imports or quotas behind which import substitution industries are permitted to operate. Tariff protection against the imported commodity is needed because it allows the now higher-priced domestic producers enough time to learn better and to achieve the economies of scale in production and the external economies of learning by doing that are necessary for lower units costs of price. With this time and protection, the infant will eventually grow up and are able to directly compete with developed country producers and therefore no longer need protection ultimately. These protected IS industries will be able to produce not only for the domestic market with a tariff or government subsides but also to export their now lower cost manufactured goods to the rest of the world. For many LDC industries on IS strategy becomes the prerequisite for an EP strategy. It is for this reason that IS has been appealing to so many LDC governments. The theory of protection is explained in the figure 12.3. The upper portion of the figure shows standard domestic supply and demand curves for industry (i.e. for leather product) when there is no international trade that is in closed economy. The equilibrium home price is P_1 and quantity would be Q_1 if the LDC were to open to economy to world trade. Its small size in relation to the world market would mean that it would face a horizontal perfectly elastic demand curve. It could sell (or buy) all it wanted at a lower world price P_2. Domestic consumers would benefit from the lower price of imports and greater quantity is purchased. Domestic producers and their employees would suffer as their business is lost to lower-cost foreign suppliers. Thus at the lower world price P_2, quantity demanded rises from Q_1 to Q_3, whereas the quantity supplied by domestic producers falls from Q_1 to Q_2. The difference between what domestic producers are willing to supply at lower world price P_2 and what consumers want to buy at lower price P_2 is shown by the amount AB which is imported.

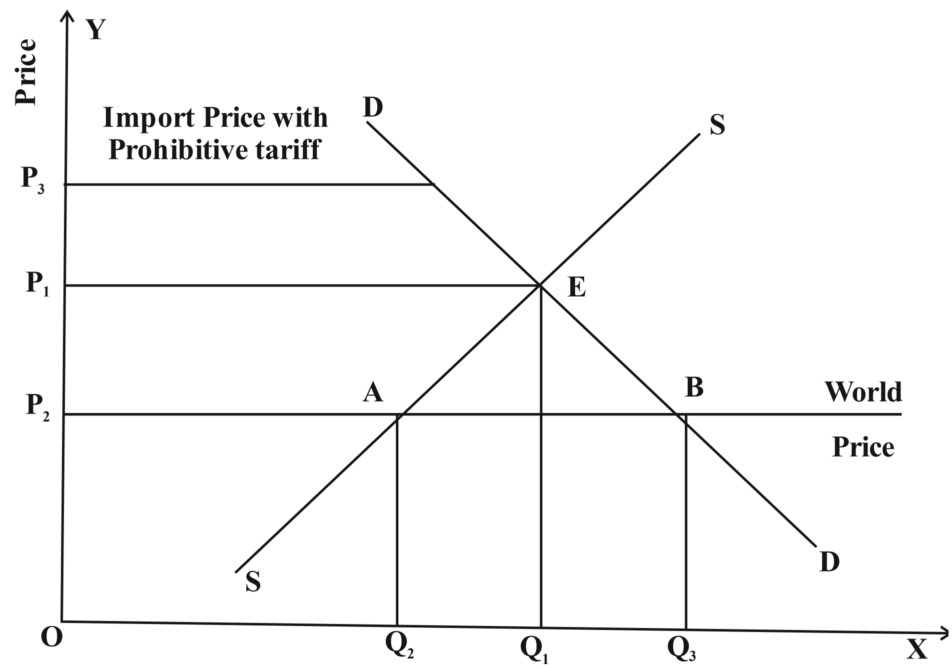

Figure 12.3

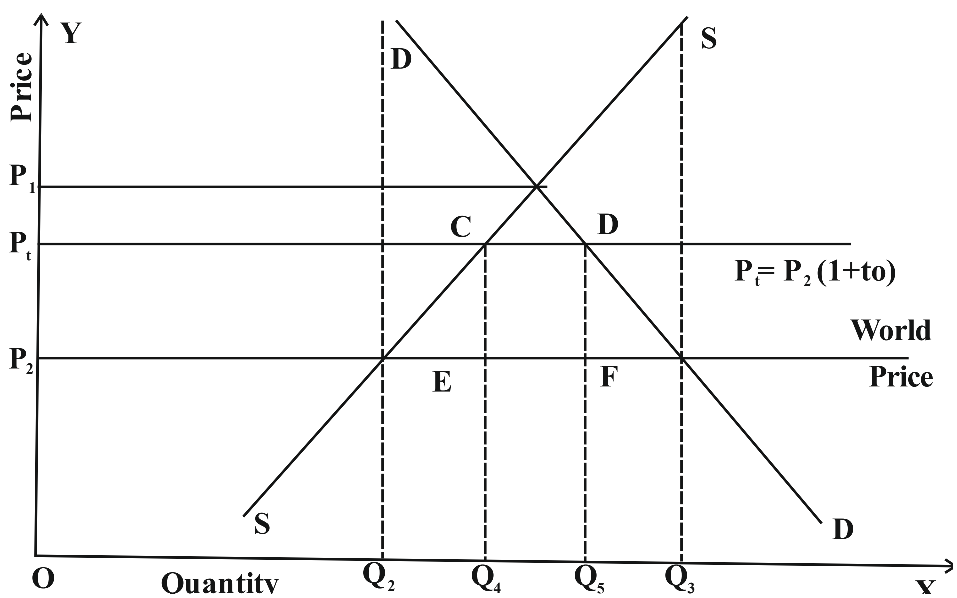

Figure 12.3

The LDC local producers face the potential loss of domestic production and jobs as a result of free trade and desire to obtain infant industry protection by having tariff relief from the government. The effects of tariff are shown in the lower portion of the figure. The tariff causes domestic prices of leather to rise from P_2 to P_t i.e. $P_t = P_2 (1 + to)$. Local consumers now have to pay higher prices for the products and will reduce their quantity demanded from Q_3 to Q_5. Domestic producers can now expand production up to quantity Q_4 from Q_2. The rectangular area CDFE is the amount of tariff revenue collected by the government on imported leather.

The higher the tariff, the closer to the domestic price will be the sum of the world price plus the import tax. In the classic-infant industry IS scenario, the tariff may be so high that it raises the price of the imported produce above P_1 to P_3 in the upper portion of the diagram that its parts are effectively prohibited and the local industries are allowed to operate behind a fully protective tariff wall once again selling Q_1 output at P_1 price. The impact of such a tariff is on the consumers because such a tariff are in effect of subsidizing domestic producers and their employees through higher prices and lower the consumption of consumers. A tariff redistributes income from consumers to producers. But the advocates of IS protection for LDC infant industries argue that everyone will benefit as domestic and other manufactures reap the benefits of economies of scale and learning by doing as the domestic price falls below P_2. Production will then takes place for both the domestic and the world market, domestic consumers as well as domestic producers and their employees will benefit; protective tariffs can be removed and the Government will be able to replace any lost tariff revenue with taxes on the now very much higher incomes of domestic manufactures.

The IS Industrialization Strategy and Results:

Most of the observers agree that the import-substituting strategy of industrialization has been largely unsuccessful. There have been five undesirable outcomes:

1) Domestic industries can grow accustomed to protection and free any type of competition and therefore have no incentive to become efficient and are costly to operate.

2) The main beneficiaries of the import substitution process have been the foreign firms that were able to locate behind tariff walls and take advantage of liberal tax and investment incentives. After making deductions of interest, profits and royalty and management fees, most of which goes abroad, the little that may left over usually accrues to the wealthy local industrialists who are small in number with whom foreign manufacturers cooperate and who provide their political and economic cover.

3) The most import substitution has been made possible by the heavy and often government subsidized importation of capital goods and intermediate products by foreign and domestic companies. In the case of foreign companies, much of this is purchased from parent and sister companies abroad. It has two results. Firstly, capital intensive industries are set up dealing to the consumption habits of rich while having minimal employment effect. Secondly, it does not improve the LDC's Balance of payments situation and the debt problem, indiscriminate import substitution often worsens the situation by increasing the need for imported capital good inputs and intermediate products. A large part of the profits is remitted abroad in the form of private transfer payments.

4) Fourthly, the detrimental effect of many import substitution strategies is its effect on traditional primary – product exports. The LDCs have often been artificially overvalued exchange rates in order to encourage local manufacturing through the importation of cheap capital and intermediate goods.

The effect of this is that it raises the prices of exports and lowered the prices of imports in terms of local currency. By means of an overvalued exchange rate, LDCc governments have effectively lowered the domestic currency price of their imports and the same time their export prices have increased.

The important aim or objectives of over valuing exchanges rates in terms of import substitution is to encourage capital intensive production methods of to penalize the traditional primary product export sector by artificially raising the price of exports in terms of foreign currencies. Overvaluation thus makes the local farmers to be less competitive in the world markets. Its result is to penalize small farmers of the self employed while it improves the profits of the owners of capital, both foreign of domestic protection to industries has the effect of taxing agricultural goods in the domestic market and also discouraging agricultural exports. Import substitution policies have the effect on rural sector of lower income groups by discriminating it and favouring the urban sector and higher income groups.

5) Lastly, the main objective of import substitution is to help the infant industry in their growth and self-sustained industrialization by creating 'forward' and backward linkages with the rest of the economy. But it has not been successful in this objective rather it inhibited the industrialization. Many infants never grow up and hide behind protective tariffs and government is trying to make them more competitive by constantly lowering the tariff. LDCs government often operates protected industries as state-owned. Moreover, by increasing the costs/of inputs to potentially forward linkages industries i.e. those industries that purchase the output of the protected form as inputs or intermediate products in their production process and by purchasing their own inputs from overseas sources of supply rather than from domestic suppliers of backward linkages, the inefficient import-substitution firm in fact close the hope for process of self-reliant integrated industrialization.

Advantages of ISI strategy:-

1) The risks that are involved in setting up an industry to replace imports are reduced because the market for the industrial product already exists as evidenced by imports of the commodity.

2) It is easier for the developing nations to protect their domestic industries against foreign competition than to force the developed nations to lower trade barriers against manufactured exports.

3) Foreign firms are induced to establish so called tariff factories to overcome the tariff wall of developing nations.

To conclude, we can say that it is not easy, for a country to find any rationale for the pattern of import substituting industrialization which has actually been promoted. In most of the LDCs, undue emphasis has been given to consumer goods and insufficient attention was given to long run potential comparative advantage i.e. resource endowment and learning possibilities. Moreover it has employed unsuitable capital intensive technologies to an extra ordinary & unnecessary degree. The consequence of this is the creation of an inefficient industrial sector operating far below capacity. Creating low employment, very low foreign exchange earnings and very little scope for further productivity growth. The domestic manufacture industries of intermediate and capital goods are encouraged at the expense of importable consumer goods of obviously there would be the development of manufacture for exports.

12.7.2 Export Promotion: Looking Outward and Seeing Trade Barriers

The major ingredient in the long run development strategy of a LDC is the encouragement of primary or secondary exports. The classical examples of primary outward looking regions were the colonial territories of Africa and Asia with their foreign owned mines and plantations. The newly independent states as well as the older LDCs which were under the subordination of colonial rulers put great emphasis on the production of manufactured goods initially for the home market and then for export. Let us look briefly at the scope and limitation of LDCs export expansion first with respect to primary products and then with respect to manufactured exports.

Primary Commodity Export Expansion

Many Low income LDCs still rely on primary products for their export earnings. With the exception of petroleum exports and a few needed minerals primary products exports and a few needed minerals primary products exports have grown more slowly than total world trade. The share of exports of LDCs has been falling over the past few decades. Since food, non-food agricultural products and raw materials covers almost 40% of all LDC exports and it is the major source of their foreign exchange earnings so we need to examine the factor affecting the demand for and the supply of primary product exports.

On the demand side, there are at least five factors working against the rapid expansion of LDC primary product and agricultural exports to the developed nations.

1. The income elasticities of demand for agricultural food stuffs and raw materials are relatively low as compared with those for fuels, certain minerals and manufactures. For e.g. the income elasticities of demand for products like sugar, tea, coffee, cacao and bananas have been estimated at less than 1, mostly in the range of 0.3 - 0.6. It contributes to the problem of instability in export earnings

and it also means that only a high rate of per capita income growth in the developed countries can lead to modest export expansion of these particular items from the LDCs.

2. Secondly, the population growth rates in the developed countries are now at or near the replacement level so little expansion can be expected from this source.

3. The price elasticity of demand for most of the primary commodities or products is relatively low. Low price elasticity means less total revenue for the exporting nations. For e.g. between June 1980 and June 1982 i.e. between two years, the price of sugar fell by 78%, rubber by 37% and copper by 35% between 1989 and 1991, commodity prices fell by about 20% tine prices were so low that it was no longer profitable. Such a decline especially in the 1980s and 1990s when prices fell by over 35% has hurt the LDCs the most. A device that is used to attempt to modify the tendency for primary product price to decline in relation to other traded goods is that of establishing international commodity agreements. These agreements are intended to set over all output levels, to stabilize world prices and to assign quota shares to various producing nations. These agreements attempts to guarantee participating nations a relatively fixed share of world export earnings and more stable world price for their commodity. But in actual or practice such agreements cannot be effective for perishable commodities like fruits and vegetables.

4. The fourth factor which has a negative impact on the long run expansion of LDC primary product export earnings is the development of synthetic substitutes. Synthetic substitutes for commodities like cotton, rubber, sisal, jut, hide, skins and recently copper act both as a source of competition in world export markets and as a obstacle against higher commodity prices. The share of natural products has fallen whereas the share of synthetic substitute in the world market export earnings has steadily risen over time.

5. Last but not the least factor which works against the expansion of LDC primary-products export earning is the growth of agricultural protection in the developed countries. Agricultural protection takes the form of tariffs, quotas and non-tariff barriers such as sanitary laws regulating food and fiber imparts, the effects have

havoc effect on the LDC export earnings. For e.g. the common agricultural policy of the European Union is much more discriminatory against LDC food exports than the policies that had prevailed in the individual member nations.

On the supply side a number of factors also put a constrained on the rapid expansion of primary product export earnings.

1. The first and the most important is the structural rigidity of many rural production systems in the developing countries such as limited resources poor climate, bad soils, old and traditional rural institutional, social and economic structures and non-productive patterns of land tenure. There would be little export expansion when rural economic and social structures combined with risk averse peasant farmer instead of positive supply responses. Most of the developing countries are dualistic in nature in which large corporate capital intensive farms existing side by side with thousands of fragmented, low productivity peasant holdings. In such a situation any growth in export earnings is likely to be distributed very unevenly among the rural population.
2. In most of the developing countries, marketing boards acts as a middlemen between the farms and export markets which creates problems for small farmers. These marketing boards often constrain export expansion by forcing cultivators to sell their goods at fixed price which is below the world market price. Lower price means no incentive for the farmers to increase output.
3. Finally, the harmful effects of developed country trade policies and the foreign aid policies that depress agricultural prices in LDCs and discourage production. For e.g. the European Union's policy of selling subsidized beef to the nations of West Africa in the hope of foreign assistance has devastated cattle prices in those countries.

To conclude, we can say that for the successful promotion of primary product exports, there should be reorganization of rural social and economic structures to raise total agricultural productivity and distribute the benefits more widely. The primary objective of any LDC rural development strategy must be to provide sufficient food to feed local people first and only then be concerned about export expansion. If LDCs are able to accomplished this most difficult task, LDCs may be able to realize the potential benefits of their comparative advantage in world primary commodity markets only if they can

1. Cooperate with one another.
2. Being helped by the developed nations in formulating and carrying out workable international commodity agreements, and
3. Secure greater access to developed country markets.

But given the framework of world demands for primary products, the threat of local food shortages and thus the desire for agricultural self-sufficiency the development of synthetic substitutes and the unlikelihood of the lower levels of agricultural protection among developed nations, the real scope for primary products export expansion in individual LDCs seem limited.

Expanding Exports of Manufactured Goods:

The expansion of manufactured exports of LDCs has received a great stimulus by the spectacular export performances of countries like South Korea, Hong Kong, China, Brazil, Singapore, Taiwan and Mexico over the past four decades. For e.g. Taiwan's total exports grew at an annual rate of over 20% and exports from South Korea grew even faster. In both the countries, export growth was contributed by manufactured goods, which contributed over 80% of both nations foreign exchange earnings. If we talk about developing countries as a whole, manufactured exports grew from 6% of total merchandise exports in 1950 to almost 64% by 2000. But the share of LDCs to total world trade in manufactures has remained small though it did grow from 7% in 1965 to 22% in 1999 and the fact is that much of which was exported by a few East Asian economies.

The export successes of recent decades among the Four Asian Tigers have provided the primary impetus for arguments by market fundamentalists at the World Bank and the IMF that the LDCs economic growth is best served by allowing market forces, free enterprise and open economies to prevail with minimum government intervention. But the reality of East Asian cases does not support this view. In South Korea, Taiwan and Singapore the production and composition of exports was not left to the market but was the result of careful and planned intervention by the government. The demand problems for LDC export expansion of manufactured goods different from those for primary products. The income and price elasticities of international demand for manufactured goods in the aggregate are higher than for primary commodities which provide a little scope for developing countries to expand their exports for a number of years there was widespread protection in developed nations against the manufactured exports of LDCs. Industrial nation trade barriers have been pervasive. For e.g. during the 1980s 20 out of 24 industrial countries increased their protection against LDC manufactured or processed products. The rates of protection were higher against LDC exports as compared with other industrial nations. Along with this, there are non tariff barriers which now form the main protection against LDC manufactured exports.

As against the case of agriculture and other primary products there is a scope of expansion of manufactured products to serve local LDC markets. There is great scope for mutually beneficial trade in manufactures among developing countries themselves. Too much emphasis has been placed on the analysis of trade prospects of individual LDCs with the developed nations and not much on the prospects for mutually beneficial trade with one another. Such trade in minerals and agriculture has been rising much more quickly than trade in manufactures. There is much scope for expansion.

We can conclude our discussion about export promotion strategies by having a look at its advantages and disadvantages:

Advantages

1. It overcomes the smallness of the domestic market and allows a developing nation to take advantage of economies of scale. This is important for many developing countries that are both very poor and small.
2. Production of manufactured goods for exports requires and stimulates efficiency throughout the economy. It is particularly important when the output of an industry is used as an industry is used as an input of another domestic industry.
3. The expansion of manufactured exports is not limited by the growth of the domestic market.
4. It helps certain countries to achieve exported growth.

5. Export markets may help mitigate the effects of domestic secession.
6. Many LDCs space the problem of BOPs and other debt problem. It is for this reason that a country may need to boost its exports to earn enough foreign exchange.
7. Higher exports facilitate larger imports and help increase consumption levels and economic welfare.

Disadvantages

The following are the disadvantages of export promotion strategy:

1. It may be very difficult for developing nations to set up export industries because of the competition from the more established and efficient industries in developed nations.
2. Developed nations often provide a high level of effective protection for their industries producing simple labour intensive commodities in which developing nations already have or can soon acquire a comparative advantage.

12.8 Let us sum up

Thus one can conclude that it is not a developing country's inward or outward looking stance vis-á –vis the rest of the world that will determine whether or not it develops. Inward looking protectionist policies such as tariffs, quotas and exchange rate adjustments do not necessarily guarantees more jobs, higher incomes that re more equitably distributed, adequate nutrition and health, clean water or relevant education any more than outward looking non-interventionist policies do. Policies of export promotion appear to have contributed more to GNP growth than import substitution did during 1960s and 1970s. Similar results were not forthcoming in the slow growth 1980s. Moreover, the success of export promotion in the 1990s varied widely from region to region and country to country. In short the current consensus leans towards an electric view that attempts to fit the relevant arguments of both the free trade and protectionist models to the specific economic, institutional and political realities of diverse nations at different stages of development. What works for one may not work for another.

12.9 Examination Oriented Questions

1. Describe how trade acts as an Engine of Growth?

2. What are the static and dynamic gains from trade?

3. Outline the various arguments for protection.

4. Describe the advantages of free trade in economic development.

5. Describe in detail Prebisch –Singer hypothesis.

6. Discuss the relative merit and demerits of import substitution and export promotion.

12.10 References/ Suggested Readings

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Dual Gap Analysis and WTO and Developing Countries

STRUCTURE

13.1 Introduction

In the globalised world of today an economy's domestic savings can be supplemented by different types of external assistance. Role of foreign borrowing in the development process has remained prominent. But together with it is associated the debt servicing problem which is still present today in the developing world, affecting the lives of millions of poor people. It is an important fact that lending borrowing are natural features of capitalist economy or economic activity without these borrowing and lending operations capital accumulation would be confined or restricted to the sectors of economic activity that have a surplus of income over current requirements which would be inefficient and sub optimal from growth perspective. It is a fact that factors that cause the supply of capital to increase also create their own demand e.g. the increase in price of oil in 1973 and 1979 which created large surplus of oil importing countries and need to borrow by oil importing countries to maintain economic growth without cutting imports. Historically the process of international borrowing and lending has played an important role in the development of many industrialized countries and continued to play a significant role in the economic transformation of today's developing nations.

13.2 Objectives

After going through the lesson the student will

1. shall be able to understand the theory of dual gap analysis.
2. shall know about the importance of foreign borrowing.
3. shall be able to know the objectives and idea behind setting of WTO.
4. able to know the different agreements under WTO.
5. able to comprehend the issues of concern between developed and developing countries under WTO regime.

13.3 Dual Gap Analysis

Foreign borrowing acts as a supplement to bridge gap between saving and investment and export and import i.e. foreign exchange gap. *Hollis Chenery* and his collaborators had put forward the *two gap or dual gap* analysis which shows foreign borrowing can supplement these two gaps to achieve a fast rate of growth and development. An important assumption underlying dual gap analysis is the lack of substitutability between foreign and domestic resources. Although it seem a severe assumption but it is valid in the short run e.g. if foreign exchange is scare, it is not easy in short run to use domestic resources to earn foreign exchange or save domestic resources by doing away with imports. The ideas is that saving gap and foreign exchange gap are two separate and independent constrains on the attainment of target rate growth. "Chenery see" foreign aid as a way of filling these two gaps. A foreign borrowing is needed when the gap between foreign exchange earning from exports and necessary imports is larger and the domestic and foreign resources are not easily substitutable for one another. Foreign borrowing must fulfill the gap which is larger of these two. Chenery suggests that countries in pre take up stage exhibit dominant investment saving gap followed by dominant foreign exchange gap with the possibility of skill constraint at any stage.

Why foreign borrowing is needed

i) Most of the developing countries have dominant foreign exchange gap which exhibits itself in the form of BOP deficit in the current account where as domestic resources remain idle. Financing of these deficit is essential not only for the countries themselves but for the growth of the whole world economy. The reason for this is that mutual interdependence among world economies that are linked through trade. Another way of solving this problem may be adjustment by deflation to reduce imports but it will result in slow growth of economic system as a whole.

ii) Historical evidences have shown that many developed countries have gone for borrowing and the borrowing was ultimately converted into export surplus which enabled the country to repay its debt and become a net creditor.

iii) In case of many developing countries of today, it is not possible for them to reduce the demand for resource inflow without any distortions or harm to the economy because of dominance of foreign exchange gap and need to meet the development requirements and to repay debt on the amount borrowed in past. It is difficult for many developing countries to convert domestic resources into foreign exchange not only because of depressed world economy but also due to structural factor i.e. they produce goods whose demand is price and income inelastic in world trade (Primary Products).

Dual gap analysis & foreign borrowing

In national income accounting on excess of investment over domestic saving is equal to a surplus of imports over exports from expenditure side national income accounting can be written as

Income = Consumption + Investment + Export – Import

Since saving is equal to Income – Expenditure

We have

Saving = Investment + Exports-Imports

Investment – Saving = Imports – Exports

Surplus of imports over exports financed by foreign borrowing allows a country to spend more than it produces or invest more than it saves. In accounting term the amount of foreign borrowing required to supplement domestic saving is same whether the need is just for capital formation or for imports. The identity between the two gaps i.e. Investment saving (I-S) gap and import export (M-X) gap is due to nature of accounting procedure.

Before understanding dual gap analysis there is a need to remind growth theories in order, growth require investment good either produced domestically or purchased from abroad.

In Harrod - Domar model r/s between growth and saving is given by incremental capital output ratio (c) which is reciprocal of productivity of capital (p) i.e.

g = S/C or g = SP

Where g = growth rate S = saving ratio

Similarly, growth can be expressed as the product of incremental output-input ratio $\left(\frac{Y}{M} = m\right)$ and ratio of investment good import to income $\left(M/_{Y} = i\right)$ i.e. g = mi.

If the domestic and foreign resources are not substitutable growth will be limited by which ever factor is most limiting – domestic saving or foreign exchange. For e.g the growth rate permitted by domestic saving is less than growth rate permitted by the availability of foreign exchange. In this case growth will be saving limited and if the constrain is not lifted the proportion of foreign exchange will go waste. On the other hand, growth rate permitted by domestic saving is higher than that allowed by availability of foreign exchange. In this case growth will be foreign exchange constrained and a proportion of domestic savings will go waste. The implication is that there will be resources waste as long as one constraint is dominant.

Examples: Suppose a country set a target rate of growth 'r', the required saving ratio (s* = r/p) and required import ratio (i*= r/m'). If domestic saving is less than level required to achieve target growth rate 'r', there exists Investment saving gap at time't', is equal to

$$I_t - S_t = s^* Yt - sYt = (r/p)Yt - sYt \qquad 1$$

Similarly if import requirement to achieve target rate of growth are greater than import earning available for investment purpose, there exists foreign exchange gap at time t, is equal to

$$M_t - X_t = i^* Yt - iYt = \left(r/_{m'} \right) Yt - iYt \qquad 2$$

To achieve target rate of growth foreign capital must fill larger of these two gaps.

An important contribution of dual gap analysis to development theory is that it highlights the dual role of foreign borrowing in supplementing not only deficiency in domestic saving but also in foreign exchange. It synthesizes the traditional and modern view concerning trade and development. It also presents a more relevant theory for developing countries that justifies and import substitution. If growth is constrained by a lack of foreign exchange free trade cannot guarantee simultaneous internal and external equilibrium and gains from trade may be offset by underutilization of domestic resources.

13.4 WTO & Developing countries[2]

The signing of the final act of the uruguay round by member nation of GATT in April 1994 passed the way for the setting up of the world trade organization i.e. WTO. WTO is a permanent world trade organization designed to play the role of watch dog in the areas of trade in Goods, services, foreign investment, intellectual property rights etc. It was set up on January 1st, 1995. It has a legal status and enjoys privileges on the same grounds as the IMF & World Bank. There were 77 members of WTO on January 1, 1995. Now it has 159 members and 25 observers. India is one of the founder members.

WTO is the successor of GATT. GATT was signed by 23 countries in 1947. GATT was all along concerned with the promotion of international trade through tariff reduction, doing away non discriminatory practices and counter protectionism GATT was a forum where the member countries met from time to time to discuss and solve world trade organization. However, WTO is a properly established permanent World Trade Organization

WTO Ministerial Conferences:

Since coming into being of WTO in Jan 1995, eight ministerial conferences have been held.

- 1st held in Singapore on December 1996.

- 2nd was held in Geneva on May 1998.
- 3rd was held in Seattle (US) on November 1999.
- 4th was held in Doha in 2001.
- 5th was held in Cancun on September 2003.
- 6th was held in Hong Kong on December 2005.
- 7th was held in Geneva on December 2009.
- 8th was held in Geneva on December 2011.

Objectives

1. To improve the standard of living of people in the member countries.
2. To ensure full employment and increase in real income and effective demand.
3. To enlarge production and trade of goods and services.
4. To ensure optimum utilization of world resources with objective of sustainable development.
5. To make efforts to ensure that developing countries secure a share in growth of international trade.
6. To develop integrated, durable, viable and multilateral trading system.
7. To protect the environment.

13.4.1 WTO Agreements

The main agreements of WTO can be divided into following categories.

1. Agreement of Agriculture

This provides framework for agricultural trade and domestic policies over the period to come, with the purpose of introducing increased market orientation in agriculture trade. Members have to transform their non tariff barriers into tariff measures.

- It provides for commitments in the area of market access, domestic support and export competition.
- Tariffs resulting from transformation and other tariff on agricultural products are to be reduced on an average by 36% in case of developed countries and 24 in case of developing countries. These restrictions were required to be undertaken over 6 years in the case of developed countries and 10 years in

case of developing countries. Least developed countries are not required to reduce their tariff.

- Reduction in subsidies and domestic support, the AOA stipulates that developed countries would reduce their subsidy by 20% in 6 years developing countries by 13% in 10 years.
- Domestic support measures that have a minimum impact a trade known as green box policies are included from reduction commitments.

  Green box subsidy : It includes amount spend on government services such as research, diseases control, infrastructure and security. They also include payments directly made to farmers that do not stipulate production, such as certain forms of direct income support assistance to help farmers to restructure agriculture.

  Amber Box : It promotes unlimited production like in India minimum support price is given.

  Blue box subsidy : are direct payments made to farmers where the farmers are to limit production.

  But the fact is that developed countries try to circumvent this agreement by providing green box and blue box subsidies to support agriculture. Also this agreement does not make distinction between subsidies to promote food security and those meant to increase exports of farm products.

2. Agreement on Trade in Textiles and Clothing (ATC) (Multi fiber Arrangement)

The objective of this agreement is to secure the integration of the textiles and clothing sector into the GATT 1994. The bilateral agreements came in the form of quotes limiting imports from developing countries into market of developed countries. These countries were allowed to impose restrictions on imports of textiles and clothing. However under WTO Multi-fiber agreement, it is mandatory for all countries to phase out this agreement over ten years of period starting form 1995. By 2005 this sector is fully integrated into normal WTO rules i.e. quotas came to an end in this sector.

3. General Agreement on Trade in Services (GATS)

Under this agreement for the first time, trade in services like banking insurance, travel, maritime transportation mobility of labour etc. was brought under the area of negotiation in the Uruguay round. It provides a framework of principles and policies which should govern trade in services under the condition of transparency and liberalizations. According to the agreement, Foreign Service and service suppliers would be treated on equal national footing with domestic services and service supplies. It also provided certain obligations like grant of MFN states to the other member nations with regard to trade in services and also the commitment of liberalization in general terms.

4. Trade related Investment Measures (TRIMS)

It refers to certain restrictions imposed by the government in respect of foreign investment in the country. TRIMS call for introducing national treatment of foreign investment and removal of quantitative restriction. The Agreement recognizes that certain investment measures restrict and distort trade. Trade related measures that are agreed to be inconsistent with the agreement are:-

i) Local content requirement.

ii) Trade balancing requirement (i.e. to produce for export as a condition to get imported inputs.

iii) Trade and foreign exchange balancing requirement i.e. to balance foreign exchange outgo on importing input with foreign exchange earnings through exports.

iv) Domestic sales requirements: Developed countries have to phase out this within 2 years developing countries have to phase out with 5 years and least developed countries within 6 years.

It establishes a committee to monitor the implementation of commitments and report to council of trade in good annually.

5. Agreement on Trade Related Intellectual Properties Rights (TRIPS)

Prices to the TRIPS agreement, Intellectual Property Rights concerning trade was decided by the national government. The maximum difference was seen in case of pharmaceutical sector where some countries protected the end product while many countries protected only the process of manufacturing. These loose patent laws adversely affected the interests of developed nation. Therefore under TRIPS, these countries forced the stringent conditions for adoption of TRIPS. The scope of the agreement is widened as it includes not only patent but also copy rights, geographical indicators, industrial design, layout design of integrated circuit and protection of undisclosed information.

In the field of drugs, food, medicine chemical product the TRIPS provides granting of product patent earlier process patent was granted. Such product patent will be available for 20 years. In case of copy rights and related rights, protection will be available for 20 years.

6. Agreement on Technical Barriers

Agreement seeks to ensure that technical negotiation, standards and certificate procedures do not create any unnecessary to trade. Agreement however, recognizes country's right to adopt the standard that consider appropriate. This may be for human animal or plant life or for protection of environment.

7. Sanitary and Physio-sanitary Measures

This is a measure taken to protect human, animal plant life from risk arising from additives or diseases caused by spread of posts. The agreement seeks to ensure that animal and plant health and safety measures do not serve as unwarranted trade barrier.

8. Dispute Settlement system

Settlement of dispute under GATT was a long term or a never ending process. The dispute settlement body set up under WTO seeks to remove these loopholes and provide security and predictability to multilateral trading system. It has now been made necessary to settle dispute within 18 months. The finding of dispute settlement panel will be finial and applicable on all parties concerned.

In addition to these Uruguay round also reached agreement on the implication of certain articles of GATT 1947 i.e. import licensing rules of origin, anti-dumping measures and countervailing duties safeguard, subsidies etc.

13.4.2 Issues under WTO related to Developing countries

The World Trade Organization (WTO) as contained in the final act was established on 1st of Jan 1991 and India became a founder member of WTO by ratifying the WTO agreement on 30 December 1994. Though the WTO has been established with the purpose of removing all barriers that inhibit free trade, promote free trade, optimum utilization of resources and improvement in standard of living of the people. These agreements are likely to benefit developing countries. Although it spells out various rules, regulations and agreements (provided they get cooperation from developing nation) but there exist bias in the implementation of these rules in the interests of developed nations. There is inequality in the structures of WTO and its bias towards the developed countries has titled the balance in favour of these countries in all the negotiation. These inequalities affect the attainment of goal of free trade. Agreements which are likely to be disadvantages for developing countries are:

1. Agriculture:

WTO agreement on agriculture stipulated that developed countries would reduce these subsidies by 20 in but in fact developed countries distort the agreement by providing, Green and blue box subsidies to support agriculture. About 40 to 50 per cent of support to farmers of USA and EU is in the form of green box and blue box subsidies and thus exempted from reduction commitment. Developing countries are not allowed to increase their negligible level of export subsidies. Consequently agriculture imports from developed countries are available at much below the market price in domestic economy affecting the competitiveness of developing countries in international market.

2. Labour Standard and Environment

Two very sensitive issues from the point of view of developing countries are issues related to labour standard. When imports from developing countries hurt the interest of developed countries, a number of environmental and human rights issues were raised with the objective of imposing ban on the import from developing nation on the grounds that these countries use child labour in manufacturing of product. But the fact of matter is that child labour is prevalent in developed countries such as U.S, U.K, Italy and Spain as well. Many American have shifted their factories to remote

Mexico, Indonesia where children are employed in these factories.

3. Trade related Intellectual Property Rights

Protection of intellectual property rights has been made more stringent in the Uruguay round. This has been done to protect the interest of multilateral corporations and developed countries as the agreement of TRIPS favours the patent holders. It would increase the area of coverage under patent system such as drugs, agriculture, patent varieties micro-organisms etc. By introducing process and product patent it will affect the price of pharmaceutical and life saving drugs and also affect the market of developing countries. Also extension of intellectual property right to agriculture and micro organism has serious consequence for developing countries. Patenting of plant varieties will transfer gains to Multinational Corporation and affect the poor farmer of developing nation where agricultures need governments support and assistance. For example India's ancient use of Haldi was sought to be patented under American of 1995. An American company has been granted a patent right for Neem as a pesticide but actually neem is used as pesticide in India since centuries. Also micro organism's i.e. very small form of life has utility in developing bio-fertilizers and pharmaceuticals. The patenting of life will strictest the root of developing nation.

4. Trade Related Investment Measures (TRIMS)

The agreement on TRIMS is weak one. To make it balanced, from point of view of developing countries, it is necessary to formulate international rules for controlling restrictive business practices of foreign investors. But TRIMS is mainly concerned with elimination of trade related investment measures which protect the interest of foreign investors in the developing countries. It could drain the foreign exchange reserves of developing countries. Also foreign investment in certain areas; affects the country freedom to restrict its harmful effect on our local industry and economy.

5. Competition in Services

GATS go against the interest of developing countries as there is vast difference in the development of service between developed and developing countries. In fact the inclusion of trade in services in Uruguay round negotiations is the result of persistent insistence of developed countries. Countries like U.S.A France, Japan and Netherland account for about 60 per cent of world trade in services and will bound to benefit. Although many developing countries have skilled labours, doctors, scientists, software experts. But nothing has been proposed on this aspect of service sector and restriction of natural persons has been banned by many developed countries.

6. Textiles and Clothing

This agreement would benefit developing countries during transitional period but gains to them are likely to be delayed because of long period of phasing out of multi-fiber agreement.

7. Labour standard and environment

There are two sensitive issue that developed countries tried to force in a meeting held at Seattle, Washington in 1999. The developed countries force labour standards because they fear that globalization of trade will lure investment away from the industrialized world to poor countries where wage rate is low. But the fact is that child labours in prevalent in developed countries such as USA, U.K, Italy and Spain as well. Also environmental protection clause with the intention of forcing the developing countries to pay for the alleged destruction environment is not justified. But the fact is that $3/4^{th}$ of damage to world ecological environment is done by developed countries.

8. Doha Declaration or Doha development agenda

Trade ministers WTO meet once is a year and this is known as the ministerial conference. The fourth ministered conference was held at Doha in November 2001. Doha ministerial under auspices of the WTO in November 2001 had prepared at to raise the new issues such as investment, competition policy, government procurement. The developed nations led by USA were keen on discussing these issues but the developed nations wanted to consider issues related with the implementation of the decision taken during Uruguay round in 1994. The major cause of dissatisfaction of developing nations was that where as the developed nation are agreed to reduce tariff and non-tariff barriers but in practice used a number of non-tariff to obstruct free flow of trade. Before the ministerial meeting at Doha India adopted "implementation before expansion" position. Many developing countries supported India stand. As a consequence of pressure from the developing nation, USA and European Union accepted a number of issues.

