M.A. Semester –IV
ECONOMICS

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ECONOMICS OF DEVELOPMENT AND PLANNING

Units: 1 to 24

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LESSON 1

ECONOMIC DEVELOPMENT: MEANING AND MEASURMENT

Structure

1.0 Objectives

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

- Understand what is meant by the term Economic Development according to the traditional view and new view.
- Define the term Economic Growth.
- Know about different measures of Economic Growth and Development.
- Understand the meaning of Sustainable Development.
- Explain the millennium development goals (MDG's).

1.1 Introduction

While embarking upon the study of any subject it is always useful to know the precise nature of that subject. Therefore, it will be proper if we start with an attempt at understanding the meaning of economic development, economic growth and sustainable development, and the way these can be measured.

Definitions are usually misleading unless one keeps it in mind that no definition is comprehensive and perfect. Having struck this note of warning we may go about defining the meaning of these concepts used in current literature on the subject.

Economic development and economic growth have been concepts long in use in economic literature, since the time of the classical economists. Their precise measurement has also been attempted, depending on which indices are accepted as correctly portraying these processes. The question of measurement will also be addressed in the present lesson. Finally, you will be introduced to relatively new concepts in development, viz. Sustainable development and Millennium Development goals.

1.2 Meaning of Economic Development

Economic development is of utmost importance to all economies. The world wide depression (1929-33) and the Second World war(1939-44) were the two historic events, that compelled the states all over the world to think seriously about the problems of economic development. Since then governments have started showing keen interest in the problem of economic development. There had been a genuine and earnest desire on the part of the states to the study the problem that encumbers growth and the factors that promote it. The study of economic development is one of the most exciting and challenging branches of broader disciplines of economics and political economy.

Economic Development refers to the process by which per capita income and economic welfare of a country increases over time, it is taken mere, growth plus progressive changes in certain crucial variables which determine the well -being of the people.

1.2.1Traditional view

The Traditional Approach to economic development defines development strictly in economic terms. Foe the exponent of traditional approach economic development implies a sustained annual increase in GNP(or GDP) at rates varying from 5% to 7% or more for an economy whose initial economic condition has been more or less static for a long time.Levels and rates of growth of “real” per capita GNP (i.e. monetary growth of GNP per capita minus the rate of inflation) are typically used to measure in a broad sense the overall economic well-being of a population that is how much of real goods and services are available to the average citizen for consumption and investment.

Economic development in the 1950’s and 1960’s has also been typically seen in terms of the planned alteration of the structure of production and employment that the share of agriculture, decline in both in manufacturing and service industries increases. Development tactics have therefore focused on industrialization at the expense of the agriculture sector. Finally, these principal economic measures of development have often been supplemented by casual references to non-economic social indicators like literacy, social indicators like literacy, schooling, health, housing and services.

On the whole in the pre 1970’s development was seen as an economic phenomenon in which rapid gains in overall and per capita GNP growth would either “trickle down” to the masses in the form of jobs and other economic opportunities or create the necessary conditions for the wider distribution of the economic and social benefits of growth. Problems of poverty , discrimination , unemployment and income distribution were of secondary importance to “getting the growth job done”.

1.2.2 The New Economic view of Development

The experience of 1950’s and 1960’s revealed that a large number of Third world countries achieved the respective growth targets but the level of living of the masses of the people remained for the most part unchanged, this signalled that something was very wrong with this narrow definition of development. An increasing number of economists therefore called for the rejection of the narrow definition of economic development. During the 1970’s the concept of economic development was refined in terms of reduction and

elimination of poverty, inequality and unemployment in the context of a growing economy. In this phase" Redistribution with growth" become the slogan. In the fifth Development Decade (2001-2010), the pledge to assist developing countries out of humanitarian concern has been emphasised .Charles P Kindleberger and Bruce Herrick argued "Economic development is generally defined to include improvements in material welfare, especially for persons with the lowest incomes, the eradication of mass poverty with its correlates of illiteracy, disease and early death, changes in the inputs and outputs that generally include shifts in the underlying structure of production away from agriculture towards industrial activities, the organisation of the economy in such a way that the productive employment is general among the working age population rather than the situation of privileged minority ; and the correspondingly greater participation of broadly based groups in making decisions about the directions, economic and otherwise in which they should move to improve their welfare".

Dudley Seers, in this context, has raised some basic questions about the meaning of development in the right perspective when he 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 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 a 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.

The above mentioned assertion was neither idle speculation nor the description of a hypothetical situation of developing countries experienced relatively high rates of growth of per capita during 1960's and 1970's but showed little or no improvement or even an actual decline in employment, equality and the real incomes of the bottom 40% of their population. By the earlier growth definitions, these countries were "developing". By the recent poverty, equality and employment, they were not. The situation in 1980's and 1990's worsened further as GNP growth rates turned negative for many less developed countries and the governments facing mounting foreign debt problems, were forced to cut back their limited social and economic programs..In the 1990's many high –income countries enjoyed strong economic boom, average income declined in Sub-Saharan Africa and the number living in the region in extreme poverty(at less than $1 per day) rose by some 50 million. This phenomenon reminds the policy makers that 'underdevelopment' is only a question of economics rather than it is a fact of life for over three billion people of the world. The phenomenon of underdevelopment has been portrayed by Denis Goulet.

Underdevelopment is shocking: the squalor, disease, unnecessary deaths, and hopelessness of it all. No man understands if underdevelopment remains for him a mere statistics reflecting low income, poor housing, premature mortality, or underemployment. The most emphatic observer can speak objectively about underdevelopment only after undergoing personally or vicariously the shocks of underdevelopment... chronic poverty are a cruel kind of hell: and one cannot understand how cruel that hell is merely by gazing upon poverty as an object.

Development must, therefore, be conceived of as a multidimensional process involving major changes in social structures, popular attitudes and national institutions as well as the acceleration of economic growth, the reduction of inequality and the eradication of absolute poverty.(Todaro $ Smith)

Exercise 1.1

Question1.Describe briefly the traditional and new approach of economic development. What are the strengths and weaknesses of each approach?

1.3 Definitions of Economic Development and Economic Growth

Take first economic development. Till not long ago, economic development was defined as a process whereby an economy's real national income increases over a long period ,(of Meier and Baldwin, Economic development) .Similarly, Okun and Richardson, in their contribution, "Economic Development: Concepts and Meaning" to the anthology of articles edited by them under the title, Studies in Economic Development, defined economic development as a long run sustained process involving improvement or "progress" While 'improvement' is interpreted as sustained growth in real national income.

Any definition of economic development like the above raises more questions than it answers. For it may be asked whether a process, in which real national income increases proportionately more, such that despite the sustained increase in real national income the per capita real income is falling, will be a process of economic development or, whether a process, in which per capita real income is rising but due to the perverse distributional effects the standards of living of the majority of the, people are falling, is a process of economic development? If the process adds to the capital stock of the economy but brings about no immediate improvement in standards of living, will it be economic development or not?

One particular source of vagueness and confusion in the early post war definitions of economic development was that the writers at that time at least, did not make a distinction between 'economic development' and "economic growth" and more often than not, the two terms were used synonymously. However, in recent times a distinction is seldom made rigorously, nevertheless a sort of differentiation is taking place. In some writings "economic growth" is related to the further development of the mature industrially advanced economies. However, in their work, The Political Economy of Development, the editors N.T. Uphoff and W.F.Ilchman, have identified growth with production and development with productivity. In their opinion, when structure of production remains constant but the output increases basically in consequence of increase in inputs, it is economic growth. Thus growth is a quantitative phenomenon. However, development is a process of changing "the structure so as to raise its productive capacity", and this process involves introduction of new outputs, new sources of inputs, and finding new demands for output or new techniques for converting inputs into outputs, which is essentially a qualitative phenomenon. Development involves change in structure, while growth involves changes in scale.

The above view goes a little too far in establishing a dichotomy between economic development and economic growth, for. In any case, a process of economic development need not exclude changes in scale, although it must involve changes in structure. However, the general consensus among development economists is that economic development is "a process which makes people in general better off by increasing their command over goods and services and by increasing the choices open to them". This makes economic development synonymous with improvement in the standards of living of the masses in the not distant future. The phrase, "in general", in the above quotation implies that if the increase in production is so unevenly distributed that only a small minority benefits from it, then it is not an economic development. This in fact, stresses Dudley Seers, point that a mere sustained increase in real national income is not to be regarded as economic development unless this increase is accompanied by a fall in poverty, unemployment and inequality of distribution. Dudley Seers, in his article," The Meaning of development" (International Development Review dec.1969) observes: "if all three of these (i.e. poverty, unemployment and inequality) have declined from high levels, then beyond doubt this has been a period of development for the country concerned. If one or two 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". It is obvious that if employment does not increase pari passu with increase in GNP or even with per capita GNP, it will add to rather than elevate disguised as well as open unemployment, which in turn will aggravate poverty as well as inequality.

We may then conclude that economic development is a process of economic change which through an increase in productivity as well as in quantum of productive resources, bring about a sustained improvement in the per capita real income of the economy concerned in such a manner that it is also accompanied by a fall in poverty, unemployment and inequality.

It is to be understood that the adjective, "economic" in the phrase, "economic development "refers to the material aspect of the development; nevertheless, this material or economic development is undoubtedly influenced by a number of non-economic, i.e., social, cultural and political factors also. Therefore, a stud of economic development and its processes cannot afford to exclude the study of such non-economic factors that directly or indirectly influence the process of economic development.

The emphasis on economic development is likely to give the impression that economic development is desirable because it is believed to promote the welfare of the society. But it may not be the case under all circumstances. For example, it may not be so if economic development leads to the deterioration of other highly valued aspects of life. This problem arises especially at relatively high stages of economic development. The current discussion of subjects like "cost of growth", environmental pollution, which is acquiring importance day by day is testimony to the growing realisation that economic development may not indicate an unqualified increase in social welfare under all circumstances.

Exercise 1.2

Question 1 Describe briefly the various definitions of the term development.

1.4 Measurement of economic growth and development

Although, as noted above, a distinction is made between growth and economic development, yet when it comes to a discussion of their measurement, the two are treated identically. There are certain quantitative indices which are used to measure economic growth or economic development and these are discussed below.

The most common measure of economic development and economic growth is GNP in real terms. if there is a sustained rising trend in the GNP of a country in real terms, it is generally concluded that the country is developing economically, and the size of GNP may also give a rough idea of the level of economic development. But this measure is rather crude and may prove to be deceptive and misleading. In the first place, it does not make allowance for depreciation, and secondly it turns a blind eye to increase in population. If population increases proportionately more than increase in GNP per captia GNP would be falling, and such a situation can not be identified with development or growth.

In view of the above said deficiency of GNP as a measure of development, it is suggested that per capita net national product (NNP) is a better measure of it, for it make allowances for both, depreciation as well as growth of population. However, the general opinion among economists at present is that economic development should most reasonably be taken to mean a rise in total NNP as well as in per capita real NNP. But it should be kept in view that even a rise in economic welfare, if leisure is to be treated just like other goods and services influencing the economic welfare of the people. If the increase in per capita income takes place at the cost of leisure, whatever the rising per capita income may tell us about the apparent development; it will not reflect the welfare position of the society. On the other hand, when increase in per capita income is accompanied by the shortening of the working day, economic welfare would be greater than that indicated by the apparent level of development as a reflected in the per capita income.

Because of the problem of allowing for leisure, an index of output per man – hour, rather than output per head, may serve as a more reasonable measure of economic development. Another factor, on account of which per capita real income and the total NNP may not serve as a good measure of development, is that it suppresses the loss involved in the depletion of natural irreproducible resources. People of a country must give some preferences to the conservation of resources as well as environment for future generations. Depletion of resources should be regarded as a negative factor and the debit side in any assessment of the economic development of the country.

There is another difficulty too. If the increase in NNP is accompanied only or mainly by an increase in capital goods, per capita consumption may not rise; it may even fall –in spite of the rising per capita NNP. Will per capita NNP be a good measure of development in this case? Some economists are inclined to measure economic development in terms of living standards which depend upon quantity and quality of consumption. Since, while spelling out

the meaning of development, we had underlined the importance of diminishing poverty as a criterion of economic development, it may be tempting to conclude that an increase in per capita NNP as such without an increase in the quantity and quality of per capita current consumption should not be regarded as a measure of economic development. However, this view of the matter would be rather too extreme and unbalanced. As we emphasized while defining the meaning of economic development, increase in productivity, as distinct from production, is the differentiating characteristic of economic development, although as emphasized by Dudley Seers, it cannot be totally separated from improvement in standard of living as a criterion of development. As a compromise it may be suggested that rising per capita, NNP may be taken as a rough measure of development if it is understood that it will lead to improvement in the standards of living in "the not too distant future".

Distribution of the fruits of development is thus a factor complicating the problem of measuring economic development on the basis of crude per capita NNP statistic. As emphasized by Dudley Seers, a rise in per capita NNP without a fall in inequality is not true development. A number of oil rich Arab countries like Kuwait or Saudi Arabia have a high per capita NNP but they are not regarded as economically developed countries because of the persistent highly skewed income distribution .Distribution is no doubt critical in measuring economic development , but the difficulty is that it is not possible to determine a "satisfactory" distribution. Anyway, it is more or less certain that a given increase in per capita NNP, which is accompanied by a fall in inequality of distribution, will indicate a higher level of broad –based development as compared to the same increase in per capita income unaccompanied by a fall in inequality of distribution.

In spite of the above deficiencies of per capita income as a measure of development, it is, at present, the most commonly used measure of changes in the level of economic development of nations.

It is, sometimes, suggested that economic development can be accessed on the basis of the relative abundance or scarcity of capital per head of population. It is argued that the greater is the abundance of capital per head of population; the lower will be the marginal productivity of capital. Therefore, low marginal productivity of capital can be used as an index of the level of development and high marginal productivity of capital can be regarded as an indicator of under development or low level of development. However this is not a reliable measure. Marginal productivity of capital can be low in underdeveloped economies due to factors like bad government, lack of maximum necessary infrastructure, unreliable quality of co-operant factors, and so on. On the other hand, marginal productivity of capital may be high rather than low in a developed country like U.S.A. due to favourable factors like high quality of complementary factors, superior technology and large accessible markets and so on. As a matter of fact low capital stock per head of population may be the cause of underdevelopment showing a casual rather than a definitional relationship. But, per capita output or income, in as much as it is a reflection of the level of economic development, does express a definitional relationship. Therefore, per capita NNP despite its various drawbacks referred to above, is a better measure of economic development.

Even when it is accepted that NNP, total and per capita, is the best available single measure of economic development, further difficulties arise in measuring precisely NNP itself. As Simon Kuznets had pointed out in his article “Some Conceptual Problems of Measurement (Economic Development and Cultural Change, Oct, 1956), these problems arise in connection with (a) Establishing a distinction between economic activity and social life at large. (b) Valuation involving base to which economic activities are to be reduced(c) Problems of neatness and grossness involving the distinction between costs and net return of economic activity.