1) The major success attained by developing countries in the field of TRIPS and Public health. It was agreed the developing nations need not to get essential medicine drugs at high cost from western multinational companies holding patents. It states that any nations has right to knock off patents on pharmaceutical product on public health ground.

2) Many years after the conclusion of Uruguay Round developed countries had failed to fulfill their commitment regarding reduction in Agricultural subsidies as a result price of Agricultural commodities have declined. But as a consequence of Doha round the poor countries will be able to better look after their food security problem and countries will sell their surplus gains and would be able to stand competition from developed nations. Country like India with strong PDS will be able to retain it and provide greater support to rural economy.

3) Declaration also agreed to negotiations which aim at reduction or elimination of high tariff or check tariff as well as non tariff barriers products exported by developing nations.

4) With regard to services and related removal of restrictions on the natural movement of people is going to benefit many developing countries like India by increasing access for banking, insurances increasing opportunities for people to work in other countries. Flexibility in this regard may be given to country have bilateral facts and agreement.

5) To get benefit of reduction in Agricultural subsidies by developed nations; the developing countries had to make trade off with environment. However, they succeeded in preventing negotiation of labour issues on the ground that these issue are best left with ILO.

6) Doha ministerial conferences reaffirmed Special and Differential treatment

(S&DT) Provision are an integral part of WTO Agreement and these provision are reviewed to strengthen them and to make them effective.

But as far as implementation is concerned none of the deadlines regarding implementation of negotiation have been met, in some cases after the extension of deadlines. By July 2002 general council failed to work on S&DT. In case of TRIPS and public health, USA blocked the proposal of 45 members on December 2002 for distributing free patented to developing countries except in case of epidemics such as AIDS, tuberculosis and malaria. Developed countries continue to provide significant support to Agriculture production and also export subsidies.

13.5 Let us sum up

Thus there is a need for strong stand on the part of developing nations so that they could raise their voice and form a joint from to get these negotiations implemented and get it real benefits. There are no doubts that there is double standard in the implementation of agreement by developed nation. But the formation of GATT and WTO rules no doubt provide greater transformers, predictability and security in international trade relations to developing counties. Multilateralism is superior to bilateralism and if some commission are extract from strong partners belonging to US. & EU, then the combined strength of developing countries can get strength full in this favour. Developing countries should take advantage of multilateral trade organization and regional development organization to show their combined strength to get more benefit. If such matter it will bring that real fruits to developing nation.

13.6. Examination Oriented Questions

1. Why foreign borrowing is required for economic development?
2. What is the distinctive contribution of the dual gap analysis to the theory of economic development?
3. Explain the issues of concern for developing countries under WTO ?
4. What are the broad issues related to agriculture that are being debated in WTO negotiations ?
5. Describe the different agreements under WTO ?

13.7 References/ Suggested Readings

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ROLE OF MONETARY AND FISCAL POLICY IN DEVELOPING COUNTRIES

STRUCTURE

14.6 Objectives of Fiscal Policy in Developed Economy

14.7 Role of Fiscal Policy in Controlling Inflation

14.8 Meaning of Full Employment

14.8.1 Essentials of a Fiscal Policy to Promote Full Employment in a Developed Economy

14.9 Limitations of Fiscal Policy

14.10 Conclusion

14.11 Self Assessment Exercise

14.12 Further Readings

14.1 INTRODUCTION : MONETARY POLICY

Monetary policy refers to the policy of monetary authority of a country with regard to monetary matters. Such a policy involves influencing the aggregate supply of money in circulation by an effective credit control. Monetary policy in an underdeveloped country is regarded as an important instrument for stimulating the process an economic development by ensuring sufficient credit supply, controlling inflation and maintaining the equilibrium of the balance of payments. It also provides essential credit supply to meet the requirements of industry, trade and population in a fastly growing economy. As a matter of fact, monetary policy is required to play an important role in all types of economies whether underdeveloped, developing or even developed.

14.2 OBJECTIVES

After going through this lesson the students should be able to:

- Learn about the Meaning of Monetary Policy
- understand the Objectives of Fiscal Policy in an Underdeveloped Economy
- describe the Role of Monetary Policy In The Economic Development
- understand the Role of Fiscal Policy in a Developing Country like India

14.2.1 MEANING AND DEFINITION OF MONETARY POLICY

Monetary policy in a narrow sense means monetary matters and decisions of a country which aim at controlling the volume of money, influencing the level of interest rates, public spending, use of money and credit etc. But in the broader sense, it includes all those monetary and non-monetary measures and decisions which influence the cost and supply of money. Hence monetary policy implies measures designed to ensure an efficient operation of the economic system or set of specific objectives through its influence on the supply, cost and availability money. For this purpose, monetary policy involves the deliberate and conscious use of monetary instruments like bank rate, open market operations, change in reserve ratio and qualitative credit control measures.

Definitions

(1) In the words of R. P Kent, "Monetary policy is the management of the expansion and contraction the volume of money in circulation for the explicit purpose of attaining a specific objective, such as full employment.

(2) In the words of D. C. Rowan, "The monetary policy is defined as discretionary act undertaken by the authorities designed to influence (a) the supply of money (b) cost of money or rate of interest, and (c) the availability of money."

(3) In the words of G. K. Shaw, "Monetary policy, we mean any conscious action undertaken by the monetary authorities to change the quality, availability or cost (rate of interest) of money."

(4) According to Harry G. Johnson, "Monetary policy refers to a regulatory policy whereby the Central Bank maintains its control over the Supply of money for the realization of general economic goals."

14.2.2 OBJECTIVES OF MONETARY POLICY

The main objectives of monetary policy are as follows:

(1) Economic Growth. The foremost objective of economic policy is to achieve the aim of economic growth. Prof Meier, defined, "Economic growth as the process whereby the real per capita income of a country increases over a long period of time." In underdeveloped countries, the national income and real per capita income are very low along with poor standard of living. These economies are steeped poverty and unemployment. It is because the production capacity and productivity both are extremely low. It is due to low capital formation. On account of low capital formation, underdeveloped countries fail to utilise fully their natural and human resources. As a result of economic development, there will be proper utilisation of natural and human resources, more capital formation, more employment increase in national and per capita income, increase in incomes along with an increase in the standard of living.

(2) Price Stability. Another main objective of monetary policy is to attain price stability in the country. Price stability refers to the prevention of wide fluctuations in prices. Economists like Cassels and Keynes suggested price stabilization as a main objective of monetary policy of a country. As a matter of fact, fluctuations in price level either in upward direction or downward direction distort the entire economic system of the country. In this way, price stability is a prerequisite for economic development of a country.

(3) Exchange Stability. Another major objective of monetary policy is to bring foreign exchange rate stability in the country. By foreign exchange rate is meant he number of units of foreign currency that can be had in exchange for one unit of domestic currency. For exchange 1U.S $ = Rs. 46.97 and 1 U.K. pound = Rs 65.72. Fluctuations in the foreign exchange rate arc very much influenced by balance of payment. By balance of payment is meant difference between total exports and total imports. When the total exports exceed total imports, it is said that balance of payment is favourable. On the contrary, when the total imports exceed total exports, it is said that balance of payment is unfavourable. Every country aims at favourable balance of payments.

(4) Full Employment. Another objective of monetary policy of each country is to attain and maintain full employment. Full employment implies a situation wherein all competent persons who are willing to work at the prevailing rate of wages, get work. To attain this situation, it is necessary to increase production and demand. During boom period, there is rapid increase in demand and thereby the production is also increased in order to meet the rising demand. It also leads to full employment. On the contrary, during the period of depression, there is low production because of low demand and wide unemployment. Hence, the objective of monetary policy is to check rising unemployment during depression period.

(5) Neutrality of Money. Another major objective a monetary policy is neutrality of money. Economists like Worksteed, Hayek and Robertson are the main exponents of neutral money. They hold the view that monetary policy should aim at neutrality of money in the economy. According to neutralists, the monetary changes cause distortion and disturbances in the proper operation of the economic system of the country. They are of the firm opinion that if somehow neutral policy is followed, there will be no cyclical fluctuations, no trade cycles, no inflation and no deflation in the economy. Under this system, money is kept stable by the monetary authority. In this way the main objective of monetary policy should be neutrality of money.

(6) Credit Control. Another Objective of monetary policy is credit control in order to influence the patterns of investment and production in the economy. Its main objective is to control inflationary pressures arising in the process of development. This requires the use of both quantitative and qualitative methods of credit control. Under the conditions of undeveloped money market, the traditional tools of credit control —the bank rate and open market operations have not been proved to be effective. Prof Sen also observed, "that the bank rate policy may not prove effective, and open market operations; while feasible on certain occasion, may not be possible on the necessary scale in underdeveloped money markets," Thus, the central bank will have to depend more on the new and non-traditional tools of credit control as the variation of reserve ratio and relative credit control.

(7) Equilibrium in the Balance or Payments. Another objective of monetary policy is to have equilibrium in the balance of payments.

In an underdeveloped economy, a successful monetary policy must aim at achieving the balance of payments equilibrium. The developing countries generally face the problem of unfavourable balance of payments due to the excess of developmental imports over their lesser exports, with the result that they usually have a foreign exchange crisis. The central bank solves this problem of balance of payments equilibrium by using direct and traditional methods of exchange control. In order to provide suitable conditions for rapid economic development the maintenance of balance of payments will be essential which can be provided with the help of an effective monetary policy.

(8) Reduction in Inequalities of Income and Wealth. Another important objective of monetary policy is the reduction in inequalities of income and wealth. Under capitalism and mixed economies, there are inequalities in income and wealth due to right of private properly and law of inheritance. As a result, the society is divided into two classes, rich and poor. Rich class exploits the poor class and thereby gross injustice is done to poor class. Thus, the objective of monetary policy is to reduce the inequalities of income and wealth so as to achieve harmony, pace, justice and overall prosperity.

(9) Debt Management. Debt management is another objective of monetary policy in an underdeveloped country. It aims at proper timing and issue of government, establishing their prices and minimizing the cost of servicing public debt. It is the central government of a country which undertakes the selling and buying o government bonds and making timely changes in the structure and composition of public debt.

(10) Creation and Expansion of Financial Institutions. Another objective of monetary policy in an underdeveloped country is to speed up the process of economic development by improving the currency and credit system of the country. For this purpose banks and financial institutions are to be established so as to provide larger credit facilities and to mobilize savings for productive purposes. In underdeveloped countries, there is dearth of banking and financial institutions. The monetary authority can help in the establishment and expansion of banks and financial institutions in urban and rural areas. This will obviously help in increasing the rate of development.

14.2.3 METHODS OF MONETARY POLICY OR TECHNIQUES OF MONETARY POLICY OR INSTRUMENTS OF MONETARY POLICY

Methods, techniques or instruments of monetary policy are as follows :

(1) Supply of Money. Supply of money means the currency issued by the monetary authority and the demand deposits lying in commercial banks and financial institutions of the country. In order to arrange the proper supply of money, the central bank has to play important role by adopting flexible methods of note issue on the one hand and encouragement for deposits etc. by banking and financial institutions on the other hand.

(2) Rate of Interest. Another method of monetary policy is the ‘cheap money’ and ‘dear money’ policy. The cheap money means that the interest rates are low, whereas, dear money means that the interest rates are high. Cheap money policy should be adopted in a business and industrial sectors. On the contrary, dear money policy should be adopted when there is hyper-inflation, hectic speculative activity and reckless investment by industrialists for unproductive purposes. Thus, during boom period, the rate of interest should be increased. On the contrary, during depression period, the rate of interest should be decreased.

(3) Credit Control Measures. Another method of monetary policy is the adoption of credit control measures. There are two methods of credit control (I) Quantitative credit control measures, and (II) Qualitative credit control measures. They may be discussed as under

(I) Quantitative Credit Control Measures. Those credit control methods whereby the central bank controls the quantity of credit in a country are called credit control measures. The main methods of quantity credit control are the follows

(1) Bank Rate. Bank rate is also called discount rate. It is the most important weapon of credit control in the hands of the central bank of a country. It is the rate of interest at which bills of specified type of commercial banks are discounted by the central bank. Rise in bank rate increases the rate of interest and fall in bank rate lowers the rate of interest. Weapon of bank rate is used as the objective of economic stability. When there is inflation in the country, bank rate is raised. Higher bank rate will check the expansion of credit of commercial banks. As a result, there is a fall in the aggregate demand which will lead to a fall in prices. On the contrary, during depression period, bank rate is lowered. This makes the credit cheap, i.e., money is available at a lower rate of interest. As a result; there is a rise in aggregate demand which will lead to a rise in prices. In this way, bank rate can be used in both the types of situation, i.e., inflation and depression.

(2) Open Market Operations. By open market operations, we mean sale and purchase of securities by the central bank or the government of a country in the open market. It is also an important weapon in the hands of the central bank or government of a country fix controlling the credit. If the credit is to be decreased in the country, the central bank or the government begins to sell securities in the open market. It will reduce the supply of money in the market. On the contrary if the central bank or the government wants to expand the credit, it begins to purchase securities in the open market. In this way, it will increase the supply of money in the market. In case of inflation, the Central Bank starts purchasing securities in the open market which will tend to reduce the supply of money in the market. On the contrary, during depression when prices are falling, the central bank starts purchasing securities. As a result, the aggregate demand increases along with increase in prices.

(3) Change in the Minimum Reserve Ratio. According to this method, all commercial banks are required to keep a given percentage of their total deposits as cash reserve with the Central Bank of a country. In case of India, the cash reserve is to be kept with Reserve Bank of India. If the Central Bank wants to reduce credit, it will raise the cash-reserve ratio. As a result, the commercial banks are left with less amount of deposits. In this way, their power or providing credit is reduced. It happens in case of inflation. On the contrary, when the Central Bank wants to expand credit, it lowers the cash-reserve ratio. As a result, more amount of cash is left with the commercial banks which will enable them to create more credit in the market.

(4) Change in Liquidity Ratio. Under this method, every commercial bank is required to keep a certain proportion of its deposits as cash with itself. It is called liquidity ratio. When the Central Bank wants to reduce credit, it raises liquidity ratio. On the contrary, when the Central Bank wants to expand credit, it lowers the liquidity ratio. The liquidity ratio is increased during inflation and reduced during depression.

(II) Qualitative or Selective Credit Control Measures. The main qualitative or selective credit control measures are as follows:

(1) Change in Marginal Requirement. The first and the foremost qualitative measure of credit control is the change in marginal requirements. Under this method, Central Bank of a country makes change in marginal requirements to control and release funds. When the central bank feels that the traders are stock-piling certain commodities on account of which their prices are rising then the Central Bank controls credit by changing the marginal requirements of loan against those commodities. It means that the margin between the value of goods pledged as security and the amount of loan sanctioned is increased. Suppose a person pledges goods worth Rs. 100 as security with a bank and gets a loan amounting to Rs. 80. In this case the marginal requirement is 20%. Now if the margin requirement is increased, i.e, say, 30%, it would mean that the bank now sanctions loan amounting to Rs. 70 only against the security of goods worth Rs. 100. It means chat the amount of credit is reduced. In other words, this would reduce money supply and the inflation would be curtailed. On the contrary, in case of depression the Central Bank margin is reduced, say from 30% to 20%, it would amount to expansion of credit.

(2) Rationing of Credit. Under this method, the Central Bank of a country fixes a limit of the credit facilities to commercial banks.

Being the lender of the last resort, Central Bank can introduce rationing of credit so as to control credit, ratoning of credit can be done in the following ways (i) Central bank can refuse loan to any commercial bank; (ii) Central Bank can reduce the amount of loans given to the commercial banks; (iii) Central Bank can fix the quota of credit for the commercial banks, and (iv) Central Bank can determine the link of credit sanctioned to a part trade or industry.

(3) Direct Action. Under this method, Central Bank takes direct action against those commercial banks which do not comply with the instructions given by it. In this case, Central Bank imposes strict restrictions against defaulting commercial banks such as, withdrawal of discounting facilities,

(4) Moral Persuasion. Under this method, Central Bank of a country uses moral persuasion on the commercial banks so as to behave in a particular manner. As a matter of fact moral persuasion is a sort of advice. There is no clement of compulsion in it. Commercial banks are expected to follow the advice of the Central Bank in granting loans. It is a new method of credit control.

14.2.4 MONETARY POLICY AND ECONOMIC DEVELOPMENT OR ROLE OF MONETARY POLICY IN THE ECONOMIC DEVELOPMENT

Monetary policy plays a key role in accelerating the rate of economic development in underdeveloped and developing economies. The chief objective of the monetary policy in the underdeveloped and developing countries is to raise the capital formation for economic development. Capital formation depends on investments, and investments depend on savings. By mobilization of these savings the same can be invested in a befitting manner. Investment of savings results in capital formation and the capital formation accelerates the rate of economic development.

Another method of capital formation for economic development is to adopt a policy of cheap money and to stimulate investment by lowering the rate of interest, directing investment into desired channels through selective credit controls (if investment is found to be misdirected) and by undertaking public investment on a large scale (since private investment may not be forthcoming in adequate amounts). In view of scarcity of capital arid shyness of capital, some economists have suggested a policy of high rate of interest for developing countries. In their opinion, high rates of interest would channelise the scarce capital only to the most productive channels and would eliminate wasteful use of resources. It would stimulate savings and check inflation. It is true that a policy of high interest rates may be successful in doing all this, but it may not be desirable to general re investment just for keeping inflation under check. In fact, a mild dose of inflation on helps in raising the level of investment. Direct controls and control over capital issues and use of qualitative methods of credit control would ensure investment in desirable direction. Further, "it is unlikely that a high rate at interest would stimulate savings, because with less saving the people will earn the same or more income than what they would have earned at low rates of interest. However, its use could be made when speculation in goods and securities gets beyond control. The monetary policy can create a favourable climate both for savings and investments. The shape of investment would, however, depend on the policy of credit institutions and the forms of credit controls that are adopted. In most developing countries, the commercial banks provide only short-term credit which is chiefly used for carrying inventories, purchasing land and real estate or for financing the production of export crops. The government will have to make guarantees or provide rediscounting facilities if the commercial banks are to be induced to advance medium-term and long-term loans. Selective Credit Controls can be another method to influence the pattern of investment and production. The banks can differentiate between different sectors and industries in matters of cost and amount of credit, the duration, the amount of collateral, etc. And if the Central Bank has adequate control on the commercial banks, selective control could be exercised indirectly by influencing the behaviour of banks — by having different rediscount rates for different types of loans or by making exceptions in regard to reserve requirements. On a selective basis, for correcting an adverse balance of payment the monetary authority, besides exercising direct control on foreign exchange, may make use of the bank rate. For promoting capital formation, fiscal policy has been found to be more effective than the monetary policy and therefore, much reliance could not be placed on the latter.

From the above study, we conclude that in order to accelerate the rate of economic development of underdeveloped and developing countries, monetary policy may adopt the following measures

(1) Monetary Policy and Capital Formation.
(2) Credit Control Measures.

(I) Quantitative Credit Control Measures. Those credit control methods whereby the central bank controls the quantity of credit in a country are called credit control measures. The main methods of quantity credit control are the follows

(1) Bank Rate. Bank rate is also called discount rate. It is the most important weapon of credit control in the hands of the central bank of a country. It is the rate of interest at which bills of specified type of commercial banks are discounted by the central bank. Rise in bank rate increases the rate of interest and fall in bank rate lowers the rate of interest. Weapon of bank rate is used as the objective of economic stability. When there is inflation in the country, bank rate is raised. Higher bank rate will check the expansion of credit of commercial banks. As a result, there is a fall in the aggregate demand which will lead to a fall in prices. On the contrary, during depression period, bank rate is lowered. This makes the credit cheap, i.e., money is available at a lower rate of interest. As a result; there is a rise in aggregate demand which will lead to a rise in prices. In this way, bank rate can be used in both the types of situation, i.e., inflation and depression.

(2) Open Market Operations. By open market operations, we mean sale and purchase of securities by the central bank or the government of a country in the open market. It is also an important weapon in the hands of the central bank or government of a country fix controlling the credit. If the credit is to be decreased in the country, the central bank or the government begins to sell securities in the open market. It will reduce the supply of money in the market. On the contrary if the central bank or the government wants to expand the credit, it begins to purchase securities in the open market. In this way, it will increase the supply of money in the market. In case of inflation, the Central Bank starts purchasing securities in the open market which will tend to reduce the supply of money in the market. On the contrary, during depression when prices are falling, the central bank starts purchasing securities. As a result, the aggregate demand increases along with increase in prices.

(3) Change in the Minimum Reserve Ratio. According to this method, all commercial banks are required to keep a given percentage of their total deposits as cash reserve with the Central Bank of a country. In case of India, the cash reserve is to be kept with Reserve Bank of India. If the Central Bank wants to reduce credit, it will raise the cash-reserve ratio. As a result, the commercial banks are left with less amount of deposits. In this way, their power or providing credit is reduced. It happens in case of inflation. On the contrary, when the Central Bank wants to expand credit, it lowers the cash-reserve ratio. As a result, more amount of cash is left with the commercial banks which will enable them to create more credit in the market.

(4) Change in Liquidity Ratio. Under this method, every commercial bank is required to keep a certain proportion of its deposits as cash with itself. It is called liquidity ratio. When the Central Bank wants to reduce credit, it raises liquidity ratio. On the contrary, when the Central Bank wants to expand credit, it lowers the liquidity ratio. The liquidity ratio is increased during inflation and reduced during depression.

(II) Qualitative or Selective Credit Control Measures. The main qualitative or selective credit control measures are as follows:

(1) Change in Marginal Requirement. The first and the foremost qualitative measure of credit control is the change in marginal requirements. Under this method, Central Bank of a country makes change in marginal requirements to control and release funds. When the central bank feels that the traders are stock-piling certain commodities on account of which their prices are rising then the Central Bank controls credit by changing the marginal requirements of loan against those commodities. It means that the margin between the value of goods pledged as security and the amount of loan sanctioned is increased. Suppose a person pledges goods worth Rs. 100 as security with a bank and gets a loan amounting to Rs. 80. In this case the marginal requirement is 20%. Now if the margin requirement is increased, i.e, say, 30%, it would mean that the bank now sanctions loan amounting to Rs. 70 only against the security of goods worth Rs. 100. It means chat the amount of credit is reduced. In other words, this would reduce money supply and the inflation would be curtailed. On the contrary, in case of depression the Central Bank margin is reduced, say from 30% to 20%, it would amount to expansion of credit.

(2) Rationing of Credit. Under this method, the Central Bank of a country fixes a limit of the credit facilities to commercial banks.

Being the lender of the last resort, Central Bank can introduce rationing of credit so as to control credit, atoning of credit can be done in the following ways (i) Central bank can refuse loan to any commercial bank; (ii) Central Bank can reduce the amount of loans given to the commercial banks; (iii) Central Bank can fix the quota of credit for the commercial banks, and (iv) Central Bank can determine the link of credit sanctioned to a part trade or industry.

(3) Direct Action. Under this method, Central Bank takes direct action against those commercial banks which do not comply with the instructions given by it. In this case, Central Bank imposes strict restrictions against defaulting commercial banks such as, withdrawal of discounting facilities,

(4) Moral Persuasion. Under this method, Central Bank of a country uses moral persuasion on the commercial banks so as to behave in a particular manner. As a matter of fact moral persuasion is a sort of advice. There is no clement of compulsion in it. Commercial banks are expected to follow the advice of the Central Bank in granting loans. It is a new method of credit control.

(III) Monetary Policy and Price Stability. Another main objective of monetary policy is to attain price stability in the country. Price stability refers to the prevention of wide fluctuations in prices. Economists like Cassels and Keynes suggested pike stabilization as a main objective of monetary policy of a country. As a matter of fact, fluctuations in price level either in upward direction or downward direction distort the entire economic system of the country. In this way, price stability is a prerequisite for economic development of a country.

(IV) Monetary policy and Deficit Financing. In modern times, most of the underdeveloped and developing countries resort to deficit financing for economic development. However, heavy dose of deficit financing restricts the smooth operation of monetary policy.

(V) Monetary Policy and Exchange stability. Another major objective of monetary policy is to bring foreign exchange rate stability in the country. By foreign exchange rate is meant he number of units of foreign currency that can be had in exchange for one unit of domestic currency. For exchange 1U.S $ = Rs. 46.97 and 1 U.K. pound = Rs 65.72. Fluctuations in the foreign exchange rate arc very much influenced by balance of payment. By balance of payment is meant difference between total exports and total imports. When the total exports exceed total imports, it is said that balance of payment is favourable. On the contrary, when the total imports exceed total exports, it is said that balance of payment is unfavourable. Every country aims at favourable balance of payments.

(VI) Monetary Policy and Full Employment. Another objective of monetary policy of each country is to attain and maintain full employment. Full employment implies a situation wherein all competent persons who are willing to work at the prevailing rate of wages, get work. To attain this situation, it is necessary to increase production and demand. During boom period, there is rapid increase in demand and thereby the production is also increased in order to meet the rising demand. It also leads to full employment. On the contrary, during the period of depression, there is low production because of low demand and wide unemployment. Hence, the objective of monetary policy is to check rising unemployment during depression period.

(VII) Proper Interest Rate Policy. Another method of monetary policy is the 'cheap money' and 'dear money' policy. The cheap money means that the interest rates are low, whereas, dear money means that the interest rates are high. Cheap money policy should be adopted in a business and industrial sectors. On the contrary, dear money policy should be adopted when there is hyper-inflation, hectic speculative activity and reckless investment by industrialists for unproductive purposes. Thus, during boom period, the rate of interest should be increased. On the contrary, during depression period, the rate of interest should be decreased.

(VIII) Adjustment between Demand for and Supply of Money. Economic development results in rising demand for money because the growth of economy and a corresponding contraction of the subsistence sector greatly increases the transaction demand for money. Beside the rise in per capita income and increase in population during the development process also increases the demand for money to carry out day-to-day transactions. The continuously rising demand for money makes it imperative for the monetary authority to increase the money supply at a rate roughly equal to the rate of increase in real income so that prices do not fall consequent upon a rise in national output. A failing price level adversely affects the pace of economic growth by initiating a vicious downward spiral of prices and output.

(IX) Debt Management. Debt management is another objective of monetary policy in an underdeveloped country. It aims at proper timing and issue of government, establishing their prices and minimizing the cost of serving public debt. It is the central government of a country which undertakes the selling and buying o government bonds and making timely changes in the structure and composition of public debt.

(X) Money Policy and Price Control.

(XI) Establishment of Financial Institutions discussed.

14.2.5 LIMITATIONS OF MONETARY POLICY IN UNDER DEVELOPED AND DEVELOPING COUNTRIES

The main difficulties and limitations are as follows:

(1) Unorganized Money Market. The foremost limitation of monetary policy in underdeveloped and developing countries like India is the existence of an unorganized and divided money market which is outside the jurisdiction of the Central Bank of a country, such as indigenous bankers in India (it was 90% in 1930 and is roughly 50% even now). These indigenous bankers on one side occupy an important place in the money market of the country and on another side they do not comply with the monetary policy of the Central Bank. Thus, whatever monetary policy is pursued by the Central Bank the indigenous bankers by working against it render the same ineffective.

(2) Existence of Non-monetized Sector. Another limitation of monetary policy is the existence of a large non-monetized sector, perhaps one-third of the economy in underdeveloped countries which seriously limits the scope of the use of monetary weapons In this sector, goods are exchanged for goods and thus no money is used. In this way, this sector restricts the operation of monetary policy.

(3) Less Importance of Demand Deposit. In underdeveloped Countries, people prefer to hold and use currency. As such, a small portion of money is kept in the banks as demand deposits and thereby weapons of credit control have only limited applications.

(4) Lack of Banking Facilities. In underdeveloped and developing countries, adequate banking facilities are not available. As such the idle savings remain buried under the earth and thus unutilized.

(5) Black Money. In underdeveloped countries, the administrative grip on the antisocial elements is not very firm and they come to amass huge wealth through tax-evasion and other illegal transactions. This unaccounted money which is popular known as black money gives birth to a parallel economy which helps speculative and illegal dealings and makes monetary policy ineffective.

(6) Ineffectiveness of Credit Control Measures. The instruments of credit control like the bank rate, open market operations, variations in reserve requirements and other selective credit controls, have lesser operational effectiveness in these countries as compared to the advanced countries due to undeveloped security or bill market, unsound practices of banking institutions and lack of bathing habits on the pan of the people.

(7) Lack of Integrated Interest Rate Structure. In under developed and developing countries, various types of interest rates prevail in the money market which do not bear any definite relationship with the bank rate of the country. As such, the Central Bank of the country is unable to control the money market in an effective manner and thereby monetary policy fails to operate properly.

(8) Deficit Financing. In modern times, most of the under developed and developing countries resort to deficit financing for economic development.

(9) Ambiguous and Contradictory Objectives. It is said that objectives of monetary policy are not dear and sometimes contradictory to each other in the context of developing countries. For example, take price stability and economic growth. In the period of growth, some price rise or inflation is inevitable.

(10) Persuasive Monetary Policy. Generally monetary policy followed in underdeveloped and developing countries is soft, lenient and persuasive and this leads to its ineffectiveness. As such, it fails to achieve its objectives.

14.3 INTRODUCTION OF FISCAL POLICY

Fiscal policy refers to the policy of the government with regards to taxation, public expenditure and public borrowings for securing economic stabilization and development. The use of fiscal policy for the purposes of promoting economic development is of recent origin. The role of fiscal policy in advanced countries is to stabilize the rate of growth, whereas, in the context of underdeveloped and developing countries, the role of fiscal policy is accelerate the rate of capital formation and economic development. There was a time when it was considered that the best government was one which governs the least and has minimum interference in the economic field. However, after the world-wide depression of 1930, the circumstances brought changes in the fiscal policy. Now fiscal policy is considered as an effective tool in the hands of the government for bringing economic stability, price control full employment and economic development in a country.

14.3.1 MEANING AND DEFINITION OF FISCAL POLICY

The objective of every government is always to have a balanced budget. However, generally the expenditure exceeds the revenue income of the government. In order to meet this situation, the government imposes new taxes or increases existing taxes, lakes internal or internal loans or resorts to deficit financing by issuing fresh currency notes. Thus, the policies of imposing taxation, taking loans or deficit financing are collectively known as 'fiscal policy. The term 'Fisc' in English language means treasury. Hence policy concerning treasury or government is known as Fiscal Policy.

Definitions:

Musgrave, "Fiscal Policy is concerned with those aspects of economic polity which arise in operation of the public budget."

According to Paul Samuelson, "Fiscal Policy means public expenditure and tax policy."

According to Arthur Smithies, "Fiscal Policy is a policy under which government uses its expenditure and revenue programmes to produce desirable effects and avoid undesirable effects on the national income, production and employment." The significance of fiscal policy as an instrument of economic control was first emphasized by Prof. J.M keynes in his famous book— titled General Theory of Employment Interest and Money. However, Prof. Keynes never gave any formal definition of fiscal policy. A working definition can be derived from Keynes' writing. He used the term fiscal policy when referring to the influence of taxation on savings and of government investment expenditure financed by loans from the public. He looked at fiscal policy as one form of State action as a balancing factor. Thus, for the purpose of interpretation of Keynes thought we can define fiscal policy "as a policy that uses public finance as a balancing factor in the development of the economy"

'Government activities as regarding spending, taxing, borrowing, deficit financing and budgeting are known as fiscal activities and the purposeful manipulation of these activities to attain desired objectives, say, economic stability rapid economic growth and full employment — is known as fiscal policy. "By a positive fiscal policy, we mean the process of shaping public taxation and public expenditure so as (i) to help dampen down the swings of the business cycle, and (ii) in contribute toward the maintenance of a progressive high employment economy free from excessive inflation or deflation".

It is thus, obvious, that fiscal policy deals quite directly with matters which immediately influence the consumption and investment expenditure and hence, the income, output and employment in the economy.

14.3.2 COMPONENTS OF FISCAL POLICY OR INSTRUMENTS OF FISCAL POLICY

The main components or instruments of fiscal policy are as follows

(1) Budgetary Policy. The old classical economists advocated a policy of balanced and small budgets. However this policy will not help to tide our depression and unemployment according to Prof. J.M. Keynes. The need at such a time is to increase the flow of income-stream into the economy and could be made possible, according to Prof J. M. Keynes, only through deficit budgeting. Hence, it is essential that the government should incur large deficits in the budget and then meet these deficits either by borrowing from the banks etc. or through printing fresh currency notes. It will inject Fresh purchasing power in the economy, helping it to fight depression and unemployment effectively.

2) Taxation Policy. Taxation is the most powerful instrument of fiscal policy in the hands of public authorities. According to economic bulletin in Asia and the Far East, "Taxation, therefore, remains as the investment and transferring resources to the government for economic development". In order to fight depression and unemployment, taxation policy of the government, according to Keynesians should be so designed as to stimulate both consumption and investment simultaneously. The only way to do it successfully is to reduce the general burden of taxation on the community. The commodity taxes should be cut down to the minimum so as to stimulate consumption on the part of the public. Further, to promote increased investments, it may also be essential to cut down business and corporate taxes.

In order to promote economic development, taxation may be used to achieve the following objectives (i) to put a curb on consumption and thereby transfer resources from consumption to investment, (ii) to increase incentives so as to save and invest, (iii) to change the pattern of investment; (iv) to divert resources from the hands of the public to the hands of the government for their more effective utilization, (v) to reduce the inequalities of income and wealth; (vi) to mobilize economic surplus for development; and (vii) to control inflation.

(3) Public Debt. Public debt can also be employed by the government as an instrument to fight depression and unemployment. The deficits in government's budgets shall have to be met partly if not wholly through public borrowings. But while adopting the fiscal policy of public borrowing (public debt), the government shall have to keep the following two considerations in mind. First in order to keep the burden of public debt low, the government should aim at a policy of low interest rates during depression. Secondly, the government should try as tar as possible to borrow from those sections of the community with whom the funds are lying idle,

(4) Public Expenditure. An increase in public expenditure can also he employed by the government an instrument to fight against unemployment. Increase in public expenditure at such a time may take the following two forms (i) Pump Priming, and (ii) Compensatory Spending. Pump priming refers to that public expenditure helps initiate and revive economic activity in an economy activity in an economy where stagnation reigns supreme consequent upon depression. The object is to increase private investment through an injection of purchasing power in the form of an increase in public expenditure. On the other hand, compensatory spending refers to the government e which is undertaken with a view to compensating the decline in private investment.

14.3.3 OBJECTIVES OF FISCAL POLICY

The main objectives of fiscal policy are as follows:

(1) Economic Stabilization. The first and the foremost objective of fiscal policy is to eliminate cyclical fluctuations in economic activity and to maintain it at a stable level. The up-and-down swings in business are checked by compensatory fiscal action to counteract fluctuations. Strict steps are take control both inflation and deflation and efforts arc made to make the budget more or less balanced over the period of the cycle.

(2) Economic Growth. The second important objective of fiscal policy is to maintain a continuous upward trend in economic activity. Total outlay is increased in depress but is not allowed to decrease correspondingly in boom. Economic growth continues to be an important aim of fiscal policy.

(3) Break the Vicious Circle of Poverty. Another objective of fiscal policy is to break the vicious circle of poverty and to usher in a rapid development of both agriculture and industry.

(4) Provide Full Employment. Fiscal policy is considered as an effective instrument for reducing unemployment and securing full employment. Full employment occurs where there is job available for everyone who is fit to work and wants a job at the prevailing wage rates.

(5) Reduce Inflationary Pressure. Another objective of fiscal policy is to reduce inflationary pressure. In a developing country the inflation is inevitable and it is fiscal policy which assist in reducing in pressure.

(6) To accelerate the rates of saving, investment and capital formation.

(7) To bring stability in prices.

(8) To restrict monopolies and check the concentration of economic power in fewer hands only.

(9) To establish balance in foreign trade.

(10) To have rapid economic development in the country.

(11) In case of underdeveloped and developing countries, the main objectives of fiscal policy are:

(i) promoting the growth of savings and investments, and

(ii) reducing income and wealth inequalities.

14.4 INTRODUCTION OF FISCAL POLICY IN UNDERDEVELOPED ECONOMY

Fiscal policy is an important instrument of policy in underdeveloped countries.

The major problem of underdeveloped countries is the attainment of rapid economic growth. Hence, major objective of fiscal policy, as of all other aspects of economic policy, must he increase capital formation arid investment, so that the productive capacity of economy is increased and economic growth becomes possible. Besides increasing capital formation and investment, fiscal policy may also aim at influencing the pattern of production, influencing prices (the general price level as well as the structure of relative prices) and bringing about a redistribution of wealth and incomes.

14.4.1 OBJECTIVES OF FISCAL POLICY IN AN UNDERDEVELOPED ECONOMY

Fiscal policy is an important instrument of policy in underdeveloped countries. It plays a dynamic role in underdeveloped countries. However, the nature of fiscal policy in an underdeveloped economy is bound to be different from that of a developed country. Underdeveloped countries usually suffer from (i) chronic unemployment, (ii) chronic poverty (iii) chronic backwardness, both economic and social, and (iv) glaring inequalities of income and wealth. Hence the objective of fiscal policy in an underdeveloped country is to remove the above problems and thus to have a rapid economic growth. In this way, they could be the major objectives of fiscal policy in an underdeveloped country:

1) The very first and foremost objective of fiscal policy in an underdeveloped country should be to maximize the level of aggregate savings by applying a cut to the actual and potential consumption at large.

(2) The second objective of fiscal policy in an underdeveloped economy should be to maximize the rate of capital formation, to break down economic stagnation and thus to lead the country to the path of rapid economic progress.

(3) The third objective of fiscal policy in an underdeveloped country should be to divert capital resources, from less productive to more productive, and from socially less desirable to socially more desirable uses. The objective is implicit in planned economic development.

(4) The fourth objective of fiscal policy in an underdeveloped country is to increase employment opportunities in the country. The government should undertake local public works of community development involving more labour and less capital per head. Besides undertaking the establishment of public enterprises the

government should encourage private enterprises through tax holidays, concessions cheap loans, subsidies etc. In the rural areas, efforts should be made to encourage domestic industries, by providing training, finance, marketing facilities and small machines connected with them.

(5) The fifth objective of fiscal policy in an underdeveloped country is to protect its economy from the demon of inflation. Inflation can prove ruinous to an underdeveloped economy. Hence the fiscal policy of an underdeveloped country should be designed in such a manner as to curb inflationary forces arising during the process of economic growth.

(6) The sixth objective of fiscal policy in an underdeveloped country should be to eliminate as far as possible, sectoral imbalances arising in the economy from time to time. Though the fiscal policy will help in maintaining price stability in the economy as a whole by curbing inflationary forces, there may arise sectoral price fluctuations in certain sectors of the economy on account of the existence of several bottlenecks. Hence the fiscal policy should be devised in such a manner that it can correct such imbalances in time before they could inflict any damage on the economy of the country.

(7) The seventh objective of fiscal policy should be to eliminate, as far as possible, the glaring inequalities of income and wealth. These inequalities create social cleavages, which lead to economic and political instability and stand in the way of economic development. The fiscal policy should be designed in such a way that on one side it helps in increasing national income and on the other side it helps in reducing the inequalities of income and wealth in the economy.

14.4.2 ROLE OF FISCAL POLICY IN AN UNDERDEVELOPED ECONOMY

Fiscal policy as a means of promoting economic development of underdeveloped countries may have to play the following roles

(I) Mobilization of Resources.

The national income and per capita income of underdeveloped countries is very low, hence the volume of voluntary savings is also low. When the volume of voluntary savings is low, the capital formation too shall be quite low. Hence financing of development plans poses a very difficult problem for the government of an underdeveloped country. It is of utmost importance to increase the rate of savings, investments and capital formation so as to raise the rate of economic growth in underdeveloped countries. The government can help mobilization of resources and accumulation of capital by means of adopting the following methods:

(1) Inducement to Save. Inducement to invest in private enterprise may be effective if (i) private enterprise is secured and profitable, and (ii) there are suitable institutions through which investment can be made. The profitability of private enterprise may be helped by the government in many ways. For example, protection may help certain industries to develop. There may be provision for technical advice and guidance and for the supply of commercial information. The tax burden on desired types of enterprise may be listened. Profits which are reinvested may be exempted from taxation or may be taxed lightly. Apart from such measures for helping specific types of enterprise, such other activities of the government as the development of transport and power etc., are also important.

There must also be suitable institutions through which investment may be canalized. Most underdeveloped countries do not have well developed banking structures. In the absence of facilities for depositing money the people either do not save at all, or if they do save something, they do so in the shape of hoards of jewelry etc. Thus, banking facilities have to be made available to as large a proportion of the people as possible. Commercial banks, generally do not provide long-term loans for development projects. State Banks or Cooperative Banks may, therefore have to be resorted to.

(2) Government Borrowing or a Non-Inflationary Nature. Government borrowing of a non-inflationary nature is also an important instrument for mobi1ising private savings and government securities provide a safe outler for the people's savings. The aim has to be to see that different types of securities are offered to the people so that persons of different means, or with different types of requirements may purchase them. Small savings schemes are of special significance in underdeveloped countries. For this purpose savings banks or other similar institutions have to be set up in large numbers all over the country, specially in small towns and villages. Other steps that can be taken are attractive rates of interest, different dates of maturity in the case of savings certificates and lotteries. Another possibility is that savings and government borrowing in any particular area may be linked with a specific project, so that people may be more willing to subscribe money or it.

(3) Compulsory Savings. It may happen, however that in spite of every effort the volume of voluntary savings may not be very large. This, as we have seen, may be due to several causes. The incomes of the people in underdeveloped countries are generally so low that they cannot save much. Even a rise in income levels due to economic development generally leads not to more saving but to increased consumption. In many underdeveloped countries, whatever little savings are done are in the form of purchases of land or hoarding of cash. The absence of a well-developed financial market also discourages savings.

(4) Taxation. Taxation can play an important part in diverting resources from consumption or non-productive uses, into investment. This happens in two ways. In the first place, Taxation takes away purchasing power from individuals and firms and transfers it to the Government. Thus, on the one hand private uses of resources are curtailed and, on the other, the Government obtains funds with the help of which it can acquire control over these resources and can direct them into investment. Both direct and indirect taxation have the effect of curtailing consumption. Direct taxes do so by reducing income and indirect taxes by making consumption goods costly. Indirect taxation involves the taxation not only of luxuries and semi-luxuries but even of commodities which usually considered essential so that the propensity to consume which is naturally high in pour countries may be field in check. Additional income resulting from economic development may be prevented from flowing into consumption if (a) the scale of income and other direct taxes is progressive so that the people getting increased incomes may be taxed more stiffly and they may be prevented from increasing their consumption to the extent of the rise in their incomes, and (b) goods with a high income elasticity of demand (i.e., the demand for which tends to increase with a rise in income) are taxed.

(5) Surpluses from Public Enterprises. The resources of underdeveloped Countries can be increased by mobilizing the surpluses from public enterprises. According to Indian Taxation Enquiry Commission, “The making of profit is not necessarily inconsistent with public enterprises; indeed, the generation of surpluses in public enterprises may be considered to be a public purpose for the development of economy.

(6) Deficit Financing. Deficit financing also constitutes an important source for financing development plans in underdeveloped countries. It makes possible capital formation in two ways (i) by activising hidden and idle resources, and (ii) directing resources from current consumption into investment.

Deficit financing by placing all resources in the hands of the government, enables it to acquire resources which were so far unutilized and to use them for productive purpose.

Deficit financing can also bring about a diversion of resources from non-productive uses. As a result of deficit financing, the government acquires control over additional purchasing power arid can buy goods and services needed for its investment programmes. Thus, these goods and services are diverted from private uses to government uses. This process of diversion from private to govt. uses is aided by the tendency of deficit financing to raise prices. Because of the rise in prices, private demand for goods and services tends to decline and, as a result of government purchases (with the, help of the additional purchasing power acquired by the government), these goods and services move into uses determined by the government.

(II) Accelerating the Rate of Economic Growth

Fiscal policy can also contribute to the acceleration of the rate of growth in underdeveloped countries by increasing the rate of investment through public expenditure and taxation policies. The role of fiscal policy can be positive and dynamic in accelerating the rates of growth by increasing the rates of saving and investment. The government can start various development projects for rapid economic progress of underdeveloped countries. The government should provide opportunities and incentives to save and invest. Equal importance should be given to the development of agriculture and industry. The development of agriculture depends on industrial development as the demand of most of the agricultural products comes from industrial sector.

(III) Fiscal Policy and Redistribution of Income

The distribution of income and wealth is becoming more and more unequal due to the constantly increasing Inflationary pressures oil the economy. These inequalities in the distribution of income and wealth adversely affect the pace of economic progress of these underdeveloped countries, create social and political unrest in the country and instability in the economy. Fiscal policy of a country aims to reduce the inequality of income and wealth of an underdeveloped country in the following ways

(1) To Change the Structure of Resource Ownership.

(2) To Change Price Structure.

(3) To Change the Size of Income.

(4) Planned Development.

(5) Change in the Tax Structure.

(IV) Fiscal Policy and Economic Stability

Fluctuations in business activities create uncertainties in the underdeveloped economy. The following compensatory fiscal measures may be adopted so as to avoid or restrict cyclical fluctuations.

(1) Fiscal Policy During Inflation. Obviously, inflation is the result of excessive private expenditure, and therefore, fiscal tools must be used to check the inflationary tendencies. The supply of money being more than its demand and on the other hand the demand for commodities and services being more than its supply become the key factors of inflation, Fiscal measures can be used in various ways

(i) By spending less.

(ii) By imposing new taxes and raising the rates of existing taxes, this will transfer resources from private use to government use.

(iii) The government may borrow money to prevent expenditure from increasing.

(iv) The government can increase the interest rates by increasing Bank Rate and may induce people to save more and consume less.

(2) Fiscal Policy During Depression. Deflation or unemployment is the result of deficiency in the private expenditure. This deficiency in private expenditure can be overcome in several ways

(i) The tax rates may be reduced.

(ii) The government may increase its expenditure at old age pension and unemployment benefits.

(iii) The government may reduce the rate of interest and may lend liberally to private businessmen to encourage investment expenditure.

(iv) The government can sanction subsidies and grants to the backward and underdeveloped sectors of the economy as agriculture.

(vi) It may repay its debt so that consumption and investment expenditure both may increase.

(V) Fiscal Policy and Price Stability

Apart from the above considerations, fiscal policy must also seek to attain price stability. Attempts to force the pace of development tend to push up prices. This is also because the limited resources of an underdeveloped economy are deliberately diverted into large-scale investment so that the availability of consumer goods is reduced, specially if the investment is in projects with long gestation periods. Since the foreign exchange resources of underdeveloped countries arc also generally limited, the shortage of goods produced within the country cannot be made up by imported goods. While a mild rise in prices may help the process of development, inflation not only causes hardships to large sections of the population, but also upsets calculations about costs of plan Programmes and discourages savings. Hence all measures, including fiscal measures have to be taken to avoid inflationary situations. If deficit financing is adopted and it may often be unavoidable, or may even be desirable, for reasons mentioned earlier, the pressure on prices may become still greater and care has to be taken to see that its extent and timings are such as not to give rise to inflationary situation and that it is accompanied by measures to check inflationary tendencies. Apart from steps to increase production, the fiscal measures that can be adopted are taxation and borrowing to remove purchasing power from circulation.

A situation of falling prices is not so characteristic of developing economies as that of rising prices, but if such a situation develops, fiscal policy along with other instruments of policy will have to play its part.

(VI) Fiscal Policy and Employment

Unemployment is the burning problem of underdeveloped countries. Fiscal policy is an important tool of removing unemployment in a country. Hence the government should adopt such a policy which can solve the problem of unemployment in underdeveloped countries. The fiscal policy should include the following:

(i) Increase in public and private investments.

(ii) Free technical education.

(iii) Deve]opment of employment opportunities.

(iv) Unemployment Allowance.

(VII) Fiscal Policy and Production

In underdevelopment countries the production and productivity both are low and fiscal policy is an important tool of increasing both production and productivity. In this connection the following steps may be taken:

(i) The government can increase production by giving economic assistance.

(ii) Domestic industries can be encouraged by giving them protection, export industries by economic assistance and new industries can he established by giving lax exemptions.

(iii) New producers can be encouraged by giving them loans at low rate of interest.

14.5 INTRODUCTION OF FISCAL POLICY IN A DEVELOPING COUNTRY LIKE INDIA

Fiscal policy in a developing country like India differs from that in a developed country both in respect of its objectives and its contents. In a developing economy, the government has to play an increasing role in promoting economic development, which is the primary objective of its economic policy. Fiscal policy, therefore, becomes an important instrument for achieving this objective.

14.5.1 OBJECTIVES OF FISCAL POLICY IN DEVELOPING COUNTRY LIKE INDIA

(1) Promotion and acceleration of capital formation in the public and private sectors.

(2) Promotion and maintenance of economic stability.

(3) Removal of unemployment.

(4) Promotion and maintenance of price stability.

14.5.2 ROLE OF FISCAL POLICY IN A DEVELOPING COUNTRY LIKE INDIA

Fiscal policy has a dynamic role to play in the promotion at rapid economic development in developing countries like India. If it is carefully conceived and efficiently executed, it can accelerate the process of development in a developing country.

The role of fiscal policy in a developing country like India may be studied under the Following heads; -

(1) Fiscal Policy and Capital Formation. Fiscal policy is used as an instrument of capital formation in developing countries. It perform this task In two ways: (i) by expanding investment In public and private enterprises, and (ii) by directing the flow of resources from socially less desirable to more desirable investment. The increase of investment in the public sector is done by. implementing the programmes of development on a large scale along with finding requisite funds for this purpose. As regards expanding investment in private sector, fiscal policy is used as an instrument in stimulating investment in the private sector by allowing depredation allowances in company taxation, tax holidays, development rebates, provision of finance, subsidies, etc. The second aspect of this policy changes the content of the total investment in the economy and creates capital by bringing about a quantitative improvement in it.

(2) Fiscal Policy and Mobilization of Resources. Developing countries suffer from a very low rate of voluntary private saving. The propensity to consume there is high and the propensity to save very low resulting In deficiency of resources, mainly financial resources. For the mobilization of financial resources, the following fiscal means may be used: (i) taxation, (ii) public borrowings, (iii) deficit financing, and (iv) stimulating private savings, (v) profits of public enterprises. There must be a harmonious combination so as to accelerate economic progress without inflation.

(3) Fiscal Policy and Economic Stability. Another ob of fiscal policy in a developing country is the promotion and maintenance of economic stability. Economic instability in developing countries is mainly caused on account of instability in other countries. The exports of these countries usually consist of primary products and these commodities arc particularly sensitive to fluctuations of demand abroad. The fluctuations are more in prices than in output. There are, therefore, variations in terms of trade. Thus, export earnings are particularly subject to fluctuations and the foreign exchange resources are unstable and unreliable. This kind of instability is corrected by using particular taxes than by aggregative fiscal policy. Manipulation of export taxes helps to counteract the effects of changing foreign demand. Long-term fluctuations can be checked by rapid economic development.

(4) Fiscal Policy and Redistribution of National Income. Developing countries suffer from marked inequalities in incomes and wealth. Inequalities in Incomes and wealth can be reduced by adopting a suitable fiscal policy. Besides other measures, the main elements of the fiscal policy should be (i) progressive taxation o income and wealth, (ii) suitable public expenditure programmes for poorer sections of the society.

(5) Fiscal Policy and Price Stability Another objective of fiscal policy in a developing country is the promotion and maintenance of price stability. The main reason of price instability is the inflation. There is tendency for price to rise on account of the large development expenditure which is seldom accompanied by a corresponding increase in production.

14.6 OBJECTIVES OF FISCAL POLICY IN DEVELOPED ECONOMY

The main objective of fiscal policy in a developed country is the maintenance of economic stability

(1) To raise the level of investments. The main objectives of fiscal policy in a developed country should be to raise the volume of production keeping in view the fact that the level of production should not be higher than the level of consumption.

(2) To check the fluctuations in the effective demand of money. In developed countries there exists irregular unemployment. If the people do not like to work in spite of the available opportunities of work or if they possess so much income that they can lead healthy life even without doing any work, it will lead to irregular unemployment. The manpower will become idle. Now to control irregular unemployment, it is essential to check fluctuations in the effective demand of money.

(3) To control the Automatic Process of the Market. Today, all the economists are of the opinion that on reaching the developed economy at the top, it cannot be left alone. This fact has been verified by 1930 worldwide depression. The worldwide depression had disturbed the economy of the world badly. Hence, in order to avoid the uncertainty of the market, effective control is needed.

(4) Proper Direction to Government Investments. In order to have effective coordination between demand and supply, the government investments are required to play an important role. Hence proper direction should be given to government investments.

(5) Determination of Suitable Taxation Policy. What to say of underdeveloped and developing economies, taxation policy is required to play an important role in developed countries also. In order to establish short-term and long-term balance in the economy, it is essential that there exists complete coordination between taxation policy, credit creation policy, lending policy, and resources mobilization policy of the government. Unless there is a mutual coordination between them, it is not possible to bring about stability in developed economy.

14.7 ROLE OF FISCAL POLICY IN CONTROLLING INFLATION

The major anti-inflationary fiscal measures are as follows

(1) Government Expenditure. During inflation, the aggregate effective demand increases far too much on account of unregulated and increased government and private expenditure. The increased expenditure presses heavily against the limited supply of goods and services available in the market.

(2) Taxation. It acquires great significance as an effective anti-inflationary weapon during an inflationary boom. Taxation increases the tax amount of the government on one side and decreases the disposable purchasing power with the general public on the other side and, therefore, has anti-inflationary effects. Hence the rate of existing taxes should be steeply increased, while new taxes should be imposed on goods and services so as to leave less money supply with the public to spend.

(3) Public Borrowings. Another major anti-inflationary fiscal measure is the public borrowings. The object of public borrowings is to take away from the public excess purchasing power which, if left free, would exert an upward pressure on the price level in view of the limited supply of goods and services in the economy. Public borrowings may be voluntary or compulsory. Ordinarily, public borrowing is voluntary, left to the free will individuals. However, it does not bring to the government sufficient amount so as to have an effective impact on the inflationary pressures in flue economy.

(4) Private Savings. Private savings have a strong anti-inflationary effect on the economy and increase in these is an important measure for controlling inflation. Hence, the government fiscal policy must include the devices of increasing private savings. Besides other measures, the fiscal policy should include (i) increase in the rate of interest, (ii) rebate in taxation on investment in saving schemes, such as national saving scheme (N.S.S.), national saving certificates, mutual fund tax saving schemes etc.

(5) Debt Management. Another anti-inflationary fiscal measure is the debt management. The existing public debt should be managed in such a way as to reduce the existing money supply and prevent further credit expansion. Anti-inflationary, debt management usually requires the retirement or payment of bank-held debt out of a budget surplus. The idea is that government securities held by commercial banks should be retired by government out of a budgetary surplus. This would check the power of commercial banks to encash their securities and add to the reserve for the purpose of credit expansion.

14.8 MEANING OF FULL EMPLOYMENT

The term full employment is purely a formal concept. It does not imply that every individual in the country, who is fit and free to work, is employed productively on every day of his working life. On the contrary, lull employment may be quite consistent with frictional, seasonal and technological unemployment. Even though a society is fully employed, it may not be wholly free from frictional, seasonal, structure and technological unemployment.

14.8.1 ESSENTIALS OF A FISCAL POLICY TO PROMOTE FULL EMPLOYMENT IN A DEVELOPED ECONOMY

In order to promote full employment in a developed economy, the fiscal policy of the government should be adjusted along the following lines

(1) Budgetary Policy. The old classical economists advocated a policy of balanced and small budget. However, this policy will not help tide over depression and unemployment according to Prof. J.M Keynes. The need at such a time is to increase the flow of income-stream into the economy and could be made possible, according to Prof. J. M. Keynes, only through deficit budgeting. Hence, it is essential that the government should incur large deficits in the budget and then meet these deficits either by borrowing from the banks etc. or through priming fresh currency notes.

(2) Taxation Policy. In order to fight depression and unemployment, taxation policy of the government, according to Keynesians should be so designed as to stimulate both consumption and investment simultaneously. The only way to do it successfully is to reduce the general burden of taxation on the community.

(3) Public Debt. Public debt can also be employed by the government as an instrument to fight depression and unemployment. The deficits in govt. budgets shall have to be met partly if not wholly through public borrowings. But while adopting the fiscal policy of public borrowing (public debt), the govt. shall have to keep the following two considerations in mind; firstly, in order to keep the burden of public debt low, the government should aim at a policy of low interest rates during depression. Secondly the government should try as far as possible to borrow from those sections of the community with whom the funds are lying idle.

(4) Public Expenditure. An increase in public expenditure can also be employed by the government as an instrument to fight against depression and unemployment. Increase in public expenditure at such a time may take the following two forms (i) Pump Priming, and (ii) Compensatory Spending. Pump Priming refers to that public expenditure which helps initiate and revive economic activity in an economy where stagnation reigns supreme consequent upon depression. The object is to increase private investment through an injection of purchasing power in the form of an increase in public expenditure. On the other hand, compensatory spending refers to the government expenditure which is undertaken with a view to compensating the decline in private investment. Usually, private investment suddenly declines at the time of depression.

14.9 LIMITATIONS OF FISCAL POLICY

The Following are the limitations of fiscal policy

(1) Dependence on the size of measures and their timing. The effectiveness of fiscal policy depends on the size of measures adopted and their timing. The exact change affected in the national income will depend on the change in the revenue expenditure made by authorities. Moreover, the current timing of the change is an essential factor in their success. One of the limitations of fiscal policy is the practical difficulty of observing these conditions. The correct timing of the measures is also a very difficult job. It is very difficult for the authorities to realize when a boom or slump is coming.

(2) Dependence on the Redistribution of Income. The exact effects of fiscal measures adopted also depend o the redistribution of income that results from them. When a large part of any addition to income goes to the classes which are in the habit of saving, the effect on total demand is likely to be smaller than expected. On the contrary, if the large part of any addition to income goes to the classes which are in the habit of excessive expenditure, the multiplier effects are likely to be larger than expected.

(3) Flexibility of the Government Revenue. The flexibility of government revenue itself may work as a restrictive influence on any fiscal policy adopted by the government. When increased income is made for the purpose of expanding total spending in the community, a part of the same might come back to govt. as more revenue and thus reduce the extent of higher public expenditure.

(4) Effects on Prime Investment. Government spending does not have full effect on nat1 income if its effect on private investment is contradictory.

(5) Dependence on the Supply of Human Efforts. The effects of fiscal policy depend on the supply of human effort. The national income will rise when people desire to work. On the contrary, rising income might make people less inclined to work hard. In the same way, an anti-inflationary policy is partly nullified by people trying to work harder and making up for the discouragement provided by the government.

(6) Lack of Coordination and integration. There is lack of coordination and integration in different fields of economy and thus the fiscal policy fails in creating the requisite effect.

(7) Limitations of Budgetary Policy. Budget is a small part of national income of a country and it is not in a position to have effective effect in the economy of a country.

14.10 CONCLUSION

To conclude with Dr. Baljit Singh, "Development of banking facilities and savings institutions, reorganization of agricultural and industrial credit, integration and improvement of the money market, growth of a sound central banking, closing of free markets in gold and silver, replacement of hoards and above all currency reforms are urgently needed. It is only after these deficiencies are made good that the monetary apparatus of economically backward countries can prove effective in aiding construction and development. If a country fails in this task it would either go slow, even stagnate or be compelled to switch over its economic system to overall planning and reallocation of resources through direct state control."

Despite the higher multiplier effect of government spending against changes in tax rates, the latter can be operated more promptly than the former. Emphasis has thus shifted to taxation as the best fiscal device for controlling cyclical fluctuations. Thus when the turning point of a business cycle is already underway, discretionary fiscal action tends to strengthen the build in stabilizers, as has been the experience of developed countries like the USA.

14.11 SELF ASSESSMENT EXERCISE

Q1. What is meant by fiscal policy? Discuss its objectives ?

Q2. What is fiscal policy? Discuss the role of Fiscal policy in underdeveloped countries?

Q3. Discuss the role of fiscal policy in a developing country like India?

Q4. What is fiscal policy? Discuss its components ?

Q5. Discuss the importance of fiscal policy in accelerating the economic development of underdeveloped countries ?

Q6. What is Fiscal Policy? Explain the role of fiscal policy in a developing country like India ?

Q7. What is meant by monetary policy? Discuss the objectives of monetary policy?

Q8. Examine the role of monetary policy in the economic development of a country?

Q9. Define monetary policy. What are its limitations in an underdeveloped economy?

Q10. Explain in brief the quantitative credit control measures of monetary policy?

Q11. What is meant by Cheap Money and Dear Money Policy?

14.12 FURTHER READINGS

Agarwal R.C	:	Economics of Development and Planning [Theory and Practice]
Dewett K.K	:	Modern Economic Theory
Jhingan M.L	:	The Economics of Development and Planning
Jhingan M.L	:	Advanced Economic Theory

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THE ROLE OF MNC's IN DEVELOPING COUNTRIES & AID VERSUS TRADE

STRUCTURE

15.1 INTRODUCTION

A multinational corporation or MNC is a company or enterprises, or firm with its headquarters in a developed country like U.K, USA, Germany, France, Japan etc. and operates in developed, developing and underdeveloped countries. They are also known as Transactional Corporation (TNC's).

15.2 OBJECTIVES

After going through this lesson the students should be able to:

- Learn about the Meaning of Foreign Aid
- understand the types of Foreign Aid
- describe the Role of foreign capital and aid in economic development.
- Learn about the aid or trade in the economic development

15.3 ROLE OF MNCs IN DEVELOPING COUNTRIES

15.3.1 MNC's INSTRUMENT IN TRANSFER OF TECHNOLOGY

The main instruments of the transfer of technology from developed to the developing countries are the multinational corporations (MNCs). MNCs are huge industrial organizations which extend their industrial and marketing operations in a number of countries through a network of their branches of subsidiaries. They bring with them technical knowledge and equipments, they participate in the industrial development programmes of the developing countries by licensing, patent and know-how agreements. MNCs organise their operations in different countries through any of the following five alternatives : *(i)* Branches, *(ii)* Subsidiary countries, *(iii)* Joint venture countries, *(iv)* Franchise holders, and *(v)* Turn-key projects.

(i) **Branches.** The simplest form of extending business operations is to set up branches in the developing countries. Such branches bring with them the technology of the parent company and are linked up with it.

(ii) **Subsidiaries.** MNCs also operate by setting up national affiliates as subsidiary countries. A subsidiary in a particular country is established under the laws of the country. Such subsidiary companies take advantage of the financial, managerial and technical skills of the holding company and also benefit by the international reputation that latter enjoys.

(iii) **Joint Venture Company.** MNCs enter into a joint venture with an indigenous firm or agency. Under this arrangement the MNC makes available machinery, capital goods and technological expertise to the indigenous firm. This form of organisation is adopted in those countries where the law requires control by local nationals.

(iv) **Franchise Holders.** This is a special kind of arrangement by which an affiliate firm produces or markets the product of a multinational firm after obtaining a licence from that firm. A formal contract is made between the affiliate firm and the multinational firm which specifically mentions the rights that are transferred to the affiliate firm and lays down the compensation (usually in the form of royalties) that it has to pay to the parent firm.

(v) **Turn-Key Projects.** Under this organizational form, the multinational undertakes to complete the project from scratch to the operational stage. When the project is ready it is handed over to the host country. Generally underdeveloped countries invite tenders for construction of certain projects requiring high technical skill. With their huge resources and managerial and technical expertise the MNCs are most suited to carry out this job.

15.3.2 BASIC CHARACTERISTICS OF TECHNOLOGY TRANSFER

I. The first basic characteristics of technology transfer are MNCs which either through their subsidiaries or through the contractual transactions male with developing countries bring mechanised processes and equipments not locally available. Very often the terms and conditions are arbitrarily settled under highly imperfect market conditions by the technology supplying MNCs. The monopolistic strength of the technology suppliers emanates from the patents protection for differentiated products and processes, the integration of market for. technology with the monopolistic market for technology embodying inputs and the weak bargaining power of buyers who have neither access to information about alternative technologies and their sources nor the necessary infrastructure to evaluate the appropriateness of equipments, intermediates and process.

II. The second basic characteristic of technology transfer is that the large part of the influx of technology in developing countries is in response to the policy of industrialization through import substitution. In developing countries, due to structural factors and their consequential effects on terms of trade much reliance cannot be placed on exports to transform savings into current investment goods. Thus a deliberate strategy of creating a tariff wall to overcome the foreign exchange difficulties has to be followed, and this provides an incentive to MNCs to move to developing countries with their unaltered plants and technical know-how to manufacture import restricted goods for sale in local elite markets. Whatever be the advantages of this transfer to MNCs, its disadvantages to the recipient countries are quite obvious.

15.3.3 SUITABILITY OF FOREIGN TECHNIQUES

The problem of technological change in UDC cannot be solved by the transfer of modern technology from advanced countries to poor countries. The technology available in the developing countries is not suitable for the circumstances prevailing in UDC. Hence many changes are to be made in this direction. Labour saving advances in technology cannot be useful to these countries. The underdeveloped . countries have an advantage of importing developed techniques from advanced countries, but this has created several problems for them. The use of advanced technology requires highly trained manpower with the scientific skill and understanding which is generally lacking in these countries. Hence the underdeveloped countries cannot be much benefited by the advanced technology. There are instances of production equipment which is well suited to the needs of industrialized countries but whose performance fails to measure upto expectations in the industrial environment of underdeveloped countries.

The underdeveloped countries should not try to put themselves on the technological level of industrially advanced countries, The technology which was suited to present day developed countries for some years than a technology century ago would be suitable for underdeveloped countries for today.

Foreign technology is not only unsuitable to circumstances prevailing in underdeveloped countries but is also a waste. The high initial investment required to introduce the highly sophisticated technique causes a severe strain on the financial resources of these countries. Another waste-age involved in the use of advanced technology is that the effective life of the imported expensive equipment in underdeveloped is likely to be much shorter due to the inexperience in handling the equipment, lack of technical skill and lack of proper maintenance. Thus it can be concluded that the mere transfer of modern technology from advanced countries to backward ones cannot solve the problems of development. The problem is not that of transplanting technology available in industrially advanced countries but appropriate technology. It should be evolved by scientists, technologists of developing countries. The efforts should be made on researches and development of technology within these countries during the subsequent periods of stages. Thus it is imperative that these countries should undertake fresh researches in fields in which developed countries are not interested.

15.3.4 PROBLEM OF TECHNOLOGY IN UNDERDEVELOPED COUNTRIES

Technological change in underdeveloped countries is a difficult task. It needs special effort on the part of people and the government. The most difficult task in underdeveloped countries is to raise technological level in order to keep pace with the requirements of the development programme. It becomes difficult for the people of underdeveloped countries to adopt new techniques and to bring change in the aptitudes of the people. Prof. Nurkse observes that, it is much easier to adopt superior consumption habits than improved production methods. The problem of technological change in UDC is not merely a problem of transfer of modern technology from advanced countries to these countries but it also involves the evolution of suitable techniques in under developed countries and the adaptation of imported technology to local conditions. However, transfer of technology poses a serious problems in underdeveloped countries in comparison to advanced countries. A few of them has been listed below

(a) The foremost difficulty is that there is lack of proper social environment in these countries. People are not enthusiastic to adopt new techniques and they are in a habit to continue with the old and primitive system.

(b) These countries have divergent conditions like social structure economic environment, political awakening, education system etc. which call for different methods of transfer of technology.

(c) UDC's are inadequate in skilled human resources who fail to make use of modern sophisticated imported technology.

(d) Modern imported technology is a costly affair while scarcity of capital is the greatest limiting factor. Moreover there is a problem of technological adjustments with a view to cater to the local needs.

(e) UDC's have dearth of infrastructures like power, energy etc.

(f) In the initial stages of economic development, underdeveloped countries face the limitations on demand and supply side. For instance these countries have to depend upto the service of foreign experts who have their own limitations. Similarly, shortage of foreign exchange creates biggest constraint in path of technological transformation.

(g) For transfer of technology there is a great need of enlightened entrepreneurship and managerial skill but these countries have shortage of these pre-requisites, thus, a big hurdle in the path of transformation.

(h) Underdeveloped countries have also the problem of intermediate technology. In other words the problem of choice of technique.

(i) Modern technology is extremely capital intensive which is not suitable for abundant labour and capital for poor underdeveloped countries.

(I) There is an absence of honest efficient administrative machinery. In other words inefficient planning and wasteful competition was greatly discouraged the transfer of technology.

15.3.5 MEASURES TO ACCELERATE TRANSFER OF TECHNOLOGY

To accelerate the process of transfer of technology in developing countries, suggestions are made as under

1. The successful transfer of technology needs an adoption of liberal trade policy towards manufacturing projects in order to increase latest import capacity.
2. Policy of protection and import substitution may be better for the efficiency of production and quality of goods.
3. Developing countries should design their industrial licensing policy in such a way so that it may not hamper transfer of technology.
4. Large international agencies like IMF, World Bank, ITO, IFC, Asia Development Bank, should come forward and encourage foreign technology which is most suitable to these countries.
5. In order to encourage transfer of technology concrete steps should be taken to impart education and training. Moreover there must be special advisory and extension service with a view to promote the use of latest technology in small scale industries.
6. Multinational and international firms have a special role in the dissemination of advanced technology. They should design technology based on indigenous materials.
7. For transfer of technology selected personnel should be sent to advanced countries to learn the technology. Special entrepreneurial class should be created for this purpose.

15.4 MNC's ACTIVITY IN DEVELOPING COUNTRIES

Meaning. The MNCs may be known as a group of companies, operating simultaneously in different countries under the effective control of the corporation. They are huge industrial organisations which extend their industrial and marketing operations through a net work of their branches. Instead of aiming for maximization of their profit from one or two products, the MNCs operate is a number of fields and from this point of view, their business strategy extends over a number of countries.

Definitions

According to International Labour Organization ILO, "the essential of the MNC lies is the fact that its managerial headquarters are located in one country, while the enterprise carries out operations in a number of the other countries."

According to the Foreign Exchange Regulation Act, 1973 (FERA) of India, "A corporation incorporated in a foreign country or territory shall be deemed to be multinational corporation if such corporation: (a) is a subsidiary or a branch or has place of business in two or more countries or territories, *(b)* carries on business or otherwise operations in two or more countries or territories."

15.4.1 CHARACTERISTICS OR FEATURES OF MNCS

I. **Giant in Size.** They are giant in size. Their assets and sales run into billions of dollars and they make supernormal profits.

II. **International operations.** MNCs operate all over the world. The cooperation has a group of subsidiary companies with their branch network operating in various countries under its effective control and supervision.

III. **Oligopolistic structure.** They have the oligopolistic structure (few sellers) coupled with their giant size.

IV. **Spontaneous Evolution.** MNCs usually grow in a spontaneous and unconscious manner.

V. **Collective Transfer of resources.** An MNCs facilitates a multilateral transfer of resources. Usually this transfer takes place in the form of a 'package' which includes technical know-how, equipments and machinery, raw materials, finished product, managerial services and so on.

VI. **Multi-National Stock Ownership.** The various countries have their share in the total capital of the corporation. The profit of the corporation is also dividend among the countries in proportion of their share capital.

VII. **Multi-national Management.** They have multi-national management.

VIII. **Parent Company.** A large part of capital assets of the parent company is owned by the citizens of the company's home country. The absolute majority of the members of the Board of Directors are citizens of the home country.

Decisions on new investment and the local objectives are taken by the pareilt company.

15.4.2 ROLE OF MULTINATIONAL CORPORATIONS IN INDIA

Prior to liberal industrial policy of 1991, Govt.'s prior approval was necessary in respect of all types of foreign investments but Industrial policy 1991 had made the rules and regulations concerning MNCs very liberal. Share capital of MNCs is 51% after 1991 but before 1991 it was 40%. Since 1991, Govt. of India has sanctioned nearly 20,000 foreign collaborations with MNCs. Out of these projects, 60% are related to power, refineries, electrical equipment, chemical industries etc.

The MNCs have a revolutionary effect on the international economic system. The role of MNCs may be discussed below with special reference to India

I. **Transmission of Technology. India** is technologically backward country and has insufficient resources to carry on research and development. From this point of view MNCs have offered a great boon. They have served as agents for the transfer of superior technology. They have provided advanced technological know-how, sophisticated manufacturing processes and improved skills to India.

II. **Rapid Industrialization.** The people in India have low per- capita income and low level of savings. The MNCs in India present an environment for the rapid industrialization through.

(i) filling up the gap between the domestic savings and investments

(ii) supplying the required foreign capital and

(iii) transferring latest techniques of production.

III. **Wide International market and Export promotion.** The MNCs produce commodities and services in a huge quantity and of a super quality and very soon capture not only the domestic markets but also the international markets. It naturally increases the exports of the countries where they are established. In India, exports has increased with the help of MNCs.

IV. **Large-scale employment.** The MNCs also help in creating large- scale employment opportunities by setting up their branches and subsidies in the host countries. In this respect, MNCs have largely helped the countries like ours in solving the problem of unemployment.

V. **Exploitation of Domestic resources.** The latest technology and modern methods of research and management of the MNCs have enabled developing countries like India to exploit and utilize domestic resources fully.

VI. **Helpful in Breaking the 'debt trap'.** The developing countries like India are already under the heavy burden of debt services. Further borrowing on their part may only push them into what is called 'debt trap'. Private investment by MNCs will help necessarily in earning foreign exchange resources without adding anything to the debt servicing burden.

VII. **Foreign Capital.** The MNCs have helped the developing countries to secure the foreign capital from the developed countries. Thus, they transfer the capital from the countries where it is abundent to countries where it is scarce.

VIII. **Linkage Network.** The LDCs do not have a sufficient degree of linkage with industrial activities of advanced countries. MNCs through their vast international network or production, marketing and finance, produce linkage effect between parent country and in the countries where they are operating their activities. They promote international trade. They also help in the creation of "linked industries", Such linkages may be either forward or backward.

X. **HRD in Developing Countries.** The MNCs help to build up "knowledge base" and thus serve the development of human resources. They serve as carriers of knowledge, expertise, training of Indian personal, education and research.

National firms learn from MNCs. The MNCs enjoy marketing, organizational financial and technological superiorities over the national firms. The national firms learn from these giant organisations the system of updating the market information system and advertising and sales promotion techniques. In addition to this they also learn the type of technology to be used to face international competition in the production processes. The domestic firms cannot make success unless they come up to the international standards and quality specifications.

15.4.3 CASE AGAINST MNCS OR DISADVANTAGES

The MNCs are proved to be a powerful instrument of rapid economic growth in the LDCs, though they has been criticized widely in these countries on several grounds which are

I. **Drain of Resources.** The basic objective of a MNC is profit maximization of host country's resources.

II. **Strain of Scare Foreign Exchange Reserves.** In the beginning, the recipient country gets the foreign investments through the MNCs but later on, the country has to repay this amount to the foreign currency in the form of dividends, profits, royalties, interest, technical fees etc. which may sometimes create a big crisis in these countries.