Economic development is often accompanied by a shift in economic activities of households into the market place (such as washing of clothes earlier by housewives getting done at a higher level of development by the laundries) on account of which long term estimates of national product tend to have an upward bias and thus the rate of economic development tends to be exaggerated, of price weights selected from different parts of a given long period weights selected from different parts of a given long period may yield different development. Moreover indices of NNP over time do not reflect changes in quality deterioration, the common practice of measuring national product a downward bias. As economic development proceeds an increasing use of resources that are on the borderline between the business costs and ultimate consumption, on account of which it becomes difficult to distinguish between intermediate goods and final goods, between costs and net return of economic activity. For example, increasing outlays on professional training, banking and other fees, etc as well as much of public expenditure are of “intermediary” character. But the customary estimates of national product include all these outlays as final products. On account of this there is an “upward bias “in the long term series of national product and, consequently, the rate of economic development tend to be exaggerated.

Yet another difficulty arises from another quarter. Development and under development are, after all, are relative terms. Under- development is very often seen as low per capita incomes of the countries in comparison to that of those generally accepted to the developed countries. This necessitates reducing the estimates of national products of different countries to a common denominator, which can be done only by translating the national estimates of different countries into single common currency. The conversion of the estimates of national incomes of different countries into a common currency is done at the official exchange rates. But these exchange rates, at best, reflect the price relations of only those goods and services which enter into international trade. However, the national currencies, in fact may be overvalued or under-valued. Moreover, these exchange rates do not measure the relative price of goods and services, which do enter international trade. In addition to itself-consumed production is a large component of the national product of the developing countries, while it is relatively insignificant in more or less fully monetize developed economies with high per capita income, Lastly, the national products, especially of the very dissimilar countries, are made up of entirely different goods and services and satisfy equally different needs determined by different climatic conditions and social. Cultural and institutional factors. For example, the income of the Indian that sustains him and his family in India, when converted into dollars, will not provide him with enough food, clothes and shelter to stay alive in U.S.A.

In spite of its various limitations referred above, per capita NNP is still the best single indicator of economic development. But, as far as possible, this measure should be supplemented by other measures too. While dealing with these supplementary measures, however it needs to be kept in mind that they do not strictly represent *economic development.* Rather these tend to measure social welfare, socio-economic development or an aspect of what know is termed as human development. It is thus clear that the concept of development is tending to emerge out of its narrow confines of mere economic development and is a taking a broader more people centred shape and form. One of these supplementary measures is the average expectation of life at birth, which is still only 60 years in low income countries on the average as compared to 78 years in the high income countries. Another measure could be the per capita consumption of energy which in the under-developed countries is at present, the equivalent of 560 kg. Of oil compared to 5400 kg. In the developed countries as a whole. It should be obvious that this wide difference in the levels of industrialization and, therefore, in the levels of economic development. Average adult literacy, for example, is only 49 percent in the least development countries compared with 99 percent in the developed countries. Differences in the level of socio-economic development are also reflected in the quality of diet. Though the differences between the under-developed and developed countries in respect of the intake of calories (2250 and 2920 for the under-developed and developed countries respectively) are not great, there are large differences in respect of the quality of food; meat, fish dairy products, vegetables, eggs and fruits in the diets of developed countries provide nutritious and well-balanced diet, but in under-developed countries the diet is mainly composed of starchy food causing deficiencies of proteins and essential vitamins.

However, the above piecemeal comparisons are less easy to use than the NNP and GNP statistics. This has lead to a number of attempts to find some more satisfactory aggregate measures of economic development. The most notable is that of Beckerman (of. International Comparison of Real Income, 1966) who has used non-monetary indicators such as steel consumption, cement production, the number of letters sent, the stock of radio receiving sets, telephones, motor vehicles, and the consumption of meat as “explanatory variables” to predict real per-capita consumption. Figures produced on this yield rather different comparative estimates of real per capita consumption than statistics of GNP (cf. Beckerman, op.cit; pp. 36-37). Though they do not affect the broad grouping of countries according to their level of development.

Exercise 1.3

Question 1 Explain in brief different measures of economic development.

1.5 Sustainable Development

Over the past few years, “Sustainable Development”, has emerged as the latest development catchphrase. A wide range of non-governmental as well as governmental organisations have embraced it as the new paradigm of development. Sustainable development has become the watchword for international aid agencies, the jargon of development planners, the theme of

conferences, and the slogan of developmental and environmental activists. The recent emphasis on development is a product of the search for alternatives in pursuing human happiness and welfare. Global environmental issues are a matter for growing regions today due to the changing ecological base which may affect them as they seek to exploit the available resources in order to raise their standard of living. The challenge is not so much as to improve the quality of life of the population at the cost of their standard of living (a dilemma being faced particularly by the developed countries) but rather to improve the standard of living in an environmentally sustainable manner. This involves recognition of the fact that attaining a rising amount of goods and services at the cost of depletion and degradation of environment is the underlying factor in the development process.

The emphasis on sustainability suggests that what is needed is a policy effort aimed at making developmental achievements last long into the future. High standards of consumption should not be a nine days wonder only for the present generation. We should use the exhaustible natural resources in such a way that these remain conserved for our children and grand children as well. Thus the process of development should be such that, given the conserved resources for the future to the pace of development can be sustained generation after generation.

According to Winpenny, sustainable development is that process which leaves our total patrimony, including natural environmental assets, intact over a long period. We should be able to bequeath to the future generations the same capital, embodying opportunities for the potential welfare that we currently enjoy. Perhaps the best definition of sustainable development is given by Repetto. For him, sustainable development (SD) is given by development strategy that manages all assets, natural resources and human resources, as well as financial and physical assets, for increasing long-term wealth and well being. Sustainable development as- a goal rejects policies and practices that support current living standards by depleting the productive base, including natural resources and leaves future generations with poorer prospects and greater risks than our own. United Nations Environment Program (UNEP) was at the forefront of the effort to articulate and popularize the concept. UNEP's concept of SD was said to encompass

1) Help for the very poor, because they are left with no options but to destroy their environment;
2) The idea of self-reliant development, within natural resources constraints;
3) The idea of cost-effective development, using non-traditional economic criteria;
4) The great issues of health control, appropriate technology, food self-reliance, clean water and shelter for all; and
5) The notion that people- cantered initiatives are needed.

The statement epitomizes the mixing of goals and means, or more precisely, of fundamental objectives and operational ones, that has burdened much of the SD literature. While providing food, water, good health and shelter have traditionally been the fundamental objectives of most developmental models (including UNEP's), it is not clear whether self-reliance, cost –effectiveness, appropriateness of technology and people

centeredness are traditional objectives or the operational requirements for achieving the traditional ones.

The foregoing view emphasises the need for harmonizing economic development with the preservation of physical environments (like forest, water, soil etc) avoidance of pollution of all types, proper management of urban waste, use of available resources equitably so that even the poor share in the benefits of development using strategies of self-reliance and decentralized decision making so that people enjoy the fruits of development but at the same time also avoid myopic resource depleting production methods.

The above notion of sustainable development primarily focuses on the avoidance of any conflict between economic development and preservation of the environment.

In contrast to the afore mentioned, the currently popular definition of sustainable development is the one adopted by the world commission on environment and development – is development that meets the needs of present generation without compromising the ability of future generations to meet their own needs. This definition emphasises what is called inter generational equity.

The analysis of these definitions reveals that sustainability appears to have been the gulf between the developers and the environmentalists. The notion of sustainability rests most conveniently on the replenish able use of renewable resources. So in agriculture, the farmer showed derived fertility from soil equal to the ability of the soil to supply the nutrition. Similarly, the woods men should remove trees or the forests products at a rate equal to its natural regeneration. The fisher man should catch marine resources in amounts that our equivalent to rare refurbishment.

Natural resources including natural environment, perform too important functions in the process of economic growth, namely providing inputs to production processes and assimilating the waste generated in the process of production. Since our planet earth is unite, close and non- growing there is a natural limit to both these critical functions that is the inputs provisioning and waste assimilating capacities of our planet earth. This means that one cannot go on increasing the production of goods and services using natural resources forever i.e. there are ecological-natural limits to economic growth and hence it cannot be sustained forever. The present environmental crisis is the direct result of the pursuit of the goal of maximization of economic growth exploiting both human and natural resources including environment in an unsustainable manner. Sustainable development requires that, in the process of economic growth, we maintain our natural resources and environment intact so that the future generations can enjoy their benefits and harvest only that much quantity which is regenerated naturally, i.e. will live on the “flows “and keep the “stock” of natural resources and environment intact.

In view of the threats to sustainability of development described in the preceding paragraphs there is an urgent need for us to formulate and implement strategies that will allow us to move from the present , often unsuitable process of growth and development, into sustainable development paths. This will require international cooperation policy changes in all countries, with respect to their own development possibilities.

Exercise 1.4

Question 1 What is meant by sustainable development?

1.6 Millennium Development Goals

In September of the year 2000, leaders of 189 countries met at the United Nations in New York and endorsed the Millennium Declaration, a commitment to work together to build a safer, more prosperous and equitable world. The Declaration was translated into a roadmap setting out eight time-bound and measurable goals to be reached by 2015, known as the Millennium Development Goals. The MDGs are the strongest statement yet of the international commitment to ending global poverty. They acknowledge the multidimensional nature of development and poverty alleviation; an end to poverty requires more than just; increasing incomes of the poor. Although some observers still suspect that MDGs will amount to more than just another UN proclamation of worthy goals, by the first five years review in 2005 , these goals have become central to the way governments, international development agencies, and non government(NGOs) carry out their development efforts. The MDGs have provided a unified focus in development community unlike anything that preceded them.

Table 1.1
Millennium Development goals and Targets for 2015

Goals	Targets
1. Eradicate extreme poverty and hunger	• Reduce by half the proportion of people whose income is less than $1 a day • Achieve full and productive employment and decent work for all, including women and young people • Reduce by half the proportion of people who suffer from hunger
2. Achieve universal primary education	• Ensure that all boys and girls complete a full course of primary schooling
3. Promote gender equality and empower women	• Eliminate gender disparity in primary and secondary education preferably by 2005, and in all levels of education no later than 2015
4. Reduce child mortality	• Reduce by two thirds the mortality of children under five
5. Improve maternal health	• Reduce maternal mortality by three quarters • Achieve universal access to reproductive health
6. Combat HIV/AIDS, malaria and other diseases	• Halt and reverse the spread of HIV/AIDS

	• Achieve, by 2010, universal access to treatment for HIV/AIDS for all those who need it • Halt and reverse the incidence of malaria and other major diseases
7. Ensure environmental sustainability	• Integrate principles of sustainable development into country policies and programmes; reverse the loss of environmental resources • Reduce biodiversity loss, achieving, by 2010, a significant reduction in the rate of loss • Halve the proportion of people without access to safe drinking water and basic sanitation • Improve the lives of at least 100 million slum dwellers by 2020
8. Develop a global partnership for development	• Develop further an open, rule-based, predictable, non-discriminatory trading and financial system • Address special needs of the least developed countries, landlocked countries and small island developing States • Deal comprehensively with developing countries' debt • In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries • In cooperation with the private sector, make available the benefits of new technologies, especially information and communications technologies

Source:- (www.undp.org)

Exercise 1.5

Question1 Do you think Millennium Development goals are realizable?

1.7Summary and Conclusion

Economic development and economic growth has been sort to be defined as well as distinguished from each other. Both processes are perceived in terms of a sustained growth of GNP-NNP per capita. Economic development is typically associated with the developing countries where growth of GNP-NNP per capita is brought about through structural changes which essentially entail improvements in productivity of inputs. Economic growth, on the other hand, is associated with growth of GNP-NNP per capita

in the already developed countries where output expansion is the result of use of more inputs or change in the scale of production.

Economic development and economic growth have been traditionally measured with the help of indices of growth of per capita income/ output in real terms. Although some alternative or supplementary measures too have been suggested, yet economic development and growth continue to be measured predominantly in terms of the rate of growth of real per capita GNP/NNP.

Policy makers and environmentalist have been alarmed by, resource depletion, pollution, rising piles of urban waste etc which are seen as the consequences and therefore, the cost of economic growth and development. In this context, it is emphasised that for sustaining the growth process the nature and content of economic growth will have to be harmonized with the need for resource conservation so that not only are the current needs of output and consumption fulfilled but the development process is sustained over a long period in order to satisfy the requirements of coming generations as well. This is the new concept of sustainable development which emphasises designing of growth process consistent with resource preservation and satisfaction of inter generational equity.

1.8 Glossary

- **Economic Growth**-'Economic growth' refers to increase over time in a country's real output of goods and services- or more appropriately product per capita.
- **Economic Development** –'Economic Development' implies progressive changes in the socio- economic structure of a country. Further, development goals are defined in terms of progressive reduction in unemployment, poverty and inequalities.
- **Sustainable Development** -Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs
- **Millennium development Goals** –The Millennium Development Goals (MDGs) are eight international development goals that were established following the Millennium Summit of the United Nations in 2000, following the adoption of the United Nations Millennium Declaration, which provide a framework for development planning for countries around the world, and time-bound targets by which progress can be measured. The eight MDGs range from halving extreme poverty to halting the spread of HIV/AIDS and providing universal primary education, all by the target date of 2015.
- **Gross National Product**- The total domestic and foreign output claimed by residents of a country. It comprises Gross domestic product (GDP) plus factor incomes accruing to the residents from abroad, less the income earned in the domestic economy accruing to persons abroad.

1.9 Self Assessment Test

Try the following objective type questions to test of you have succeeded in assimilating the contents of this lesson:-

(i) Are economic development and economic growth identically the same concepts? (a) yes (b) No

(ii) Which out of the following two terms is consistent with growth of productivity of inputs?
(a) Economic growth (b) Economic development.

(iii) Which of the following is the true measure of economic growth/ economic development over time?
(a) GNP per capita at current prices
(b) GNP per capita at constant prices
(c) GNP per capita valued in terms of current international ,exchange rates
(iv)Which of the following is consistent with the concept of sustainable development (a) Encourage use of renewable resources of energy in place of the fossil fuels.
(b) Encourage people in India to imitate the life styles prevailing currently in U.S.A
.(c) Elucidate farmers so that they maximise farm output through the use of pesticides and chemical fertilizers.

(v) Have the developed countries evolved production processes such that their standards of living can be sustained generation after generation?
(a) Yes (b) No
(b) Correct answers to above questions: (i) b (ii) b (iii) b (iv) a (v) b

1.10 Suggested Readings

1. Benjain Higgins W.Elkan: *Economic Development*. Ch1 &2.
2. W.Elkan: *An Introduction to Development Economics.* Ch.1.
3. Meier and Baldwin: *Economic Development .Theory History policy*, Ch.1
4. Uphoff and IIchman (ed): *The Political Economy of Development,* pp.87-88 arid 122-129
5. M.P Todaro: *Economic Development in the Third World,* Ch.3.
6. Y.K.Alagh (1991) : *Sustainable Development Techniques for Policy Makers.*
7. M.Sharachchandra: *Sustainable development* Vol .19 No. 6, 1991 pp. 607-621.
8. M.J Manohar Rao and Ninal Asher: “The Wealth of Nations and the Natural Resources Constraint”. *The Indian Economic Journal*, April-June, 2000-01

1.11 Terminal Question

Question 1 Distinguish between the process of economic development and economic growth. Discuss the limitations of the indices used to measure economic growth.

Question 2 Are the process of economic growth and resource conservation really irreconcilable? What are the essential features of sustainable development?