III. **Absolute transfer of technology.** It has been observed that the MNCs generally do not transfer their advanced technology to the host countries. Technology supplied by MNCs to LDCs is capital intensive which may not suit the real need of these labour surplus countries, like India. The charges of technology dumping are also levelled against MNCs as they bring in their own obsolete technology in LDCs.

IV. **Insignificant Employment Potential.** The MNCs tend to concentrate more on the technology intensive branches of manufacturing. The sectors in which they invest create relatively few jobs and thus fail to help to eradicate unemployment and poverty, two chronic problems of LDCs. Moreover they are not very enthusiastic in employing local nationals on high cadre of technical and managerial posts.

V. **Interference in State's Sovereignty.** The MNCs through their working intervene in the sovereignty of a nation. In fact, they are the means of expansion of western colonial capitalism in the LDCs. The rapid growth of MNCs in the developing countries may endanger the political and economic freedom of their nations. They may also play their power game in getting a political party of their own choice elected to the govt. and display a dominating role in influencing and moulding economic policies of these countries in their own interests.

VI. **Influence on Culture.** MNCs bring their cultural norms and attitudes in the host country and may cause destruction of its original culture in various ways.

VII. **High Profit Orientation.** MNCs minimizes their overall costs of production through economies of scale. They take advantage of national and international market imperfections to maximize their profits. They with their huge capital and modern technology base and wide network can beat local understandings in the open market competitions and hence, can create, monopoly in the domestic market and eliminate local competitors.

VIII. **Exploitation of Poor Consumers.** The poor customers of the developing countries are largely exploited by the MNCs as they are charging a very high cost. No doubt the quality of products is always superior than tie local products. They supress domestic entrepreneurship and through extension of oligopolistic practices can harm the host country.

IX. **Brain Drainage.** They are also accused of cheating "brain drainage" in the LDCs.

15.5 ROLE OF AID VERSUS TRADE IN DEVELOPING COUNTRIES

15.5.1 MEANING OF FOREIGN AID

Foreign aid means financial assistance provided by the developed countries and international financial institutions like the world bank, International Development Association (IDA), International Finance Corporation (IFC), International Monetary Fund (IMF) etc. the regional financial institutions, such as, the Asian Development Bank, the African Development Bank, Inter American Development etc. the multinational agencies, such as, Aid India Club. The main feature of foreign aid is that in most of the cases it is not to be returned to the lender country. Foreign aid flows in the form of assistance, outright grants and concessional loans to the underdeveloped and developing countries. Outright grants do not have any obligation, to repay and therefore, have no problems attached to them. On the other hand loans or concessional loans have to be repaid along with interest. In case of any violation at any stage, it can be stopped at any time by the aid giving country.

Definition of Foreign Aid

Foreign Aid occurs when the recipient country receives additional resources in foreign currency over and above the capacity to import generated by exports. In simple words, foreign aid means those additional resources which are used to raise the performance of the recipient country above the existing level. It can be defined as the debt which is given by a country to another country on the concessional rates. The concessional elements may be:

(a) Lower rates of interest than the prevailing rate of interest in the international commercial money market.

(b) Longer period for repayments.

(c) Grants which does not entail the payment of other principal or interest, i.e., a free gift.

A country which gives loan is called donor and the country which receives the loan is called recipient country.

15.5.2 TYPES OF FOREIGN AID:

There are two types of foreign aid, according to their source:

(a) Bilateral Aid: Bilateral aid is the aid which is given from the government of the donor country to the recipient country. It depends upon political and economic relationships of various countries and it also depends on the will of donor country.

(b) Multilateral Aid: Multilateral aid is the aid given by certain financial institutions, agencies or organisations to the government of developing country. It is distributed in a fair manner in order to raise the pace of economic development. So it is better than bilateral aid which is given on the basis of political considerations and the fear of the domination of a donor country is also removed in the case of multilateral aid which may be helpful in raising the pace of economic development.

15.5.3 FORMS OF FOREIGN AID:

Following are the forms of foreign aid:

(a) Financial Aid: The simplest form of capital inflow is the provision of convertible foreign exchange, but very little foreign capital indeed comes to the underdeveloped world so conveniently. Financial aid is further divided into various sub-forms, i.e.:

(i) Tied Aid: Tied aid is of two types:

Nation Tied Aid: is given to the recipient country on the condition that she will spend it in the donor country to solve the BOP problems of that country and to stimulate exports, i.e., if Pakistan is given aid by US and is asked to import raw materials or machinery from US only then it is 'nation tied aid' or 'resource tied aid'.

Project Tied Aid: is given only for specific projects and the recipient country cannot shift it to other projects.

(ii) Untied Aid: Untied aid is the aid which is not tied to any project or nation. It is, in all respects, better than the tied aid because it offers more efficient use of foreign resources. It is much desired because in the case of untied aid the recipient country is not bound to spend the foreign resources on specific projects or in the donor country which may charge higher prices than international market.

(iii) Grants: A grant is that form of foreign aid which does not entail either the payment of principal or interest. It is a free gift from one government to another or from an institution to a government. It is much desired because it increases the internal expenditures and generates income. It is given on the basis of humanitarianism, especially in days of emergencies, earth quakes, floods, wars, etc.

(iv) Loans: It is the borrowing of foreign exchange by the poor country from the rich country to finance short-term or long-term projects. They are further sub-divided into two types:

Hard Loans: Hard loans are also called short-term loans. In order to finance industrial imports they are given usually for a period less than five years, and they are paid in the currency borrowed. It contains no concessional element but interest rate is usually lower than the prevailing rate of interest in the international market.

Soft Loans: Soft loans are also known as long-term loans. Soft loans are made for 10-20 years and it is repaid in the currency of recipient country. Interest on these loans is lesser than hard loans and often these loans invoice grace period. Concessional elements are comparatively greater.

(b) Commodity Aid: Commodity aid, in fact, is another type of tied aid, which relates to agriculture products, raw materials and consumer goods. Under commodity aid, the donor country has much political influence on the recipient country, for example, in 1960s, US gave wheat to Pakistan under PL-480 and had much influence on the development policy of Pakistan. Commodity aid may be received in cash form or in the form of food grains:

(i) In Cash Form: If it is received in cash form it may be more helpful because then a country may buy more commodities from cheaper sources.

(ii) In Food Grain Form: It is a special type of commodity aid, which is given in the form of food grains only, for example, US gives food grains to the poor country under Public Law (PL-480) and funds obtained from it are used on American companies and agencies operating in the recipient countries. The rest of the aid is granted.

(c) Food Aid: There is more than enough food produced each year to feed adequately everyone on earth. However, food is so unevenly distributed that malnutrition and hunger exist in the same country or region where food is abundant.

During 1960s, the United States sold a sizable fraction of its agricultural exports under a concessionary Public Law 480, where LDC recipients could pay for the exports in inconvertible currency over a long period. During late 1970s, about three-quarters of the food aid went to low-income countries. It was about one-third of their cereal imports. Projections indicate that food deficits are likely to increase in the 1980s and 1990s. In the early 1980s, the United States, which provides the bulk of total food aid, reduced its food assistance.

Critics of food aid argue that it increases dependence, promotes waste, does not reach the most needy and dampens local food production. Nevertheless, the food aid has frequently been highly effective. It plays a vital role in saving human lives during famine or crisis, and if distributed selectively, reduces malnutrition. Unfortunately, poor transport, storage, administrative services, distribution networks and overall economic complex hinder the success of food aid programmes, but the concept itself is not at fault.

(d) Technical Aid: Technical aid is another form of tied aid and is much useful for the recipient country to increase the pace of economic development by using the modern technology or skill in some specific sectors of the economy. Under this aid programme, training facilities are provided by the donor country's government and it bears all the expenditures involved in the training of advisory technocrats. Technical assistance from the donor's point of view takes two main forms:

(i) Through Recruitment: Technical assistance may be given through recruitment. Selected people of recipient country are recruited in the donor country for service overseas, partly, often largely, at the expense of the donor government.

(ii) Through Scholarships & Training Facilities: The second form of technical assistance is scholarship and training facilities in donor country for foreign students (from recipient country).

(e) Foreign Direct Investment (FDI): It is also included in the category of foreign aid. In Pakistan, the examples of FDI are Lever Brothers, Reckitt and Colman, Bata, Philips, etc. It is often argued that FDI should be run under strict control, like licensing, annual auditing, compulsory treatment of foreign capital as domestic capital, etc.

(f) Double Tied Aid: It is also known as 'procurement tied aid'. It is the aid which is tied both for projects as well as for resources.

15.5.4 WHICH IS BETTER OF THE TWO?

From the point of view of recipient country, untied aid is definitely better as compared to the tied aid for the major reasons given below:

1) Tied aid restricts the freedom of the recipient country to use aid in the manner it deem fit.

2) Tied aid may distort its allocation of investment resources.

(3) The granting of tied aid for a particular project may be in a large part illusory since the project actually financed by aid may be quite different from the one to which aid is tied.

4) Tied aid is usually costly. It has been estimated that the tied aid increases the cost of the project even by more than 30% of the recipient country. Even the cost of the procurement of tied aid is increased.

5) Tied aid may limit the choice of technology used in investment projects and may force the recipient country to adopt a highly capital intensive technology which may be in-appropriate to a labour supply economy.

6) Tied aid may also increase the risk of interference by the donor country in the domestic affairs of the recipient country.

15.5.5 WHY DEVELOPED COUNTRIES GIVE AID

The motives of the developed countries in giving aid to the developing countries are varied. For simplicity's sake, they can be divided into the following three categories (i) humanitarian (ii) economic and (iii) political

Humanitarian. In times of natural calamities or crises (like floods, drought, earthquakes, etc) many developed countries and international organizations come forward to help the developing countries. Such aid is generally provided in terms of food, medicines, clothing, services of doctors and nurses etc. Cash assistance is mostly in the form of grants (carrying no obligation of repayment). However, in terms of its total magnitude, foreign aid made available on humanitarian grounds is only a small part of total aid.

Economic Motivations. An increasing realization is dawning upon a number of developed countries that unless they share their prosperity with the developing countries, strong barriers will emerge in their own path of progress. This is due to the fact that the international market will fail to explain rapidly if the developing countries continue to languish in a state of poverty. Even otherwise, since a large part of the aid is provided in terms of loans and is tied to the purchase of goods from the donor countries, it benefits the latter as their industrial activity gets a boost up. This leads to an expansion of industrial production and employment opportunities in the development countries. The favourable impact of foreign aid is still greater in those export production lines where it is possible to obtain external economies.

Political Motivations. The most important factor determining the quantum and type of foreign aid is the political interest of the donor country. As we have noted in the section on Flow of Foreign Aid to Development Countries, the most important donor has been the USA. The guiding interest of this superpower after the Second World War has been to contain the international spread of communism. Those developing countries have been given preferential treatment which are friendly to the USA and/ or are strategically and important. As noted by Todaro, the successive shifts of US policy from South Asia, to South East Asia to Latin America, the middle east, and back to South East Asia during the 1950s and 1960s and then toward Africa and the

Persian Gulf in the late 1970s and the Caribbean and Central America in the 1980s is an indication of the changes in US strategic and political interests than anything else. Similar interests have guided the foreign assistance programmes of other donor countries like the UK, the erstwhile USSR, France etc.

The most common device adopted by the donor countries to protect and further their political interests is the grant of military aid and economic aid. The distinction between these two types of aid is often blurred because military aid, at times, promotes economic activity. For instance, the setting up of an aircraft manufacturing industry in an underdeveloped country can be both a military proposition and a part of the industrialization programme of that country. As noted by Hans Singer and Javed Ansari, the Americans have the concept of military support aid. The purpose of this aid is to strengthen an allay, not only by direct military aid, but also by economic aid which enables him to carry the recurrent cost of the economic burden of a larger military establishment than would otherwise be the case. However, there is no doubt that a considerable part of the aid is meant to serve the military purposes of the Americans. Substantial direct military aid in the form of missiles, fighter bombers, tanks, arms and ammunition etc. has been pumped into the sensitive areas of Asia and Africa by the superpowers to serve their own political ends and destabilize the peace and tranquility of the regions. Massive military aid by the USA to Pakistan is a case in point.

15.5.6 AID OR TRADE

An interesting debate with regard to recent decades over the relative virtues of aid and trade. Though both are means of acquiring external resources in the form of foreign exchange, yet there are significant differences between the two. As we have noted earlier on in this chapter, foreign aid is frequently made available in the form of tied aid. Tied aid has a number of disadvantages for the recipient country because it limits its freedom in a number of ways. The choice of projects and the conditions of purchase of goods under the aid programme are determined by the donor country. The type of technology made available under this aid programme may, at times, be unsuitable to the factor endowments of the recipient country. If aid is country tied, it limits the ability of the recipient country to buy goods in the cheapest markets.

As noted by us in this chapter, aid exposes the recipient country to a number of risks. In the non economic field, the greatest risk is that of the political interference to the donor country in the domestic affairs to the recipient country. In the economic field, the greatest risk is the burden of debt repayment. At times, the burden can soar to such high limits that the entire export earnings of the country can be absorbed merely to pay off the debts. If this happens, the economic growth of the country is likely to suffer a setback as the capacity to import goods essential for economic development will dry up. In such circumstances massive new loans will have to be obtained. The way out of this crisis is a substantial expansion in the export earnings of the recipient country. This brings us to trade. Thus even if a country starts its planning process by giving more importance to aid, it must eventually turn its attention to trade. In fact, the very aim of the aid receiving country should be to ensure that its utilization results in the creation of export capacity either directly or indirectly. Thus aid should ultimately lead to more trade.

However, the ability of the developing countries to do this will crucially depend on the attitude of the developed countries. The latter should realize that unless they cut down trade barriers on imports from the developing countries like capacity of these countries to repay loans will remain severely restricted. The developing countries have time and again emphasized this point at international forums (particularly UNCTAD) but the developed countries have turned a deaf ear to them. This has put a number of non oil producing developing countries in dire straits and has forced them to seek debt reschedulings. This is, however, only a short run solution as all debts have to be eventually repaid.

In conclusion, we may state that from the point of view of the developing countries, both aid and trade have important roles to play. Aid provides resources to the developing countries to implement programmes of economic development which otherwise would not have been undertaken. It also fills up the foreign exchange gap and technological gap. However, aid must eventually lead to more export earnings for the developing contries else they would not be able to repay their debts. Thus aid must be accompanied by more trade. For this purpose the developed countries will have to change their selfish narrow outlook and pull down their trade barriers to enable the developing countries to expand export earnings. The slogan Aid or Trade is a misnomer. The approach of both, the developed the developing countries, should be Aid or Trade.

15.5.7 IMPORTNCE/ADVANTAGES/CONTRIBUTION/SIGNIFICANCE/ ROLE OF FOREIGN CAPITAL AND AID IN THE ECONOMIC DEVELOPMENT OF UNDERDEVELOPED OR DEVELOPING COUNTRIES

Foreign capital and foreign aid play an important role in the economic development of underdeveloped and developing countries.

These countries are characterized as 'capital poor' or 'low saving' and low investment' economies. There is not only an extremely small capital stock but current rate of capital formation too is also quite low. On an average, gross investment is hardly 5 to 10% of the gross national income in these economies, whereas in developed countries it is about 15 to 20%. According to Todaro, "Foreign capital is typically seen as a way of filling in gaps between the domestically available supplies of savings, foreign exchange government revenue and skills and the planned level of the resources necessary to achieve development targets." The growing need of foreign capital for pinned economic development has now become an important feature of all the underdeveloped and developing countries. Even in developed countries people feel that poverty anywhere is danger to prosperity everywhere and prosperity anywhere must be shared everywhere." It is the moral duty of developed countries to help the poor countries by providing the requisite amount of capital and aid for their rapid economic development and industrialization. The importance of foreign capital and foreign aid in underdeveloped and developing countries arises mainly because of the following reasons:

(1) Filling up Resource Gap. The existing resources of underdeveloped and developing countries are extremely low due to (i) low savings, (ii) low investment and (iii) vicious circle of poverty. Hence a huge amount of capital is needed for their economic development. Since the current rate of domestic savings too is very low, it is not possible to carry on the development programmes with their domestic resources. Hence foreign capital and foreign aid is the only solution available so as to bridge the gap between the low domestic savings and the huge investment required for rapid economic development.

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(2) The technological Gap. The underdeveloped countries have a very low level of technology as compared to the developed countries. However, they possess a strong urge for industrialization to develop their economies and to wriggle out of the low level equilibrium trap in which they are caught. This raises the necessity for importing technology from the developed countries. Such 'technology usually comes with foreign capital when it assumes the form of private foreign investment or foreign collaboration. Technique as helps in filling up the technological gap through the following three ways (a) provision of expert services; (b) training of the personnel of the under developed countries; and (c) helping the establishment of new, or development of exiting, educational, research and training institutions in the country.

(3) Exploitation of Human and Natural Resources. In underdeveloped countries there is excessive pressure of population on land and there exists disguised unemployment on a large scale. To transfer surplus labour from agriculture and to provide them with work, foreign capital is needed to start secondary and tertiary industries. Besides it is also need to reorganize and modernise agriculture. Thus, it is only with the help of external assistance that the foundation of heavy industry en be laid and 'natural and human resources exploited. The industrialization of the country and the creation of infrastructure increase employment opportunities and solve the problem of unemployment and disguised unemployment.

(4) Development of Basic Economic Infrastructure. It has been observed that the domestic capital of the underdeveloped countries is often too inadequate to build up the economic infrastructure of the country on its own. Thus they require the assistance of foreign capital to undertake this task. In the latter half of the twentieth century, especially during the last three-four decades, international financial institutions and many governments of developed countries have made substantial capital available to the underdeveloped countries to develop their system of transport and communications, roads, generation and distribution of electricity, development of irrigation facilities etc.

(5) To Correct Adverse Balance of Payments. The foreign aid also solves the problem of adverse balance of payments experienced by the underdeveloped countries in the process of their development. It is experienced that an underdeveloped economy has large import requirements like foodgrains, pulses, oil seeds, capital, raw materials,

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technical know-how, machines and equipments, but has a tendency of exports of developed countries to be either almost stagnant or declining. The wide gap between exports and imports leads to adverse balance of payments in such economies. The foreign capital can help solve the foreign exchange crisis and can correct the adverse balance of payments of underdeveloped countries through promoting exports of the country on the one hand and controlling imports on the other.

(6) Undertaking the Initial Risk. Many underdeveloped countries suffer from acute scarcity of private entrepreneurs. This creates obstacles in the programmes of industrialization. An argument advanced in favour of foreign capital (in the form of foreign investment) is that it undertakes the 'risk' of investment in the host countries and thus provides the much needed impetus to the process of industrialization. Once the programme of industrialization gets started with the initiative of foreign capital, domestic industrial activity starts picking up as more and more people of the host country enter the industrial held.

(7) Raises the Level of Standard of Living, Income and Employment. Foreign capital and aid tends to raise the level of national productivity, income and employment which in turn, leads to higher wage for labour, lower prices for consumers and rise in their standard of living with the inflow of foreign capital and foreign aid local labour becomes skilled, its n productivity is increased, thereby raising total real wages of workers. Further, when a number of new industries are established with the assistance of imported latest technology, management, modern machinery and equipments etc. large quantities of new and quality products at cheap rates are available to consumers along with a sharp rise in employment opportunities.

(8) **Miscellaneous.** (i) breaks the vicious circle of poverty, (ii) Expansion of the market on account of (a) increase in production, (b) creation of new demand and (c) higher standard of living. (iii) increase the rate of capital formation. (iv) helps in mobilization of domestic resources. (v) tends to increase productivity and production on account of (a) rise of latest technology (b) skilled labour.

15.5.8 DANGER/DISADVANTAGES/DRAWBACKS/SHORTCOMINGS OF FOREIGN CAPITAL AND FOREIGN AID

The main dangers of foreign capital and foreign aid are as follows:

(1) **Undue Dependence on Foreign countries.** The foremost drawback of foreign capital and foreign aid is the undue dependence on the foreign (donor) countries. Such undue dependence may be very fatal for its economic and political freedom. Political strings are generally attached to foreign loans grants and aids which compel the underdeveloped and developing countries to join one or other power blocks.

(2) Largely Burdensome. It is argued that the burden of foreign loans is higher as compared to domestic loans. The repayment of such loans including interest is to be made in foreign currency. As a matter of fact, the foreign exchange resources of underdeveloped and developing countries are too meagre is bear the burden of repayment of loans along with interest and servicing charges. As such, the repayment burden of foreign loans may compel these countries to made further borrowings to meet their commitment. In this way, the burden of foreign loans goes on increasing with the result that a situation may arise when it would become almost impossible for the borrower country to discharge the liability of making repayment.

(3) Adverse Effect on Balance of Payments. The foreign exchange reserve sources of less developed countries are limited. The repayment of foreign loans may adversely affect the balance of payments of the borrower country. Besides the import of capital goods for development purposes, the payment of servicing charges, interest and installments of foreign debts exercises further pressure on their merge balance of payments and as such may aggravate the situation further.

(4) Little Benefit. Another serious charge against foreign capital is that the benefits from its use have been highly exaggerated. It is contended that the actual advantages are in actually very small. For example, it is argued that the Interest charged on foreign loans is less as compared ‘to domestic loans. This, it is asserted is not a material gain to the borrower country.

(5) Investment of Wasteful Projects. Foreign aid is usually utilized for extremely wasteful projects which incur heavy losses year after year. This avoids the national priorities Further, they absorb more local resources of greater vaIue than their act output when the costs of administration, maintenance and replacement of fixed assets originally donated for the projects are taken into consideration.

(6) Aid not Real. According to critics, the so-called foreign aid is not aid in the proper sense of the word. It is so because most of the motivation of the donors is concerned with their self-interest. They have provided tied aid meant to fulfill their selfish ends. There are often political pressures on the recipient countries to follow certain policies which may go against their sovereign status.

(7) Instrument of Economic Exploitation. The colonial history reveals the fact that the foreign capital has always been utilized as an instrument of economic, exploitation of the colonial countries. The foreign investments were made available not at least for developing their economies, but for exploiting their vast natural resources for the benefit of the mother country.

(8) Discriminating Attitude. The foreign investors discriminate against the nationals of the home country. The responsible and executive jobs are not given to them and thus they are deprived of the opportunity of acquiring business experience and learning technical know-how which is kept as a guarded secret. The Indians were just the hewers of wood and drawers of water.

15.6 CONCLUSION

It may be argued that many of the old myths are no longer valid. Present day developing countries are not exactly powerless like those of yesteryears nor are the modern MNCs irresponsible and insensitive. They have transformed themselves into modern MNCs which acknowledge their responsibility and moral values to the host countries. They basically function on the mutual benefit system. Thus, we can conclude that the role of MNCs in developing countries in appreciable.

15.7 SELF ASSESSMENT QUESTIONS

Q1. Give the main features of MNCs?

Q2 What is meant by MNC?

Q3. Write three advantages of MNCs for developing countries?

Q4. What do you understand by MNCs? Discuss their distinctive characteristics?

Q5. MNCs are bane but not boon for a developing economy like India." Discuss?

Q6. How MNCs have helped in the economic development of a developing countries like India? Discuss in detail?

Q1. What is meant by Foreign Aid?

Q2. Examine the role of foreign aid in economic development?

Q3. Write a short note on Aid or Trade?

Q4. What is Foreign Aid? Discuss its role of foreign capital and aid in the economic development of underdeveloped countries?

Q5. Briefly explain on flow of foreign aid to developing countries?

15.8 FURTHER READINGS

Agarwal R.C : Economics of Development and Planning [Theory and Practice]

Dewett K.K : Modern Economic Theory

Jhingan M.L : The Economics of Development and Planning

Jhingan M.L : Advanced Economic Theory

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IMF AND WORLD BANK POLICIES FOR DEVELOPING COUNTRIES

STRUCTURE

16.5 **Conclusion**

16.6 **Self Assessment Questions**

16.7 **Further Readings**

16.1 INTRODUCTION

International Monetary Fund started its functioning from 1st March 1947. IMF was established with the motto to increase international liquidity of the member countries to make the balance of payment infavourable. Thus, the Fund is a pool of central bank reserves and national currencies which are made available to funding member under certain conditions, IMF was established to overcome all trade restrictions and impediments and further to promote multilateral trade. Thus, the Fund is most deliberate attempt to organize the conduct of international monetary affairs.

16.2 OBJECTIVES

- Understand the meaning of international monetary fund.
- Describe the constitution, membership and capital of IMF.
- Understand the history and purpose of the World Bank.
- Describe the World Bank's current role and major challenges and opportunities.

16.3 INTERNATIONAL MONETARY FUND FOR DEVELOPING COUNTRIES

16.3.1 MEANING OF INTERNATIONAL MONETARY FUND

The International Monetary Fund was established along with the International Bank for reconstruction and development (also known as World Bank) at the conference of 44 nations held at Bretton Woods, New Hampshire, USA in July 1944. it was created to promote international monetary cooperation, to facilitate the expansion and balanced growth of international trade; to promote exchange stability; to assist in the establishment of a multilateral system of payments to make its general resources temporarily available to its members experiencing balance of payments difficulties under adequate safeguards; and to shorten the duration and lessen the degree of disequilibria in the international balance of payments of members.

The articles of agreement of IMF came into force on December 27, 1945. IMF is the principle international monetary institution established to promote a cooperative and stable global monetary framework. At present 188 nations are members of the IMF. Since the IMF was established, its purposes have remained unchanged but its operations which involve surveillance, financial assistance and technical assistance have developed to meet the changing needs of its member countries in an evolving world economy. India is a founder member of the IMF.

16.3.2 OBJECTIVE OF IMF

According to the second amendment to the articles of agreement of International Monetary Fund, main objects of the IMF are stated below

1. **International Monetary Co-operation.** The foremost objective of the Fund was to establish monetary co-operation amongst the various member countries. IMF provides the machinery for consultation and collaboration on international monetary problems. During the Second World War, IMF had played a vital role to promote monetary co-operation amongst the different countries of the World.
2. **To Promote Exchange Stability.** Before the second World War, great instability was prevailing iii the foreign exchange rates of different countries which had adversely affected the international trade. Thus, IMF has the objective to promote exchange stability and to avoid the bad effects of depreciation on exchange rates.
3. **To Eliminate Exchange Control.** Another significant objective of IMF is to eliminate the control over foreign exchange. During war period, almost every country has fixed the exchange rate at a particular level. This has adversely affected the international trade. Hence, it becomes inevitable to remove the control over exchange rate by boosting international trade.
4. **Establishment of Multilateral Trade and Payment.** IMF aimed at establishing and multilateral trade and payment system in place of old bilateral trade by the elimination of exchange restrictions which hampers the growth of smooth trade relations in the world trade.
5. **Growth of International Trade.** IMF is useful to promote international trade by removing all obstacles and bottlenecks which had created unnecessarily restrictions. In this way, a significant role has been assigned to it so as to accelerate the growth of international trade by maintaining equilibrium in the balance of payment.

6. **Balanced Economic Growth.** IMF helps the member countries to achieve the balanced economic growth. It facilitates the expansion of balanced growth by the promotion and maintenance of high level of employment as the primary objective of economic policy. For this purpose, IMF helps to exploit natural resources and to put into productive channel.

7. **To remove the Disequilibrium in the Balance of Payment.** IMF helps the member nations to eliminate the disequilibrium in the balance of payment by selling or lending foreign currencies to the member countries. With its financial assistance and guidance, International Monetary Fund helps to lessen the degree of disequilibrium in the balance of payment of its member nations.

8. **Expansion of Capital Investment in Underdeveloped Countries.** IMF provides assistance to import capital from the rich countries to the poor countries so that the poor or underdeveloped country get a chance to expand their capital investment on productive activities or social overheads which in turn helps to raise standard of living.

9. **Generating of Higher Employment and Income.** IMF helps to expand the trade with the significant measures of multilateral trade and balanced economic growth. This in turn generate employment and in come.

10. **To Develop Confidence.** Another objective was assigned to the IMF to create confidence among member Countries by coming up to their rescue at the time of any crisis by providing temporary monetary help. This will provide them an opportunity to correct disequilibrium in the balance of payments

11. **Help during Emergency.** The fund will provide short-term monetary help to its member countries during any type of emerge.

12. **Shorten the Duration and Lessen the Degree.** In accordance with the above, it shortens the duration and lessen the degree of disequillibrium in the international balance of payment of member countries.

16.3.3 CONSTITUTION, MEMBERSHIP AND CAPITAL OF IMF

IMF is controlled and managed by a Board of Governors. Each member country nominates a Governor. All the nominated Governors make the Board of Governors. Each country also nominates the alternate governor who casts his vote in the absence of the

Governor. Each governor is allotted a number of votes which is determined by the quota allotted to the respective country in the capital of IMF. Each governor has got the right of 250 votes on the basis of the membership and one additional vote for each SDR 1,00,000 of quota. The addition of these two types of votes becomes the actual voting right of the member country. For example, India voting is 58956 because India's quota is 5821.5 million SDR. It clearly indicates that the voting right depends on the quantum of quota of a particular country with IMF. That is the reason why the rich and industrialized countries got the higher voting right due to their higher quotas, with the IMF.

The main source of IMF resources is the quotas allotted to member countries. Till 1971, all the amounts of quotas and the assistance provided were denominated in US dollar, but since December 1971 all the quotas and transactions of IMF are expressed in SDR (Special Drawing Right) which is also known as Paper Gold. In 1971, one SDR was assumed equivalent to 1 dollar but due to subsequent decline in dollar value SDR 1 became equivalent to $ 1.55 by the end of April 1995. since January 1, 2011 the value of SDR is being determined by the basket of 4 currencies.

Since January 1, 2011 the weight, age to these 4 currencies in SDR price determination was as follows:

Euro	37.4%
Japanese Yen	9.4%
Pound sterling	11.3%
US dollar	41.9%
	100.0%

The currency value of SDR is determined by the IMF each day by summarizing the values in US dollors, based on market exchange rates of basket of fine currencies.

The IMF's financial year is from May 1 to April 30. IMF lends to of various facilities (extended fund facility, standby facility, contingent credit lines, compensatory facility etc.) designed to serve specific purpose, but essentially aimed at balance the emergent foreign exchange needs. The poor countries are also helped by funding from Poverty Reduction and Growth Facility.

The quota allotted by the IMF to each member country has to be deposited partly in the member own currency and the remainder in the form of foreign exchange.

16.3.4 INDIA 8TH PLACE IN IMF GENERAL QUOTA

After the recent review of IMF's General Quota, India quota has been raised to 5821.5 million SDR from the existing level of 415.82 crore SDR. (At present 1 SDR= $ 1.55= Rs. 79.30). This quota hike raised India vote share from 1.91% to 2.44%.

At present India has been placed at 8th place in IMF's General quota. USA remains the biggest quota holder despite its quota share coming down to 17.69%.

Rank	Country	Quota %
1	USA	17.69
2	Japan	6.56
3	Germany	6.12
4	UK	4.51
5	France	4.51
6	China	4.00
7	Italy	3.31
8	India	2.44
9	Saudi Arabia	2.93
10	Canada	2.67
11	Russia	2.50

16.3.5 INDIA AND IMF

IMF has played an important role in Indian economy. IMF has provided economic assistance from time to time to India and has also provided appropriate consultancy in determination of various policies in the country. India is the founder member of IMF. The Finance Minister is ex-officio Governor in IMF Board of Governors. Till 1970, India was among the first five nations having the highest quota with IMF and due to this status India was allotted a permanent place in Executive Board of Directors.

16.3.6 FINANCIAL TRANSACTION PLAN

India participate in the Financial Transaction Plan of the IMF from 2002. forty two countries, including India, now participate in FTP. By participating in FTP, India is allowing IMF to encash its rupee holding as part of our quota contribution, for hard currency which is then lent to ther member countries who are debtors to the IMF. From 2002 to 13th July, 2009, India has made purchases transactions of SDRs 1194.16 million and four repurchase transactions amount to SDRs 795.95 millon.

Enhanced Structural Adjustment Facility (ESAF) was established in 1987 with an amount of SDR 6 billion to help the low income countries with heavy debt burdens in difficult external environment to implement comprehensive macro economic and structural policy programmes aiming at strengthening their balance of payments position and fostering growth. India contributes as donations to subsidy account and made a commitment to provide grant contributes to the extent of US $ 1 million per year over 15 year for a total of US $ 15 million. India has paid thirteen annual installment to the PRGF trust subsidy account amounting to US $ 1 million (equivalent to Rs. 4,66,70,000) during July 2006.

16.3.7 MODE OF OPERATIONS OR FUNCTIONS OF IMF

The Fund is a store of large capital resources in currencies of different member countries. It functions in such a manner as to avoid foreign exchange fluctuations and make efforts to restore the pattern of multilateral trading. The salient features of its functioning are as under

1. **Fixation of par value of currencies in terms of Gold or Dollar.** Every member country has to declare the par value of her currency in terms of US Dollars or in gold. The main objective of IMF is to maintain stability in exchange rates of the member countries. In fact, the IMF fixes the maximum or minimum limit of the par values of various countries.

2. **Alternation of limit within par value.** There is over rigidity in the par values of the currencies of different countries. If Fund finds that there is fundamental disequilibrium in the balance of payments of a country, it can change the par values of its currency, A country is allowed to alter its basic par value within well defined limits *i.e.* upto 10 per cent after making her intention known to the Fund. Under certain circumstances, the Fund itself can make proportionate alterations in par values of all the member countries.

3. **Loans of foreign currency.** The Fund realizes that a stable exchange is very essential for the proper growth and expansion of the free world trade. Therefore, it takes steps to check the fluctuations in the par values by eliminating the disequilibrium in the balance of payment of the member countries. A member country can buy foreign currency from the Fund to tide over her temporary balance of payments deficit. The Fund sells currencies to members against their subscriptions for short period to enable them to remove the difficulties of the

balance of payment.

4. **Drawing Rights.** A member country during hardships of the balance of payments can buy the required foreign currency from the Fund by offering more of its own currency over and above its original subscription. The Fund provides both maximum and normal limits of financial assistance for a short period. A member country can request for any currency under the credit line of 25 per cent of its quota in one year. This is known as gold tranche or reserve tranche drawing. But the full amount drawn under these drawings should not exceed by 200 per cent of the Fund's holdings of a country's currency quota. The member countries do not borrow more than 150 per cent of quota, because any further borrowing is subject to increasing interference by the Fund.

5. **Stand by Arrangements.** Under the agreement of the Fund guarantee is given to provide a specific sum of money for a given period of time to a member country. Normally, the satisfaction as to the legitimacy and purpose of drawing is considered before a stand by is granted. Since the stand by is a part of the quota, it forms a part of the total drawing power.

6. **Liquidity of Fund's Resources.** If the borrowing countries are buying the currency of other countries, the Fund may accommodate such currencies as are not demanded. In fact, the Fund will not be able to act as a reserve Fund. Thus, it becomes necessary that the Fund should keep its resources in a liquid form so that the borrowing country may repurchase of domestic currency. There are certain rules to maintain the liquidity of resources such as

(i) Any member country can buy the currency of any other member country by depositing gold in the Fund.

(ii) If the currency of a country with the Fund exceeds its quota, then that country can purchase its own currency in exchange for gold.

(iii) Every country, under special circumstances, can buy a part of its own currency from the Fund in exchange for gold or other currency.

7. **Currency in short supply.** It is possible that a country's currency may be in supply. Short supply of a currency in foreign exchange market indicates a favourable balance of payment. If the Fund finds that a particular member country is having

a surplus in its balance. of payments and its supply of currency is inadequate relative to demand, the Fund may ask the surplus country to revalue its currency. On the contrary when the Fund declares a particular currency as scarce, the member country revalues the currency, thus, raising costs and prices.

8. **Position of Gold in Fund's Scheme.** Under the Fund's scheme, status was given to gold as every member country has to deposit in gold the Fund upto 25 percent of its quota or 10 per cent of its gold holdings. Under the agreement of the Fund, the par values of currencies of members are expressed in terms of gold, SDR and the US Dollars. In Fund's scheme, gold had been retained as a basis of determination of the par values of member's currencies. A member can deal with the Fund "only through its treasury, central bank, stabilization fund or other similar agency". An alteration in par value is permitted only within limits. If the fund is short of any particular currency, it can purchase the same for gold. The value of gold has been fixed by the Fund at 35 dollars per five ounce. According to Prof. Williams, Fund's Planning is akin to gold standard. But according to Lord Keynes, Under Fund's Planning, a system has been created, by means of international agreement, that is far removed from the old political gold standard system. It is so because : (a) It is not based on gold currency as was gold standard *(b)* Under Fund's planning, value of the currency is not fixed in terms of gold for ever.

9. **Facilities during the Transition Period.** The Fund gets all the exchange control removed so that the world trade may flourish smoothly. During the transitional period, the Fund has empowered the member countries to impose such restrictions on imports and foreign exchanges according to its necessity. As the transitional period is over, member countries are supposed to remove the restrictions imposed on international trade and foreign exchanges. Therefore, the member countries can continue with their control to the desirability of the Fund.

10. **Training.** The Fund also imparts training to the representatives of member-countries. This training is important to the senior officers of the central banks and Finance Departments.

16.3.8 ADVANTAGES TO INDIA FROM THE IMF

1. **Independence of the Indian Rupee.** Before the establishment of the IMF, the Indian rupee was linked with the British Pound Sterling. But Indian rupee has

become independent after the establishment of IMF. Its value is expressed in terms of gold. It is not determined by the Pound Sterling. It means that Indian rupee is easily convertible into the currency of any other country.