Lesson-2

Economic Development and Structural Change

Structure

2.0 Objectives

After going through this lesson. You will be able to:

- Understand the relationship between economic development and structural change
- Know how innovations as structural change are important for growth of productivity
- Have in-depth knowledge of Nature and Types of Structural Changes
- Gain knowledge about the changes in the production and Occupational Structure of Developing and developed countries.
- Understand urbanization as one of the structural change

2.1 Introduction

You may recollect that, while explaining the meaning of economic development in the first lesson we had made a distinction between economic development and economic growth and this distinction explicitly emphasized that, while growth involves changes in scale, development involved changes in structure. It is this aspect of the process of economic development that we shall take up for study in the present lesson. Here, we shall discuss: (1) how innovations as structural change are important for growth of productivity, (2) what are the types and nature of structural changes, and (3) how economic development and structural changes mutually interact with each other.

There is a sort of dialectical relationship between economic development and structural changes the process of economic development causes structural changes, economic as well as social, and these structural changes, in turn influence the process of economic development itself. One cannot be too sure whether economic development precedes structural changes or follows it. Like all “hen or egg” problems, it is difficult to answer this question. But what is important to remember at the very outset is that both are mutually determined, and furthermore, from the point of view of economic development, only those structural changes are important and relevant, which raise productivity. As Uphoff and Ilchman observe in the. The political

economy of development. “What is important is not the fact of role of structural differentiation but the consequence of it, if any, for productivity.”

Schumpeter’s conception of the process of economic development particularly emphasizes the role of structural change in that process. (cf. His Theory of Economic Development). What Schumpeter refers to as innovation results in changing the structure of an economy in some way or other, which ultimately raises the productivity of the economic system. The discovery and introduction of a new method of producing the old products or new products which can be produced with the present inputs, or entry into new markets, or introduction of a new form of organization, etc. all increase productivity through alteration in the structure of production. “They involve qualitatively different, even discontinuous processes, which should permit new and/ or more needs to be satisfies as a result of the change in structure”.

It should be noted that structural change refers to changes in the pattern of resources possession and uses by persons. If there is only a proportional change in possession and use, it will not change the pattern, but will change only the scale. Supposing investment is doubled in all industries in a given economy it will increase the scale but not the structure, because the mutual relations of the different industries will remain unchanged. As observed in the last lesson, economic development does not exclude changes in scale, but mere changes in scale without any structural changes will represent growth but not development. In fact, growth or scale effects take place when the avenues of increase in productivity caused by structural change have been exhausted. This distinction is important from the point of view of policy, for development policies and strategies should aim at bringing about such structural changes, economic as well as social, which will increase the productivity of the economic system.

The strategic importance of structural change has been highlighted in the histories of the economic development of the now advanced countries like the U.K; the USA and Japan. The enclosure movement in U.K. prior to the industrial revolution ended in a change of structure by changing the pattern of land ownership and land use and thus raising the productivity of agriculture, which, in a way became a basis for the later rapid economic development of U.K. During the period of industrialization too the relative importance of the various sectors arid industries went on changing. Rostow’s conception of the leading sector which goes on changing in the process of economic development particularly embodies the idea that economic development comes about through structural changes. We may further illustrate the strategic importance pi structural change in economic development though a more homely micro-level example of two village communities in the state of Mysore (now Karnataka States). Grey Hunter, relying upon T.S. Epstein study, Economic and Social change in South India (1962) has pointed out in his Modernizing Peasant Societies: A Comparative Study in Asia and Africa (1960), that in one of the two villages of Mysore referred to in Epstein’s study a new irrigation scheme was introduced making the traditional agriculture more profitable, but there was no change in the economic structure of the village community; the prestige and power of the big landlords was only further increased.

But in the other village no irrigation was introduced, but the villagers there established a sugar mill, carted the sugarcane from the neighbouring village,

where irrigation had been introduced, and took jobs in a neighbouring prosperous town. The result was the people in this latter village became more prosperous in new ways through employment in new activities. As Hunter observes, new types of men-not farmers but entrepreneurs-emerged and they changed the structure of economic and political power in the village.

Hunter's study referred to above yields two important conclusions. Firstly, there usually exist reserves of initiative and ability which can be exploited, through some major structural change, even within a traditional economy. Secondly, investment that merely reinforces the existing tradition or structure by making the traditional activity more profitable may bring short-term benefits, but it is likely to freeze the socio-economic situation in ways that will make change more difficult later on. Income gains may be lost in subsequent increase in population, so that no long-run development may result from short-run growth. Hunter observes that " more of the same, without structural change, is not a long term policy by itself", and he defines structural change as a change-in pattern of occupations and in a pattern of social and political relationship.

2.2 Nature and Types of Structural Change

There might be difference of opinion on whether development is a gradual or a sudden, an. "evolutionary" or a "revolutionary", process of structural change, but there cannot be disagreement that either type represents development provided it raises productivity.

It is conceivable that there could "growth without development" (i.e. increase in scale of production) as well as "development without growth" (I.e. change in structure without increases, at least in the short run, in scale). If a change in structure does not enhance productivity, such a structural change will not qualify to be called as development. "This usually refers to investment in some sort of structural change. Although nothing may seem to "happen" for-sometime in consequence of such investment in structural change, but eventually it shows results in increased production. During the second five year plan of India, for example, huge investments were made in heavy industries like steel as well as in laying infrastructure, which did not immediately add to the final output. But this made some change in the existing industrial structure of the country which was then, dominated by light consumer goods industries, and thus added to the productive capacity of the Indian Economy.

There are many factors which influence development, such as markets, resources, infrastructure, organization, entrepreneurship, and investment as well as a host of non-economic factors including social, institutional, political and religious factors. All of these can be instrumental in changing the structure and increasing the productivity so as to realize economic development. The problem is to ascertain whether certain changes in economic, social, or political structures contribute to greater output per head over time and to the lessening of inequality and unemployment and thus promote economic development.

According to Uphoff and Ilchman the structural changes involved in development are of two kinds, the incremental and the innovative. The incremental structural changes results from the extension and integration of markets and from the increase in person's endowments or possessions of the

various factors of production. The innovative structural change is achieved through the establishment or organization of new exchange relationship and through the exercise of entrepreneurship. Promoting these changes will promote development too.

One of the incremental structural changes, which lay the foundations of development, is the integration of markets, which involves the linking up of the local or peripheral markets with national and even international market. When Adam Smith was emphasizing the importance of the “extent of the market” he was in fact, calling attention to the productivity increasing role of this particular structural change and its indispensability for a process of economic development.

However, it should be noted that the “extension” or integration of markets need not ensure economic development under all circumstances. The experience of many a colonial countries shows that, if the partners of an extended exchange are unequal in resources and bargaining power, it can work to the detriment of the weaker partner. The extension of markets, which brought together developed and developing countries as trade partners, has in the past, worked against the development of the latter, limited their development to a sort of “enclave development” because of what Myrdal has described as the “backwash effect”.

The second source of the so-called incremental structural change is increased possession and utilization of resources. Increase in productivity and development in the long run requires increases in the endowment of factors of production. Economic development must involve such a structural change in factor endowments that factors of production are owned and used by a vast majority of its people.

What has been termed as innovative structural change involves, broadly speaking, a change in the structure of resource flows on the one hand and exercise of entrepreneurship on the other. The former involves infrastructure and organization. Infrastructure creates external economies for various sectors of the economy. Organization, on the other hand, facilitates the utilization of resources for a particular group or sector. It is to be noted that only those infrastructures and organizational structures, which increase the flow of resources into more productive uses, contribute to the economic development by raising aggregates productivity.

So far we had been stressing the point that the process of development unfolds itself primarily in the form of changes in economic, social and political structures, and these structural changes contribute to increase in productivity which, in fact, is the motive force of development. That the process of development transforms the structure of an economy can be easily seen by examining the history of development of any of the now fully developed countries and by comparing the structural features of the economy of such a country before and after its industrialization, or by comparing the structural features of any presently developing economy with those of some presently developed economy. Some pioneering studies have been conducted in this area by economists like A.G.B. Fisher, Colin Clark, Simon Kuznets, Chenery and Syrquin etc. You are advised to look up the suggested readings of this lesson for greater details and deeper analysis of this interesting subject.

The studies of these pioneers bring out the following broad structural changes which occur during the process of development.

Exercise 2.1

Question Elucidate the different types of structural changes?

2.3 Changes in the Production and Occupational Structure

It needs to be kept in mind that the structural changes that are being discussed here are associated with only long run process of economic development. Therefore, the longer the period being considered (say .of few decades or even a half or quarter century)the sharper will be such changes to observe.

A basic proposition that emerges from a long run economic development is. A rise in per capita income is associated with a fall in the share of agriculture, but an increase in the share of industry and services, in total national output and aggregate employment. It is clear from this proposition that the long term economic development is associated with major changes in the structure or composition of output (i.e...GNP) and total employment or occupational structure. Let us discuss these twin major changes associated with economic development in some detail below.

In order to study these changes, A.G.B. Fisher had divided all economic activities into three broad categories, viz. primary activities, secondary activities and tertiary activities. These three broadly conform to the more familiar classification of agriculture (including mining, fisheries and forestry, besides agriculture proper), industry (including manufacturing of all types and electricity generation) and services of all types, respectively.

It would be noted that (1) any one country, say India, would be found to have a high share of agriculture or primary activities and a low share of industry and services or secondary and tertiary activities in both its GNP and aggregate employment, at a low per capita income, but as economic development proceeds, the share of the former in GNP and employment would decline and that of latter two would keep on rising; (2) the same would be observed if the composition of output and employment of countries at low level of development is compared with that of the developed countries for a given year. This second case is illustrated with actual data in the following tables:-

Composition of GDP (1995) and Total Employme3nt (1990) of some least developed countries compared to Developed Countries

Countries	% of GDP			% of Total Employment		
	Agriculture	**Industry**	**Services**	**Agriculture**	**Industry**	**Services**
Cambodia	52	14	34	73	8	19
Tanzania	58	17	25	84	5	11
Burundi	58	18	26	9	3	6
Developed Countries	3	31	66	10	33	57

Change in the structure of output and employment is graphically brought out by the data in the above table. The three countries named in the table are among the least developed. Their agriculture accounts for more than half the GDP and between 70-90% of total employment. On the other hand, in the developed countries, agriculture contributes a mere 3% of their GDP and

employs only 10% of their labor force. It is thus clear that the process of economic development transforms an agricultural economy into one which at a high level of development produces predominantly non-agricultural goods and services. With this transformation, its labour force too moves into the industrial and services sectors. The foregoing is usually referred to as the Fisher-Clark-Kuznets thesis which can be stated as follows: The level of per capita income is negatively related to the share of agriculture but positively related to the share of industry and services, in GNP and total employment. This thesis is amply confirmed by the experience of the developed and the developing countries. You can illustrate this thesis with the help of Indian data on GNP and employment for the years 1951 and 2001.

The structure of industrial output itself undergoes a change. In a paper entitled, Chenery Main features of economic growth, S.J.Patel has noted the following change in the structure of industrial output of the developed countries during 1850-1960: (1) heavy industry have developed about 11/2 to 2 times as fast as light industry; (2) the share of heavy industry in the industrial as well as total output continued to rise; (3) the gap between the growth rates of the two sectors tented to close in the later phases of industrialization.

The change in the structure of output is accompanied by a change in the capital structure of the developing economy. In under-developed economies dominated by subsistence agriculture, capital employed per head of population or per worker is rather very low. With the change in the structure of total output in which the share of modern manufactures, particularly of the heavy industry, rises rather rapidly, capital employed per head of population or per worker as well as per unit of output increases. The reason is that industries with higher capital-output ratio grow in importance. Another possible reason might be that as development advances, it might run into shortage of labor and the consequent high wages may induce the inventions of labor-saving and capital-using techniques. This also has the effect of raising the capital-output ratio. However, as development approaches a high level, when the economy arrives at the stage of high mass consumption, the tertiary sector supplying direct services of the consumers may substantially, grow in importance. Since relatively small capital per unit of output is employed in the tertiary sector, may tend-to-lower-the capital-output ratio for the economy as whole another structural change emerges from the past experience of capitalist economic development which shows a shift in the distribution of income and the possession of resources everyone is familiar with the broad shift of resources and income from the feudal classes to the class of the petty bourgeoisie in the early stages of capitalist economic development. As the industrial and organizational structure change in favour of heavy and large-scale industry with what Marx described as the" higher organic composition of capital" (i.e. with higher capital-labour ratio), the incomes of even petty capitalists is squeezed, while the few big capitalists begin to appropriate the biggest share of the national cake. However, the national income statistics, as collected and analyzed by such an authority as Simon Kuznets, show that there is "a long swing in the inequality characterizing the secular income structure: widening in the early phases of economic growth when the transition from the pre-industrial to the industrial

civilizations was most rapid; becoming stabilized for a while, and then narrowing in the later phases."

Exercise 2.2

Question 1How long term economic development is associated with major changes in the structure or composition of output and total employment?

2.4Other Structural Changes

We have, so far, referred to some important changes in economic structure which are believed to accompany the process of development. But this process also, almost invariably, causes changes in the general social structure too. In so far as development can be identified with industrialization, it will bring in urbanization in its wake, for the new economic and social conditions required for successful industrialization are more likely to be fulfilled in an urban environment than elsewhere. For one thing, secondary and tertiary activities require a stable labour force committed to earning its livelihood by industrial and service activity, and only urban workers can satisfy this condition. Thus, a major structural change that occurs in the social system and the demographic profile is the process of urbanization. In other words, the share of urban population rises and that of rural population declines. This is huge social change in the composition of the population because socially and culturally urbanities are distinctly different from the realities. As the latter increasingly move to the urban locations they are exposed to new ways of thinking and doing things. These contacts and ideas break up old social rigidity and encourage social mobility as well as "rational behaviour". Thus, development results not merely in a change in the composition of output, but also in the emergence of an environment which makes change a part of the routine of the economic progress. Any country, which remains under-developed for a long period, usually develops such an institutional structure which is not conductive to economic development. Therefore, when a country embarks upon a programme of development, the existing institutional and social structure may prove to be a much greater stumbling block than the scarcity of capital. The quicker is the rate at which this institutional and social structure breaks up to give place to a more conducive structure, the more will the process of development be facilitated by it.

In the end, it must be emphasized that economic development, i.e. rise in the level of per capita income, and structural changes are mutually reinforcing. Neither can be said to precede the other. In other words, a rise in per capita income is caused by structural changes through improvements in productivity, but at the same time, as per capita income increases, it induces further structural changes.

Exercise 2.3

Question 1Explain other structural change that helps in the process of economic development?

2.5 Summary and Conclusion

Structural changes are by definition an essential part of the process of economic development in the long run. The latter process stimulates changes in the redeployment of resources in different activities and sectors. Factors of production tend to move to the more productive uses and activities. This, over time, transforms the very composition of GNP and uses of labor force. Structural changes thus primarily occur in nature of output and employment. Thus, it is observed that the level of per capita income tends to be negatively associated with the share of agriculture and positively associated with the share of industry and services in the GNP and total employment. In other words, as economic development proceeds, the share of agriculture in GNP and employment declines while that of industry and services increases.

Along with these major structural changes, intra sectoral changes to occur, with types of agricultural and industrial goods produced also experiencing changes. Even the capital-output ratio also increases.