2. **Membership of the World Bank.** India has become a member of the World Bank also by virtue of its membership of the Fund. As a result, India has got several loan facilities from the World Bank for the development purposes.

3. **Availability of Foreign Currencies.** The Govt. of India has been purchasing foreign currencies from the Fund from time to time to meet the requirements of development activities. The large amount of availability of foreign currencies has greatly promoted the economic development of the country.

4. **Reputation in International Circle.** India is one of those six countries which have occupied a special place in the Board of Directors of the Fund. Thus, India had played a creditable role in determining the policies of the Fund. This has increased the India's prestige in the international circles. India takes keen interest in the formulation of Fund's policies.

5. **Guidance and Advice.** Being member of the Fund, India got the expert opinion of the Fund for solving its economic problems. The attitude of the Fund towards India was always remained sympathetic. The Fund has given valuable suggestions to the Government of India with regard to the financing of the Five Year Plans.

6. **Timely Help.** India has received timely help from the Fund to eliminate the deficit in its balance of payments. The Fund granted India loans to meet the financial difficulties arising out of the Indo—Pak conflict of 1965 and 1971. Otherwise, the fund has given timely help to solve economic crisis.

7. **Freedom from Sterling.** Indian rupee was convertible into other currencies through the medium of sterling before becoming the member of the fund. With the fixation of par value of the rupee in gold, Indian currency is now freely convertible into any other currency.

8. **Sale and Purchase of Foreign Exchange.** Fund has entrusted the sale and purchase of foreign exchange worth more than Rs. 2 lakh to Reserve bank of India. The latter cannot enter into any transaction of foreign exchange that is of the value of less than Rs. 2 lakh.

9. **Economic Consultation.** In the financial management of Five Year Plans, IMF fund has given valuable advice to government of India from time to time. Many Economic Missions were sent to India by the Fund to suggest measures for its economic development.

10. **Help during Emergency.** India got a large amount of financial assistance from the Fund to solve its economic crisis arising due to natural calamities like floods, earth quake, famines etc. and at the time of Chinese and Pakistani aggressions. In order to meet its balance of trade deficit in the wake of hike in oil prices, India secured a loan amounting out of oil facility. Thus, India got help during the period of any emergency.

To sum up the discussion, we can say that India has gained in many ways by being a member of IMF, e.g. (i) Indian rupee has become an independent currency for international payments (ii) India has received help to correct its balance of payments disequilibrium. (iii) Being member of the Fund, India has also become a member of World Bank. As a result, India has received large financial help (iv) India has also received technical assistance from the Fund. (v) India is always confident of receiving assistance from the Fund at the time of any emergency. (vi) India has a key role in the policy-making of the Fund. As a result, India has an important place in international economic field. India is also a member of the Committee of 20 member countries.

16.4 WORLD BANK FOR DEVELOPING COUNTRIES

16.4.1 INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT (IBRD)

IBRD and its associate institutions as a group are known as the World Bank. The Second World War damaged economies of the most of the countries particularly of those who were directly involved in the war. The globe had completely dislocated the multilateral trade and had caused massive destruction of life and property. In 1945, it was realized to concentrate on reconstructing these war affected economies. Besides, it was also given a thought to develop underdeveloped economies in a planned way. IBRD was established in December 1945 with the IMF on the basis of the recommendation of the Bretton Wood Conference. That is the reason why IMF and IBRD are called Bretton Wood Twins. IBRD started functioning in June 1946. World Bank and IMF are complementary institutions.

The International Bank for Reconstruction and Development (IBRD) aims to reduce poverty in middle income and credit worthy poorer countries by promoting sustainable development through loans, gurantees, risk management products and analytical and advisory services. Established in 1945 as the original institution of the world bank group, IBRD structured like a cooperative that is owned and operated for the benefit of its 188 member countries.

IBRD raises most of its funds on the world's financial market and has become one of the most established borrowers since issuing its first bond in 1947. The income that IBRD has generated over the years has allowed it to fund development activities and to ensure its financial strength, which enables it to borrow at low cost and offer clients good borrowing terms.

At its annual meeting in September 2006, the World Bank-with the encouragement of its shareholder governments –committed to made further improvements to the services it provides its members. To meet the increasing sophisticated demands of middle income countries, IBRD is overhauling financial and risk management products, broadening the provision of free standing knowledge services and making it easier for clients to deal with the bank.

India is a member of four constituents of the World Bank Group i.e IBRD, IDA, IFC and MIGA (i.e Multilateral Investment Gurantee Agency) but not of its fifth institute ICSID (i.e International Centre for the settlement of the Investment Disputes).

16.4.2 OBJECTIVES OF WORLD BANK

The objectives of the World Bank have been entrusted in Article I of the Agreement are as under

1. **Development and Reconstruction of Member Countries.** The main function of the Bank is to help in the reconstruction and development of member countries by investing more capital for productive purposes such as

(a) reconstruction of economies destroyed by war

(b) encouragement to productive resources in less developed countries;

(c) reconstruction of productive facilities.

2. **Encourage the development in H.D.C.** The main objective of the World Bank

is to encourage the development of productive resources by supplying them sufficient capital. It also helps in the establishment of various projects of infra structure like power, transport, communication, irrigation etc. in backward countries which, in turn, accelerate the pace of economic development.

3. **Promote Private Foreign Investment.** Another objective is to promote foreign investment by means of guarantees/loans. The World Bank makes loans for productive resources out of its own capital or from borrowed funds.

4. **Maintain Equilibrium in the Balance of Payment.** The World Bank helps to maintain equilibrium in the balance of payment by encouraging investment for development activities and, thus, raising productivity, the standard of living and conditions of workers in the concerned countries.

5. **Change war Economy into a Peace Time Economy.** Another function of the World Bank is to bring about a change from a war economy to a peaceful economy. It brings by conducting international investment on business conditions of the member countries.

6. **Supplement Foreign Investment.** It also arranges the loans and guarantees in relation to international loans for the development of more useful and urgent small and large projects at priority level in the number countries.

7. **Environmental Protection.** Global environmental protection is also an objective of the Bank. To this end, World Bank gives substantial financial assistance to those under- developed countries which are engaged in the task of environmental protection.

8. **Raise Productivity and Standard of Living.** Another function of the World bank is to raise the productivity and standard of living of the people of member countries. It makes special programme for the development of productive resources.

16.4.3 IMF VS. WORLD BANK

IMF and the World Bank are Bretton Woods Twins. Both the institutions were established to promote international economic assistance cooperation but a basic difference is found in the nature of economic assistance given by these two institutions. World Bank provides long term loans for promoting balanced economic development, while IMF provides short term loans to member countries for eliminating BOP disequilibrium. Both these institutions are complementary to each other. The eminent world economist George Schultz had suggested in American Economic Association Conference in January 1995, for the merger of IMF and the World Bank.

16.4.4 MEMBERSHIP OF THE WORLD BANK AND THE VOTING RIGHT

Generally every member country of the IMF automatically becomes the member of World Bank. Similarly, any country which quits IMF is automatically expelled from the World Bank's membership. But under a certain provision a country leaving the membership of IMF can continue its membership with World Bank if 75% members of their Bank give their vote in its favour.

Any member country can be debarred from the membership of World Bank on following grounds:

1) Any member country can quit the Bank simply by written notice to the Bank, but such country has to repay the granted loans on terms and conditions decided at the time of sanctioning the loan.

2) Any country working against the guidelines of Bank can be debarred from membership by the Board of Governors.

Like IMF, World Bank has also two types of members: Founder members and General members. The World Bank has 30 founder members who attained membership by December 31, 1945. India is also among these founder members. The countries joining the world bank after December 31, 1945, come under the category of general members. At the end of Feb. 2008, the total membership of the World Bank is 185. The voting right of member countries is determined on the basis of member country share in the total capital of the Bank. Each member has 250 votes plus one additional vote for each 1,00,000 shares of the capital stock held.

16.4.5 CAPITAL RESOURCES OF WORLD BANK

The initial authorized capital of the World Bank was $ 10,000 million, which was divided in 1 lakh shares of $ 1 lakh each. The authorized capital of the bank has been increased from time to time with the approval of member countries. Authorized capital of the world bank has increased from $ 24 billion to $ 27 billion. Member countries repay the share amount to the world bank in the following ways:

1) 2% of allotted share are repaid in gold, US dollar or SDR.

2) Every member country is free to repay 18% of its capital share in its own currency.

3) The remaining 80% share is deposited by the member country only on demand by the world bank.

The headquarter of world bank is at Washington D.C.

IDA (established on September 24, 1960) and IFC (established in July 1956) are the two main associate institutions of IBRD. These institutions work under the supervision of world bank. MIGA is also an associate institution in the world bank group.

16.4.6 LENDING AND BORROWING OPERATIONS OR FUNCTIONS OF THE BANK

The Bank makes medium and long-term loans for specific development projects in the field of agriculture, power, transport and communication, industry, water supply, urban development, education etc. in the member countries. During 1961, the Bank provided loans of 77 million dollars to 24 countries. Asia and middle East receive nearly 8 per cent to 20 per cent of the total loan assistance given by the Bank. The Bank borrowed $4,721 million by placing 39 issues during 1976- 77. The Bank had made total loans of 1,453 amounting to 3,86,097 million dollars for 116 member countries for more than 1,150 projects, with granting 6 loans of 550 million to the International Finance Corporation by ending June 1977. The IBRD has started borrowing. Similarly, the Bank had borrowed in the markets of Germany, Switzerland, United States etc. in US short-term, securities from Sept. 1982. However, the total borrowing of all kinds was of amounting to $ 10.8 billion. However, its lending and borrowing operations are as under

Lending Procedure. World Bank advances loans to members in the following three ways

(a) **Loans out of its own fund.** The fund collects capital contribution from its members. This results in the creation of a sizable fund out of which the Bank advances loans to the needy member countries. If the loan is to be given to a member country in terms of the national currency of another country, it is obligatory on the part of the Bank to secure the prior consent of the latter member country.

(b) **Loans out of borrowed Capital.** Sometimes, the Bank borrows funds from another member country for the purpose of giving loans to the needy members. The Bank pays interest to the member country from it has borrowed funds for a specified period of time.

(c) **Loans through Bank's guarantees.** Sometimes, the Bank encourages the Private investors of a country to lend their funds to another country by guaranteeing the repayment of loan and interest thereon. Before the Bank extends its guarantee, the country has to fulfilled certain conditions.

2. **Technical and Advisory help by the Bank.** The Bank sends to the member countries its economic experts to carry out the general survey of their physical resources. The Bank also gives training to the officers from the member countries in the preparation and implementation of development projects. With this objective in view, the Bank established in 1956, an institute as 'The Economic Development Institute'. This institute gives short-term training to the officers and employees from the member countries.

3. **Loans granted for Productive purposes.** The world bank grants loans to member countries only for productive purposes, particularly for agriculture, irrigation, electric power and transport without this infrastructure, no country can develop itself economically. Hence, the Bank has given priority to these enterprises for lending purposes.

4. **Settlement of Disputes among Member Countries.** The world bank also tries to settle disputes among member countries. The objective is that, after setting their disputes, the member countries may devote their resources to rapid economic development. Some years back, the World Bank successfully settled the Indus river dispute between India and Pakistan. Likewise, the World Bank played a commendable role in settling the financial dispute relating to the Suez canal between the UK and Egypt.

5. **Medium and Long term loans.** The bank grants medium and long term loans payable over a period of 15-20 years for reconstruction and development purposes to the member countries.

6. **International Finance Corporation and International Development Association.** The IFC is an affiliate to the World Bank. It was setup in July 1956

to give financial assistance to private enterprises in member countries.

The IDA is still another affiliation of the World Bank. It was set up in September 1960, with the objective of encouraging industrial (development in backward and underdeveloped countries.

7. **Holding meetings of Creditor countries to provide Loans to Developing Countries.** The World Bank calls from time to time the meetings of the creditor countries with the object of providing loans to developing countries. For example, the Bank has organized an Aid India Consortium comprising such member as the USA ; the UK, Canada, Germany and Japan for the purpose of providing financial aid for India's development projects.

16.4.7 SHORTCOMINGS OF THE WORLD BANK

The functions of the Bank is not free from criticism. It has been subjected to the following criticism.

1. **Share of Developing Countries in Bank's Capital highly Inadequate.** The share of developing countries in the capital resources of the World Bank was far from adequate. More than 50 percent of the share capital of the World Bank was controlled by seven countries, namely, the USA, and U.K., Japan, France, Germany, Canada and Italy.

2. **Inadequate Financial Aid.** The capital and other financial resources of the bank are not adequate to meet the increasing requirements of the member countries. The financial assistance given by the bank to the developing countries is just a drop in the ocean.

3. **Discriminatory Treatment.** The World Bank has been discriminating against the countries of Asia and Africa. It is quite indulgent towards the countries of Europe. The countries of Asia and Africa taken together, have the largest population, vast areas and unexploited resources, while the countries of Western Europe have smaller populations and much smaller areas as compared to the countries of Asia and Africa. This is clearly indefensible. The Bank is a non-political institution, so it should not have discriminatory policies.

4. **High Interest *rates* and Commission charges.** The World Bank has also been

accused of charging high interest and commission from the borrowing countries which mostly happens to the developing countries of Asia and Africa. This practice is highly unjust, inequitable and contrary to the provisions of the Bank's Charter. The Bank is not supposed to be a profit hunting institution. The rate of interest charged by the World Bank on its loans is in between 7.5% to 8.2%.

The bank charges commission varying from 1 to 1 -% on the loans guaranteed by Bank. The Bank should voluntarily reduce its interest and commission charges on its loans, particularly when they are guaranteed by the Govt. of the borrowing countries.

5. **Insistence on Repayment Capacity.** The World Bank insists on the presence of repaying capacity before granting loan to a member country. Insistence upon repaying capacity before granting loans discourages the member countries from borrowing from the Bank. If the project is a productive one, the repaying capacity of the borrowing country will automatically be created during the implementation of the project.

6. **Loans for Specific Projects only.** The critics pointed out that the bank provides loans only for specified projects not for the general development of the countries, Actually, Bank should provide united loans which they can put to any use according to their schemes of priorities.

7. **Loans for Agriculture and Allied Occupation.** Another criticism of the Bank was that it had extended loans to developing countries mostly for agriculture and other related occupations, not for heavy and basic industries.

8. **Particularly for Private sector.** The World Bank in its operations has shown a clear bias in favour of the private sector. The bank clearly places greater emphasis on partnerships with the private sector and also giving incentives to private companies.

9. **Insistence in Repayment in Foreign Currencies.** Another criticism against Bank's lending procedure is that it insists upon receiving the repayment of the loan from the borrowing country in the currency in which it was extended to it. The developing countries often find it difficult to comply with this requirement of the Bank.

10. **Interference.** The Bank has developed conditionality practices to be fulfilled for getting a loan from the Bank. The Bank does interfere with the policies of its member which makes a mockery of its policy of non-interfering in their internal economic affairs.

11. **Domination by Western Countries.** The management of the bank was organized in such a manner that during the past 50 years of its existence not a single Asian, African or Latin American was found competent enough to be the president of the bank. There was a convention that an American should head the World Bank and a European the IMF.

16.4.8 INDIA AND THE WORLD BANK

India is one of the founder members of the World Bank. It has been allotted a permanent place in the Board of Executive Directors of the Bank. The Bank has rent several missions to India for assessing the country's development projects and also for conducting field surveys in various sectors of its economy. Several officials of the Bank have visited India for investigation for loan assistance. The bank has also appointed a Resident Representative in New Delhi to maintain close liaison with the Govt. of India in regard to the development plans and projects of the country.

India has been a fairly large borrower of the World Bank. From August 1949 to 30th June 1986 the World Bank approved for India loans (equal to 10,691.9 million dollars which contributed 8.5 percent of the total lending by the World Bank. The Bank charged on these loans interest varying between 3.5 to 8.9 per-cent per annum. The World Bank has given financial assistance for the development of railways, roads, ports, aircrafts, power, multipurpose river valley projects, agriculture, industry etc. The Bank has given loan assistance for the development of coal, power and steel industries in the private sector.

During 1985-86, the World Bank approved for India loans of the value of 1743.2 million Dollars which contributed 13.2 per-cent of the total loans approved by the Bank for that year. As on December 31, 2000, the Bank's lending portfolio of on going projects for India comprised 66 projects amounting to about US $ 11.5 billion. India is also among the Bank's top borrowing. In year 2000, lending commitments reached about US 1.8 billion dollar for eleven projects. The sectoral allocation of the existing portfolio is concentrated in rural development 23% education and health 23% and infrastructure including energy 20%. India got disaster assistance from bank a number of times i.e in 1996 for Andhra Pradesh after a devastating cyclone, in September 1994 for Maharastra as rehabilitation assistance following an earth quake, a disaster mitigation package for Gujrat etc.

The world bank has lent to India the services of its technical experts from time to time. These experts have given valuable suggestions to the government for the formulation and effective implementation of its development plans.

16.5 CONCLUSION

The IMF is playing an expanding role in the global monetary system. The IMF's key roles are the following :

* To promote international monetary cooperation.
* To facilitate the expansion and balanced growth of international trade.
* To promote exchange stability.
* To assist in the establishment of a multilateral system of payments.
* To give confidence to members by making the IMF's general resources temporarily available to them under adequate safeguards.
* To shorten the duration and lessen the degree of disequilibrium in the international balances of payments of members.

The World Bank consists of two main bodies, the IBRD and the International Development Association (IDA).

The World Bank Group includes the following interrelated institutions:

IBRD, which makes loans to countries with the purpose of building economies and reducing poverty

IDA, which typically provides interest-free loans to countries with sovereign guarantees

International Finance Corporation (IFC), which provides loans, equity, risk-management tools, and structured finance with the goal of facilitating sustainable development by improving investments in the private sector

Multilateral Investment Guarantee Agency (MIGA), which focuses on improving the foreign direct investment of the developing countries

International Centre for Settlement of Investment Disputes (ICSID), which provides a means for dispute resolution between governments and private investors, with the end goal of enhancing the flow of capital.

16.6 SELF ASSESSMENT EXERCISES

1) Explain the objectives of IMF. Give its procedure of organization and management ?

2) What is IMF. Point out its main functions ?

3) Critical examine the main failures of IMF ?

4) What is IBRD? Write its main functions ?

5) Evaluate beneficial effects enjoyed by India from IBRD ?

6) Write any three functions of IBRD ?

7) Point out the shortcomings of IBRD ?

16.7 FURTHER READINGS

Agarwal R.C : Economics of Development and Planning [Theory and Practice]

Dewett K.K : Modern Economic Theory

Jhingan M.L : The Economics of Development and Planning

Jhingan M.L : Advanced Economic Theory

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Need for Investment Criteria and Alternative Investment Criteria & Project Evaluation, Cost Benefit Analysis and Shadow Prices

STRUCTURE

17.1 Introduction

The problem of investment criteria involves the principles underlying the allocation of scarce investment resources in a rational manner so as to maximize the national income in an underdeveloped economy. It is a commonly known fact that private enterprise in such economies is motivated by profit maximization. Very often private investment decisions are for projects that are not conducive to economic development. It is, therefore, felt that only a public authority can make decisions to scarce investment resources and to influence the direction of private investment towards development oriented projects. For this, the choice before the public authorities is between techniques of a higher or lower intensity.

Project evaluation as a technique of development planning has grown rapidly in application in recent years. In fact, it has now become a method of economic planning on its own. In this chapter we propose to discuss the main elements of what is now being considered a standard approach to public investment analysis. The public investment analysis involves treatment of a number of important aspects of which appraisal of the economic costs and benefits of the project is perhaps the most important. Keeping in view this fact, we intend to concentrate in this chapter on this particular aspect of the investment planning.

17.2 OBJECTIVES

* Understand the capital-turnover criterion
* Describe the capital turnover criterion & its criticism
* Understand the Re-investment criterion
* Describe the time series criterion
* Learn about the Meaning of Project Evaluation
* understand the methods of project evaluation
* describe the Role of cost benefit analysis in Economic Development
* understand the relationship between NPV and IRR
* Learn about the Meaning of shadow prices
* Understand the role of shadow prices in economic development

17.3 THE CAPITAL-TURNOVER CRITERION

The capital turnover criterion is known by various names viz., rate of turnover criterion, the maximization of output per unit of capital criterion or the ratio of output to capital criterion (minimum capital intensity or minimum capital-output ratio criterion). This criterion is attributed to J.J Polak and N.S. Buchanan. The logic involved is that since capital is scarce in underdeveloped countries, that technique should be chosen which yields the maximum output per unit of capital employed. In other words, for maximizing output, investment projects with a high rate of capital turnover (i.e of a low capital output ratio) should he selected. Quick-yielding projects with a low capital intensity make it possible for scarce capital resources to be realized soon enough for reinvestment into other projects. Such projects also provide maximum employment per resource in underdeveloped countries. Here the capital employment absorption criterion merges into the capital turnover criterion. This criterion is particularly useful, according to Chenery, in choosing among projects within a given sector.

17.3.1 LIMITATIONS OF CAPITAL TURNOVER CRITERION

There are, however, certain limitations of this criterion.

First, it ignores the element of time. Quick-yielding projects having a low capital-output ratio in the short run may have a high ratio in the long run.

Secondly, this criterion ignores the supplementary benefits flowing from an investment project. It is possible that projects with a high capital ratio may confer certain supplementary benefits on the economy thereby outweighing extra costs involved in them. On this count, notes a UN Study, a project with a high capital-output ratio should not necessarily be accorded a lower priority.

Thirdly, in certain industries like agriculture, a low capital-output ratio may appear outwardly. If working capital like fertilisers is also included in the fixed capital investment, the ratio may in fact be high.

Fouthly, the higher the rate of turnover, the higher may be the rate of depreciation of capital and rate of output may not be high. Therefore, Dr K.N. Prasad suggests the net rate of turnover criterion instead.

Fifthly, the maximisation of employment argument implied in this concept may hold good only in the short run. A capital-intensive project may absorb little labour to start with, but may maximise the amount of labour per unit of investment in the long run.

Sixthly, it does not necessarily follow that with increased employment there will be an addition to total output. Labour-intensive and capital-saving investments may keep productivity of labour low as usual, without making any addition to total output.

Seventhly, the use of labour-intensive techniques may even reduce output thus necessitating a greater use of capital thereby raising the capital-output ratio.

Lastly, such techniques often produce sub-standard products. Such products are often subsidized by the government and entail high social costs. For example, the production of cotton textiles with handlooms.

17.4 THE SOCIAL MARGINAL PRODUCTIVITY CRITERION

The social marginal productivity (SMP) criterion was first put forward by A.E. Kahn and later Hollis B. Chenery improved upon it. It is based on the conventional marginal productivity approach. As more and more capital is employed in any project in combination with given amounts of other inputs, its marginal product will after a time start falling till the marginal productivity of capital in different uses is equalized. The aim is to allocate limited investment resources in such a way as to maximize the national output. In other words, they should be utilized in the most productive projects. Kahn states that this criterion takes "into account the total net contribution of the marginal unit to national product and not merely that portion of contribution (or of its costs) which may accrue to the private investor". Thus it is applicable to the economy as a whole and not to individual investment projects.

Chenery evolves a formula for the quantitative measurement of the SMP concept. He ranks investment projects according to their social value and studies their effects on national income, balance of payments and the cost of domestic and imported materials used therein. The selection of projects depends on their rank, and their number on their cost and funds at the disposal.

Taking the balance of payments to be in equilibrium, the Chenery equal is :

$$SMP = \frac{X+E-L-M-O}{K}$$

where X represents increased market value of the output, E the added value of output due to external net economies, L cost of labour, M cost of materials. O overhead costs including depreciation, and K is capital funds invested. The equation can be simplified as (V-C)/K where V the social value added domestically equals (X+E) and C the total cost of factors equals (L+M+O).

Since in underdeveloped countries foreign exchange is more valuable than domestic currency, there is a large difference between the actual and official value of the foreign currency in terms of the local currency. Chenery represents this difference by r. A zero r means equilibrium in the balance of payments, a positive r represents a surplus and a negative r, a deficit in the balance of payments of the country. Accordingly, the refined formulation is :

$$SMP = \frac{V\text{-}C}{K} + \frac{r(aB1+B2)}{K}$$

The other elements being the same, aB1 is the annual authorized impact on the balance of payments of servicing init borrowings from abroad and B2 the annual effect of the project's operation on the balance of payments. If B is negative, it means an import and if is positive it is an export. To simplify the formula still further r(aB1 +B2) is represented by Br, the combined balance of payments effect and the final formula is :

$$SMP = \frac{V\text{-}C}{K} + \frac{Br}{K}$$

With the help of this formula Chenery has calculated the SMP of a number of investment projects in Italy and Greece. According to him, the use of this formula in fu may help in improving upon the method of using funds in a piecemeal manner on major projects.

17.4.1 LIMITATIONS OF THE SOCIAL MARGINAL PRODUCITIVTY CRITERION

Despite this, the practical usefulness of the (SMP) criterion is limited due to a number of considerations.

First, it is not correct to say that the marginal productivity of capital exactly equal in all uses. It can be at the most nearly equal, for investment may be either too large or too small due to technical reasons.

Secondly, marginal productivity of capital in the case of different projects is equalized on the basis of a particular technology which may not necessitate the reallocation of investible funds. But it might be useful to devote larger doses of capital to particular projects if it leads to the use of a better technology.

Thirdly, the SMP criterion considers only the effects of the present. Factor productivity in different uses depends on the relationship between costs and prices of the products produced and these in turn depend upon supply and demand conditions. In. the short run, resources are adjusted to prevailing supply and demand conditions, while in the long run they are themselves influenced by present investment Similarly, cost conditions may also be changed over time with the acquisition of more knowledge, skill and experience by entrepreneur and workers. Thus, it is difficult to calculate the productivity of resources when the time period is long.

Fourthly, the SMP criterion is vague and indefinite. For it is difficult to have a correct assessment of the benefits and costs of different Projects both in the present and future. Market prices are not a correct guide to resource allocation. There is a wide disparity in underdeveloped countries between the equilibrium and the market rates of interest, wages and foreign exchange. Likewise the benefits accruing from social investments like education and public health services can at best be assigned arbitrary monetary valuation. There are also idle resources like the underemployed and the unemployed manpower whose market value is not capable of measurement. Chenery himself admits that such imperfections in the market forces will "greatly 'educe the social value of investment unless an attempt is made to offset them."

Finally, one of the major defects of the SMP criterion is that it is concerned with once-for-all effect of investment on the national income and neglects the multiplier effect of present investment on future income. Moreover, it does not consider the indirect effect of the present investment on population saving arid consumption in the future. It is possible that the present investment may increase the national income but may make the distribution of income unequal. Similarly, investment in some project may raise the per capita consumption in the present as compared with other projects which may raise it over the long period. Therefore, the SMP criterion is at best a value concept.

17.5 THE REINVESTMENT CRITERION

The reinvestment criterion is advanced by Galenson and Leibensteth. It is also known as the rate of surplus criterion or the marginal per capita investment quotient. The latter is defined as the "net productivity per worker minus consumption per worker." Galenson and Leibenstein emphasize the maximization of per capita output in the future rather than in the present. This is possible when the rate of savings is maximized leading to the reinvestment of income. Assuming that national income is divided into wages and profits, the former are spent on consumption and the latter are saved for the purpose of investment. The larger the volume of profits, the higher will be rate of savings, as a result the larger will be the amount of capital available per head and the higher will be the growth rate of output which will lead to increased output per head in the future. In the early phase of development a "critical minimum effort" is required on the part of underdeveloped countries to increase the proportion of profits to national income and to restrict consumption per head. Given the quality and quantity of labour force, it is the capital-labour ratio that determines per capita output. Galenson and Leibenstein use the following formula to determine the rate of investible surplus (r)

$$r = \frac{p - e.w}{c}$$

where p is the product per machine, e the number of men per machine, w real wage rate, and c the cost of machine, r can be increased by raising p and depressing e.w. in proportion to c.

In order to raise the proportion of capital to labour, the per capita output potential and the per capita investible surplus, Galenson and Leiben stein favour capital-intensive techniques even in those countries were capital is scarce and labour abundant. Production processes havings a high ratio of capital to labour share of income going into profits and a small share into wages. Thus a large proportion of the initial income is available for in vestment through profits.

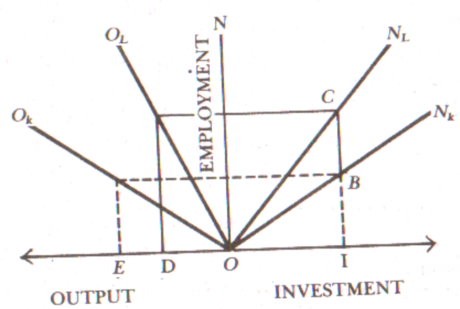

Figure 17.1

The larger the profits, the higher will be the savings. As a result, more capital will be available for investment and the greater will be the increase in output. This is illustrated in Figure 17.1 where in the north-east quadrant the relationship between new investment and resulting changes in employment N is represented. NK shows this relationship when a capital intensive technique is used, and NL when a labour-intensive technique is used. The north-test quadrant represents the relationship between employment and output. OK shows this relationship with a capital-intensive technique, and OL when a labor-intensive technique is used. Assuming the same amount of new investment OI, the capital-intensive technique creates IB employment while the labour-intensive technique creates IC employment. But the labour-intensive technique creates only OD output while the capital- intensive technique creates larger output OE. Thus the capital-intensive technique creates less employment hut more output while the labour intensive technique creates mole employment but less output.

17.5.1 CRITICISM OF REINVESTMENT CRITERION

There are, however, certain objections to this criterion.

First, the reinvestment quotient is based on the assumption that consumption remains constant overtime. But this is untenable. For as pointed by A.K. Sen, with additional employment the total consumption of the community is likely to increase and unless the increase in output as a result of additional employment is greater than the increase in consumption resulting from it, the volume of investibte surplus will fall. This will adversely effect the growth rate of the economy.

Secondly, this criterion rests on the assumption that whatever is received as wages is spent on consumption and whatever is not paid to labour is reinvested. In fact, there are likely to be leakages in the wage-stream and profit-stream flowing into consumption and investment channels respectively. With the increase in real total output, workers might feel better off than before even at the same wage rate and may save something. The doctrine makes no allowance for capital depreciation either, which is sure to reduce the reinvestible surplus.

Thus, the authors fail to discuss the problems which may ensure wages to be spent exclusively on consumption and thereafter the surplus to be reinvested.

Thirdly, it goes against the principle of marginal productivity of capital. As the amount of capital is increased in successive doses after a point its productivity starts declining. This implies a fall in output per capita and in the reinvestment quotient.

Fourthly, the contention that highly capital-intensive processes have a large reinvestment potential does not appear to be correct. A highly capital-intensive industry like the iron and steel will not yield output until several years have elapsed. On the other hand, modern in all enterprises possess a high reinvestment coefficient and thus use more capital and more labour per unit of output than large factories)

Fifthly, the concentration upon large scale capital-intensive industries is beset with a number of practical difficulties in underdeveloped countries. Due to lack of skilled labour and entrepreneurial ability, the efficient management of large undertakings is difficult. Further, due to the non-availability of sufficient capital for small enterprises, consumer goods industries are unable to develop, thereby leading to inflationary pressures in the economy.

Sixthly, the investment criterion is lopsided, for it does not study the effect of balance of payments on investment. In an underdeveloped economy there is an a scarcity of capital goods which have to be imported and they worsen the already tight balance of payments position.

Seventhly, Otto Eckestein is of the view that instead of depending on the reinvestment criterion for planned investment, it may be better to use fiscal measures to attain an income distribution which will yield sufficient savings for the purpose of investment.

Eighthly, the reinvestment criterion neglects the importance of consumption, rather it advocates its curtailment. But current consumption may be more important than future consumption and the reinvestible surplus may have to he cut down in the interest of the community. Neglecting the consumer goods sector in favour of the capital goods sector is wrought with serious consequences both for the economy and for the state. It is bound to lead to scarcity of essential commodities and to inflation and social unrest in an underdeveloped economy wedded to democracy.

Conclusion. Despite these limitations, the reinvestment criterion is useful as a first approximation towards accelerating the rate of income growth in an underdeveloped economy. It is more realistic than the social marginal productivity criterion, for it takes into consideration the effects of population growth on the rate of investment in the future.

17.6 THE TIME SERIES CRITERION

A.K. Sen has put forward the "time series" criterion. The criterion seeks to maximize output within a given period of time. Given the capital-output ratio and the rate of savings, the time-path of (say) two techniques (capital-intensive and labour-intensive) can be drawn and it can be found out which of the techniques yields the highest returns over the time-horizon. Suppose that there are two projects H (capital intensive) and L (labour-intensive) and time horizon in ten years, at the end of which total returns in each case are 100 million. This is shown in Table 1.

Table 1

Period (in year)	Project I (Capital Intensive) H (Returns in millions)	Project II (Labour Intensive) L (Returns in millons)
1	4.0	6.0
2	5.0	7.0
3	6.0	8.0
4	7.5	9.0
5	9.0	10.0
6	10.5	11.0
7	12.0	11.5
8	13.5	12.0
9	15.0 (a)	12.5
10	17.5	12.0
	100.0	100.0

(a) excess over L 58.0-49.0= 9.0

(b) excess over H 51.0-42.0= 9.0

The returns of the H project are less (42 million) in comparison to those of the project L (51 million) over the first six years while in the remaining four years the returns of the H project rise more than that of the L project. The returns rise from 42m to 58m in the case of project L.

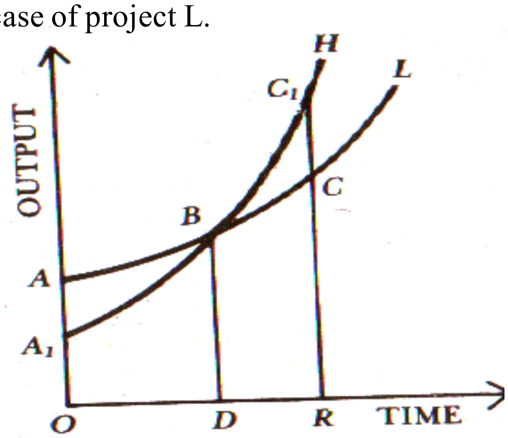

Figure 17.2

H and fall from 51 m to 49 m in project L. Since the total returns are the same (i.e 100 million) from both the projects, the overall position is one of indifference. The important point is as to whether the initial loss in output by adopting a capital-intensive project is recovered within the time period of ten years or not. The time taken by the capital-intensive technique to overcome its initial deficiency in output the labour-intensive technique is called by Sen "the period of recovery". This is explained with the help of the diagram above reproduced from Sen.

Thus for any pair of techniques a period of recovery can be found out. In choosing between the techniques the period of recovery should be compared with the period we are ready to take into account. If it is found that the period of recovery is longer, that is, if within the time-horizon, the loss in output, by adopting technique H is not recovered by the excess of output we should choose technique L. If reverse is the case, technique H may be chosen. To the extent real wages are within control and the taxation system is capable of providing any rate of saving, the quantitative importance of the conflict between the maximization of immediate output and the future growth rate is less. But so long as there is some conflict between the present and future, the choice will depend on the time discounted use. To say, therefore, according to Professor Sen, "that over-populated countries should always prefer labour-intensive methods conceals an implicit preference for present over future, and represents a very short planning horizon. On the longer planning horizon, the more we calculate the future rate of growth over the present level of consumption and employment, the more we should favour capital intensive methods which are capable of yielding a larger surplus of output over wage costs for a given capital outlay' and so make possible a higher rate of reinvestment for the future."

This criterion by taking into consideration the element of time for determining production techniques in an underdeveloped economy becomes more realistic than the other criteria discussed above.

17.6.1 LIMITATIONS OF TIME SERIES CRITERION

But Sen himself points out three limitations of his concept.

First, the taking up of a particular time-horizon, say of ten years, is arbitrary.

Secondly, it is not possible to derive the time series for all times to come.

Therefore the planning period has to be definitely fixed. But this creates some serious problems. When the time limit is about to end, labour-intensive technique might be selected in order to inflate the quality of output and thus capital formation is neglected. As a result, investment will fructify after the time limit and it might not be possible to compensate for the depreciation of machinery.

Thirdly, factors like technological change, wage rate, propensity to consume, etc., on which the study of time series depends may all be changing and make the forecasting of future investment and output not only difficult but also erroneous.

Lastly, Professor Prasad is, however, of the view that there is nothing novel about this criterion. If the period of recovery is very short, this criterion in practice becomes the net rate of turnover criterion and if the period of recovery is very long, it corresponds to the reinvestment criterion. In the end we are left with the question, what criterion is there for the choice of a time period?"

17.7 MEANING OF PROJECT EVALUATION

Project evaluation is the most specialized planning process which involves systematic, objective and comprehensive appraisal of development programmes for individual commodities and projects. It implies an appraisal or assessment of a project as to its operational efficiency technically, economically, financially and managerially. It involves a probe by a group of outside experts into the working of a project to find out its achievements and weaknesses, and to suggest ways and means of overcoming the weaknesses to improve its operation Project 'evaluation thus refers to the procedures of fact-finding about the results of planned social action which in turn move the spiral of planning over upward. It is the proper methodological accompaniment of rational action."

Project evaluation is an integral part of any development programme in order to assess its success or failure and to point out further lines of improvement. It is a process to evaluate the rate of return on a project, its social profitability and its side effects on the growth rate of population, on employment labour and management training arid on rate of reinvestment. Further it helps to assess the impact of the new project on the people of the area especially on their social and economic conditions. "Evaluation is, therefore, an essential aid to policy. It may be considered to be a branch of research which is oriented primarily to the needs of an action programme."

Project evaluation utilizes principles similar to those for the evaluation of industrial sectors, but it requires more extensive study of individual elements. Whereas sector analysis is applied only to the typical cost and demand conditions in the industry, project analysis takes into account a variety of supply and demand factors that are peculiar to the commodities and production technique under consideration."

17.7.1 STAGES OF PROJECT EVALUATION

It involves four stages: to review the situation before the project actually started; to make appraisal when the project is in operation in order to find out how much has been accomplished and what remains to be accomplished to suggest ways and means to improve its operation further and to plug loopholes; and lastly, to evaluate the ends achieved by the project when it is complete and is in full operation.

17.8 METHODS OF EVALUATION

In the methods of project evaluation, the usual stages are: (a) the technical and economic characteristics of each project; (b) the estimation of the influence of the project on the economy, both during the construction period as well as during the operational period, when the investment is completed and the newly productive capacity is in operation; (c) the evaluation of the consequences of the project which may he direct or indirect. The direct effects consist of the immediate contributions to production within the sector of the project while the indirect effeet are those in sectors vertically connected with the sector, either preceding or following, because for their direct technological links; and (d) the formulation of the criterion for the selection of the projects.

17.9 COST BENEFIT ANALYSIS

In appraising projects from the national viewpoint the most appropriate and popular method is the cost-benefit analysis. The analysis is the most scientific and useful criterion for project evaluation. It helps the planning authority in making correct investment decisions to achieve optimum resource allocation by maximizing the difference between the present value of benefits and costs of a project. It involves the enumeration, comparison and evaluation of benefits and costs. This implies weighing of the returns against the costs involved in a project. Thus the cost-benefit analysis "purports to describe and quantify the social advantages and disadvantages of a policy in terms of a common monetary unit." Its objective function is the establishment of net social benefit. This objective function can he expressed as NSB= Benefit- Costs, where benefits and consists are measured in terms of shadow' on 'accounting' prices of inputs and outputs instead of in actual market prices.

17.9.1 CRITERIA FOR COST-BENEFIT ANALYSIS

There are four benefit-cost criteria discussed by the US Sub Committee on Benefits and Costs. They are B-C, B-C/I, $\Delta B/\Delta C$ and B/C, where B and C refer to benefits and Costs respectively, I relates to direct investment and A is incremental or marginal.

Of these, the formula B-C/I is for determining the total annual returns on a particular investment to the economy as a whole irrespective of to whom these accrue." Here I does not include the private investment that may have to be incurred by the beneficiaries of the project, such as the cultivators from an irrigation project. It the private investment happens to he very large, even a high value of B-C/I may be less beneficial to the economy. Thus this criterion would not give satisfactory results. The second criterion of $\Delta B/\Delta C=1$ is meant to determine the size of a project that has already been elected and is not for selecting a project. The adoption of the B-C criterion would always favour a large project, and make small and medium size projects less beneficial. Thus this criterion can only help in determining the scale of the project on the basis of the maximization of the difference between B and C. But the best and the most reliable criterion for project evaluation is B/C. In this criterion, the benefit-cost ratio is the measure for the evaluation of a project. If $B/C= 1$, the project is marginal. It is just covering its costs. If $B/C>1$, the benefits are more than costs and it is beneficial to undertake the project. If $B/C<1$, the benefits are less than costs and the project cannot be undertaken. The higher the benefit-cost ratio, the higher will be the priority attached to a project. Since capital and other investible resources are scarce in underdeveloped countries, it can maximize output by using them on a project so that its benefit-cost ratio is higher than that of the next alternative project.

The above formula does not take into account the 'time horizon' of the project. As a matter of fact, future benefits and costs cannot be treated at par with present benefits and costs. Therefore, the appraisal rules for project evaluation require discounting of future benefits and costs because society prefers the present to the future. For this purpose economists have devised a number of decision rules or criteria.

17.9.2 THE NET PRESENT VALUE CRITERION

It is an important criterion used for project evaluation. Net Present value (NPV) is equal to the present value of benefits minus the present value of operating and maintenance costs minus initial outlay. This criterion is also expressed as the net present value of benefits criterion so that Net Present Value of Benefits= Gross Present Value of Benefits-Gross Present Value of Costs. A project is socially profitable if the NPVB>0. If there are a number of mutually exclusive projects, the project with the highest net present value at benefits will he chosen.

But the explanation of the NPV criterion in terms of benefits and costs is not a correct method for project evaluation because it neglects the time horizon. Capital investments give benefits after a Lapse of so time. Therefore, future benefits and costs cannot be equated with present benefits and costs. Since society gives preference to the present over the future, it becomes essential discount future benefits and Costs of projects. The discount factor is expressed as

$$D = \frac{1}{(1+i)^t}$$

Where i is the social discount rate and t is the time period.

Thus

$$NPV = \frac{B_1}{(1+i)} + \frac{B_2}{(1+i)^2} + \ldots\ldots\ldots + \frac{B_n}{(1+i)^n} - \frac{C_1}{(1+i)} + \frac{C_2}{(1+i)^2} + \ldots\ldots\ldots + \frac{C_n}{(1+i)^n}$$

where B1, B2… Bn, are series of gross present benefits in years 1, 2.……n: C1, C2…….Cn are series of gross present costs in years 1, 2......n; i is the social rate of discount for annual compounding.

In making a choice among projects either of the two rules may he followed.

1. Only those projects should be selected in which the present value of benefits exceeds the present value of costs, Where symbolically

$$\frac{B_1}{(1+i)} + \frac{B_2}{(1+i)^2} + \ldots\ldots\ldots + \frac{B_n}{(1+i)^n} > \frac{C_1}{(1+i)} + \frac{C_2}{(1+i)^2} + \ldots\ldots\ldots + \frac{C_n}{(1+i)^n}$$

2. All projects where the ratio of the present value of benefits to the present value of costs is greater than one. Expressed symbolically

$$\frac{B_1}{(1+i)} + \frac{B_2}{(1+i)^2} + \dots\dots\dots + \frac{B_n}{(1+i)^n}$$

$$\frac{C_1}{(1+i)} + \frac{C_2}{(1+i)^2} + \dots\dots\dots + \frac{C_n}{(1+i)^n}$$

NPV criterion is considered as the most appropriate rule for project evaluation.

17.9.3 THE INTERNAL RATE OF RETURN CRITERION

This criterion refers to the percentage rate of return implicit in the flows of benefits and costs of projects. Marglin defines the internal rate of return (IRR) as the discount rate at which the present value of return minus costs is zero. The formula for the calculation of IRR is

$$\frac{B_1\text{-}C_1}{(1+r)} + \frac{B_2\text{-}C_2}{(1+r)^2} + \dots\dots + \frac{B_n\text{-}C_n}{(1+r)^n} = 0$$

where *r* is the internal rate of return. In the case of mutually exclusive projects that project should be selected which has the highest rate of return.

But this criterion has certain limitations.

First, once a rate of return is assumed for the calculation of the profitability of a project, it is not possible to change it.

Secondly, it is difficult to calculate the rate of return on a long gestation project which does not yield benefits for a number of years.

Thirdly, if projects are mutually extensive, this criterion favours that project which has a lower capital cost that others. Thus it cannot be 'applied to highly capital-intensive projects.

Fourth, the use of IRR for public investment does not lead to correct decisions because the definition of IRR implies that intermediate receipts and outlays are also discounted at the internal rate. But it is not possible to discount intermediate benefits and costs of public investment it the internal rate of return.

Fifth, there are often such projects on which the entire investment outlay cannot be made in the first period. It becomes difficult to calculate IRR in all such cases.

Sixth, the IRR criterion is suitable for such investment projects which are wholly independent of others. The different projects can then be ranked according to their internal rates of return and the project with the highest IRR is chosen first and the other projects with lower IRR are selected according to their ranks. But the fact is that public investments are not independent of each other. Often they are alternatives. Therefore, it is difficult to make a choice between two alternative investments on the basis of their alternative internal rates of return.

Seventh, Layard points out the problem of capital rationing where projects cannot be selected on the basis of ranking in order of rate of return. Such projects can only be selected on the basis of their net present value.

In fact, IRR depends on the social rate of discount. If the net present values of two alternative projects are given, the choice of the project will depend on the discount rate. This is illustrated in Figure 17.2 where the rate of discount is measured along the horizontal axis and NPV on the vertical axis. The curve AA' depicts investment of project A and the curve BB' of the project B. The IRR of project B is higher than that of project A because the discount rate Or is higher than Or'. At Or2, the IRR of both the projects is equal. But if the discount rate falls below Or2 project A will he chosen because it NPV is higher by ba. Making a choice between two projects on the basis of changes in the discount rate is called switching and reswitching.

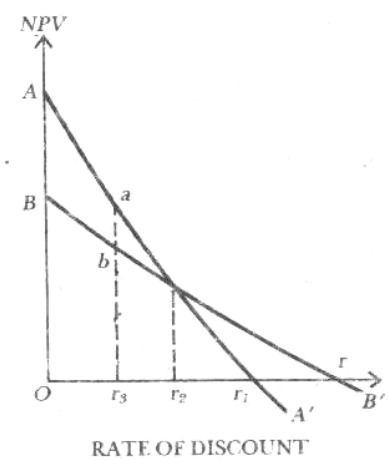

Fig. 17.3

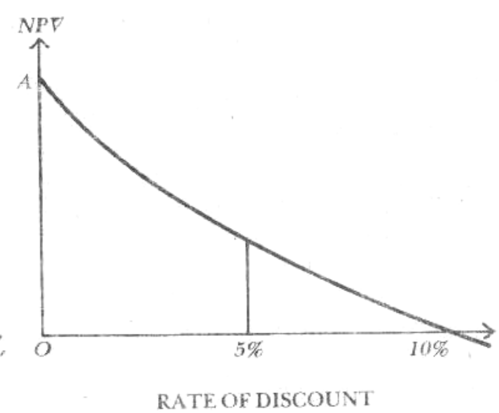

Fig. 17.4

17.9.4 RELATION BETWEEN NPV AND IRR

The relation between NPV and IRR is depicted in figure 17.4. As NPV falls, the discount rate increases and a situation arises when NPV becomes negative. The rate at which NPV changes from positive to negative is the IRR. That project will be selected whose IRR is higher than its discount rate. So the right criterion for the choice of a project is r>i. This is illustrated in Figure 17.4 where IRR is taken a 10 percent and discount rate as 5 percent in the case of project A. This project will be selected for development so long as its NPV >0 and r (10%)> i (5%). If two projects are complex, these two criteria can give different results. But for the majority of projects, they are interchangeable. However, difficulties arise when two or more projects have to be compared and their lengths of life and capital investments differ. Of the two criteria, NPV is more commonly used for project evaluation in private and public sectors. But the NPV criterion is technically superior, since the IRR can give an incorrect in special circumstances.

17.9.5 THE SOCIAL RATE OR DISCOUNT

Whether the planners use the NPV or IRR criterion, a rate of discount is needed for discounting all costs and benefits. There is considerable controversy over the choice of such a rate. The controversy arises because the discount rate is required to solve two problems: first, proper allocation of resources between the public and private sectors; and second the allocation of resources between the provision of present and future goods and services. The rate used to solve the second problem is called the social discount rate or social time preference rate.

The social discount rate is premium which the society puts for preferring the present consumption to future consumption. This is explained in terms of figure 17.5 where the present consumption C_1 is taken on the horizontal axis and the future consumption C_2 on the vertical axis.

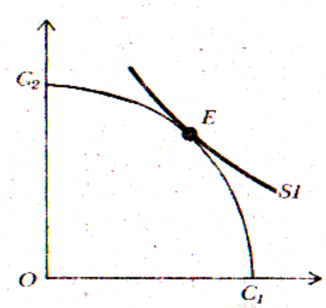

Figure 17.5

C_1C_2 is the transformation frontier or the investment possibility curve. It consists of a series of projects arranged from right to left in order of their rate of return-the cost is the sacrifice of present consumption and the return is the gain of consumption in the future. The society will choose from the various investment possibilities so as to reach its highest social indifference curve SI. The society reaches an optimal position with regard to its sacrifice or present con rind invests it for gain in the future consumption when its transformation curve C_1C_2 equals its social indifference curve SI at point E. It is to be noted that the slope of the transformation curve represents the rate of return on investment and the social indifference curve represents the rate of time preference. So the social discount rate is determined with the equality if the rate of return on investment and the rate of time preference at point E.

The social rate of discount is a constant rate over time. The choice of a discount rate affects the projects to he undertaken. "A discount rate of 5 per cent might well lead to twice as much investment as one of 10 per cent, together with equivalent reduction in consumption."

Pigou, followed by Dobb, regards the use of social time preference rate as pure myopia." He alleges that people are victims of defective telescopic faculty that is why they prefer present consumption to future consumption. They have risk-of-death time preference. Pigou and Dobb reject this view on the ground that society a continuous entity and it has a collective responsibility for future generations. So they favour a zero social time preference rate because the present arid future should have equal weights in the estimation of the society.

But economists do not accept Pigou-Dobb view. According to Marglin this view is an "authoritarian rejection of individual preferences." Sen and Eckstein point out that a rational fear of death is sufficient for people to have a positive social time preference rate.

Hirschleifer and others use the concept of Social opportunity cost to measure the social discount rate. "The social opportunity cost is a measure of the value to society of the next best alternative use to which funds employed in the public project might otherwise have been put". The next best alternative use of funds is investment in the private sector. If they earn a rate of 6 per cent, the public investment must also earn a rate of 6 per cent or more. Thus the social discount rate is 6 per cent. Any other rate than this would lead to malallocation of resources. If a public project earns 4 per cent, it should not be undertaken.

The social opportunity cost method of calculating the social discount rate is not free from certain limitations. To depend on the estimates of the private sector is misleading because different industries adopt different methods for estimating their rates of return. Thus it is difficult to find a rate of return which may measure the social opportunity cost of funds. According to Feldstein, the social opportunity cost depends on the sources of particular funds, it must also reflect the social time preference function. He, therefore, suggests a method of combining the two. The procedure is to allow for the social opportunity cost of funds directly by placing a shadow price on the funds used in the project and to make all intertemporal comparisons with a social time performance rate.

Marglin and other economists have argued tot a synthetic discount rate. They move on this presumption that the social time preference rate is less than the social opportunity cost rate. Therefore, there will be under investment in the economy which requires a synthetic discount rate for public investment. The synthetic discount rate is some weighted average of the social time preference rate and the social opportunity cost rate.

Baumol does not agree with Marglin that there should be a synthesis of the two rates. He regards the choice of rates as indertiminate because of the existence of risk and institutional barriers which will prevent the two rates to be in equilibrium. On the other hand, Pearce suggests that the correct answer to the choice of a social discount rate does not lie in the selection of a single rate, but in the use of both the social time preference and the social opportunity cost rates according to (a) the type of benefits yielded, and (b) the type of forgone expenditure. In Figure 17.5, the social time preference rate is in equilibrium with the social opportunity cost rate at point E. Pearce concludes that it will not matter which rate is chosen. If equilibrium conditions pce the necessity for the estimation of a synthetic discount rate disappears.

17.9.5(A) EVALUATION ON THE BASIS OF BENEFITS.

A project is evaluated on the basis of the benefits accruing from it.Benefits refer to the addition to the flow of national output accruing from a project. A project is beneficial to the extent it tends to increase the income of the people, increase in income being measured by the actual increase in production and consumption. Benefits may be real or nominal and direct or in direct.

Real Benefits. In cost-benefit analysis we are concerned with the real benefits rather than with the nominal benefits flowing from a project. A river valte project may increase irrigational facilities to the cultivators, but if at the same time the state levies heavy betterment levy on them, the benefit is nominal. For, whatever benefit accrues from the project it goes to the treasury. But if the same project, besides increasing irrigational facilities, raises the productivity of land per acre and leads to a number of other external economies whereby the level of real income of the farmers rises, then it is said to lead to real benefits.

Direct and Indirect Benefits. Direct benefits are those benefits which are immediately and directly obtainable from a project. They are the values of the immediate products and services for which direct costs are incurred. A number of direct and immediate benefits flow from a multipurpose river valley project such as flood control, irrigation, and navigation facilities, the development of fisheries, power, etc. A multipurpose project may also lead to certain indirect benefits or side-effects. Indirect or secondaiy benefits are the values added to the direct benefits as a result of the activities stemming from or induced by the project. For instance, the construction of the Bhakra Nanga Project has provided employment opportunities to thousands of people. It has led to the construction of a new railway line connecting Nangal township and the Bhakra Dam with the rest of the country. New roads have been laid. A new town, Nangal, has come up. A fertilizer factory has been started there which is the harbinger of more factories The Bhakra Nangal Dam has been developed into a tourist-resort, thereby augmenting income. Besides, as pointed out by Professor Bruton, project evaluation should take into account the effects of a project on the rate of investment, on the growth rate of population, on the acquisition of skills and managerial talents by the people. All these are indirect benefits or side-effects which are more or less incidental to the direct benefits.

Tangible and Intangible Benefits. A project may also lead to tangible or intangible benefits. Tangible benefits are those which can be computed and measured in terms of money white intangible benefits cannot be measured in monetary terms. for example, benefits flowing from the Bhakra-Nangal Project are tangible and can be computed. Intangible benefits enter into individual valuations, for which there is neither a market nor a price. They may be positive or negative. The former are the scenic beauty and recreational value of the Bhakra Dam while the latter refer to the uprooting of the people as a result of the Dam.

17.9.5 (B) EVALUATION ON THE BASIS OF COSTS.

Just as there are various forms of benefits, so there are various types of costs.

Project Costs. They are the value of the resources used in constructing, maintaining and operating the project. They relate to the cost of labour, capital, intermediate goods, natural resources, foreign exchange. etc. including allowances for induced adverse effects.

Associated Costs. They are the value of goods and services needed beyond those included in the cost of a project to make the immediate products or services of the project available for use or sale. For example, the farmer's cost of producing the irrigated crop, other than any charge for water, would be his associated costs of producing that crop.

Real and Nominal Costs. Costs may be real or nominal. If a block Samiti borrows from the people of the area for digging a canal, it is a case of nominal costs. For no real sacrifice is involved on the part of the people, money having been transferred to the Block Samiti from the people. But if the people of the block are asked to dig the canal themselves, it would be real cost for them.

Primary or Direct Costs. In cost-benefit analysis, we are concerned more with primary or direct costs. These are costs properly incurred for the construction, maintenance and execution of a project. And to make immediate products of the project available for use or sale.

Indirect or Secondary Costs. They are the value of goods and services incurred to provide indirect benefits of a project, viz., houses, school, hospital, etc., for the people working at the project site. They also indude the costs of processing the immediate products of the project.

17.9.5 (C) IMPORTANCE OF DATA FOR EVALUATION.

In project evaluation detailed data extending over a long period are required which may be divided into "an investment or gestation period' and "an operation or production period." The project is completed in the first period and is used in the second period when production starts. The data describe the number of workers and other personnel involved, the amount of raw materials required and the quantity of the products expected to be produced, etc. These data are compared with similar projects elsewhere in terms of their costs and benefits. The data are also used to calculate the contribution of the project to national output, to the employment of labour, and to the health of the workers.

17.10 LIMITATIONS OF COST-BENEFIT ANALYSIS

However, limitations arise in cost-benefit analysis of measuring the present and future benefits from a project and costs incurred in obtaining these benefits.

1. Difficulties in Cost-Assessment. Cost assessment of project is however comparatively easy than benefit assessment. Cost estimates are made on the basis of the choice of techniques, locations and prices of factor services used. But market prices, particularly those of factors of production, from an imperfect guide to resource allocation in underdeveloped economies, because there exist fundamental disequilibria which are reflected in the existence of massive underemployment at present level of wages; the deficiency of funds at prevailing interest rates and the shortage of more exchange at current rates of exchange. The equilibrium level of wage rates will be considerably lower than market wages, while equilibrium interest rates will probably be much higher than market rates. To remove these difficulties, the use of "shadow" or "accounting" prices has been suggested by J. Tinbergen and H.B. Chenery and K.S. Kretchmer. These "shadow prices" reflect intrinsic values of factors of production. Like shadow prices, the concept of "shadow costs" has also been introduced to calculate the real costs of a particular project to society. Nowadays economists use shadow prices and costs in evaluating projects and determining which are worth undertaking and which are not.

2. Difficulties in Benefit Assessment. The assessment of benefits is, however, still more difficult due to the presence of the element of uncertainty in a new project as to the correct estimation of future price, demand and supply of its product. Another difficulty of measuring the benefit is the assessment of external economies. If the presence of external economies leads to the selling of the product at marginal costs rather than at average costs, a deficit will accrue. Efforts to cover this deficit through a levy on the consumer or the government budget make the assessment of benefits more vague.

3. Arbitrary Discount Rate. The assumed social rate of discount for any project is likely to be arbitrary. If an arbitrarily large discount rate is applied to calculate the net present value of benefits, it is not possible to effectively calculate the long-run results of a project. This equally applies to the internal rate of return of a project.

4. Neglects Joint Benefits and Costs. The above analysis of cost benefit ignores the problems of joint benefits and joint costs arising from a project. We have seen above that a number of direct and indirect benefits flow from a river valley project. It is difficult to evaluate and calculate such benefits separately. Similarly, they involve joint costs which cannot be separated and hence, calculated benefit-wise.

5. Ignores Opportunity Costs. The cost-benefit analysis also ignores the problem of opportunity cost. Griffin and Enos have found a way out when they state that if all prices reflected opportunity costs, all projects for which B/C< 1 would be chosen.

6. Adjustment for Risk and Uncertainty. The problem of adjustment for risk and uncertainty involved in the project also arises. This is done in three way at the time of calculating the length of project life, the discount rate, and by making due allowance in benefits and costs. It is better to use the Government borrowing rate. The Research Programme Committee of the Indian Planning Commission suggests 5 per cent as the productivity rate and 10 per cent as capital scarcity rate.

7. The Problem of Externalities. The side effects of a project are difficult to calculate in this analysis. There may be technological and pecuniary spill overs (or externalities) of a river valley project, such as the effects of flood control measures or a storage dam on the productivity of land at other places in the vicinity. It is difficult 1t calculate such external effects of a project.

17.11 USE OF COST-BENEFIT IN DEVELOPING COUNTRIES

The cost-benefit analysis was developed in the United States for the appraisal of investments in irrigation and transportation projects. In LDCs, projects are often selected on an adhoc basis and sufficient attention is not given to their evaluation in terms of costs and benefits. Since all public projects are related to the objectives of growth, they aim at maximizing social welfare. Stephen Marglin points toward three merits of cost-benefit analysis for such countries.

First, it helps in reducing differences in the marginal effectiveness of alternative measures for accomplishing such objectives as between irrigation and other means of raising agricultural production.

Second, it helps in assessing the costs of fulfilling one objective in terms of benefits sacrificed with respect to others.

Third, it has a political advantage in that, "it would be difficult for any particular group to distort project plans to serve its own interests if its consent, along with the consent of other relevant sections of the community, were obtained at the time of setting the criteria in advance of planning specific projects."

Again, the cost-benefit analysis is "a practical way of assessing the desirability of projects, where it is important to take a long view (in the sense of looking at repercussions in the future, as well as the nearer future) and a wide view (in the sense of allowing for side effects of many kinds on many persons, industries, regions, etc.)." As such, it is a high useful tool for project evaluation in developing countries.

Despite these merits, the use of cost-benefit analysis is best w a number of difficulties in LDCs. They are discussed below. -

(a) Based on Conditions of Developed Countries. This technique is based on the basic assumption that investment is made in a framework at economic stability and steady growth in a predominantly, capitalist competitive economy where prices are constant, wages are flexible, and factors arc perfectly mobile and fully employed. Thus the need for state action is assumed away in it. Under the assumptions, direct benefits of the project valued at market prices reflect its social benefits. But these assumptions make the application of cost-benefit analysis as a method of project evaluation unrealistic to underdeveloped countries. In such economies the assumptions of constancy of prices, the existence of full employment, perfect mobility of factors and flexibility of wages are unwarranted. Rather the aim of public investment is to start those development projects which aim at reducing unemployment, and underemployment and increasing factor mobility so that structural disequilibrium in the economy is set right. Though efforts have been made to modify this analysis by including indirect benefits accruing from a project and imputing benefits and costs in terms of shadow prices, yet there is arbitrariness in choosing between the various indirect benefits. Eckstein and Mckean, therefore, favour the use of macroeconomic planning methods instead of the cost-benefit technique for the evaluation of projects. But these methods cannot be applied to under developed countries due to the lack of statistical data.

(b) Difficulty of Obtaining Data. In underdeveloped countries the task of obtaining data are one of the biggest hurdles. It is, therefore, not possible to distinguish the benefits accruing to the people with and without the project. The element of uncertainty and the difficulties of assessing externalities as noticed above, also stand in the way of correct assessment of benefits from a project. In certain cases both tangible and intangible benefits are difficult to assess. To what extent the supply of drinking water will benefit the residents of a town from a drinking water project or the building of an embankment to control floods cannot be measured accurately.

(c) Difficulties in Cost Assessment. Assessing the cost of a project is by no means easy either. Preliminary estimates of costs are prepared but they are either overestimated or underestimated. Rise in prices, shortage of raw materials and foreign exchange difficulties often stand in the way of accurate cost assessment In the case of certain projects where Shramdan (voluntary labour) is made use of, the measurement of labour cost becomes still more difficult. In India, so many projects have been started hastily that it is not possible to assess their viability.

17.12 USE OF COST-BENEFIT ANALYSIS IN INDIA

The first systematic attempt in India was made by D.R. Gadgil by conducting a survey of the Godavari and Pravara canal systems in Maharashtra. This was followed by a study of the benefits and costs of the Hirakund Dam Project on the Mahanadi by Sovani and Nilkanth Rath. In 1958, the Planning Commission Research Programmes Committee headed by D.R. Gadgil initiated the study of the benefit cost ratios of six irrigation projects: (i) The Sarda Canal in UP; (ii) The Tribani Canal in Bihar; (iii) The Damodar Canal in West Bengal; (iv) The Gang Canal in Rajasthan; (v) The Cauvery Methur Project in Tamil Nadu; and (vi) The Nizam Sagar Project in Andhra Pradesh. Similar surveys had been conducted by Baljit Singh for the Sarda Canal Project in UP, by K.N. Raj "for the Bhakra Nangal Project in Punjab, by A.S. Charan ' the West Banas

Project in Rajasthan and by Ram Narain of the Jui Lift Irrigation Project in Haryana.

But there is no uniformity in the application of cost-benefit techniques in these studies. These studies have been made either on the basis of the 'before and after' technique or the with and without technique. The before and after technique takes into account the benefits and costs before the introduction of the projects and compares the same with the benefits and costs that have resulted after the introduction of the project. The with and without technique makes a comparative study of the same area being benefited with irrigation facilities and without such facilities.

17.13 SHADOW PRICES

17.13.1 INTRODUCTION OF SHADOW PRICES

In underdeveloped countries, for the purpose of evaluating a public project market prices provide incorrect signals and hence they require effective correction because they do not correspond to their intrinsic values. In order to overcome this problem, Jan Tinbergen, the chief exponent of this known view, has asserted that the corrected prices are better suited for evaluation of the social worth of the project, because they correspond to intrinsic values of the goods and services in question. By intrinsic prices he meant the price that would equate the supply and demand of goods and services, if complete equilibrium existed. Jan Tinbergen's notion of equilibrium pre-supposes the existence of a perfect national market. Without this assumption, prices of good cannot be equal to their intrinsic values. As a matter of fact, shadow prices prevail in a perfectly competitive economy.

17.13.2 MEANING AND DEFINITION OF SHADOW PRICES

The term shadow prices has been used in connections at different times and hence its meaning is not always the same. In simple words, shadow prices are those which would bring about the equilibrium between the supply of and demand for a factor of production. Shadow prices reflect intrinsic values for factors or products. Jan Tinbergen defined shadow prices for the first time in 1954 in the Folk win words: "Shadow prices are prices indicating the intrinsic or true value a factor or product in the sense of equilibrium prices. These prices may be different for different time periods as well as geographically separate areas and various occupations (in the case of labour). They may deviate from market prices." Again in 1958, Jan Tinbergen defined shadow prices as "intrinsic values that would prevail if: (a) the investment pattern under discussion were actually carried out; and (b) equilibrium existed on the markets just mentioned (i.e., labour, capital and foreign exchange markets." The other major definitions of shadow prices are as follows

(1) According to A. Quayyam, "Shadow prices are the values of marginal productivity of factors when a selection of techniques has been made which produces the maximum possible volume of the output, given the availability of resources, the pattern of final demand the technological possibilities of production."

(2) K J. Mishan, gives the simplest definition in these words, A shadow or accounting price is the price the economist attributes to a good (goods) or a factor on the argument that it is more appropriate for the purpose of economic calculation than the existing price if any."

17.13.3 METHODS OF CALCULATING SHADOW PRICES OR DETERMINATION OF SHADOW PRICES

The main two methods of calculating shadow prices are as follows:

1. General Equilibrium Method. In the general equilibrium method, equilibrium is established among all factors by taking their final demand and supply. For this, the data relating to the different sectors of the economy are collected and the accounting price of every factor is expressed in algebraic symbols, and added up for the whole economy. A number of simultaneous equations are required to be solved for which correct and adequate data are 'not available. Since the shadow price is the price which would prevail if prices were equilibrium prices, the existence of full equilibrium is essential for the establishment of an equilibrium price for every fact or of production. The evaluation at shadow prices can he done in two ways: one by trial and error, and two, by a systematic method. If the method of trial and error is adopted the evaluation at accounting prices may be based on arbitrary values for products, factors and foreign exchange, calculating the priority figures for all investment project and finding out whether equilibrium has been attained in the markets or not. If this method of a systematic method is required which consists "in introducing algebraic symbols for each of accounting prices, trying to express supplementary demand for the factors and supply of the products concerned, and then equating total demand to total supply.' But the existence of full equilibrium situation for the entire economy is not realistic because in order to find out the equilibrium prices, the knowledge of total demand and supply curves and the production and consumption functions underlying them is essential. These functions depend upon the varied social institutions. So the determination of accounting or shadow prices through the general equilibrium method is a difficult affair.

(II) Partial Equilibrium Method. Partial equilibrium method is a simple correct, realistic and popular method of determining shadow prices. Under this method, shadow prices of capital, labour and foreign exchange are determined separately. They may be discussed as under:

(1) Determination of the Shadow Price of Capital. Capital is an essential factor of production. However, in underdeveloped countries it is a scarce factor of production because almost all of them are suffering from the problem of scarcity of the capital. To determine the shadow price of capital, it is essential to study the factors which influence the supply and demand of capital. However, in underdeveloped countries, the knowledge of these factors is imperfect. Further, there is little relationship between the supply of capital and the rate of interest prevailing in such economies. There is wide disparity between the prevailing interest rates in different parts of the underdeveloped countries. As such, the shadow rate of interest can be estimated on the basis of interest rates paid by private investors. But while doing so, it is essential to make allowance or allow discount on different types of loans on account of differences in risks involved. In this connection U.N. Manual of Economic Development Projects lays down the following formula for determining shadow price of capital:

Social returns on capital used in the sector =

$$\frac{\text{Value of output - cost of materials, depreciation labour}}{\text{Investment}}$$

In the above formula, social returns on capital used in each sector are determined on the basis of estimated shadow prices of labour, foreign exchange and other materials used. The determination of social returns on capital can be quite useful in selecting projects. For the initial programme, those sectors are selected in which the returns on capital is the highest, making some allowance for the diversity of projects within each sector. However, this formula is full of difficulties. For example, it is difficult to determine the rate of interest for the whole economy when projects of higher and lower intensity are started and shadow rate of interest is double index number ambiguiously.

To overcome the above difficulties, appropriate formula for determining shadow rating is given for the economy :

R= G/ 1Py

Sp+ Sw

Py

where R = Shadow rate of interest.

C = The growth rate.

Sp = The saving rate of profit.

Py= The share of profit in the total income.

Sw = The saving rate of wage earners.

(2) Determination of Shadow Price of Labour. The determination of shadow price of labour is a difficult task because workers differ in efficiency. There is skilled and unskilled labour. The shadow price of labour cannot be the same for skilled and unskilled labour. Further, there are different categories of skilled labour for which there should be different shadow prices for different categories of skilled labour. As such, while fixing the shadow prices of labour one has to face a number of difficulties. The major difficulties are as follows:

(i) In less developed and over-populated countries, unskilled labour in rural areas is in abundance and its social marginal productivity is almost zero. However, its shadow price cannot be assumed to be zero. It should be positive. Thus, the shadow price of unskilled labour will have to be positive.

(ii) Labour being a human factor cannot be paid a wage which is below the subsistence level. The wage earners tend to consume most or all the wages paid to them.

(iii) All types of labour cannot be supposed to have zero marginal social opportunity cost.

In view of the above difficulties, some leading economists have suggested that the shadow price of labour can be fixed an above zero marginal product of labour, and with the increase in the marginal product of labour, its shadow price can also be increased.

(3) Determination of the Rate of Foreign Exchange. Most of the underdeveloped and developing countries are suffering from balance of payments difficulties. An artificial equilibrium in balance of payments is established by fixing a higher shadow rate of exchange than the official rate of exchange. For example, in India, the market shadow rate of dollar is higher than the official dollar rate. Further it fluctuates from time to time. The demand price of foreign exchange (such as dollar or pound) in these countries is usually higher than the official rate at which the foreign exchange is transacted.

However, it is necessary to maintain the official rate of foreign exchange but the choice of project should be done on the basis of shadow price of foreign exchange. For this purpose, weight is attached to the cost of foreign exchange in a project. Weighing is done on the basis of difference between the shadow price of foreign exchange and its market value. According to Prof I M. D. Little, "Israel is the only developing country in which the accounting price (shadow price) of foreign exchange is estimated in this way." However, it is essential that every project should be weighted equally.

Another method of determining rate of foreign exchange is that the demand and supply of foreign exchange should be calculated where the two equilibrium operates. However, this method too is not workable in developing countries where the foreign exchange requirements differ sectorwise and projectwise. Even single shadow rate of exchange is also not applicable. It will have to be reviewed and raised at different points of tune on the basis of the 'black' and 'free' rate of exchange.

17.13.4 ROLE/NEED/IMPORTANCE/SIGNIFICANCE OF SHADOW PRICES

Shadow prices occupy significant position and thereby play a vital role in the field of planning of developing countries on account of the following factors :

(1) Market prices do not correctly reflect relative scarcities, benefits and costs. It is

because (i) perfect competition is entirely absent; (ii) structural changes do not respond to price changes; (iii) institutional factors distort the existence of equilibrium in product, labour, capital and foreign markets.

(2) In several developing countries there are serious imperfections in the labour market due to (i) lack of mobility of workers; (ii) conflict between skilled and unskilled labour force; and (iii) presence of workers' unions. These imperfections often create difficulties in the determination of wage rates which are considerably different from the marginal product of labour and therefore cost benefit analyst finds them not relevant for project appraisal. In fact, there is the general problem concerning various factor prices determined in imperfect markets. Further, there is specific problem as to wage rates of skilled labour which are two to three times of unskilled labour, and wages rates of unskilled labour which are three to four times of casual labour.

(3) Developing countries are in the grip of vicious circle of poverty.

(4) Price mechanism generally operates imperfectly.

(5) Markets are not in equilibrium due to structural rigidities.

(6) Labour cannot be usefully employed because of the shortage of other cooperant factors.

(7) Disequilibrium persists in the balance of payments which cannot be reflected in official rate of exchange.

(8) Rapid inflation is a common phenomenon in developing countries.

(9) Manipulation of prices in their favour by restricting sales by exporting countries.

(10) Protection and divergence between domestic and world prices.

17.13.5 USEFULNESS/UTILITY/ MERITS OF SHADOW PRICES

As a matter of fact; shadow price can be used for variety of purposes in a planned economy. The main uses of shadow prices are as follows:

(1) Project Evaluation. Shadow prices are of great use in the field of project evaluation. In underdeveloped countries, market mechanism, operates imperfectly due to several economic and social obstacles. Hence project evaluation cannot be undertaken on the basis of market determined prices. Even otherwise, the rise in prices being inevitable during the process of planning, it is not possible to correctly asses the costs and benefits of a project. Therefore, in order to evaluate a project with shadow prices technique we have to compute the total benefits flowing from a project and a total cost incurred on it.

(2) Public Policy. Shadow prices play an important role in the field of public policy. The success of development planning depends upon the correct operation of public policy. Shadow prices are intrinsic prices on whose correct determination depends the success of a plan to a considerable extent. In a mixed economy, the public sector cannot be developed unless the prices of labour, capital, foreign exchange and other inputs are determined in accordance with shadow prices. As such, the State should try to bring market prices dose to shadow prices of products etc.

(3) Programming. Shadow prices play a crucial role in the field of programming. Programming is the working of the economy in a rational, consistent and coordinated manner. Shadow prices can go a long way in helping programming for various objectives. In the context of less developed countries, programming implies the optimum use of investment whereby there is no difficulty in the production process. However, the difficulties of supplies of factors, rise in market prices and the scarcity of foreign exchange are quite apparent in such economies. All such difficulties are easily overcome with the help of shadowed prices, fiscal, monetary, commercial and other policies in bringing the market prices in conformity with their shadow prices and thereby make programming a success.

(4) Optimum Allocation and Utilization of Resources. The main objective of a planned economy is to make optimum allocation and utilization of resources of less developed countries. Shadow prices can assist in providing the basis for drawing up a plan of optimum allocation and utilization of resources. It can prove to be an important instrument in the process of optimum allocation and utilization of resources in the less developed countries.