Apart from these strictly economic structural changes, social and demographic transformations, such as urbanization, too, occur when the level of per capita income rises. There is in fact a mutually reinforcing relationship between economic development and structural change, with each causing the other.

2.6 Glossary

- **Structural Changes-**Economic structural chang**e** refers to a long-term shift in the fundamental structure of an economy, which is often linked to growth and economic development .For example, a subsistence economy may be transformed into a manufacturing economy, or a regulated mixed economy is liberalized. A current driver of structural change in the world economy is globalization. Structural change is possible because of the dynamic nature of the economic system.
- **Economic Development**- The process of improving standard by raising per capita income. This is usually achieved by an increase in industrialization relative to reliance on the agricultural sector.
- **Gross National Product (GNP) –** The total domestic and foreign output claimed by residents of a country. It comprises gross domestic product (GDP) plus factor incomes accruing to residents from abroad, less the income earned in the domestic economy accruing to persons abroad.
- **Gross Domestic Product (GDP) –** The total final output of goods and service produced by the one country's economy, within the country's territory ,by residents and non-residents, regardless of its allocation between domestic and foreign claims.
- **Structural change –** The process of transforming the basic industrial structure of an economy so that the contribution to national income by the manufacturing sector increasingly becomes higher than that by the agricultural sector. More generally, an alteration in the industrial composition of any economy.

- **Capital –Output Ratio –** The ratio of amount of capital to the amount of output produced by that capital. A constant capital-output ratio forms the basis of the acceleration principle.

2.7Self Assessment Test

(a) Try the following objectives type of questions:-

(i) Which of the following indicates the relationship between economic development and structural change?

(x) Productivity improvements

(y) Employment generation

(ii) Which of the following is true?

(x) As economic development takes place, agricultural output declines.

(y)As economic development proceeds agriculture‘s relative share in resource use declines.

(iii) Which of the following help in the rapid transformation of an economy?

(x) Innovation

(y) Incremental structural changes

(iv) Choose the right answer:-

(x) Urban economic activities are unrelated to the changes in share of the primary sector in GNP.

(y) Urban economic activities are influenced by the share of the primary sector in GNP

(v) Does the growth of per capita GNP in developing countries

(x) Precede structural change

(y) Accompany structural change

(z) Follow structural change

(Answers(i)-(x);(ii)-(y);(iii)-(x);(iv)-(y);(v)-(y)

2.8 Suggested Readings

1.Uphoff and Ilchman (ed,), *The Political Economy of Development*, pp. 86-92.

2.Simon Kuznets, *Modern Economic Growth*,chap.2.

3.A.G.B.Fisher ,‟primary, secondary and tertiary production,” *Economic Record* ,June, 1939.

4. Colin Clark, *The Conditions of Economic Progress*.

5. Hoilis B.Chenery and M.Syrquin, *Patterns of Development,* 1950-1970.

6. C.P.Kindleberger and B. Herrick, *Economic Development*, chap.10.

7. S.j.Patel, Essay on Economic Transition(Especially the essays on ‟Rates of Industrial Growth in the Last Century” and‟ Main Features of Economic Growth” ´

2.9 Terminal Questions

Question 1 State the Fisher- Clark –Kuznets thesis on structural transformation of developing economies. Bring out the chief features of the thesis with the help of post- independence experience of India

Question 2 Discuss the different types of inter- sectoral and intra-sectoral structural changes that accompany the process of economic development.

LESSON-3

FACTORS IN ECONOMIC DEVELOPMENT

Structure

3.0 Objectives

After going through this lesson . You will be able to:

- Have in-depth knowledge of Economic and Non-Economic factors which influence the development process in a country.
- Give Dension explanation on sources of growth.

3.1 Introduction

So far we had been trying to understand the meaning and nature of the process of economic development. We shall now proceed to enquire into the underlying factors in economic development. Let it be understood at the very outset that, in so far as economic development depends upon the volume of production in a country, it is the quantity and quality of the basic factors of production, namely, labour, natural resources or land as it is often referred to in economics, and capital stock that are the determinants of the growth of national product. The mere presence of a good quantity and quality of these factors is, however, not sufficient to ensure a high volume of production, for, unless these factors are organized for the process of production, no output would automatically issue from them. And, whether a given quantity of productive factors of a given quality would help to produce a smaller or a large output would obviously depend upon the quality of organization. Production also presupposes some knowledge of the technique of production. The quality of organization and the level of technology employed are two very important determinants of productivity, growth of which, as it was stressed in our first and second lessons, determines the process of economic development. It has already been explained, in the preceding lessons that the growth of GNP occurs through changes in structures as well as scale. Therefore, the

underlying forces, which determine economic development, are to be found in the above mentioned productive agents.

It is clear from the foregoing that the GNP of a country increases either because of an increased supply of factors of production, such as natural resources, labour and capital equipment, or because of an improvement in the organization or technology of production. It is only when these changes take place in a sufficiently rapid way that there is a substantial and persistent increase in GNP per head of population, the phenomenon which we term as modern development.

3.2. Factors in Economic Development

In view of what has been said above, we may say that economic development basically hinges upon the following factors:-

(1) Growth of population (labour force)
(2) Increase in the availability of natural resources
(3) Growth of the capital stock
(4) Growth in the scale or specialization of production
(5) Technological progress

The above list of the factors underlying the process of economic development refers only to the economic factors. However, it is being increasingly recognized now that economic development is a process which is influenced by not only economic but also non-economic factors. The non-economic factors usually refer to industrial arrangements, the legal and educational framework, and motivational factors as well as changes in them.

We shall now go a little deeper into the analysis of these factors and their relation to economic development.

3.2.1Economic Factors

Population is an important factor in economic development, because it is the source of labour, which is one of the so-called original factors of production. The quantity and quality of the labour supply in a country basically depends on the quantity and quality of its population. Long ago, growth of output depended critically on the growth of population. The reason was that the capital equipment and the techniques of production being of the simplest and unchanging kind, labour was the most important factor of production. However, economic development, as we have already observed, is not synonymous with mere increase in national product; it is rather identified with a sustained rise in per capita output. Therefore, the relation between growth of population and economic development is a bit complicated.

While increase in size of population normally does lead to an increase in aggregate national output, it may not bring about a rise in per capita-output. The seemingly paradoxical situation may arise due to the fact that the increase in total output is accompanied by an increase in number of people among whom the total output is to be shared. If the total output increases proportionately less than the increase in population, per capita output will fall instead of rising. Therefore, growth of population is not a sure source of economic development.

Whether the net effect of increasing population is to increase or decrease per capita output and , thus, to promote or retard economic development would depend upon a number of accompanying circumstances. For example, if a high rate of growth of population is mainly due to high fertility rate rather than to a low mortality rate, the population would be so structured that there would be a very high proportion of children in the total population. The rate of increase in child population would be much greater than the rate of increase in adult population. This would push up the dependency rate, that is, the ratio dependents to the gainfully employed population (the labour force) in the total population. In such a situation, other things remaining the same, per capita output is likely to fall rather than increase. Furthermore, if, due to the scarcity of some complementary factor or factors, the additional adult population cannot be provided with gainful employment, the situation with regard to the dependency rate would be further aggravated. Thus, in such circumstances, growth of population, instead of facilitating development, would prove to be a positive hindrance.

On the other hand, if the growth in population is caused not by a high birth rate but by a very low death rate, the age-structure of the population is likely to be such that there would be a low dependency rate. While the possibility that the increasing population might press against the available supplies of natural resources and capital equipment cannot be ruled out, nevertheless, it has to be acknowledged that a growing population would increase the extent of the market which in turn might stimulate enterprise and investment in capital goods and increase the availability of natural resources. If it is so, employment opportunities might grow along with increase in adult population and dependency rate might remain quite low. Other things remaining the same, these circumstances attending on a growing population would be conducive to growth in per capita output and, hence, to economic development.

Thus, the net effect of a growing population depends on the comparison between the effects of an increasing labour supply and expanding markets, made possible by the growth in population, and the effects of increased pressure on natural resources and capital stock as well as the increase in the number of claimants to a share in the national cake. Therefore as one writer has to put it, “population growth may be either favourable or unfavourable to economic development, depending on where, when and how it takes place.”(R.T.Gill. Economic Development: Past and Present). In countries with ample supplies of natural resources or capital resources but a very low density of population, growth of population will undoubtedly promote economic development but in densely populated countries like India, where the high rate of growth of population is the result of a substantial fall in the death rate which is unaccompanied by any significant fall in the birth rate, and where there is relative scarcity of capital resources, even when the natural resources are not so scarce, an unchecked growth of population can prove to be a great drag on the efforts at economic development.

However, there is still another factor which renders the analysis of the relation between growth of population and economic development very complicated one. There is not a single-way but a double-way relation between growth of population and economic development. Growth of population, within a favourable environment hinted at above, may provide an initial impulse to a

process of economic development but as economic development accelerates and people become accustomed to higher standards of living, their attitudes begin to undergo a change so that they might begin to prefer smaller but better families. The experience of the present-day advanced countries of Western Europe and North-America tells us that a high level of economic development is associated with a low birth rate and thus a comparatively low rate of growth of population. Yet, it has been observed that economic development, in its initial stages, increases rather than decreases the rate of growth of population. The reason is that the birth rate falls rather slowly but death rate falls rapidly it is much later that the birth rate also begins to decline.

In the light of the experience of the now developed countries of west, it is sometimes suggested that, in the developing countries; we should look after the pace of economic development without bothering about, reducing birth rate, for it is argued that the latter will automatically follow the former. Economic development is these days held to be the best contraceptive. But such an extreme policy prescription can prove to be quite dangerous for the economic development of the developing but densely populated countries. The reason is that these countries are benefiting from the modern revolutionary inventions in medicine and public sanitation on account of which their death rates have come down precipitously without there being any appreciable fall in the birth rates. It has resulted into the phenomenon of the so-called “population explosion” in countries like India. The growth of population in these countries, in the modern period, has not been a concomitant of economic development, but it has taken place, thanks to the achievements of modern science, in spite of the lack of economic development. Therefore, a growing population in these countries is not an advantage but a handicap from the point of view of a rapid economic development. Hence, proper policy prescription for these countries would be attack on both the fronts simultaneously, accelerating economic development as well as bringing down the birth rate appreciably so that the former is reinforced.

3.2.2Natural Resources

Natural resources, like labour is one of the original factors of production. The GNP of a country depends not only on the quantity and quality of its labour force but also on the quantity and quality of its natural resources employed in actual production. It is common in economics to describe the supply of “land”, in the sense of natural resources, as fixed. If this view about the natural resources is accepted, one can only say that natural resources can affect the economic development of a country only to the extent that they are actually used for production. However, natural resources have this special characteristics that they are mostly exhaustible. This implies that more they are exploited now; less of them will be available in future. Secondly, the mere presence of natural resources is not helpful in economic development; they must also be known as well as available in such a form and places that they could be made use in production this suggest that with any given level of technical and cultural advancement, natural resources can, but necessarily, set ceilings on economic development.

The generally believed fixity of the supplies of natural resources need not be that disheartening, if one takes note of the qualification,” with any given

level of technical and cultural advancement". All the above statements with respect to natural resources setting ceiling to economic development, it is because the past experience of economic development shows that if we take a dynamic view of the supplies of natural resources, these are not as inelastic as are often made out to be in static economic theory. The process of economic development itself very often results in the discovery and opening up of new resources. Advancement of knowledge is a by-product of economic development. Moreover, in so far as economic development is associated with the establishment and expansion of infrastructure, it is bound to result in the discovery of hitherto unknown resources and increasing availability for utilization of the already known resources. All this tantamount to increase in the supplies of natural resources.

In the past, discovery of natural resources played a significant role in economic development. In the eighteenth and nineteenth centuries, it was perhaps still possible to discover 'new' worlds and to colonies them or to subjugate 'old' worlds to turn them into the colonies of the imperial power. But, in the present times, no more space is available on the geographic frontier, while the indigenous peoples of subjugated territories have already thrown off the yoke of foreign domination. In view of this, the old classic methods of resource discovery, which are associated with imperialism, cannot be relied upon. But it does not exhaust all possibilities. Only till recently Libya was regarded as a country poor in natural resources. But the discovery of oil resources in it has completely transformed the picture. The examples of Nigeria, Liberia and the French West Africa, where oil or other minerals have been only recently discovered, can also be added. In our country, till independence it was believed that there were no oil resources worth the name in it. But, when the government launched a planned economic development of the country we were able to explode this myth.

In spite of what has been said in the preceding paragraph, it has to be acknowledged that the discovery and availability of natural resources in the present era cannot make that powerful impact on economic development, which they made in past. Their role in economic development will be particularly limited in the densely populated countries like India where land/ man ratio is already very low.

The relative importance of the role of natural resources in economic development can be properly appraised by keeping the following facts in view: first, natural resources are certainly important in economic development in the earlier stages of this process, because then, primary production(agriculture, animal husbandry, mining, forestry, fishing etc) predominates, as you have noted in the preceding lesson. However, as the level of per capita income rises, the relative importance of secondary and tertiary activities rises, which make less use of natural resources compared to primary production. This reduces the dependence on natural resources. Secondly, in recent decades, the relative inelasticity of the supply of natural resources aswell as the need to cut cost, because of rising competition, have forced co operations to substitute natural resources with manmade raw materials: take the case of synthetic fibers replacing cotton and jute, synthetic rubber and plastic replacing natural rubber, etc. this has reduced the importance of natural resources in economic development to an extent.

3.2.3Capital Stock

Capital stock is the third important factor of production and in modern production, it is probably the most important instrument of production, for it can be utilized to overcome the scarcity of natural resources or to improve their quality as well as to enhance the productivity of labour.

Capital has various connotations, but, in the context of economic development, it refers to the stock of produced or man-made means of production. It may be classified into tangible capital and intangible capital. The former refers to the stock of physical capital goods like machines, factories, buildings, roads and railways etc. but, the physical capital goods are not the only man-made goods utilized as a means of further production. Skills and knowledge are also produced by man, and they too become the means for further production. Thus, skills and knowledge are also capital, but it is intangible capital.

It should be noted that it is not the stock of capital but the growth of the stock of capital that is important from the view point of economic development of a country. The growth of the capital stock over time is often referred to as capital accumulation or capital formation. It is also called investment, not financial investment, but real investment in the form of physical productive assets.

How vital capital accumulation is for the process of economic development, becomes quite clear when we compare its role in the developed and the developing economies. Indeed many economists distinguish developed economies from the developing economies on the basis of the rate of capital formation the developed economies are usually characterized by a high rate of capital formation, even as developing economies are characterized by a rather low rate of capital formation. It is generally acknowledged that the capitalists methods (i.e. are roundabout methods employing produced means of production) are much more productive than the direct methods. Use of capital enhances the productivity on which economic development crucially depend. Capital facilitates the introduction of large scale production and increased specialization. It also helps in bringing about technological progress, which raises the production functions in the economy and thus raises the productivity of factors.

Apart from the above help that capital renders in the process of economic development, capital accumulation is necessary to prevent what has come to be known as the classical or Marxian unemployment-the phenomenon of unemployed works due to lack of capital equipment. In the absence of adequate capital formation, natural resources and labour resources will go waste. Thus, lack of capital formation would prove to be a formidable roadblock in the way of economic development.