17.13.6 LIMITATIONS/DIFFICULTIES OF THE SHADOW PRICES

In spite of the above uses of shadow prices in the stated fields, it has got the following difficulties or limitations

(1) **Non-Availability of Adequate and Reliable Structural Data.** The first and foremost difficulty in the process of shadow prices is the non-availability of adequate and reliable structural data his less developed countries. Since most of the people are uneducated and illiterate they neither keep proper accounts nor they understand the significance of structural data- Further, non-availability of adequate and reliable structural data may also lead them to take wrong decisions.

(2) **Non-Evaluation by a Single Authority.** Since all projects are not evaluated by as authority, it is always possible that the same item is assigned different values by the various project evaluations. In the absence of markets, there is no mechanism whereby the marginal evaluators of one set of decision-makers would coincide with the marginal evaluators of others.

(3) **Existence of Full Equilibrium is Arbitrary.** For determining the intrinsic value of a product or factor there must be MI equilibrium in all markets. However, this fact is not true in less developed countries. Such economies are characterized by a number of fundamental disequilibrium's. In this way, the nature of shadow prices is totally false and arbitrary.

(4) **Limited Application In Private Sector.** According to critics, the use of shadow prices is suited to centrally planned socialist countries in which all resources are state owned and planning too is done by the gate. Since the less developed countries have adopted mixed economy in which the state has limited role to play because there is separate planning authority. As such, shadow price method has a limited application because planning authority cannot enforce shadow prices in the private sector.

(5) **Haphazard and Piecemeal Use of Shadow Prices.** As a matter of fact, shadow prices have been in use for some time in cost-benefit analysis. However, they have seldom been used in a systematic manner. To most experts, this is not going to render any useful service in project evaluation. Haphazard and piecemeal use of shadow prices is dangerous, because in that case there is no guarantee that all prices used for project appraisal would appropriately reflect social costs and benefits.

17.14 CONCLUSION

The various investment criteria discussed above are not different in their ultimate objective, that of the maximization of national output. Only the approach routes differ. The different components of national income (consumption saving and investment) are used by economists to maximize the total output by giving more or less importance to one or the other. Some investment criteria aim at maximizing total output at a point of time while others over a period of time. But all criteria are incomplete because they neglect the influence of such factors as population growth, tastes, technical progress, market conditions, distribution of income, price changes, balance of payments and social and cultural conditions on the level of investment in one way or the other. Contrary, they also fail to study the impact of investment on these factors. Even the use of input technique and the concept of shadow prices and costs have failed to solve this problem satisfactorily. But despite these apparent theoretical and practical limitations, the various investment criteria are being increasingly made use of in the programme of resource allocation in almost all the developing countries of world including India. It is, however, essential that they must be in keeping with the social and economic objectives of the developing country.

In order to arrive at the aggregate direct costs and benefits,

first, data are collected and calculated on the physical quantities of goods and services produced; then

secondly, on the physical quantities of goods and services consumed,

thirdly, the money value of these goods and services is computed on the basis of price indices in different markets giving weights to inflationary and deflationary situations.

Lastly, in calculating annual costs, due regard is to be taken of the durability of capital assets and their depreciation. Annual costs are calculated by dividing the total costs by the expected life of capital assets. Similarly, annual benefits are calculated by computing the money value of direct benefits flowing from the projects and deducting from it associated costs of the project.

17.15 SELF ASSESSMENT EXERCISE

Q1. What is meant by Time Series Criterion? Discuss its criticism in economic development?

Q2. Define Reinvestment criterion. Explain the limitations of reinvestment criterion in economic development?

Q3. Briefly explain the social marginal productivity criterion?

Q4. What are the limitations of The Capita Turnover Criterion?

Q5. What is meant by Shadow prices? Discuss its need in developing countries?

Q6. Define Shadow Prices. Explain the methods of determining shadow prices?

Q7. Explain the meaning of shadow prices. Discuss its uses?

Q8. What are the limitations of Shadow Prices?

Q9. Explain the need of shadow prices in a developing country like India?

17.16 FURTHER READINGS

Agarwal R.C : Economics of Development and Planning [Theory and Practice]

Dewett K.K : Modern Economic Theory

Jhingan M.L : The Economics of Development and Planning

Jhingan M.L : Advanced Economic Theory

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Need for Planning and Different types of Planning and Review of Indian Plan Models

STRUCTURE

18.1 Introduction

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- 18.8.8 Direction and Inducement Planning
- 18.8.9 Rolling and Fixed Planning
- 18.8.10 Indicative and Imperative Planning
- 18.8.11 Corrective and Development Planning

18.1 INTRODUCTION OF ECONOMIC PLANNING

The concept of planning is quite old and has been widely used by intellectuals of the society from time to time in different ways and in variety of senses. It is often confused with communism, socialism or economic development. Any type of state intervention in economic affairs has also been treated as planning. However, state can intervene even without making a plan. Now the question arises as to what is meant by planning? Planning is a technique, a means to an end being the realization of certain pre-determined and well defined aims and objectives laid down by a central planning authority. The end may be to achieve economic, social, political, cultural, religious or even military objectives. The days of laissez faire are gone and the issue is not between plan and no plan, it is between different kinds of plans.

18.2 OBJECTIVES

After going through this lesson the students should be able to:

- learn about the meaning of economic planning
- understand the features of Economic Planning
- describe the various types of Planning
- understand the classification Of Planning

18.3 MEANING OF ECONOMIC PLANNING

Economic planning consists of state intervention to control and regulate economic values so as to achieve the goal of socio-economic justice in an economy. Economic planning refers to an activity which is comprised of ends or aims which a society wants to achieve, and the means with which these ends are sought to be achieved. The ends are set by planners, keeping in view the needs of the countries concerned as also the possibilities open to them. The means to attain these ends, too, are described by planners. The ends and means are thus laid down before the action starts or before the plan is put into operation. State is the vehicle through which the operation of the economic plan takes place. The adoption of economic planning in underdeveloped, developing or developed countries in recent years has involved a cat deal of state interference in economic life. Economic planning is essentially a way of organizing and utilizing economic resources to maximum advantage in terms of well-defined socio economic goals.

18.4 DEFINITION OF ECONOMIC PLANNING

The term economic planning has been so widely and loosely used that a definition acceptable to all is difficult to give. Prof W. Arthur Lewis has referred to six different senses in which the term planning is used in economic literature.

Firstly, it refers only to the geographical zoning of factors, residential building, cinemas etc. This is also called town and country planning.

Secondly, planning means only deciding what money the government will spend in future during a given period.

Thirdly, a planned economy is one in which each production unit (or firm) uses only the resources of men, material and equipment allotted to it by quota and disposes off its products exclusively to persons or firms which have been authorized by the central authority.

Fourthly, planning means setting of production targets by the government, whether for private or public enterprise. This type of practice is done only if there are one or two industries or services to which they attach special importance.

Fifthly; planning means fixing the target for the economy as a whole, purporting to allocate the country's labour, foreign exchange, raw material and other resources among the various sections of the society.

Finally the word planning is sometimes used to describe the means which the government tries to enforce upon private enterprise the targets which has been already determined.

Some definitions as given by other leading economists:

1. According to Prof. Robinson, Economic planning is "collective control or supersession of private activities of production and exchange."
2. According to Hayek, "Planning means "the direction of productive activity by a central authority."
3. G. Myrdal defined economic planning as "programme for the strategy of a national government in applying a system of state interference with the play of market forces, thereby conditioning them in such a way as to give an upward push to the social process".
4. According to Dr. Dalton, "Economic planning in the widest sense is the

deliberate direction by persons incharge of large resources of economic activity towards chosen ends."

18.5 CHARACTERISTICS OR FEATURES OF ECONOMIC PLANNING

The main characteristics or features of economic planning can be summarized as follows :

(i) **Definite Aims and Objectives.** The economic planning has deliberate and conscious economic aims and objectives.

(ii) **Central Planning Authority.** There is one single central planning authority, co-ordinating and executing diverse schemes.

(iii) **Comprehensive Planning.** There is comprehensive planning for all the sectors so that planning of one sector may not be nullified by absense of planning in other sectors.

(iv) **Use of All Available Resources.** The economy attempts to use all the available resources most economically and on a well-organized system of priorities, targets and economic objectives.

(v) **Work of Economic Planning.** The work of planning is done by an army of statisticians, scientists and technicians, so much so that the system has come to he known as planning by technocracy.

(vi) **Scope of Economic Planning.** Economic Planning is not only of production but also of distribution: What and how much is to be produced and to whom it is to be distributed

(vii) **Proper Balance.** Another characteristic of economic planning is that there is proper balancing in the plan so that lopsided development may be checked before hand.

18.6 OBJECTIVES OF ECONOMIC PLANNING

In this way, economic planning has multiple objectives which may be summarized as under

(1) Rapid Economic Development. The first and the foremost objective of economic planning is the rapid economic development of an underdeveloped country. The vicious circle of poverty can only be broken by the rapid development in agriculture industry and infrastructures. Generally, the rate of capital formation is low in such economies, followed by low capital output ratio, misallocation and underutilization of natural resources, higher rate of population explosion inflationary trends in prices, unskilled labour force, inefficient and corrupt administration etc. It is thus, through economic planning that an underdeveloped country can break these bottlenecks and in turn increase national income, per capita income and standard of living of the people. That is why India, Pakistan and similar other developing countries have, therefore, given top priority in their recent five-year plans to the faster economic growth of the economy.

(2) Full Employment. Another crucial objective of economic planning that has been widely accepted, is that of full employment. It is obviously a hypothetical stage which is assumed, particularly in the developed economies like U.S.A., U.K. and so on. In a planned economy whether it is developed or underdeveloped, full employment is an inherent character of any economic system and, therefore, it is never enlisted in the objectives of planning. As such, the planned economies in general lay emphasis on employment promotion in the economy, and the objective of employment is, thus, treated essentially as an instrument of production planning.

(3) Post-war Reconstruction. In the post-war period, reconstruction of war-affected economies was one of the main objectives of planning. It may include the following issues

(a) Planning for transformation of war economy to peace economy;

(b) Reconstruction of bombed cities, factories ports, communications and transportation.

(c) Work for economic and social betterment. This objective of planning nowadays acquires merely a historical importance, and it may be placed in planning objectives in the specific conditions when the planned economy has suffered on a large scale from any natural or manual calamity like storm, flood, earthquakes, war and soon.

(4) Economic Security. Some of the planned socialist economies gave much importance to the economic security in their planning. Economic security means the fair wages to labourers, fair profits to the entrepreneurs, fair prices to customers, fair rents to landlords and fair rates of interest to the capita

(5) Poverty Alleviation. The developing economies have two chronic problems—unemployment and poverty. Regional backwardness and inequality in the society are the main reasons of poverty. Both of them are related to each other. If the first is the cause, the latter is the impact. Therefore, the planned developing economies have accepted poverty elimination as one of the main objectives of the planning.

(6) Optimum Utilization of Natural Resources. Another important objective of economic planning is the optimum utilization of natural! resources which are lying underutilized, misutilised, misused and wasted since long. In an underdeveloped and developed economy, concrete action is essential or making the optimum utilization of natural resource in the economic interest of the country.

(7) Promotion of Infrastructural Facilities. There are a number of regions economically backward, particularly in the countryside of underdeveloped in the world. Socio-economic infrastructural facilities widely play very significant role in the development of the backward regions. The promotion of socio economic infrastructural facilities, such as schools, telephone, means o transportation roads, railways, electrification and so on is the prerequisite of economic development of any region. Hence, the majority of economies which are underdeveloped but planned have recently aimed at the promotion of infrastructural facilities in their plans.

(9) Rapid Capital Formation. Another major problem of the underdeveloped and developing countries is the low capital town on account of low saving and thereby low investments. The low savings and low investment are due to mass poverty and economic backwardness. Economic planning is considered an important tool in the hands of the State for raising capital formation.

18.7 TYPES OF PLANNING

There is no watertight classification of planning. Planning, as experienced in different world economics, varies from one economic system to the other, from time to time, and region to region. Thus, same type of planning cannot succeed in every country because socio-economic structures of different countries widely differ from each other. In the words of Prof. Robbins, "The issue is not between a plan and no plan; it is between different kinds of plans." However every plan is accompanied with definite aims and objectives. Hence the success of planning for attaining the desired aims and objects great depends upon the type of planning chosen by the respective country.

18.8 TYPES OR CLASSIFICATION OF PLANNING

Planning may be classified on the basis of economic system, time, scope, regions, finance and output basis etc. as under.

(I) Capitalist and Socialist Planning.

(II) Totalitarian and Democratic Planning.

(Ill) Centralised and Decentralized Planning.

(IV) Functional and Structural Planning.

(V) Perspective, Medium and Short-term Planning.

(VI) Permanent and Emergency Planning.

(VII) Regional National and International Planning.

(VIII) Physical and Financial Planning.

(IX) Direction and Inducement Planning.

(X) Rolling and Fixed Planning.

(XI) Indicative and Imperative Planning.

(XII) Corrective and Development Planning.

(XIII) Comprehensive and Partial Planning

(Xl) Flexible and Rigid Planning.

(XV) Anti-cyclical and Development Planning.

18.8.1 CAPITALIST AND SOCIALIST PLANNING

Capitalist Planning:

Under capitalist planning, though laissez faire principle is abandoned and some sort of planning conies to be associated with capitalism, it should be noted that at the same time most of the fundamental features of capitalism (such as institution of private property, Profit motive, competition, price mechanism etc.) are maintained or modify only to a limited extent. Under capitalism, the planning authority prepares a broad framework of the plan. The plan broadly indicates the objectives and targets of different sectors, and the annual growth rate to he attained within a specified period of time. Whatever the extent of planning under capitalism, it is implemented through price-mechanism which is manipulated through subsidies tax concessions, etc., in such a manner that price-manipulation helps in the attainment of the objectives and targets.

Thus, under capitalist planning the state offers various types of fiscal and monetary incentives to private enterprise units to induce them to take up some particular line of production and refrain from taking certain other lines, the idea being to induce production of those commodities which are conducive to welfare of society. Planning under capitalism is thus planning not by command and direction, but by inducements. Planning under capitalism is planning within the broad capitalist framework. The implementation of the plan is not by command or order or force but by offering various inducements like cheap loans, tax concessions, fiscal and monetary steps, and so on to persuade private enterprise to move along lines broadly indicated in the plan so that primary objectives and targets can be attained.

They are critics who maintain that capitalism is incompatible with planning. This is because planning to be effective does require some degree of compulsion and direction. It is also possible that private enterprise may not adequately respond to various positive and negative inducements offered and therefore the plan objectives and targets may not be fulfilled. Anyway, more and more sophisticated monetary, fiscal and other policies and instruments are being evolved to make planning under capitalism successful. Experience shows that to make planning under capitalism successful. Experience shows that planning under capitalism has been partially successful and has helped to remove certain defects of capitalism and helped it to attain some desirable goals and objectives.

Socialist Planning

As we have seen under socialism (or communism), all factors of production are owned by the state. All productive economic activities are carried on by the enterprises which are established, owned, and managed by the state, under such circumstances, planning process becomes more integrated and effective. Under socialist planning, government formulates the plan and also implements it. This implies that socialist planning is essentially planning by direction and not by inducements only.

In socialist planning, all the economic activities are centrally planned and the economy is directed towards the attainment of certain specific goals and targets.

The fact, that under socialism all factors of production are owned by the state and there only public (or only insignificant private sector) which helps the planning authority to formulate and implement a plan. A socialist economy in which there is absence of the institution of private property, private profit motive, competition and freely fluctuating price-mechanism and in which there is public ownership of all the factors of production and complete control of the state over all the economic activities of the people is in a better position to successfully formulate and implement a plan. As an author has put it, "No country can have much planning with little socialism or much socialism with little planning.

<u>Merits and Demerits</u>

The merits of socialist planning are that under socialism planning can be comprehensive and its implementation effective. But the defect of socialist planning are that the consumers and producers enjoy hardly any personal freedom and they just become tools in the hands oldie state, acting under its command.

But experience has shown that socialism and planning not only are compatible but go hand-in-hand, and that planning has greater chances of success under social than under capitalism.

18.8.2 TOTALITARIAN AND DEMOCRATIC PLANNING

Totalitarian Planning may be defined as economic planning under totalitarian regime of the right (as in the case of Fascist dictatorship of Hitler in Germany and Mussolini in Italy) or if the left (as in the case of dictatorship of Stalin in the USSR). Under totalitarian planning, all authority comes to be concentrated in the hands of one or a small coterie of people who take all important and even minor economic decisions with regard to be formulation and implementation of the country's economic plan. If found necessary, these totalitarian regimes will not hesitate to use repressive and punitive measures while implementing a plan, as for example, heavy punishment in case of failure to realize a specific target within a specified time by an enterprise. It is the concentration of authority that is the fundamental feature of totalitarian economic planning and not whether it is dictatorship of the right or of the left.

Democratic Planning may be defined as an economic plan formulated and implemented in a democratic way. In the case of a democratic country adopting economic planning, it will be observed that there are planning cells, or boards or commissions at different levels which formulate plans for their respective areas, taking into consideration the views of the elected representative bodies in respect of all important economic matters. At each state, the draft plan is debated in elected bodies where opposition parties are free to criticize the plan and suggest amendments or modifications or even an alternative plan. The central planning authority will then try to co-ordinate all the tentative plans coming from lower levels and the final draft of the plan is thrown open for debate in the parliament where elected representatives of the people in the country debate the plan opposition parties can suggest minor changes or even fundamental modifications. It is only after the parliament approves and finalizes the draft plan that the plan is supposed to be ready for implementation.

Democratic planning is essentially a decentralized type of plan in which planning exercises are undertaken at different levels such as village, block, district, state and central levels and there is planning rum below to make it realistic in nature. In India we are still very far Iron his ideal model of decentralized planning, but the Prime Minister has recently emphasized the role of district plans in the future planning set-up of the country, say, during the Ninth Plan Period (1997-2002).

Merits and Demerits. Comparing totalitarian planning with democratic planning we notice the following merits and demerits in each of them:

In the case of totalitarian planning, since a small group of people formulates the plan, plan formulation is easy and expeditiously done; its implementation, because of the use of repressive measures, if need arises, is more effective as the experiences in the USSR, China and some East European countries have shown.

But the demerit of totalitarian planning is that too much power comes to be concentrated in a few hands; any mistake on their part, which is very likely, Will have disastrous effects, Also, since people are not consulted while formulating the plan, plan priorities may not represent the wishes, aspirations and needs of the people and, therefore, the people will not feel that it is their own plan and hence their co-operation in its implementation may not be forthcoming in requisite manner.

18.8.3 CENTRALIZED AND DECENTRALIZED PLANNING

In the case of centralized planning, one centralized planning authority or board or commission is entrusted with the powers of taking all the important economic decisions, such as, decisions regarding rate of saving and amount and pattern of investment, rate of growth of the economy, sectoral allocation of resources, fixation of targets in different industries, and so on. The central planning authority further splits these resources and targets which each region or enterprise is asked to fulfill. Regional planning authorities may be existing and may be consulted; but all the final and vital decisions are taken by the central planning authority.

The central planning authority may ask the regional bodies to implement their part of the national plan; but all the implementation will be done under the direct supervision of the central planning authority. Thus, in lie case of centralized planning which is also known as planning from above, all the powers of taking vital decisions regarding formulation, adaptation and supervision over implementation are entrusted to the central planning authority.

Merits

Since a single and all-powerful planning authority enjoys all powers in respect of formulation and implementation of a plan, centralized planning possesses certain advantage such as, decision-making in regard to planning logical consistency, effective and efficient implementation or execution of the plan, all leading to substantial results as regards achievements of predetermined objectives and targets.

Demerits

But centralized planning also suffers from grave defects, such as, predominance of subjective considerations or even whims and fact of prominent members of the central planning authority, lack of flexibility, non-involvement of people in plan formulation and therefore failure of the plan to represent the real needs and aspirations of the people in general, lack of co-operation of the people in the implementation of the plan and because of the vastness of the task of evolution and implementation involved, inefficiency and therefore failure to attain objectives and targets within specified time limit.

Decentralized Planning. As regards decentralized planning there is not just one all-powerful central planning authority, there are several regional and even lower level planning bodies. These bodies enjoy the power of formulating plans for their own regions taking into consideration local needs, local background, local priorities, and soon. But these regional planning agencies or boards are required to formulate their regional plans within the broad framework of the national plan pre discussed and agreed upon by all parties concerned. This sort of planning is known as planning from below.

Merits. In the case of decentralized planning the advantages arc that there is no concentration of authority in the hands of a small body of persons; hence there is little scope for domination-of such body over planning; since people re involved and consideration is given to different regional and bet! needs and resources, planning from below or decentralized planning becomes more representative of people's needs, aspirations and priorities.

Demerits. But decentralized planning has certain defects. Each region may make excessive demand without reference to nations resource position. This would make pruning of regional plans necessary and here political pressure may exert undue influence with the consequence that some regional plans may suffer unjustifiable cuts while those with political pulls may have bigger regional plans not justified on logical grounds.

18.8.4 FUNCTIONAL AND STRUCTURAL PLANNING

Functional planning is that type of economic planning which aims at improving the functioning of the economy. It aims at improving the efficiency and performance of the economy by pushing up the rate of saving and investment, or improving efficiency of labour or by such other innovations like modernization of industry etc. What is to be noted is that functional planning aims at bringing about all these improvements without fundamentally altering the structure of the economy or without introducing fundamental changes in the institutional pattern or structure of the society. At the most, only minor structural or institutional changes or adjustments necessary to enable the economy to function more efficiently and attain specified targets and objectives within the prescribed time limit, would be brought about.

Structural Planning

By structural planning is meant type of economic planning which aims at achieving the objectives and targets within specific time-limit by improving of the economy, by bringing about some fundamental structural and institutional changes in the economy. These structural and institutional changes in the existing socio economic and political institutional pattern are deemed essential because it is felt that with the existing institutional system or pattern would be very difficult or practical impossible to improve the functioning of the economy and attain the aims and targets of planning within the specified time limit. This structural planning is planning which aims at improving the functioning of the economy by bringing about radical or fundamental change in the existing socio-economic and political institutions.

The concept of structural planning (and by implication, that of functional planning) can best be illustrated by taking the illustration from planning in India. Like other developing countries when India adopted economic planning, it had many feudal socio-economic and political institutions, attitudes and the value-systems. Planning in India had therefore to be both functional and structural. Thus, planning in India aims at improving the functioning of the economy and its efficiency which is very low, by bringing about several radical or fundamental alterations in its social, cultural, economic, and even political institutions prevailing in the country. This should make clear why developing countries in Asia, Africa and Latin America need not only functional planning but also structural planning. In fact in the case of these countries one wonders whether without structural planning, there can be much of functional planning.

18.8.5 PERSPECTIVE MEDIUM AND SHORT TERM PLANNING

Perspective planning refers to long term covering a period of 15 to 20 years or even more. Perspective planning only lays down the broad direction in which the economy and different sectors of the economy are expected to, or should, move and the broad objectives which the economy aims at or should in at attaining in the long run.

From the concept of perspective planning, it follows that such a plan can be drawn only in broad terms and not in details. It also follows that the longer the span of time of a perspective plan, the broader and more vague will be the direction and objectives and less detailed the programme and projects. It should also be clear that as in the modern complex world, many dynamic changes are continually taking place drawing a perspective plan for the country today for the next 15 to 20 year is going to be based on a number of assumptions which may prove invalid and the perspective plan may prove unrealistic and therefore require drastic modification

Medium planning

The perspective plan of 15 to 20 years for operational purpose, comes to be split into several medium-term plans. The medium term plan generally covers a period of five years and is called a five-year plan. But in practice it may be a little less or more than five years

The medium plan enables the planning authority to lay down specific targets in specific sectors and formulate specific policies and pro to attain the targets. Thus India Five Year Plans lay down specific targets in respect of foodgrains and other crops, output of different industries, specific projects (like irrigation projects or factories) to be completed, and so on. Naturally there are more concrete targets in these medium term plans.

Short Term Planning

The respective medium-term plan is further split into annual plans laying down targets in still more specific terms which the economy should achieve at the end of each year. The rationale behind the formulation of annual plan has been that experience in India showed that in the case of a Five Year Plan very little was generally done during the first two or three years of a Five Year Plan and then, execution of projects and expenditure were several projects used to be rushed through during the list two or three years of the Five Year Plan to show that targets were attained in time. This often a resulted in wasteful expenditure and inferior quality of work done or goods produced. In order to avoid this sort of concentration of work and expenditure during the latter part of Five Year Plan, it was found that it would be desirable to break op a Five Year Plan into five annual plans. This resulted in spreading the work to be done in a proper way so that implementation of different projects had to be done at reasonable speed from the beginning of a Five Year Plan to the end of it. It would be observed that the relation between annual plans and a Five Year Plan is much the same as between several Five Year Plans and the perspective plan.

18.8.6 PERMANENT AND EMERGENCY PLANNING

By 'Permanent Planning' is meant economic planning which has been accepted by a country on ideological grounds as in the case of the USSR and other communist countries, or even some of the democratic countries, where all political parties appear to have agreed on acceptance of some sort of economic planning to attain certain socio-economic objectives. In the case of permanent planning, planning comes to be accepted as the most satisfactory way of managing the nation's economy so that economic planning becomes a permanent way of managing the economy and part and parcel of the philosophy and way of life of the community.

Emergency Planning

Emergency planning means planning which comes to be adopted for a temporary or short period because of the force of circumstances like war, or a severe drought or depression creating an emergency situation in a country. It is possible that the country has no faith in planning or in fact is opposed to economic planning on ideological grounds: but the force of circumstances is such that for a temporary period of emergency the country is forced to adopt some sort of planning.

18.8.7 PHYSICAL AND FINANCIAL PLANNING

Physical planning means planning based on the physical resources like men and material of a country. For Indian planners, "Physical Planning is an attempt to work out the implications of the development efforts in terms of factor allocations and product yields so as to maximize incomes and employment.

Physical planning requires proper evaluation of relations between investment and output. In socialist countries which have acquired considerable experience in economic planning investment coefficient are computed on a regular basis. These coefficients are quite useful for physical planning, because they not only indicate the amount of investment required for obtaining a certain increase in the output of product, but they also tell us the composition of that investment in terms of inputs which will be needed to get that output. This enables planners to balance the planned increase in output of various products with the amount of investment and inputs required. Further, physical planning involves balancing of the various sectors and sub-sector, of the economy, because the output of one sector of the economy often serves as input for doing production in other sectors. For this kind of physical planning now planners generally rely on the technique of input-output analysis.

In physical planning, an overall assessment of the available real resources like raw-materials, man-power etc and how these have to be obtained so that bottleneck may not appear during the functioning of the plan. Physical planning requires the fixation of physical targets with regard to agricultural and industrial production, trade, transport, socio-economic services consumption levels and in respect of employment, income and investment levels of the economy. There must he proper balancing in the various targets set in the plan. Further, physical planning has to be reviewed as an overall long-term planning rather than a short—term piecemeal planning.

Financial Planning

Finance is the life-blood of all economic activities. It is the main key to economic planning. Financial planning implies the arranging of financial resources to meet the development expenditure of the plan without the stipulated financial resources, the successful economic planning is almost an impossibility. Financial planning is essential in order to remove maladjustments between supplies and demand and for calculating costs and the benefits of the various projects. According to Indian Planning Commission, 'The essence of financial planning is a ensure that demands and supplies are matched in a manner which exploits physical potentialities as fully as possible without major and unplanned changes in the price structure.

18.8.8 DIRECTION AND INDUCEMENT PLANNING

Planning by direction is found in a socialist economy like that of the Soviet Russia (the then USSR). There is one Central Authority, which formulates plans, directs and executes them in order to achieve the predetermined goals of planning for the entire economy. Prof Oscar Lange states, "With regard to the socialist sector, the national plan represents a binding directive. The targets of national plan and its financial provisions represent orders to be carried out of the various ministries and the enterprises controlled by them. These are duty bound to carry out the directives of the plan. The planning by direction, particularly in socialist countries, has been considered most significant in view of attaining the vast objectives in a planned economy. Planning by direction relates to a bureaucratic and totalitarian outlook."

Demerits. The main drawbacks or demerits of planning by direction are as follows

(i) Planning by direction relates to a bureaucratic and totalitarian outlook. The rationing and price-control are the main shortcomings of planning by direction that may lead to the corruption and nepotism on a large scale.

(ii) The consumers sovereignty in such planning is always lacking and people have no right to spend their incomes and on consume gods according to their choice and taste.

(iii) The planning by direction is always inelastic and inflexible.

Planning by Inducement

The planning by inducement is a democratic type of planning which relies on persuasion and not on compulsion. It is always applied in a free and democratic economy where the State Control and regulations are liberal und there is freedom of enterprise, freedom of consumption and production. The public in such economies is likely to work under monetary and fiscal measures. The various institutions bear their own responsibility to carry out their plans of development. The planning authority tends to induce the savings and the amount of investment on the one hand and to discourage consumption on the other, through a taxation and monetary policy under the planning by inducement.

Demerits.

(i) The incentives offered may not be adequate both for the producers and the consumers.

(ii) Monetary and fiscal measures alone are inadequate to induce planned development ui the economy.

(iii) Planning by inducement is not conducive to the requirement of less developed countries.

18.8.9 ROLLING AND FIXED PLANNING

Prof Myrdal was the first economist who advocated a rolling plan for the developing countries in his book 'Indian Economic Planning in its Broader Setting'. In India, it was introduced in 1962 for purposes of defence after die Chinese aggression. It had a great success in making the country almost self-sufficient in the manufacture of sophisticated arms and ammunitions, frigates and aircraft and helped to prepare it in facing Pakistan twice.

In a rolling plan, every year three new plans are framed and acted upon. Firstly, there is a plan for the current year which includes the annual budget and the foreign exchange budget. Secondly, there is a plan for a number of years, say three, four or live. It is changed every year in accordance with the requirements of the economy. Thirdly, a perspective plan for to, for 10, 15 or 20 or even more years is presented every year in which the broader goals are mentioned and the outlines of future development are forecasted. The annual one year plan is fitted into the same year's three four or five year plan and both are framed in the light of the perspective plan. In short, in the rolling plan the plan of the earlier year provides the basis for the subsequent plan. The basic idea for planning is only to renew the medium-term plan every subsequent year but the number of years remains the same as the plan rolled forward through time.

Fixed Planning

Fixed planning, as the name indicates, is a plan for fixed period, say 5,6 or 7 years. A fixed plan lays down definite aims and objectives which are to be achieved during the specific plan period. In this connection physical targets arc fixed along with the total outlay of the plan.

18.8.10 INDICATIVE AND IMPERATIVE PLANNING

Indicative planning is practiced in capitalist countries as also in a number of mixed economies. This type of planning is flexible and imperative. Indicative planning has been in use in France since the Moonet Plan of 1947-50. In the French system of planning, the public sector comprises basic sectors like steel, coal, fertilizers, transportation, farm machinery etc. Besides the public sector, there is also private sector which works side by side with the public sector The private sector works freely and thus it is neither rigidly controlled nor directed by the state to fulfil the targets and priorities of the plan.

In indicative planning, there is need for evolving coordination between economic units which are in private hands. According to Andrew Shoufield, one may classify coordination in terms of the following three approaches— (i) the forecasting approach, (ii) the policy approach, and (iii) the corporate approach. In the forecasting approach, individuals or groups in the economy are provided with the requisite information in the form of forecasts or projections into the future, along with a specified/ desirable future which is sought to be achieved. This acts as a guide to their decision making process and provides a secure basis as against the uncertainties to which units in these economics are subject. In the case of policy approach, coordination is enacted through the use of policy variables. Finally, the corporate approach, practiced in France, envisages the coordination function of indicative planning at two levels. At one level it seeks coordination of the behaviour of the economic groups (like business enterprises) which hold market power. At another level it coordinates the relations between private and public activities.

Imperative Planning

Under imperative planning the plan is formulated by the central authority and all economic activities and resources of the economy operate under the direction of the state. There is complete control over the factors of production by the state. The entire resources of the country are used to maximise the production so as to achieve the targets laid down by the plan. Production of commodities is done in accordance to the state policies. The consumers get commodities in fixed quantities at fixed prices. The commodities are rationed. There is no consumer sovereignty such planning. Imperative planning is in operation in communist countries like Russia and China.

18.8.11 CORRECTIVE AND DEVELOPMENT PLANNING

A collective planning, as the name also indicates, is one in which the state plans adopts various fiscal, monetary and direct control measures in order to rectify maladjustments that arise in a capitalist economy.

Development Planning

Development planning as the name also indicates, is meant to develop the economy of a country as a whole. It involves the application of a rational system of choices among feasible courses of investment and other development actions. It relies to a large extent on the market mechanism. Under development planning, the state formulates a development plan for the whole economy of a country. The private sector is considered as an active partner in the development effort of the economy. The state does not use force on the private sector to get the plan implemented. Rather, it provides various incentives through monetary, fiscal and direct control measures. Development planning is primarily related to the development activities of underdeveloped countries.

18.8.12 COMPREHENSIVE AND PARTIAL PLANNING

Comprehensive planning as the name indicates, is the general planning covering all the major issues for the whole economy of the country. It is the overall planning of the country. This type of planning includes all economic aspects of the count integrated in an organized way. It also covers the entire resource allocation and overall pattern of the country's economy. Economic planning of India, Russia and China and other socialist countries (with the exception of Yugoslavia) is based on comprehensive planning. In short, comprehensive planning covers all the aspects of the economy.

Partial planning is contrary to comprehensive planning. In partial planning the state attempts to plan only the important sectors of the economy, such as, agriculture industry, investment, transport etc. It is also possible that the state might plan only particular aspect of the various branches economic activity.

18.8.13 FLEXIBLE AND RIGID PLANNING

Flexible planning, as the name indicates, operates within the wider limits of the growth forecast for the whole system and deals with a limited number of targets, usually established per branch rather than per firm and allowing considerable freedom of action. In flexible planning, there is flexibility of adjustments, readjustments in targets, output and resource. This type of planning is dynamic. In the light of the changed circumstances, planning can be modified and amended. Thus, there is wide scope of revision in flexible planning. For example, India Second Five Year Plan was more flexible as compared to First Five Year Flair.

Rigid planning is contrary to flexible planning. Rigid planning deals with fixed targets which are not subject to change under any circumstances. Strictly speaking, rigid planning is seldom found in the present economic world. Rigid planning is not much suitable for the underdeveloped and developing countries.

18.8.14 ANTI-CYCLICAL AND DEVELOPMENT PLANNING

Anti-cyclical planning, as the name indicates, is the planning against economic cycles. The main objective of anti-cyclical planning is to achieve economic stability or freedom from cyclical fluctuations within the prevailing socio-economic framework. The socio-economic structure is not to be changed in anti-cyclical planning. Policies and measures adopted to achieve plan objectives operate largely through the market mechanism. Anti-cyclical planning is also called as 'corrective planning because its objective is to correct certain unfavourable trends in the economy of the country. Anti-cyclical planning is generally limited to developed countries with strong private sectors and well-developed markets.

Development planning, as the name indicates, is meant to develop the economy of a country as a whole. Under development planning, the government formulates a development plan for the whole country. It seeks to explore new employment and development avenues and raise the level of income and output. According to Watersten, 'it involves the application of a rational system of choices among feasible courses of investment and other developed actions.

18.9 NEED FOR PLANNING IN UNDERDEVELOPED COUNTRIES

One of the principle objectives of planning in underdeveloped countries is to increase the rate of economic development. In the words of D.R. Gadgil, "Planning for economic development implies external direction or regulation of economic activity by the planning authority which is, in most cases, identified with the government of the state." It means increasing the rate of capital formation by raising the levels of income, saving and investment. But increasing the rate of capital formation in underdeveloped economies is beset with a number of difficulties. People are poverty-ridden, their capacity to save is extremely low due to low levels of income and high propensity to consume. As a result, the rate of investment is low which leads to capital deficiency and low productivity. Low productivity means low income and the vicious circle is complete. This vicious economic circle can only be broken by planned development. Two methods are open to underdeveloped countries. One is planned development by importing capital from abroad which Zweig calls 'supported industrialization,' and the other is by force saving which he characterizes as 'sell-sufficient industrialization.

The rationale for planning arises in such countries to improve and strengthen the market mechanism. The market mechanism works imperfectly in underdeveloped countries because of the ignorance and unfamiliarity with it. A large part, of the economy comprises the non-monetized sector. The product, factor, money and capital markets are not organized properly. Thus the price system exists in only a rudimentary form and fails to bring about adjustments between aggregate demand and supply of goods and services. To remove market imperfections, to mobilize and utilize efficiently the available resources, to determine the amount and composition of investment, and to overcome structural rigidities, the market mechanism is required to be perfected in underdeveloped countries through planning.

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

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

The agricultural and industrial sectors cannot, however, develop in the absence of economic and social overheads. The building of canals, roads, railways, power stations, etc., is indispensable for agricultural and industrial development. So are the training and educational institutions, public health and housing for providing a regular flow of trained and skilled personnel. But private enterprise in underdeveloped countries is not interested in developing the social and economic overheads due to their unprofitability. It is motivated by personal gain rather than by social gain. It, therefore, devolves on the state to create social and economic overheads in a planned way.

Similarly, the expansion of the domestic and foreign trade requires not only the development of the agricultural and industrial sectors along with social and economic overheads but also the existence of financial institutions. Money and capital markets are undeveloped in underdeveloped countries. This factor acts as an obstacle to the growth of industry and trade. There is economic instability generated by international cyclical movements. Such maladjustments can only he removed by the state. It can decide upon the setting up of a central bank and with its help a bill market, commercial banks and other financial institutions throughout the country. It is the planning authority which can control and regulate the domestic and foreign trade in the best interests of the economy.