It is thus obvious that capital formation is the sine qua non of economic development .It may be asked then, what is that determines the rate of capital formation of a country? It is not possible to make a detailed analysis of this problem in this introductory lesson, but we may touch upon a couple of aspects of this problem.

In the first place, the mechanism by which decisions with regard to capital formation are taken differs from country to country. While , in economies practicing economic planning such decisions are made by the central planning authority, in the free – market economies, these decisions

are usually made by private individuals or , more likely by some mixture of public and private agencies. It is, therefore, possible that there might be different rates of capital formation in any two countries even when their level of economic development is , more or less, the same. However, the country having the higher rate of capital formation will have a greater potential for further economic development.

But the central aspect of capital formation is that it involves sacrifice of present consumption for the sake of greater production in future(which would also increase the possibility of greater consumption in future) the higher is the societies' preference for present consumption, the lower will be the rate of saving, and, hence, the lower will be the rate of capital formation the lower is the level of income of a country, the higher is the present consumption as a proportion of the total income and , therefore, the lower is the rate of savings this suggest that domestic capital formation in the developing countries is bound to be slow, unless the people are forced politically to reduce their present consumption as was generally done in the Erstwhile centrally planned socialist economies the free market economies usually bring about the same result through an inflationary financing of capital formation, which throws a much greater burden on the poorer classes than on the richer classes .

However, the process of economic development in so as it increase per capita income, may itself be expected to push up savings and capital formation .But, the problem of the least developed economies is how to break the low level equilibrium of the "vicious circle" of low per capita income retarding capital formation, and the low capital formation perpetuating low per capita income .Foreign loans may be a partial solution of this problem.

Capital formation however, need not, under all circumstances, be at the expense of consumption. When in an economy, unemployed resources are available it is possible to mobilize them for capital formation without the curtailment of consumption. In the least developed countries, it is believed that there is a lot of unemployment, open as well as disguised; therefore, it is possible in such countries to mobilize the unemployed labour resources for capital formation without curtailing the present levels of consumption. We shall have occasion in the subsequent lesson, to refer in this context, to a particular model of economic development with unlimited labour supplies as put forth by W.A.Lewis. The model goes into the details of how unemployed labour resources can be utilized to promote capital accumulation and economic development in the least developed countries.

3.2.4Specialization and scale

It has been generally observed that during the period of development of the now advanced countries, their total output increased more than in proportion with the increase in the supply of labour, natural resources and capital. This is accounted for by the economies of scale as well as specialization, the pace of economic development would have been relatively much sluggish. Let us again recall that the phenomenon of development as defined by us earlier involves, in fact, both change in structure and changes in scale, but the former changes are necessary as well as sufficient condition of development, while the latter are not a sufficient condition of development. If the changes are merely changes of scale of production in the exiting firms, the growth of process will be, painfully slow since the existing firms are small in

number. It is the introduction of the division of the labour and the accompanying specialization on a wide scale which is the prime cause of changes in structure and, therefore, of economic development. Thus, it was not without reason that, in the classical model of economic development as embodied in Adams Smith's Wealth of Nations, division of labour and specialization were made the motive force behind economic development.

It should be recognize, that the changes, in scale and changes in specialization are not the same thing, even though they often go together in fact changes in scale refer to the same multiplication of the size of the basic production units; and a corresponding proportionate multiplication of productive factors employed in each unit, without there being any change in the internal organization of the production process of the individual units. But, changes in specialization refer to the sub-dividing of the production process into its component parts so that each part is handled by specialized machinery arid specialized labour. However, as a matter of fact, the larger is the scale, the greater is the scope for specialization. Even when a small firm specializes in the production of a component, each specialization is economically possible only when the scale of output of the industry becomes large. Therefore, although those two types of changes can be distinguished conceptually in practice they usually go together.

How specialization contributes to productivity and therefore, to economic development is a question which was answered long ago by Adam Smith as follows:" the greater improvement in the productive powers of the labour and the greater part of skill, dexterity, and judgment with which it is anywhere directed, or applied, seem to have been the effects of the division of labour". He attributed these results to three causes: First, to the increase of dexterity in every particular workman; secondly, to the saving of the time which is commonly lost in passing from one type of work to another; and, lastly , to the invention of a great many machines which facilitates labour, and enable one man to do the work of many. However, Adam Smith was careful to observe that 'division of labour is limited by the extent of the market.' It is here that scale becomes important.

In the modern and macroeconomic context, scale and specialization as the factors of economic development can be seen as follows: When the process of development starts, the factors of production tend to be employed on an increasing scale (because economic development implies rising production) on a wider and wider front. That is, new sectors, industries and firms are created. While this itself leads to ever-rising production, a more significant but subtle component of the process is opening up the scope for increasing specialization or division of labour. People now have a wider choice before them to work as entrepreneurs, managers, skilled, semi skilled and unskilled workers, depending on their aptitude, skills and training. In this wide spectrum of jobs, each of them will have scope for specialization and on-the-job learning so that with passage of time their expertise will rise. Their increasing specialization will thus contribute to the improvement in productivity. That is how scale and specialization will jointly and severely contribute to economic development.

3.2.5Technological Progress

Last, but not the least, important factor contributing to the economic development is the progress of technology. The role played but improvement in technology is to raise the production functions, which implies that a larger output can be produced with the same quantities of inputs, or the same output can be produced with the smaller quantities of inputs. Thus, technological progress is a powerful engine for lifting up productivity. In fact, technological progress has been the hall-mark of modern economic development.

Progress of technology is not, however, a modern phenomenon. Control of fire, invention of the wheel, the domestication of plants and animals, etc, all represent progress of technology. What is modern about this phenomenon is the rapid rate of modern technology progress. Besides, technological change today is the product of scientific knowledge, research and development(R&D) activities in the laboratories and its eventual commercial exploitation.

Technological progress is basically the result of the progress of applied as well as pure science, which, in turn depends on the resources devoted to science. There can be no science without “scientific attitude”, and in so far as general education helps to promote “a scientific attitude “among the people, it too contributes to technological progress in an indirect way. Moreover, since general education enables the people to understand and apply new technology much more easily, it also makes a direct contribution to economic development. The much talked of “green revolution “in our country has taken place through the agency of the generally educated farmers, but crucially aided by the research of farm scientists.

As Schumpeter observed long ago, scientific discoveries and inventions are not sufficient condition for economic development. It is their economic exploitation which results in economic development. It is this economic exploitation of new discoveries and inventions which has been defined by him as innovation . Innovation is the real agent of economic development. Therefore, technological progress in the context of economic development must be defined very broadly to include innovational activity. This activity is supplied by entrepreneurs, who have the vision to seize the opportunity of making an economic use of new discoveries and inventions, made available through scientific progress, as well as the drive to break through traditional modes of production and organization and to bring about a transformation in them based upon new technology. Such entrepreneurial activity may be supplied by private individuals or by the state.

Exercise 3.1

Question 1 List Economic Factors in Economic development?

3.3Non-Economic Factors

The importance of the supply of entrepreneurship for the process of economic development brings us to the non-economic factors in economic development to which we, can give here but a bare reference. If innovation is accepted as the chief functions of an entrepreneur, entrepreneurship presupposes the existence of diverse conditions for its emergence and eventual flowering. Thus, entrepreneurship is an attitude which depends on

diverse non-economic factors including religious ethical, psychological, institutional and socio-political factors.

Supply of entrepreneurship is influenced by institutional factors as well as by motivation factors, it is associated with a personality pattern in which achievement – motivation is strong. But this is "not enough". A congenial environment in the form of suitable social structure and culture, which strongly favour achievement oriented individuals to enter business, is also essential. Thus the entire 'social fabric 'influences the growth of entrepreneurship. But the fact is that 'social fabric', which favours the growth of entrepreneurship, also fosters scientific and technological progress. Bert F.Hoselitz, on the basis of his reading of the social and economic history of those peoples, which have shown the capacity for rapid economic advance, and those which have so far failed in this direction, observes that "the overall social frame-work which favors entrepreneurship also favours scientific and technological progress and the development of institutions fostering the formation of capital."(of, his "non-economic factors in economic development," American Economic Review, May 1957).

Apart from the supply and flowering of entrepreneurship being influenced by non-economic factors, the latter have a wide ranging impact on the process of economic development. Education, for example, is a patent factor in increasing the supply of human capital, which is now believed to strongly influence the growth process. Even medical and health care facilities are recognized as a factor reducing worker-absenteeism in factories due to improved health of workers, besides contributing to labour productivity, since healthy workers are more productive agents. An appropriate legislative and legal framework is necessary for creating proper economic institutions like the labour market, the capital market, the money market and the commodity markets etc. such framework is also needed to speedily enforce contracts between economic agents like the corporations, firms, consumers, banks, input suppliers etc. The importance of non-economic factors like the foregoing is now being increasingly realized and this has helped in correcting the undue bias in favor of economic factors existing in the traditional economic literature.

Exercise 3.2

Question 1 What are Non-economic factors in Economic Development?

3.4Denison on Sources of Growth

E.F. Denison has analyzed the growth experience of eight West European countries and the USA in order to measure the contribution made by different "sources of growth". The results of his studies are now embodied in his monumental work, why growth rates differ. Denison appears to be using the term growth, in the same sense in which we have been using the term, development. Secondly, his "sources of growth" are much more differentiated than the broad categories of factors that we have discussed above.

In the first place, Denison distinguishes between two broad categories of "source of growth", which he has identified as "changes that effect output per units of inputs", that is, the changes which influence productivity. Inputs include land, labor and capital. Changes in productivity are attributed to five principal types of changes: advances in technological and managerial

knowledge, including business organization; changes in the allocative efficiency of inputs; changes in the restrictions imposed by government, business, or trade unions against the most efficient utilization of resources; enlargement of markets; and changes in the extent to which the available resources are actually used.

Denison has sub-divided the above broad categories into twenty three different “sources of growth”. The period covered by his study extends from 1950 to 1962. He reaches the conclusion that differences in the growth rates as between the West European countries and the USA, during the period covered, were mainly due to factors related to resource allocation, capital accumulation, and hours of work, age-sex composition, and residual productivity. Of all these, Denison considers the first and last i.e. resources allocation and residual factors enhancing productivity as the most important.

It is doubtful if Denison’s study has significant relevance for the developing countries. Apart from it, his study is open to other objections too. Denison has tried to measure the contribution of different factors to economic growth on the basis of their income shares. C.P. Kindleberger rightly asks if the factors contributing to growth can be estimated as if the production functions are linear homogenous, so that contribution of each could be estimated from its income share. Thus the implicit assumption of linear homogenous production functions vitiates the accuracy of Denison estimates. Furthermore, Denison first measures changes in inputs and their contribution to growth, with the remaining contribution attributed to changes in output per unit of input, ingeniously divided among mainly, scale, allocation and knowledge effects, plus a residual which includes such immeasurable as quality of management effort, differences in competition etc. it is doubted if sources of inputs and of increased efficiency per unit of input are separable.

Kindleberger has observed that Denison has not cared to test the hypothesis that economic growth is a system problem, in which the variables have important inter-relations. Denison deliberately overlooks the contribution of exports and import-substitution to growth on the macro-economic or demand level, because his is, in fact, a supply and not a demand analysis. Denison views the economy as an aggregation rather than a system.

Exercise 3.3

Question 1Elucidate Denison View on Sources of growth?

3.5Summary and Conclusions

You were introduced to the concepts and process of economic development and economic growth in the preceding two lessons and, in the present lesson; you have learnt the factors that lie behind these processes. The factors responsible for economic development are divided in to the broad categories of economic factors and non-economic factors. The former include population growth, which determines the size or extent of the market as well as the supply of labour, capital accumulation, natural resources, scale economies and specialization, and technological change. The relative role of each of these traditionally recognized factors of economic development has varied with the stage of development, with labour and natural resources being pre-eminent in the initial stages, but capital accumulation, scale economies

and specialization, as well as technological change emerging as leading factors at higher levels of economic development.

The role of non-economic factors, such as social and psychological factors determining the supply of entrepreneurship, education, medical and health care facilities, legislative and legal framework etc., has come to be recognized only lately. Mere use of increasing supplies of traditionally known factors of production may not help the cause of economic development unless the social, cultural, motivational, political and legal, milieu too is conducive for the growth processes.

E.F. Denison has conducted empirical research in identifying the factors, of economic growth from the actual experience of the developed economies. His research shows that the traditional inputs account for a smaller proportion of overall economic growth, while a major contribution is made by what he calls the residual factor which includes a host of intangible forces operating behind the process of economic growth. It is a moot question how far Denison's analysis is appropriate for the experience of the developing economies.

3.6 Glossary

- **Economic Factors**-Economic factors are those factors which have direct effect upon the economy of the country. These factors affect the financial situations. Examples include interest rates, employment/unemployment rates, or prices of goods.
- **Non – Economic Factors -** All factors in a country have particular economic impacts. The non-economic factors present in a society are the elements which have no direct effect upon the economy of the country. Such factors are a variety of social features- religion, ethnicity and social activity, for instance. Political elements which do not include economy related activities also have no direct economic impact and can be classified as non-economic factors.
- **Capital Stock**- Stock of produced or manmade means of production. It may be classified into tangible and intangible capital the former refers to stock of physical capital goods like machinery, buildings roads etc. Intangible capital include
- **Technological Progress**-Increased application of new scientific knowledge in form of inventions and innovations with regard to both physical and human capital. Such progress has been a major factor in stimulating the long- term economic growth of contemporary developed countries.

3.7 Self Assessment Test

Try the following objective type of functions

(i)Out of economic and non-economic factors of development which category is important, if at all?

(x) Economic factors (y) non –economic factors (z) Both equally important.

(ii) Population growth is definitely a hindrance to economic development. State whether this state is (x) true, or (y) false.

(iii) Has capital accumulation (investment) always played a dominant role in economic development?(x)Yes (y) No.
(iv) Which of the following correctly describes technological change:-
(x) A shift of the isoquants towards the origin (y)A rise in the capital-output ratio.
(v) Out of (x) tangible inputs, and (y) intangible inputs, which according to Dension's " sources of growth" are more growth – inducing?
(Correct answers☹i)-(z); (ii)-(y); (iii)-(y);(iv)=(x);(v)-(y).

3.8 Suggested Readings

1. C.P.Kindleberger and Bruce Herrick, *Economic Development*, Chap,4-9.
2. R.T.Gill, *Economic Development:Past and Present*, Chap 1.
3. Aggarwal and Singh Economic Development first four essays.
5. B.F.Hoselitz, "Non-Economic factors in economic development, *American Economic Review,* May, 1957.
6. E.F.Dension, "Sources of Post War Growth in Nine Western Countries", *American Economic Review*, May 1967.

3.9 Terminal Questions

Question 1Write a well considered note on the role of population growth in economic development.
Question2 Identify the major non-economic "factors that are important in a process of development and show how each of them promotes economic development.

LESSON 4

MEASUREMENT OF ABSOLUTE POVERTY AND INCOME INEQUALITY

Structure

4.0 Objectives

After going through this lesson. You will be able to:

- Explain the meaning of Absolute poverty and how it is different from Relative poverty
- Measurement of Absolute Poverty.
- Define the concept of Income Inequality.
- Measure income Inequality through Lorenz Curve, Gini co-efficient and income received by different income brackets.
- Explain in depth growth and equality trade off.

4.1 Introduction

This is the last lesson of Unit 1 of this Course. As in the case of the preceding three lessons, the present one is also devoted to an explanation of a couple of very important concepts in development economics, viz., absolute poverty and income inequality. Although these terms appear to be quite common, yet their precise meaning and measurement are a tricky business. Since poverty and economic inequality form an integral part of the over-all scenario of underdevelopment or lack of a desirable level and pace of development, it is necessary to comprehend their precise meaning besides it has become necessarily these days to devise satisfactory measures of poverty and inequality, so that (i) exact targets of reduction of poverty and economic inequality may be laid down, and (ii) the actual achievement of these reductions may be evaluated and assessed. Besides, such measures would also be helpful in comparing the incidence of poverty and inequality in a country with that prevailing in another country or other countries.

So, in the present Lesson we shall try to understand the meaning of absolute poverty, distinguish it from relative poverty and then analyse the method of measuring its extent and incidence. Subsequently, we attempt to comprehend the meaning of the term income inequality and also focus on the methods of measuring it. Finally, we shall discuss a contentious, albeit interesting issue, viz. the question of growth and equality trade-off.

It might interest you to note in passing that the economists and policy makers, especially in the developing countries, woke up to the need of precisely defining and devising measures of poverty only in the last about three decades. Before that, it was believed that wherever economic planning was adopted to break the shackles of underdevelopment or vicious circles of poverty, it was sufficient to ensure economic growth i.e. a rise in per capita income. Such economic growth was believed to automatically remove-poverty among all classes of people through what has come to be called in development economics as the trickle-down effect According to the trickle-down thesis, a rise in per capita income in a developing country would result in the passing on of benefits of development to all sections of society, especially those in the bottom income brackets. However, the actual development experience in the second half of the 20th century brought out the fact that the trickle-down did not occur or it was too weak for the comfort of the so-called weaker section of society. This then created the need for focusing on the deprivations of this section of society. This has given rise to the concept of absolute poverty, and efforts are being made to precisely define it, and devising methods of exactly measuring its extent and incidence.

4.2 Meaning and Measurement of Absolute Poverty

When the process of economic development was initiated in most of what were then called the underdeveloped countries, the development economics literature understandably hared on global inequalities, the economic inequalities between the underdeveloped and the developed world. The former suffered from poverty compared to the latter. The problem of poverty then received attention in this relative sense. A large number of underdeveloped countries were poor in comparison to a small group of developed countries. When attention was focused on the problem of poverty within a single country, comparisons were made between the economic conditions of the poorer classes, in terms of their income, consumption or land owned by them, relatively to the more affluent classes. This again was looking at the phenomenon of poverty in a relative sense. Thus, whether in a global perspective or within a particular country, when poverty of a countries or classes of people is compared with other countries or classes of relative poverty, i.e. the poverty of a country or class of people relatively to that of other countries and classes of people. Although this is an important issue in itself, yet it fails to concentrate attention on how many people or households there are who suffer from absolute poverty or deprivation and how severe is their affliction from the scourge of poverty. Thus, the concept of a absolute poverty or deprivation and how severe is their affliction from the scourge of poverty. Thus, the concept of absolute poverty focuses on the seriousness of deprivation of those people in a society who are considered poor because they are unable to meet their minimum needs of diet, clothing and shelter etc. Absolute poverty can thus be defined as the lack of minimum

level of income required to sustain life. This concept of poverty differs from the other concept, namely the concept of relative poverty, in that while the former dwells only on the extent of deprivation of those who fail to meet their minimum requirement of sustaining life, (or what is considered as socially accepted minimum) the latter compares the average economic state of the developing world with that of the developed world, or the average economic state of the people, at the bottom of the income ladder with that of the richer section of society within a country. As mentioned earlier, this lesson primarily deals with the concept of absolute poverty. Although when we discuss the question of income inequality later, the issue of relative poverty will implicitly creep into the analysis.

How do we then precisely define absolute poverty and how is its extent sought to be measured. As a first approximation to defining absolute poverty, it needs to be recognized that poverty in this sense refers to an acute state of deprivation, estate even worse than the minimum needs of the people. The concept of absolute poverty, as it obtains in economic policy literature currently, generally ignores peoples minimum needs of such essentials as clothing, shelter, education, health facilities etc., and it primarily focuses on their dietary and nutritional requirement, it is implicitly assumed that people can somehow survive without clothing and shelter(accept in extremely cold climate) education, and health facilities. But they cannot survive for long if their food-intake is insufficient. Less than adequate daily intake of food will merely result in malnutrition which is like slow death.

Therefore, the concept of absolute poverty, which is generally used in different countries, is a biologically determined nutrition-based poverty hue defined as the minimum amount of nutrition an average adult individual needs to have access to, to enable the performance of normal daily functions and to maintain normal body weight. Defined in these terms, the concept of absolute poverty relates to a mere subsistence, level of living.

Although there are several different ways of defining the absolute poverty line, the above-mentioned approach referred to as the food Energy Intake (FEI) concept is perhaps the most popular in the academic and official circle in the developing countries. In India too, this concept has been popular with the Planning Commission the National Sample survey Organisation and the academicians, since the pioneering work of Dandekar and Rath, using this concept, was published in 1971 (Poverty in India, brought out by Economic and Political Weekly, Bombay) formally stated, the FEI measure of a poverty line (z) is given by

$$Z=\sum piqi$$

Where (q1, q2,……qx) is the vector of minimum quantities of a set of food items barely satisfying the subsistence nutritional requirement and (p1, p2,…..px) is the vector of prices of these food items. When the food items satisfying the bare subsistence requirement are multiplied by their respective prices, the sum total yields the expenditure or income needed for fulfilling these requirements. This income expenditure is the cut-off point below which these are inadequate to satisfy the minimum nutritional requirements and those who have such low incomes would be counted as poor. They would fall below the poverty line.

You might legitimately raise the questions, which decides or determines the minimum requirements obviously; it is the physiologists or nutritionists who set such dietary. The Food and Agricultural Organization (FAO) has set a standard of 2122 calories per day per person for South Asian countries. An individual is deemed to be poor if he or she fails to consume food items giving 2122 calories of energy per day. In India, the Task Force on Projections of Minimum Needs and Effective Consumption Demand (1977) had, however, set the norm of a daily calories intake of 2400 per person in rural areas and 2100 in urban areas. These norms vary from country to country and even within the same country, depending on the climate, topography, nature of profession, socially determined food habits, mean physical height of the people, and so on and so forth.

In devising a measure of the poverty line, the first step is, therefore, to lay down the calorie-intake norm for the population, as mentioned above. The next step is to convert this into the corresponding income or consumption expenditure needed. This is done according to the method given in the equation above. Different food items consumed by the poor are multiplied by their respective prices. A certain food basket will just yield the required pre-determined amount of calories, the intake of which is considered the minimum necessary by the nutrition experts. Once this food basket (collection of food items) is multiplied by the prevailing prices of each item in this basket, we get the poverty line consumption expenditure. Those whose incomes are so low that they cannot make this much expenditure on their daily basket of food items, will naturally be considered poor, because they fall below the poverty line.

The final step in estimating the proportion of population below the poverty line (once such a line has been determined according to the foregoing method) is to study the family budgets or the pattern of consumption expenditure of a sample of population which truly represents the entire universe (i.e. all the consumers). In India, the National Sample Survey collects such data periodically from which poverty estimates are made by the Planning Commission. The consumption expenditure data are tabulated so as to find out what proportion of the population makes consumption expenditure less than the poverty line consumption expenditure determined according to the method described in the preceding paragraph. This will yield the proportion of population below the poverty line.

The foregoing is usually referred to as the headcount method of measuring or estimating poverty: headcount because it merely estimates the number of people (or their proportion of the total population) who suffer from absolute poverty. The absolute poverty so measured is also called income poverty because it refers to the lack of income to meet the minimum consumption expenditure corresponding to the poverty line calorie intake.

The headcount method of measuring income poverty suffers from a serious drawback in that‟ it fails to reflect the fact that among poor people there may be wide differences in income levels, with some people located just below the poverty line and others experiencing far greater shortfalls.”(World Bank, World Development Report 2000/2001). For example, two persons may have inadequate incomes to cross the poverty line, one has, say, an income of Rs. 20 per day and the other Rs. 10 Obviously, the headcount method

would club the two among the poor, but clearly the latter suffers greater agony of poverty (lack of resources) than the former.

In order to overcome this drawback of the headcount method of measuring absolute poverty, Amartya Sen has devised a more satisfactory alternative method. Sen observes that" it is not sufficient to know how many poor people there are, but how exactly poor they are." Thus, Sen provides a concept of "poverty gap" which helps in determining the distance of poor people from the poverty line or the shortfall of their combined incomes from the poverty line income or consumption. The poverty gap index is the sum of the income shortfalls of all poor people the amount by which their incomes fall short of the poverty line divided by the total population. Thus the poverty gap index is

$$\frac{1}{N}\sum_{i=1}^{Q}(Y-Yi)^{\alpha}$$

Where N= the total population, Y = the poverty line, Yi= income of individual I, Q= the total population below the poverty line, and α=1

Exercise 4.1

Question 1 Define Absolute Poverty?
Question 2 How do we measure Absolute poverty?

4.3 Measurement of Income Inequality

Income of the people is a determinant of their economic well-being, the higher the income, the greater is the opportunity for the people to satisfy their worldly needs. However, within a given population the over all economic well-being is also significantly determined by income distribution, i.e. distribution of income among different individuals, households and classes of people. The more skewed the income distribution, the greater the chances of having a large proportion of the population falling below the poverty line. Therefore, income distribution determines what is usually called distributive justice. A more equal distribution of income is normally preferable to a less equal distribution because the former ensures a greater distributive justice or social justice.

From the policy point of view, it is useful to have a methodology of measuring income inequality ready at hand. The policy makers who aim at a just income distribution or an egalitarian income distribution would naturally like to evaluate the impact of their economic policies on income distribution from time to time. Even academics sometimes wish to study the pattern of income distribution in a country or region so as to notice the degree of skewness of such distribution. Such studies are also important to observe inter-temporal changes in the pattern of income distribution. All this shows that a methodology of measurement of pattern of income distribution is quite essential.

Statisticians, policy makers and economists have evolved different methods of measuring income inequality. There are several methods available, out of which three methods are relatively more popular. We discuss these below:

4.3.1 (a) Proportion of Income Received by Different Income Brackets

This is the simplest and, therefore, the most extensively used method of measuring income inequalities. According to this method, the population is divided into distinct income brackets or size classes. The normal practice is to. Divide it into quintiles (i.e. five groups each accounting for 20% income size class) or into deciles (ten groups each accounting for 10% income size class). Income share accruing to each size class is shown in percentages. The following table shows the pattern of income distribution by quintile groups in the U.S.A. for the year 1997.

Table-1
Distribution of Income in the U.S.A. by quintile groups
Percentage share of total income

Lowest 20%	Second 20%	Third 20%	Fourth 20%	Highest 20%
5.2	10.5	15.6	22.4	46.4

The above data bring out the pattern of income distribution in the U.S.A. for the year 1997. It shows that while the lowest (i.e. poorest) 20% of the population there received only 5.2% of the total income, the highest (richest) 20% received as much as 46.4%. This shows stark inequality of income distribution in that country. Besides, as you climb the income ladder, the share of income accruing also rises. For bringing out such income inequalities in their still starker form, even smaller income size classes, like the deciles may be taken. For instance, the U.S.A. data for 1997 shows that the income shares of the poorest 10% of the population was merely 1.8%. by contrast, the income share of the richest 10% of the population was as much as 30.5% it would be noted that this method of measuring income inequalities is very convenient and it convey the skewness of income distribution in a very simple and easily understandable form.

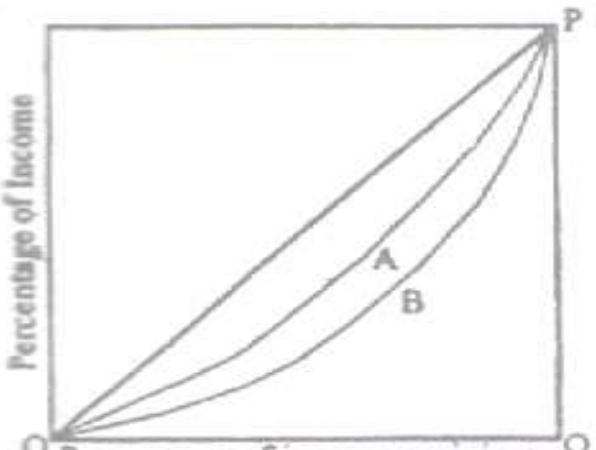
4.3.1(b) Lorenz Curve

You have studies the Lorenz Curve in your course on Economic Statistics. This is a statistical tool which can be used for measurement inequalities of different types, including income inequality. It shows the degree of skewness which can be observed visually. It can demonstrate the change in skewness between two periods of time, or it can compare degree of skewness in two or more countries or regions.

As is already known to you, a Lorenz Curve is drawn as below:-

(i) The recipients of incomes and their frequencies are both cumulated. Then their percentages are calculated.
(ii) The cumulated frequencies (from 0 to 100) are measured along the horizontal axes and the cumulated percentages of income recipients (again 0 To 100) are measured along the vertical axis.
(iii) A diagonal line is drawn connecting the origin 0, with the point marking the maximum of the two cumulated distribution (100, 100). The diagram is converted into a squared box diagram, with the diagonal dividing it into two equal parts. All this is shown in the following diagram:

The actual data of the cumulated percentages of income recipients and the incomes received are plotted on the diagram and plotted points are jointed to form a smooth curve. The curve may look like OAP or OBP shown in the diagram. These two are Lorenz Curves.



Lorenz Curves

The income inequality is shown by the ratio of the area between the diagonal and the Lorenz Curve to the area of the triangle OQP. Naturally, this ratio will be higher, the further away the Lorenz Curve is from the diagonal. In the above diagram, the Curve marked B shows a more unequal income distribution than that shown by the Curve marked. In fact, the diagonal is a line of perfectly equally distribution and a Lorenz curve showing zero inequality of income (i.e. perfect equality) will coincide with the diagonal OP. This will happen when, say, 10% income recipients get 10% of total income 20% receive 20% of total income, and, so on, all along the way.

4.3.1(c) Gini Ratio or Co-efficient or Index

Since Gini ratio or index is, derived from the Lorenz Curve, it too measures the extent to which the distribution of income among individuals or households deviates from a perfectly equal distribution. It measures the area between the Lorenz Curve and the line of absolute equality, expressed as a percentage of the maximum area under the line. From this it follows that a Gini ratio of zero would represent perfect equality, and a ratio of one would imply 'perfect inequality. The actual values of Gini co-efficient would thus fall between zero and one.

The Gini co-efficient is calculated, using any one of the several equations that are adopted, depending on what interpretation is given to this measure of income inequality (see. For example, these interpretations in Further Reading No 1 of this Lesson). The following formal method can be used for this purpose

$$G=1+\ \frac{1}{n}\ -\frac{2}{n_2 y}\ \ y_1 + 2\ y_2 + 3\ y_3 + \ldots\ldots\ldots n y_n$$

Where y_1……..y_n represent individual incomes in decreasing order of size, y is the mean income, and n is the number of individuals.