The planning for development is indispensable for removing the poverty of nations. For raising national and per capita income, for reducing inequalities in income and wealth, for increasing employment opportunities, for all-round rapid development and for maintaining their newly won national independence, planning is the only path open to underdeveloped countries. There is no greater truth than this that the idea of planning took a practical shape in an underdeveloped country and that this is the only hope of the resurgent underdeveloped countries of the world. The rapid development of the USSR, a poor country at the time of the October Revolution, bears testimony to this fact. To sum up in the words of Professor Gadgil, "Planning for economic development is undertaken presumably because the pace of direction of development taking place in the absence of external intervention is not considered to satisfactory and because it is further held that appropriate external intervention will result in increasing considerably the pace of development and directing it properly. Planners seek to bring about a rationalization, and if possible and necessary, some reduction of consumption to evolve and adopt a long-term plan of appropriate investment of capital resources with progressively improved techniques, a programme of training and education through which the competence of labour to make use of capital resources is increased, and a better distribution of the national product so as to attain social security and peace. Planning, therefore, means, in a sense, no more than better organization, consistent and far-seeing organization and comprehensive all-sided organization. Direction, regulations, controls on private activity, and increasing the sphere of public activity, are all pans of organizational effort."

18.10 PLANNING MODEL FOR THE FIRST FIVE YEAR PLAN MODEL

The First Plan had nowhere specified on what model it was based. However, when we examine the estimates of savings, investment, capital output ratio, and the long term objectives along with the short term national income projections, it becomes clear that the underlying model was the Harrod-Domar model, though some modification in it was effected. The Domar equation is represented as

$$\Delta I = \frac{1}{\alpha} = I\sigma$$

Where *I* is the rate of investment in a given period, a the marginal propensity to save, and s the potential social average productivity of investment. In the model, I_o (i.e investment in the initial period) is taken as given and values to s and a are assigned according to what seems feasible. In the First Plan I_o (the rate of investment in 1950-51) was taken as 5 percent of the national income, s was taken as 0.33 and it was assumed that though the value of a could not be raised above 0.20 in the plan period, it could be raised to 0.50 in the subsequent plans. It was also assumed that some foreign saving would be available in the First Plan to supplement the domestic saving. On the basis of these assumptions, the likely rates of investment in subsequent years (and their impact on incomes) were worked out. The modification made in the Harrod-Domar model in the First Plan was that whereas the original model assumed that the average and marginal rates of saving were equal, the First Plan model assumed that the marginal rate of saving was greater than the average rate of saving. The implication of this modification was that with rise in national income, saving rate would increase. Thus with the progress of each plan, the rate of growth would also increase. The main drawback of this model was that it did not pay proper attention to the structural problems of the economy and considered the development process to be a result of the rate of capital formation. Accordingly, it did not take into account the real problems that the economy had to face in the development process.

18.11 PLANNING MODEL FOR SECOND FIVE YEAR PLAN

18.11.1 SINGLE SECTOR MODEL

The architect of the Second Plan Model, Prof. P.C Mahalanobis presented his ideas first in the course of a lecture delivered in 1952 where he used the following mathematical model :

$$Y_t = Y_o (1 + \alpha\beta - \rho)^t$$

Where Y, is per capita net national income in year *t*, α is the rate of net investment,

β is the addition to national product which is generated by a unit of net investment and Where Y, is per capita net national income in year t, α is the rate of net investment, β is the addition to national product which is generated by a unit of net investment and ρ is the rate of increase of population. Assuming α at about 5 per cent, ρ as 1.25 per cent and β as 0.33 (which could be raised to 0.50 through planning) Mahalanobis arrived at the conclusion that for achieving a reasonably high rate of growth (doubling per capita income in say 35 years), it would be sufficient if α (i.e the rate of investment) was stepped upto 10-11 percent of the national income.

18.11.2 THE TWO-SECTOR MODEL

Mahalanobis two-sector model in the significant in the sense that it provides the basis for the construction of his four-sector model for the Second Five Year Plan. His two-sector model is based on the following assumptions:

(i) The economy consists of two sectors -the consumer goods sector and the capital goods sector trade.

(ii) There is no intermediate sector.

(iii) The economy is a closed economy where there is no foreign.

(iv) There is absolute non-transferability of capital equipments, but the product of the capital goods sector may be utilized in either of the sector.

(v) The investment is determine by the supply of capital goods.

(vi) The economy maintains the h capacity of production in both of the consumer goods and the capital goods sectors.

(vi) There is lability in prices.

(viii) It is assumed that investment at any point of time can be broken up into two components, one part going to augment productive capacity in the investment goods sector and the other in the consumption goods sector. The investment I_t is divided into two parts. $\lambda_k I_t$ and $\lambda_c I_t$ where λ_k indicates the proportion going to the capital goods sector and λ_c to the consumption goods sector. It follows that

$$\lambda_k + {}_c = 1$$

If β_k and β_c are the respective capital-output ratios of the two sectors. It follows obviously,

$$I_t - I_{t-1} = \beta_k \lambda_k I_{t-1} \qquad \text{.....(1)}$$

And $$C_t - C_{t-1} = \beta_c \lambda_c I_{t-1} \qquad \text{......(2)}$$

Equation (1) can be solved as follows:

$$I_t = I_o (1+\lambda_k \beta_k)^t \qquad \text{........(3)}$$

Where I_o is the investment in the initial period t=0.

$$I_t - I_o = I_o [(1+\lambda_k \beta_k)^t - 1)] \qquad \text{........(4)}$$

Similarly, from equation (2) it can be deducted that

$$C_t - C_o = \Sigma(C_t - C_{t-1}) = \Sigma\, \lambda_c \beta_c I_{t-1} = \lambda_c \beta_c I_0 + \lambda_c \beta_c I_1 + \ldots\ldots + \lambda_c \beta_c I_{t-1}$$

$$= \lambda_c \beta_c I_0 + \lambda_c \beta_c I_0 (1+\lambda_k \beta_k) + \lambda_c \beta_c I_0 (1+\lambda_k \beta_k)^{t-1} \qquad \text{.......(5)}$$

Adding up (4) and (5) we get

$$(C_t + I_t) - (C_0 + I_0) = \gamma_t \text{-} \gamma_0 = I_0 [(1+\lambda_k \beta_k)^t - 1)] \quad \frac{\beta_c \lambda_c}{\beta_k \lambda_k} + 1$$

If we put $I_0 = \alpha_0 \gamma_0$ where α_0 is a certain constant less than unity, then we have

$$\gamma_t - \gamma_0 = {}_0\gamma_0 \quad \frac{\beta_c \lambda_c + \beta_k \lambda_k}{\beta_k \lambda_k} \quad [(1+\beta_k \lambda_k)^t - 1$$

$$\gamma_t = \gamma_0 \left[1 + \alpha_0 \gamma_0 \left(\frac{\beta_c \lambda_c + \beta_k \lambda_k}{\beta_k \lambda_k} \right) (1+\beta_k \lambda_k)^t - 1) \right] \qquad \text{.......(7)}$$

Now, equation (7) can be interpreted as follows:

The expression $\beta_c \lambda_c + \beta_k \lambda_k / \beta_k \lambda_k$ is the overall capital coefficient and it represents a weighted average of the sectoral coefficient, the weight being equal to the proportions in which investment is divided between the two sectors. Assuming β_k and β_c to be technologically fixed, the equation (7) shows that the rate of income growth would depend on α_0 and h^k If further α_0 is assumed to be a certain constant ratio which characterizes our initial situation, then the only policy instrument that the planner has is λ_k. With one instrument only one target can be obtained. In this case the target that the planner has in mind is obviously the rate of growth. If a high value of λ_k is chosen, then in the beginning the system grows at a somewhat slow rate, while it gains acceleration with the simple passage of time. The reason for this is that a high value of l_k obviously increases the magnitude $(1+\lambda_k \beta_k)^t$ while lowers the value of λ_k while it lowers the value of the weighted capital output ratio $\beta_c\lambda_c+\beta_k\lambda_k / \beta_k\lambda_k$.

Now in the beginning, the reduction in the above ratio brought about by a rise in A may be larger than the increase in the expression $(1+\lambda_k\beta_k)^t$ for small values of *t*. As time passes, however, $(1+\lambda_k\beta_k)^t$ will tend to dominate the whole process of expansion so that a higher value of λ_k could mean higher rate of growth in future. This inputs with a higher value of λ_k the maximum of the function relating income Y to time *t* would take place **latter in time,** provided of course $\beta_k<\beta_c$.

18.11.3 ECONOMIC SIGNIFICANCE OF THE TWO-SECTOR MODEL

In terms of economic reasoning what the fraction λ_k helps to determine is the marginal propensity to invest of the system. This is an interesting point and could be discussed briefly in this context. The reciprocal of the ratio $\lambda_k\beta_k +\lambda_c\beta_c / \lambda_k\beta_k$ is obviously $\lambda_k\beta_k / \lambda_k\beta_k +\lambda_c\beta_c$.

Now, what this ratio indicates is the proportion of the increment in real output that lakes the form of investment goods, since $\lambda_k\beta_k +\lambda_c\beta_c=\beta$ or the aggregate productivity of investment. Since investment equals savings (value of the increment in capital goods production is equal to the amount of income that is not spent on consumer goods), this ratio is the marginal propensity to save. If $\beta_{c=}\beta_k$ then

$$\frac{\lambda_k\beta_k}{\lambda_k\beta_k +\lambda_c\beta_c} =\lambda_k=\text{MPS}$$

Thus if we want to have a higher value of λ_k, the planned marginal rate of savings must also be correspondingly higher.

The above result is somewhat surprising, but a closer look would immediately indicate the main point: if the economy is to grow, some capital is necessary to produce more capital. Professor Evsey Domar had earlier reached the same conclusion after his study of the model of Feldman, a Soviet economist. Feldman had built a model which is surprisingly similar to model as given by Professor Mahalanobis. Prof. Domar observed: "Though exaggerating the rigidities of the real world Feldman's model contains important element of truth a closed economy without well-developed metal, machinery and subsidiary industries (the complex of the so-called heavy industries) is unable to produce a sizable quantity of capital goods and thus to invest a high fraction of its income, however, high its potential saving propensity may be".

18.11.4 THE FOUR-SECTOR MODEL

Prof. Mahalanobis developed his Four-Sector Model in 1955. It was, indeed, an elaboration of his earlier bi-sector model of 1953. His Four-Sector Model formed a basis for preparing the draft plan of India Second Year Plan. The main objective of this model was primarily to take into account the employment generation, particularly the problem of accommodating additional labour force during the Second Five Year Period. In the four-sector model, he divided the entire economy into the following four sectors:

(i) Sector C_1-Factories covering organized consumer goods industries.

(ii) Sector C_2-Small scale household industries sector producing consumer goods.

(iii) Sector C_3-Services producing sector including health, family welfare, education etc.

(iv) Sector K-Investment or capital good sector. Parameters-

1. β^s-$\beta_k,\beta_1,\beta_2,\beta_3$—Output capital ratios of respective sector.
2. θ^s-$\theta_k,\theta_2,\theta_3$—Capital labour ratios in the respective sectors.
3. λ^s-$\lambda_k,\lambda_1,\lambda_2,\lambda_3$—Allocation ratios or investment ratios of each sector.

Furthermore,

A= Investment during the plan period,

N= Increase in overall employment during the plan period.

E= Increase in the average income during the plan period.

This model is employed to solve certain policy problems. He has two basic objectives— a postulated rate of growth of income over a certain period of time and increase in employment over the same period. The allocation problem was represented by the set of equations as under-

$$Y_R+Y_1+Y_2+Y_3 = Y$$

$$N_R+N_1+N_2+N_3 = N$$

$$\lambda_k A+\lambda_1 A+\lambda_2 A+\lambda_3 A = A$$

Where Y,N and A are exogenous variables. Y and *I* are pre-determined by the aggregate H-D model.

$$\frac{Y_k}{\lambda KA} = \frac{\text{Output}}{\text{Capital}}$$

Or $$Y_k=\beta_k\lambda_k A$$

Hence $$\lambda_k A\beta_k+1_1\beta_1 A+\lambda_2\beta_2 A+13\beta_3 A=Y$$

$$\frac{\lambda_k A}{\theta_k}+\frac{\lambda_1 A}{\theta_1}+\frac{\lambda_2 A}{\theta_2}+\frac{\lambda_3 A}{\theta_3}=N$$

Initial income identity is

$$Y_t= C_t+I_t$$

And we know that $I_t-I_0=I_0[(1+\lambda_k\beta_k)^{t-1}]$ …(1)

$$C_t- C_0=\lambda_c\beta_c I_0\left(\frac{(1+\lambda_k\beta_k)^{t-1}}{\lambda_k\beta_k}\right) \qquad \text{…(2)}$$

Adding these two equations

$$(C_t+I_t)- (C_0+I_0)= (Y_t+Y_0)$$

$$Y_t+Y_0= I_0(1+\lambda_k\beta_k)^t-1+\lambda_c\beta_c I_0\left(\frac{(1+\lambda_k\beta_k)^{t-1}}{\lambda_k\beta_k}\right)$$

$$=I_0[(1+\lambda_k\beta_k)^{t-1}]\left(\frac{\lambda_c\beta_c}{\lambda_k\beta_k}+1\right)$$

If we substitute $I_0=\alpha_0 Y_0$ we get

$$Y_t-Y_0= \alpha_0 Y_0\left(\frac{\lambda_c\beta_c + \lambda_k\beta_k}{\lambda_k\beta_k}\right)[(1+\lambda_k\beta_k)^t +1]$$

In terms of economic reasoning what the fraction λ_k helps to determine is the marginal propensity to invest of the system. This is an interesting point and could be discussed briefly.

The ratio $\left(\frac{\lambda_c\beta_c + \lambda_k\beta_k}{\lambda_k\beta_k}\right)$ indicates the proportion of the increment in real output that takes the form of investment goods. Since $\lambda_k\beta_k+\lambda_k\beta_k = \beta$ or the aggregate productivity of investment. Since investment equals savings (value of the increment in capital goods production is equal to the amount of income that is not spent on consumer goods) this ratio is the marginal propensity to save. If $\beta_c=\beta_k=\lambda_k$= MPS

Thus if we want to have a higher value of λ_k the planned marginal rate of savings must also be correspondingly higher.

Feldmen had built a model which is surprisingly similar to Prof. Mahalanobis in economic conception. Prof. Domar observed, "Though exaggerating the rigidities of the real world Feldman's model contains an important element of truth; a closed economy without well developed metal, machinery and subsidiary industries, is unable to produce a sizeable quantity of capital goods and thus to invest a high fraction of its income, however, high its potential saving propensity may be".

$$Y = N_k\theta_k\alpha_k + N_1\theta_1\beta_1 + N_2\theta_2\beta_2 + N_3\theta_3\beta_3$$

To calculate overall increase in national income after the plan period $Y=\Delta Y=Y_0[(1+n)^{5-1}]$

ΔY= Total increase in national income; Y_0 is the initial national income and n= growth rate of national income. In fact MabaIanobis model consists if 11 equations with unknown variables (3 variables x 4 sectors = 12) and it becomes impossible to find out investment, employment and income of each sector that is model become indeterminate. Assuming the value of β_k to be fixed at 20 and assigning plausible values to β_1,β_2,β_3 it was found by mathematical calculation that for keeping pace with fairly rapid increase in income over, say about 30 years it would be desirable that λ_k should have a value between 0.3 and 0.5.

Table 1

Sector	Description of sectors	Parameters	
		[redacted]	[redacted]
k	Basic investment goods sector	.20	20000
C_1	Factory consumer goods	.35	8750
C_2	Small-scale household industries	1.25	2500
C_3	Services including health and education	0.45	3750

Table 2

Sector	Net investment	Incremental income (Rs.million)	Increment employment (million)
k	18500	3700	0.9
C_1	9800	3400	1.1
C_2	11800	14700	4.7
C_3	16000	7200	4.3
	56100	**29000**	**11.0**

Detailed planning from this theoretical background was done on the basis of input-output tables and various sectoral data from which eventually a set of physical targets was worked out.

18.11.5 A CRITICAL STUDY

(1) Investment not a single homogeneous Fund—Prof. Mahalanobis used λ's in a way that tended to suggest that investment is a single, homogeneous fund. **This assumption is valid only if we have one, single type of investment good. With heterogeneous investment goods, this requires the use of an investment matrix. The λ technique can be, however, applied as long as we assure constant relative prices. It cannot be applied to an economy where relative prices are constant.**

(2) An operational model. This model lays down an operational strategy. It emphasizes that conditions of unemployment leading role of capital goods is significant, provided industrialization continues in long run. Mabalanobis obtained the values of unknowns — income and employment from the parameters λ, β and θ. According to Komiya, "It is meaningless to treat β's and θ's as constants and marginal and average figures as equal, when India's intention is to revolutionize her industrial structure and to innovate technologically."

(3) **No attempt to reconcile the model.** In deriving his central proposition a higher λ_k would mean a higher saving rate on the margin-Mahalanobis implicitly ignored the role of foreign trade altogether and assumed that the government was in a position to control consumption completely.

(4) **Proportion of investment arbitary.** Prof. Mahalanobis assumed the value λ_k=1/3 without specifying the reason for it. He simply remarked, "it would not be possible to go beyond this value under present conditions." It can be said that the numerical solution of the model did not point towards any definite welfare function.

(5) **Unnecessarily rigid model.** This model assumed the output capital ratios and the labour-output ratios as given and offering no scope for variation. A.K Sen observed, "If demand is uniquely related to income and/or employment and techniques of production are given, there can only be one rise in income, one rise is employment and one investment in the investment goods sector. As such, target fixation does not arise and income and employment emerge out to be parts of the solution of the system.

The points of criticism noted above are striking enough to the condition that the Mabalanobis model was theoretically and operationally a crude exercise. But at the time of formulation of the Second Plan, there was no better plan frame available for India. It was the first logical system to be applied to plan for a vast country like India, a starting point which could be expanded to take note of many sectors. Despite all the above criticisms it is an admitted fact that Mahalanobis models proved to be an effective instrument in launching the Indian economy on the correct path of development planning during the Second Plan and also headed toward some bold future plans.

18.12 PLANNING MODEL FOR THE THIRD FIVE YEAR PLAN

Although the Third Plan was based on more or less the same model of development as the Second Plan, there was a clearer recognition of the definite limit to the fraction of investment that could be allocated in the capital goods sector inasmuch is the physical composition of investment fund itself determines to a large extent the type of output that could be secured. The range of choice as to what type of capital goods might be produced—for example, whether these would be used to produce consumer goods or to produce further capital goods—would depend a large extent on the type or character of investment goods that could be produced in a given period of time. It was therefore considered important to define the fraction of investment allocated to capital goods sector, not merely in broad terms, but as capital goods which could be used to produce more capital goods. This to a large extent explains the emphasis in the Third Plan on machine building and such other industries as would help the economy to attain the stage of self-generating or self-sustained growth over the next two or three plan periods.

A striking feature of the formulation of the Third Plan was that the achievement of inter-industry consistency was attempted in some details this time. There was a marked shift away from the simple decision models to the multi-sectoral models. This was partly the result of the suggestions Ragnar Frisch had given in the course of his lectures at the Indian Statistical Institute (lSl) and largely due to the simple linear programming model Jan Sandee had constructed during his visit to the ISI in 1957-58. Another analytical improvement incorporated in the Third Plan was the explicit attention paid to foreign trade as a bottleneck, to increasing the rate of foreign aid breaking the bottleneck and on the possible desirability of 'using aid to end aid' so as to reach the stage of self-sustained growth at some foreseeable future date.

18.13 PLANNING MODEL FOR THE FOURTH FIVE YEAR PLAN

The Third Plan had attempted to achieve some inter-sectoral consistency. The method employed was that of commodity balances. The demand for and supplies of the key commodities were sought to be matched through supervised discussions of various committees. In fact Professor W B. Reddaway undertook systematic supply-demand balance exercises for many industries for the year 1965-66, the terminal year of the Third Plan, But soon it was realized that there is need for stating carefully the model underlying the investment allocations so that the vague assumptions which underlie the simple procedure could be given theoretical elegance and scrutiny. Work on models for, the Fourth Plan was in the direction of building multi-sectoral models which could guide the computation work on inter-sectoral balances. Allan Manne and Ashok Rudra built static multi-sector consistency models, while S. Chakravarty, R. Eckaus, L. Lefeber and Kirti Parikh, undertook exercises concerned with explicitly dynamic, multi-sector models. In the literature of planning models given in the context of Indian Planning, it is the latter which has been most discussed and is as a result most detailed.

"This Chakravarty-Eckaus-Lefeber-Parikh (CELP) model is best described as a finite horizon, linear optimization model involving explicit inter-sectoral and inter relationships, which satisfies boundary conditions relating to the initial year as well as to the terminal year of the plan."

Thus the fundamental properties of the CELP model are: -

(i) It formally subsumed the structural features of the preceding models. Therefore, the preceding models became sub-cases of-this more general model

(ii) It provided- an optimal path of development over time which brought economy from the initial situation to the desired terminal situation.

(iii) It distinguished between investment starts, investment in execution and completed investment. As the CELP model was brought to bear on the allocation of resources in the Third Plan, it revealed that the investment figures in the Third Plan presented a serious underestimate. Further, the results pointed to a shift in investment allocation away from the capital goods sectors to the consumer goods sectors (primarily agriculture). This is quite in accordance with the renewed emphasis on the development of agriculture in the fourth plan and the approach paper for the fifth plan.

It goes to the credit of the Indian planners that they have shown immediate awareness of the scope for improvement of the models in their plans. There seems to be at present a gap between the available techniques and those actually being employed. But this gap is likely to persist because of the paucity of suitable data and largely because of the inevitable delay in assimilating theory with practice.

18.14 PLANNING MODEL FOR THE FIFTH YEAR PLAN

The Fifth Five Year Plan was based on the document Technical Note on the Approach to the Fifth Five Year Plan of India 1974-79 prepared by the Perspective Planning Division of the Indian Planning Commission. It was a multi-sector, Modified Open ended static input-output model. It was constructed keeping in view the two main objective—the removal of poverty and attainment of self-sufficiency by the end of Fifth Plan, i.e by 31st March 1979. The following equation was used for the 66-sector input-output model of the Fifth Plan.

$$X^t_i = \sum_{j=1}^{66} aij^t X^t + C^t_i + G^t_i + I^t_i + E^t_i + ST^t_i - M^t_i$$

(i = 1,2,3,……66 sectors)

Where X^t_i = total output at factor cost of sector i in period t.

aij^t= inputs of sector *i* per unit of sector *j* in period *t*.

C^t_i= private consumption of sector *i* in period *t*.

G^t_i= public consumption at factor cost of sector *i* in period *t*.

I^t_i= total investment goods produced by sector *i* in period *t*.

E^t_i= exports at factor cost of sector *i* in period *t*.

ST^t_i= change in stock of sector *i* in period *t*.

M^t_i= imports of sector *i* in period *t*.

The model of the plan was undertaken in view of all technological characteristics of the economy as reflected in the inter-industry relationships. This included the use of an input-output matrix (womb) and an elaborate system of national balances. It was regarded as a macroeconomic 66 sector input-output model followed by a consumption submodel.

Under the model's measurements the exports were assumed exogenously and import substitution was considered for significant sectors to the extent of the production possibilities and capacity utilization within the domestic economy. Public consumption was assumed to accelerate by 10% per annum, while exports by 8.5 per cent per year.

According to the Fifth Plan, out of the aggregate investment 91% was to be financed from domestic resources and rest from foreign aid and foreign debt from different resources. In this way this plan was chiefly dependent upon our own resources. It was because the avenge rate of domestic savings was supposed to rise from 14.4% in 1973-74 to 15.9% in 1978-79. Similarly, the public savings was supposed to rise from 2.5% of GNP to 4.6% in the same period, while the private savings were to reduce from 11.9% to 11.3%.

On the basis of these projections, the annual growth rate was estimated at 43% as against 5.5% both in the Technical note and the Draft Plan. In order to formulate investment and production programmes, the projected growth rates were recognized as physical targets. As regards the independent sectors like coal, crude oil, iron ore and cement, the targets were worked out directly from the sectoral growth rates. In some other sectors, other planning techniques were utilized.

18.15 PLANNING MODEL FOR THE SIXTH PLAN

The Sixth Five Year Plan model was based on the Technical Note of the Sixth

Plan prepared by the Perspective Planning Division of the Planning Commission. The macro-structure of the model has been prepared on 89-sector classification of input-output table. This plan model consists of core models and several sub-models. The sub-models are designed to provide necessary input core models. Core model consists of the following things (1) input-output, (2) investment, (3) private consumption, (4) financial resources, (5) import, (6) employment.

Perspective Planning submodels are taken as under:

(1) Agriculture, (2) Exports, (3) Demography, (4) Autonomous investment. (5) Long-term objectives.

$$X_i = \sum_{j=1}^{89} a_{ij} X_j + C_i + G_i + I_i + E_i + ST_i - M_i$$

X_i = Gross output of sector i

a_i = input-output coefficients

C_i = Private consumption of sector i

G_i = Public consumption of sector i

I_i = Gross investment of sector i

ST_i= Changes in inventories of sector i

M_i = Import of goods and non factor services of sector

This model covers a 15 year period from 1980-81 to 1994-95 in two sub-periods.

This plan model has done a lot to reduce the percentage of population below poverty line to 30 in 1984-35 and to less than 10 by 1994-95. The net increase in employment, measured in standard person at the rate of 3.4 percent per annum against a labour force growth of 14 per cent per annum. The development strategy of the plan finds a change in the existing structure in favour of investment and social consumption. "The rise in the share of domestic capital formation as well as that of public consumption, together with the projected improvement in export implies a decline in the share of public consumption in gross national expenditure. The varying rates of growth in different sectors reflected the changes in the rates of growth of total final and intermediate demand for output of different sectors which were themselves influenced by factors like degree of import dependence, relative changes in composition of final demand, inter industry relationships etc. The rates of growth estimated for different sectors were also expected to bring about a structural change in the economy as reflected in the composition of GDP at factor cost over prospective period."

18.16 PLANNING MODEL FOR THE SEVENTH PLAN

The Seventh Plan's macro and sectoral structures were basically formulated on the Sixth Plan model. The macro structure of the Plan was prepared on the basis of the 89-sector classification of the input-output table which was aggregated into 50 sectors. The rate of domestic savings is assumed to have been increased from 23.3% of GDP in 1984-85 to 24.5% in 1989-90. It also projects the rate of gross investment at 24.5% of GDP in 1984-85 which is assumed to be increased at 25.9% in 1989-90. Sectorwise growth rate of output has been estimated on the basis of these projections. Accordingly, the growth rate in agriculture sector has been estimated at 4% whereas it is estimated at 8.3% in industrial sector, 12% in electricity, gas and water supply, 8% in transport and 6 in other service sectors. The sectoral composition of national income in terms of gross value was also estimated. The contribution of agriculture sector was supposed to be 33% of GDP in the terminal year of the Seventh Plan and that of mining, manufacturing, construction, etc remained to be 34.4 per cent, Thus, the sectorwise contributions of agriculture, industrial and service sectors stood at near 33% each in Gross National Product during the Seventh Plan.

18.17 PLANNING MODEL FOR THE EIGHTH FIVE YEAR PLAN

The Eighth Five Year Model was based on a Technical Note to the English Plan 1992-97 prepared by the perspective planning division of the Planning Commission. The model used the Eighth Plan comprises a core model and a set of inter-linked sub model. The core model of the Eight plan consists of a macro economic model, an input-output model, an investment model and five sub models relating to (i) agriculture (ii) industry (iii) trade (iv) consumption and (v) financial resources.

The macro economic model was a set of structural equations relating to such macro variables as Gross Domestic Product at factor cost, indirect taxes, GDP at market prices, Gross National Product, gross domestic savings, gross fixed investment disposal income, total consumption export of goods and non factor services and import of goods and non factor services.

The investment model was based on a stipulated level of output. It had two components: investment by destination and investment by source or origin. An econometric simulation model was used to estimate investment by destination. The estimated investments by destination were converted into investment by source with the help of a capital co-efficient matrix. These estimates were then included in the input output matrix.

As regards the five sub models, the Technical Note presents a family of five sub models i.e (i) agriculture (ii) industry (iii) trade (iv) consumption and (v) financial resources. The agricultural sub model assesses the production possibilities of agricultural crops for the Eighth Five Year Plan (1992-97) and for the perspective period 1997-2007. The structure of the industry sub model was based on the approach of material since the Third Five Year Plan.

The consumption sub-model estimated the demand for different goods and services for private consumption. It takes into account the growth pattern of the economy postulated in the plan, a projected growth in population and its rural-urban composition and the inequality in consumption distribution. The private consumption is divided into four segments : rural and urban, each into below and above the poverty line, i.e. for poor and non-poor group of population. The financial resources sub-model estimated the availability of domestic resources consistent with the investment requirement to attain the level of output determined by the input-output and investment models. The sub-model assesses the level of domestic savings sectorally as well as in terms of its composition Using econometric estimation procedure.

The Eighth Five fear Plan model also drew a perspective plan covering a period of 15 years from 1991-92 to 2006-07. This long-term development perspective visualized the long-term needs of the society and the directions in which the economy of India should move over a long time horizon. To determine the long-term conditions of economic growth, it analyzed the demographic trends; the basic resource endowment, the entrepreneurial resources and the technology perspective.

18.19 PLANNING MODEL FOR THE NINTH PLAN

The planning model for the Ninth Five Year Plan was primarily based or the Eighth Plan Model. In calculating the parameters of the Ninth Plan, the following assumptions were made:

(I) The base year of the Ninth Plan was taken as 1996-97.

(ii) Calculations too were made at 1996-97 prices.

(iii) Total public investment was determined to achieve deficit target of 4% for the centre during the Ninth Plan period.

(iv) It was assumed that the trends in public and domestic savings would continue in the Ninth Plan also.

(v) ICOR would tend to rise to 4.3% during the Ninth Plan period on account of emphasis on investment in infrastructure.

On the basis of the above parmeters, the Perspective Planning Division of the Planning Commission presented two growth scenarios envisaging (a) projected GDP rate of 6.2% per annum, and (b) accelerated GDP rate at 7% pet annum for the entire Ninth Plan period. However, there was delay of about two years in finalizing the Ninth Plan document and also looting b the 4.8% growth rate of 1997-98 and about 6.6% annul growth rate of 1998-99, the plan model was reviewed and thereby the annual growth rate target was reduced to 63% for the entire plan period (1997-2002) which was thought to be more reasonable and feasible.

The revised and final macro parameters consistent with the targeted GDP annual growth rate of 63% for the Ninth Plan were:

(i) average annual saving rate of 26.1%. (ii) average annual investment rate of 28.2%, (iii) ICOR rate 4.3%, (iv) average annual export growth rate 11S% average annual import growth rate 10.8%, and current account debut rate 2.1%.

The main objectives of the Ninth Plan were Growth with Social Justice and Equity providing basic minimum services such as safe drinking water, primary health care centre, universal primary education, shelter etc. to all. The Ninth Plan model worked the population growth rate of 1.57% and of the labour force 2.85% in the terminal year of the Plan. The employment rate was estimated at 1S%. At the end of the Plan, the per capital household consumption was projected to 4.3% per annum. Further, the Ninth Plan model had estimated the incidence of poverty as 18.61% in rural areas, 16.46% in urban areas and 17.98% for the country as a whole.

In order to achieve above sectoral and overall growth rates of the Ninth Plan, aggregate public outlay was fixed at Rs. 8,59,200 crores for 197-2002 at 1996-97 prices.

18.20 PLANNING MODEL FOR THE TENTH PLAN (2002–2007)

The main objectives of the tenth Five Year Plan of India were:

1. Attain 8% GDP growth per year.
2. Reduction of poverty rate by 5 percentage points by 2007.
3. Providing gainful and high-quality employment at least to the addition to the labor force.
4. Reduction in gender gaps in literacy and wage rates by at least 50% by 2007.
5. 20-point program was introduced.

Target growth: 8.1% Growth achieved: 7.7%

1. Expenditure of 43825 crores for 10th five year plans

18.21 PLANNING MODEL FOR ELEVENTH PLAN (2007–2012)

The eleventh plan had the following objectives:

1. Income & Poverty

Accelerate GDP growth from 8% to 10% and then maintain at 10% in the 12th Plan in order to double per capita income by 2016–17

Increase agricultural GDP growth rate to 4% per year to ensure a broader spread of benefits.

Create 70 million new work opportunities.

Reduce educated unemployment to below 5%.

Raise real wage rate of unskilled workers by 20 percent.

Reduce the headcount ratio of consumption poverty by 10 percentage points.

2. Education

Reduce dropout rates of children from elementary school from 52.2% in 2003–04 to 20% by 2011–12

Develop minimum standards of educational attainment in elementary school, and by regular testing monitor effectiveness of education to ensure quality

Increase literacy rate for persons of age 7 years or above to 85%

Lower gender gap in literacy to 10 percentage point

Increase the percentage of each cohort going to higher education from the present 10% to 15% by the end of the plan.

3. Health

Reduce infant mortality rate to 28 and maternal mortality ratio to 1 per 1000 live births

Reduce Total Fertility Rate to 2.1

Provide clean drinking water for all by 2009 and ensure that there are no slip-backs

Reduce malnutrition among children of age group 0–3 to half its present level

Reduce anaemia among women and girls by 50% by the end of the plan

4. Women and Children

Raise the sex ratio for age group 0–6 to 935 by 2011–12 and to 950 by 2016–17

Ensure that at least 33 percent of the direct and indirect beneficiaries of all government schemes are women and girl children

Ensure that all children enjoy a safe childhood, without any compulsion to work

5. Infrastructure

Ensure electricity connection to all villages and BPL households by 2009 and round-the-clock power.

Ensure all-weather road connection to all habitation with population 1000 and above (500 in hilly and tribal areas) by 2009, and ensure coverage of all significant habitation by 2015.

Connect every village by telephone by November 2007 and provide broadband connectivity to all villages by 2012

Provide homestead sites to all by 2012 and step up the pace of house construction for rural poor to cover all the poor by 2016–17

6. Environment

Increase forest and tree cover by 5 percentage points.

Attain WHO standards of air quality in all major cities by 2011–12.

Treat all urban waste water by 2011–12 to clean river waters.

Increase energy efficiency by 20%

Target growth:8.6% Growth achieved:7.9%

18.22 PLANNING MODEL FOR THE TWELFTH PLAN (2012–2017)

The Twelfth Five-Year Plan of the Government of India has decided for the growth rate at 8.2% but National Development Council (NDC) on 27 Dec 2012 approved 8% growth rate for 12th five-year plan.

With the deteriorating global situation, the Deputy Chairman of the Planning Commission Mr Montek Singh Ahluwalia has said that achieving an average growth rate of 9 per cent in the next five years is not possible. The Final growth target has been set at 8% by the endorsement of plan at the National Development Council meeting held in New Delhi.

"It is not possible to think of an average of 9 per cent (in 12th Plan). I think somewhere between 8 and 8.5 per cent is feasible," Mr Ahluwalia said on the sidelines of a conference of State Planning Boards and departments. The approached paper for the 12th Plan, approved last year, talked about an annual average growth rate of 9 per cent.

"When I say feasible...that will require major effort. If you don't do that, there is no God given right to grow at 8 per cent. I think given that the world economy deteriorated very sharply over the last year...the growth rate in the first year of the

12th Plan (2012-13) is 6.5 to 7 per cent."

He also indicated that soon he would share his views with other members of the Commission to choose a final number (economic growth target) to put before the country's NDC for its approval.

The government intends to reduce poverty by 10 per cent during the 12th Five-Year Plan. Mr Ahluwalia said, "We aim to reduce poverty estimates by 9 per cent annually on a sustainable basis during the Plan period."

Earlier, addressing a conference of State Planning Boards and Planning departments, he said the rate of decline in poverty doubled during the 11th Plan. The commission had said, while using the Tendulkar poverty line, the rate of reduction in the five years between 2004–05 and 2009–10, was about 1.5 percentage points each year, which was twice that when compared to the period between 1993-95 to 2004-05.

18.23 CONCLUSION

Despite these practical and theoretical weaknesses, the Mahalanobis model was instrumental in putting the Indian economy on the right path to development planning with the Second Five Year Plan and paved the way for the subsequent bolder plans.

18.24 SELF ASSESSMENT EXERCISE

Q1. What meant by planning? Discuss briefly the various types of planning?

Q2. Briefly explain the various types of planning?

Q3. Define totalitarian planning and democratic planning- State their malts and demerits?

Q4. Explain physical and financial planning?

Q5. Explain national and international planning?

Q6. Write a short note on the following?

(i) Capitalist Planning;

(ii) Socialist Planning;

Q7. Discuss the main features of the growth models used in different five year plans in India?

Q8. Discuss the Mahalanobis two sector model of economic growth?

Q9. Critically examine the Mahalanobis four sector model of economic growth?

Q10. Explain in brief the planning model for the Second Five Year Plan?

Q11. Discuss in brief the planning model for the Eighth Five Year Plan?

Q12. Who was Mahalanobis? Name his main contribution in Indian Economic Planning?

18.25 FURTHER READINGS

Agarwal R.C. : Economics of Development and Planning [Theory and Practice]

Dewett K.K. : Modern Economic Theory

Jhingan M.L. : The Economics of Development and Planning

Jhingan M.L. : Advanced Economic Theory

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