The chief merit claimed for this measure of income inequality is that it is a convenient and easy way of comparing degrees of income inequality in a country or region at different period of time, or such inequalities occurring in different countries or regions. However, Gini co-efficient also suffers from the drawback that while for two countries or regions, the co-efficient may work out to be the same, yet the share of different quintiles or deciles in national income may be different in each of them. Despite this drawback, Gini index is widely used for measuring income inequalities.
Having discussed in this section the different methods of measuring income equalities, we now finally take up in the following section the contentious issue of a possible trade-off between economic equality and economic growth.

Exercise 4.2

Question 1 Define Income Inequality?
Question 2 Define Lorenz Curve?
Question 3 How do we measure Income Inequality through Gini ratio?

4. 4 Growth and Equality Trade-off

First of all, you should be clear about the meaning of the term trade-off. Several situations arise in the life of a society where it faces a conflict of policy objectives with the result that one objective can be attained only at the cost of moving away from another. This is a situation of " either-or" The society gets either this or that, not both simultaneously.

In development economics and development policy issues, a dilemma is usually pointed out in the simultaneous attainment of the goals of a faster growth rate of GNP or per capita income on the one hand, and a more equitable distribution of income among people and social classes, on the other. It is pointed out that there is a clear trade off between higher rate of economic growth and a less unequal distribution of income. The causation of the trade-off is shown by some in one direction, but by others in the opposite direction, the trade-off between the two, therefore, implies an inverse relationship.

In the economic literature of the early post-second world war years, some models like the Harrod-Domar model showed economic growth to be crucially dependent on savings. Some simple analyses of this period divided the savers into two classes call them rich and poor, or owners and workers. The former were supposed to have a higher propensity to save than the latter. It thus implied that if growth was to be accelerated, policy measures needed to be adopted to redistribute income in favour of the rich, higher saving class. The implicit chain of causation supporting such a policy recommendation, according to Kindle Berger and Herrick, ran like this." the higher saving accompanying redistribution to the class of high savings will lead to greater capital formation, to greater output capacity, and finally to greater output." .Such causal relationships clearly imply a growth and equality trade-off. If you want higher growth, you will have to tolerate a greater income inequality. A more equitable-distribution of income will lead to a lower growth rate.

Such trade-off was implied in the 1950s and the 1960s in such influential development models as the Lewis model of development with unlimited supplies of labour, or the Nurkse model of using disguised unemployment as a kind of potential saving for economic development. These models attempted to show that workers suffering from disguised unemployment in the rural, informal or traditional sector of the economy, getting just subsistence wages, could be shifted to the industrial, modern or the formal sector of the economy to promote growth. The subsistence wages of these workers would ensure high profits to their employers in their new jobs, which would be re-invested by the latter and thus capital formation and economic growth would be promoted.

Any pre-mature rise in the wage rates of the subsistence workers would merely slow down the growth process.

This relationship implying promotion of economic growth through income inequalities has subsequently been questioned. Kindle Berger and Herrick point out several flaws in this logic. In an open economy, higher saving may flow abroad in search of less risky or more profitable investments. Higher savings maybe invested in capital intensive sectors like railways or road building which may not immediately result in greater output. The savings may merely result in creation of idle capacity in the developing economies, again not leading to higher economic growth. It has not been uncommon in these economies that the propertied classes divert their savings to conspicuous consumption, speculative enterprises, purchase of gold or real estate. All these will not promote economic growth. It is indeed possible to overcome this trade-off dilemma between economic growth and equality, via the route of savings itself. Theoretically it is possible that in a developing economy, the government may tax away a portion of the incomes of the richer sections of society and utilize the revenues so generated for capital formation in the public sector enterprises. Here, there would be a happy marriage between greater economic growth and lower income inequality. It is thus clear that a trade-off between economic growth and income equality is not something inevitable. It need not necessarily arise.

There is also a hypothesis on this trade-off which shows the causation from economic growth to income inequality rather than vice versa argued by the foregoing approach. The works of Simon Kuznets (“Economics Growth and Income Inequality,” American Economic Review, March, 1955)and Adelman and Morris (Economic Growth and Social Equality in Developing Countries, 1973) hypothesize that in the initial stages of economic development, the share of the poorest 40% of population in the national income declines, but at higher levels of economic development, the share of the poorest 40% of population rises in the national income. Thus, in the initial stages, income inequalities rise but in the later stages income inequalities decline.. According to this view, initially there would be a trade-off between economic growth and income equality but subsequently, the trade-off would disappear. This is referred to as the U-hypothesis. If you take a diagram in which per capita income is measured along the X-axis and the share of poorest 40% of population in national income along the Y-axis, the plotting of the relevant points would yield a U-shaped curve, showing a rise in income inequalities (because the share of the poorest classes in national income declines) at low levels of per capita income but a decline in inequalities

subsequently because the share of the poor in national income would be rising.

Interestingly, the U-hypothesis has been empirically tested but the results of these tests are far from unanimous on the validity of the hypothesis, Montek Ahluwalia in his study (included in the influential World Bank book titled Redistribution with Growth, 1974), found some support for this hypothesis. With the help of the early 1970s cross-country data, Ahluwalia found that the share of the poorest 40% of population in national income declined up to per capita income level of $400 and later rose when per capita income crossed $1200.

However, World Bank's World Development Report, 2000/2001, quotes several studies which conclude that there is a "lack of association between growth and inequality," and that "countries with similar overall growth rates could experience very different changes in income distribution. The Report cities the examples of countries where economic growth in the 1980s and 1990s has been accompanied by far from a similar change in income distribution. Thus, in Brazil income inequality declined, in Mexico it increased and in Taiwan it remained unchanged The Report concludes that there are complex patterns of distributional changes; in some countries income distribution might improve if the growth process is pro-poor, but in others it can deteriorate. If the growth process has an anti-poor or pro-rich bias. This analysis also shows that growth and income equality trade-off is not inevitable.

Exercise 4.3

Question 1 Define Trade off?

Question 2 Explain in brief Growth and Income Equality trade-off?

4.5. Summary and Conclusion

This lesson, the last of this first Unit, has dealt with an issue which has assumed great importance in development economics in the last three decades. Poverty and income distribution are processes which have immense significance from the welfare angle. Economic growth unaccompanied by fall in poverty and income inequality is simply not sustainable over a period of time because it will generate social tensions.

From the academic and policy points of view it is essential to precisely define poverty and economic inequality, as well as to devise satisfactory methods of measuring them. In this lesson, you were introduced to these semantic and mythological issues. Poverty is defined in terms of the minimum income needed to ensure consumption expenditure on food items that will enable the individual to get a pre-determined amount of nutritional energy such income or consumption expenditure delimits the poverty line below which all individuals are deemed to be poor. Sample surveys of family budgets of households help generate data to determine the proportion of population which suffers from absolutely poverty.

Income inequalities are measured by a simple method of determining the share of different income brackets in the total national income. Alternatively there are the more sophisticated statistical measures of Lorenz Curve and the Gini Co-efficient which may be used for this purpose.

The immediate post-second World war period saw development economics dwelling on the issue of how income inequalities and growth of GNP were interrelated. The dominant view then was that income inequalities have to be tolerated because these promoted economic growth, via redistribution of income in favour of the saving and investing class. This view has been subsequently challenged and rejected. This issue of trade off between economic growth and income equality has been debated in a form where the sequence of causation reversed. Some studies referred to empirical evidence that initially economic growth generated income inequalities because such growth essentially reduced the share of poorest 40% of population in the national income. This variant of the growth and equality trade-off too has been lately rejected with the help of empirical evidence from different countries. So it is now almost unanimously agreed that there is nothing inevitable about the growth equality trade-off. In some situations the trade-off may occur but in others it may not be the case.

4.6 Glossary

- **Absolute Poverty :** A situation where a population or section of a population is, at most, able to meet only its bare subsistence essentials of food, clothing, and shelter to maintain minimum levels of living.
- **Income Inequality** : The existence of disproportionate distribution of total national income among households whereby the share going to rich persons in a country is far greater than that going to poorer persons. Thisis largely due to differences in the amount of income derived from ownership of property and to lesser extent the result of differences in earned income
- **Lorenz Curve:** A graph depicting the variance of the size distribution of income from perfect equality
- **Gini Co-efficient**: An aggregate numerical measure of income inequality ranging from 0(perfect equality) to 1 (perfect inequality) .It is measured graphically by dividing the area between the perfect equality line and Lorenz curve by the total area lying to the right of the equality line in the Lorenz diagram. The higher value of the coefficient, the higher the inequality of income distribution; the lower it is, the more equitable the distribution of income.

4.7. Self-assessment Test

(a) Try these objective type questions:-
(i) Are relative poverty and absolute poverty synonymous terms? (x) Yes, (y) No
(ii) All countries use the same norms for measuring absolute poverty, Is this statement
(x) True or (y) false?
(iii) With rising national income, if the share of poorest 40% of population declines, will be income distribution (x) improve or (y) deteriorate?

(iv) Which of the following statements is correct?
(x) Lorenz Curve and Gini ratio are related measures?
(y) Lorenz Curve and Gini ratio are separate, unrelated measures.
(v) Does U-hypothesis seek to (x) define a poverty line or (y) relate economic growth to income distribution?
(Correct answers: (i)- (y); (ii) – (y); (iii) – (y); (iv) – (x); (v) – (y).

4.8. Suggested Readings

1. P. Mukhopadhaya and V.V.B Rao, "The Gini Coefficient- A Note," *The Indian Economic Journal*, April June, 2000-2001.
2. C.P. Kindleberger and B Kerrick, *Economic development*, pp. 49-50 and 15J-352.
3. World Bank, *World Development Report 2000/2001*, chap 1 and 3.
4. Hollis Chenery et al,- *Redistribution with Growth,* Part 1.
5. Amartya Sen, *Poverty and famines*: An Essay on Entitlements and Deprivation, 1981.
6. G.M. Meier (Ed) *Leading issues in Economic Development*, V ed., 1990 chap.1 (especially Chenery's "Growth-Equity-Trade-Offs," and World Bank's Extent of Poverty")
7. M.P. Todaro, *Economic Development in the Third World,* chap. 5

4.9Terminal Question

Question1. Distinguish between relative poverty and absolute poverty. How is absolute poverty defined and measured?

Question2. What is meant by economic growth-equality trade- off? How is the trade-off implicit in what has come to be called a U-hypothesis?

LESSON 5

APPROCHES TO THE THEORY OF UNDERDEVELOPMENT

Structure

5.0 Objectives

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

- Elucidate theory of Sociological dualism.
- Delineate the theory Technological Dualism
- Understand the Dependency theory, what are the processes and mechanism through which dependency of the countries is maintained.

5.1 Introduction

In this introductory lesson of Unit II, we shall, start with, acquainting ourselves with the nature of the problem of underdevelopment that a stagnant, completely under-developed economy faces. This problem is usually stated in the form of inter-locking vicious circles of poverty. Having done that, we shall take up for discussion three approaches to explaining why stagnation or under development occurs. These three approaches are in the form of theories of underdevelopment. These theories are: the theory of sociological dualism, technological dualism and the dependency theory. Each of them seeks to explain the phenomenon of stagnation or under development in its own way, highlighting a particular process as playing the retrogressive role in this respect. We take up each of these topics one by one below.

One of the most popular and much discussed explanations of economic underdevelopment emphasizes the role of various kinds of vicious circles which keep an underdeveloped economy entrapped in persistent underdevelopment and poverty. All these vicious circles have, almost invariably, their starting point in poverty.

One of the vicious circles stresses lack of savings and, therefore, of capital formation as the main cause of underdevelopment. The argument runs as follows: By definition underdevelopment implies poverty among the vast majority of the people, which affects their ability to work adversely and, hence, their productivity and per capita income are very low. Low productivity is also notably a consequence of the deficiency of capital, which is a natural corollary of poverty. So the people live on the margin of subsistence and there is little scope for saving. Low savings become the cause of low levels of investment, which in turn, perpetuates the deficiency of capital. Lack of capital equipment perpetuates low productivity, low per capita income and poverty. Thus, this vicious circle demonstrates that low level of savings is both a cause as well as an effect of the already existing poverty. Therefore, it highlights the critical importance of saving and capital formation in overcoming underdevelopment.

Another vicious circle emphasizes, in the context of the process of economic development, the role of demand or what, in an earlier lesson, has been referred to as the extent of the market. This circle too starts from poverty. Poverty implies low purchasing power and a small size, of aggregate demand. Consequently, the extent of the market is very much limited; therefore, there is little scope for extending specialization and large scale production and taking advantage of modern technology. Hence investment continues to remain at a low level. Thus, this vicious circle also tends to perpetuate the deficiency of capital formation, underdevelopment and poverty.

Still another vicious circle has been emphasized by Leibenstein in his work Economic Backwardness and Economic Growth, wherein he plays upon the Malthusian effect to explain economic backwardness. His thesis is that, even when the underdeveloped countries mange to increase investment somewhat, it does not help them to escape from ‘poverty’ because rise in investment raises income, which lifts up standard of living of the people, which in turn results in a population explosion, and it finally depresses the incomes to their previous level. No small increments in income, saving and capital formation will thus help the country in escaping the poverty trap. We shall discuss Leibenstein‘s version of vicious circle more fully in the following lesson.

The sum and substance of almost all ‘vicious circle’ explanations of underdevelopment is “that poverty itself sets up well high insurmountable obstacles to its own conquest” (P.T Bauer) or as one of its chief proponents, Ragnar Nurkse, observed, “A country is poor because it is poor.”

A point to be remembered is that, oftener than not, the various vicious circles in underdeveloped economies are found not in isolation from each other but together, because they are very often interlocked. It was particularly Nurkse who, in his Problems of Capital formation in underdeveloped Countries, used the idea of ‘interlocking vicious circle in support of his thesis that the way to promote development was to break into the vicious circle by capital investment from abroad or by foreign aid. With the exogenous injection of capital, productivity would rise and, in consequence, per capita income would

also rise. The higher income would generate higher savings which would be sufficient to carry on the momentum of capital formation initially created by the exogenous injection of capital from abroad. Higher incomes would mean greater demand and much larger extent of the market, which would give a further impetus to capital formation by creating profitable investment opportunities.

The thesis, which seeks to explain underdevelopment in terms of the interlocking vicious circles, has been questioned particularly by P.T. Bauer. It is argued that, since many developed economies of today started almost with the same conditions that are found in the underdeveloped economies of the 1950s and yet they developed without any significant exogenous injection of capital or foreign trade; therefore, this thesis is not historically valid. Secondly, this approach regards the process of economic development to be mechanical; it fails to recognize that economic development is a complex process involving, in addition to economic processes as such, social political and cultural processes too. Thirdly, this approach somewhat exaggerates the importance of capital and is based on an implicit assumption of an unvarying capital/ output ratio. But growth models based on the assumption of an unvarying capital/ output ratio are misleading. In fact economic development in almost all countries has usually been associated with the shifts in production functions involving changes in capital/ output ratio

5.2. Theories of Underdevelopment

5.2.1 Theory of Sociological Dualism

In the past, the underdeveloped economies were viewed as being dualistic, in the sense that a broad modern segment of the economy coexisted with a stagnating, traditional sector. The theory of sociological dualism viewed this dichotomy in the economy of these countries to be the creation of sociological factors which included the cultural factors as well. The theory is cast in a colonial setting when the foreign rulers in underdeveloped countries had one set of social and cultural mores while the natives had quite a different set of social and cultural systems.

Boeke, a Dutch economist, is the earliest exponent of the view that economic backwardness of the poor countries is primarily due to the above said sociological dualism. In his book, Economics and Economic Policy of Dual societies which were based on his experience in Indonesia, he argues that the real explanation of underdevelopment is to be found in the social systems and cultures of the underdeveloped countries, for they are not, in his opining, adaptable to economic changes.

Boeke argues that the modem, capitalistic methods of production fail to spread from export industries established by western entrepreneurs, because the cultural and social environment necessary for the spread of western type of capitalism is absent. He emphasizes three main features of the environment necessary for the spread of modern capitalistic development, viz. existence of unlimited wants, money economy and large scale production. Boeke believes that, in the underdeveloped economies, people have only limited wants on account of which their supply curve of efforts begins to slope

backwards rather too soon, so that the natural response to increase in income is not increased effort and higher production but decreased effort and lower production. It would not be wrong to state that backward sloping supply curves are the kingpin of this explanation. In Boeke's own words," When the price of coconut is high, the chances are that less of the commodities will be offered for sale; when wages are raised, the manager of the estate risks that less work will be done; if three acres are enough to supply the needs of the household, a cultivator will not till six…."The predominance of small-scale subsistence producers also reinforces this tendency, because they are not profit-motivated and therefore, cannot be induced to increase their supplies by the offer of higher prices. Nor are they willing to undertake the risks of employing modern techniques of production. Since production is organized on the basis of the extended family system and exchange is confined to neighbourhood and is mostly in the form of barter, modern capitalistic production involving increasing specialization and large scale production fails to penetrate this vast sector of the economy.

According to Boeke, the main consequence of this is that there comes to be established 'dual' societies in which an imported social system coexists with an indigenous social system and the former fails to oust or supersede the latter. In other words, it results in the establishment, within the underdeveloped countries, of 'enclave economies' which are governed by the techniques motivations and organization of advanced western economies, while the indigenous sector remains unaffected by these techniques, motivations and organisation of advanced western economies. Thus, there is a 'dualism'. However the distinctive character of Boeke's approach is that the chief cause of this 'dualism' is traced to sociological factors, because he believes that the basic "values and attitudes of the indigenous population are incompatible with the type of behaviour required to introduce and successfully maintain production based on the advanced techniques of developed economies".

The theory of sociological dualism as the cause of underdevelopment presents an extremely pessimistic viewpoint. However, many of the underlying notions of this hypothesis have been now discredited. In the first place, the hypothesis that, due to social and cultural factors, peoples of underdeveloped countries have 'limited wants' is untenable. The notion of limited wants seems to spring from a failure to distinguish between the statement that "people of underdeveloped countries really cannot envisage a standard of living higher than their own", or the statement that "they could think of no satisfactory way of spending increases in income", and the statement that "they see no simple way of raising their standard of living by their own efforts of enterprise". As Higgins observes, while the last of the above statements might be true, the first two are not true at all. The said last statement is not continued to the underdeveloped economies alone. This phenomenon can be found in any economy, developed or underdeveloped, which has stagnated long enough to weaken the "demonstration effect" provided by people moving from one standard of living to another as the result of their own extra effort directed specifically towards earning additional income.(Higgins, " the dualistic theory of underdeveloped areas", economic development) Cultural resistance to the demonstration effect ultimately gives

way, as more and more people, taking advantages of economic opportunities, move on to the higher standards of living.

The hypothesis of backward sloping supply curves in the underdeveloped economies rests on the assumption of 'limited wants'. But this assumption of 'limited wants' as shown above, is not tenable. It should therefore, follow logically that the hypothecs of backward sloping curves should also be invalid. However, the empirical facts have also contradicted this hypothesis. For example, it used to be said that, despite substantial increases on the prices of cotton. The Ugandan farmers in the late 1940s and early 1950s reduced rather than increased their production, and this was regarded as evidence in favour of the hypothesis of backward sloping supply curves in the under-developed economies. However, the fact was that at this time coffee-growing in Uganda was becoming much more profitable than cotton growing. Therefore, the cutback in the production of cotton was quite rational on economic grounds and could to be attributed to the social and cultural mores resulting in backward sloping supply curves. Similarly, it used to be pointed out that, in the former Belgian Congo, the farmers would not apply manure to their beans fields inspite of the fact that they could see that, on a nearby demonstration farm, the application of manure resulted in a more than five-fold increase in yields. But, before jumping to the conclusion that this fact was an evidence of backward slopping supply curves, the proponents of this thesis did not care to take note of and explain the fact that these very farmers were too ready and willing to apply manure to their banana plantations. The investigation into this paradox revealed that the explanation was to be sought not in the backward sloping supply curves but in the prevailing system of land tenure: while the farmers enjoyed permanent tenancy on lands devoted to annual crops like mangoes and beans was temporary and insecure. Hence, this behaviour of the Belgian farmers too has turned out to be quite rational in economic terms Many more such empirical facts can be adduced to refute the thesis of the backward sloping supply curves in the underdeveloped economies. The actual experience of the last half a century shows that in the now developing countries there has been an explosion of wants. In all these countries farmers have responded with increased supplies of crops when farm prices have risen.

The third important notion underlying Boeke's thesis of sociological dualism, namely that farmers in the underdeveloped economies are socially and culturally conservative on account of which they do not take to new techniques of production and organisation, is also false. The fact is that most of the farmers in the underdeveloped economies earlier lived on the margin of subsistence on account of which it was economically quite rational for them to seek to minimize their risk rather than try to maximize their uncertain profits. In an article, the Theory of the "Optimizing Peasants"(*Journal of Development Studies* Vol 4, No.3 1968) M.Lipton has demonstrated that no poor small scale cultivator is prepared to undertake the risk involved in the introduction of any new technique which, although it might promise a substantial increase in yield, guarantees no safety to the farmer against the eventuality of a total harvest failure. The lack of financial means to employ such techniques might be the additional deterrent against their adoption. It is thus, not without reasons that only the mere prosperous farmers in India and Pakistan have

been the first to introduce new dwarf varieties of wheat and rice that have ushered in the so called “Green Revolution.”

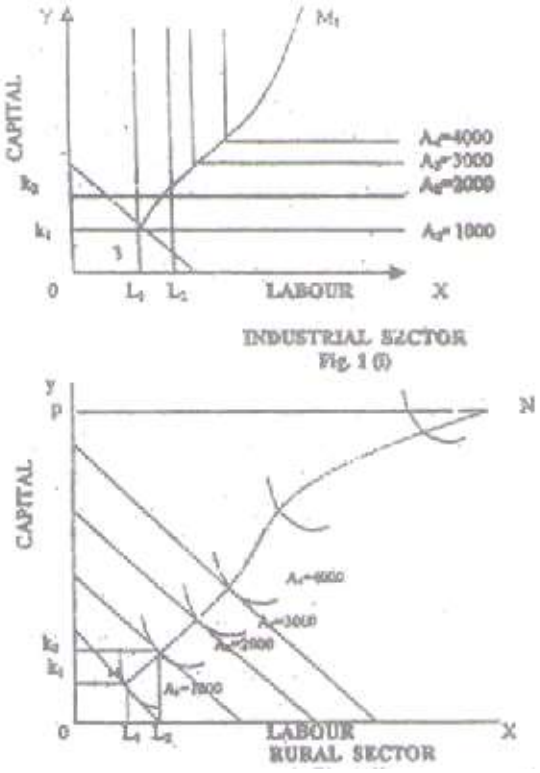
5.2.2 Theory of Technological Dualism

The above criticism of Boeke’ thesis need not imply that dualism in underdeveloped economies is a myth. On the contrary, it is very much a fact, for almost all the erstwhile underdeveloped economies had two clearly differentiated sectors; a traditional sector comprising peasant agriculture handicrafts and at the most, very small industry along with the associated trading activities, and a modern sector comprising plantations, mines, petroleum fields and refineries, large-scale industries, and the transport and trading activities associated with these operations. Levels of techniques productivity, and income were low in the former sector and high in the latter. However, this dualism was a consequence not of the sociological factors, a believed by Boeke and his followers, but of the technological and economic factors.

It is sometimes argued that a fast growing population, under certain circumstances, acts as an initial shock which might pull an underdeveloped economy into the road of economic development. But this is possible only if the growing population could be provided with productive employment, in the absence of opportunism of productive employment, the growing population is likely to result in a dualistic structure of the economy. According to the proponents of technological dualism the said dualism is primarily due to the fact that on the one hand, the production functions relevant the modern sector actually embody or are believed to embody fixed technical coefficients, and on the other hand, adequate supplies of capital are not available.

We shall now present a simple model of technological dualism to clarify its nature. This model makes the following simplifying assumptions: (1) there are two sectors in the economy, an industrial (modern) sector and a rural(traditional) sector (2) The industrial sector is capital-intensive and is characterized by fixed technical coefficients(i.e.…fixed factor proportions) but the rural sector is characterized by variable technical coefficients . (3) Only two factors labour and capital, the latter including improved lands are assumed (4) only two goods are produced, industrial raw material for export and necessities for home consumption.

Fig. 1 (i) above represents the industrial sector with L-shaped technical co-efficient therefore, the iso-product curves A1, A2,A3…. are right angled. Fig 1 (ii) represents the rural sector with variable technical co-efficient therefore, here with variable technical co-efficient therefore, here; the iso-product curves A1, A2, A3… are like normal curves. To produce the output A1 in the industrial sector will require only OL2 labour. If OL2 labour is available L1, L2 of it will remain unemployed,



Unless an additional capital K1 K2 is made available. MM1 is the expansion path of the industrial sector. Since the sector is assumed to be capital-intensive, therefore, its expansion will generate relatively less employment.

However, when capital from abroad becomes available to the industrial sector, the process of industrialization only generates a population explosion. In some countries the rate of growth of population exceeds the rate of capital formation in the industrial sector. Consequently, employment opportunities in the modern, industrial sector lag behind. The growth of population and the increase in the labour force. If the technical coefficients in the industrial sector had been variable, employment opportunities could increase more rapidly, but the technological constraint of fixed factor proportions blocks the way.

Consequently, the increased population has to fall back upon the rural sector with the variable technical coefficients. In the beginning of the process, neither factor is relatively abundant or scarce in this sector. Therefore, as more and more people, due to the growing population and the inability of the industrial sector to absorb it, fall back upon the rural sector, the ratio between labour and capital (improved land) is maintained. But a stage is reached, when capital becomes scarce, and the sector switches to the more labour-intensive techniques. When the output in the rural sector touches Pn, the limit is cached, for no more amount of improved land is available. The marginal productivity of labour is zero or even below zero even with the most labour intensive technique. As the population persistently grows it merely adds to open as well as disguised unemployment in the rural sector.

As a result of the above process, the population, far from shifting to the industrial sector, increased proportionately more in the rural sector. If

industrialization is measured by the proportion of population dependent on industries, the process of industrialization, after its first impact, proves to be a nonstarter. On the other hand, when the marginal productivity of labour becomes zero or negative even with the most labour intensive techniques, there is no incentive for individual farmers or small enterprises to make marginal and related investments of capital in the labour intensive rural sector, even if they had capital to invest. There is no incentive for introducing labour-saving techniques either, even if they knew about them and could afford them. Since no such technology, which could increase labour productivity without raising the amount of capital per worker has been designed as yet, therefore, productivity remains at a very low level since there is so much redundant labour, the labour as a group feels no incentive to increase its efforts. Thus, low level labour intensive techniques, low productivity; disguised unemployment, low levels of income in the traditional sector are the only results of initial increase in investment in the industrial sector.

The above analysis of technological dualism lays bare what Higgins describes “as the most vicious of all the vicious circles encountered in a theory of underdevelopment”. Labour is not absorbed in the industrial sector, because the supply of capital to that sector is limited and the technical coefficients are fixed or are believed to be fixed. The supply of capital to the rural sector is also limited; and moreover, it is not directed towards improving techniques, because although the elasticity of substitution of labor for capital may be high the elasticity of substitution of capital for land is low.

Although the theory of technological dualism looks to be plausible, it fails to answer two important questions first, why cannot the so-called redundant labour be transformed into capital (see in this context, Lewis model in the next lesson) ?Secondly, why are the appropriate technological innovations which permit substitution of labour for capital in the industrial sector not possible?

5.2.3 DEPENDENCY THEORY OF UNDERDEVELOPMENT

The development process has not been uniform across different countries. While some of the countries registered very high rates of growth during the last about two centuries, a large number of countries remained virtually stagnant in economic terms. The former are now regarded as developed countries while the latter as underdeveloped countries. Among the theories that have sought to explain the process of underdevelopment, like the preceding two theories, one theory has been put forth by the dependency school.

Dependency analysis emerged as an influential branch of development economics in the late 1960s. it is a common characteristic of the dependency studies that dependency relations are seen to extend beyond the economic sphere they are cultural and political also: However, in the present context, the discussion will be concerned with the economic aspects of dependency. Most of the early literature on dependency was produced in Latin America. However, in the 1970 s the dependency analysis were more widely applied to the rest of the third world and to the countries of the European periphery. In all cases focus has been on a range of unequal and dependent relationships which are seen to exist between the countries of the periphery(backward countries) and the advanced capitalist counties. These dependent relations are a limiting factor for the process of the backward countries.

Dependency theory is a component of neo-Marxist critique of colonialism and capitalism. You may refer to Peter Limqueco and Bruce Me Farlane Neo-Marxist Theories of Development to know more details about this, let us start with the meaning of dependency. For this purpose we shall take into account the new-Marxist definition of dependency given by Do Sautos which is hitherto most widely quoted. He defines dependence as a conditioning situation in which economies of one group of countries are conditioned by the development and expansion of others. A relationship of interdependence between two or more countries or between such countries and the world trading system becomes a dependent relationship when some countries can expand through self-impulsion while others being in a dependent position, can only expand as a reflection of the expansion of the dominant countries, which may have positive or negative effects on their immediate development(quoted in Diana Hurt, Economics Theory of Development: An Analysis of competing Paradigms p. 200). It implies that there is single world capitalist systems which may derive the momentum of its development are frequently used in such literature. The centres are the economies of those countries from where the process of modern capitalist development started, like the U.S.A. and U.K. The underdeveloped world formed the periphery of the world economic system. The centres of world capitalism are in principle capable of autarkic (within themselves) development, fully independent of periphery, whereas the reverse is not the case. As such the periphery is not essential to the development of capitalism at the centre. Nonetheless, the centre has found it convenient to exploit the periphery in order to aid its own capitalist accumulation. Over time, it has done so in a variety of ways, modifying the modes of production in the periphery and creating various forms of dependency relations between the latter and the centre such that the periphery in contrast has lost the possibility of autarkic (independent) capitalist development.

In what follows we shall distinguish three different areas of economic dependency trade transfers and technology under technology we shall include entrepreneurial and managerial dependency.

5.2.3(a) Trade Dependency

Trade dependency of the developing countries can further be classified into (i) competitive, (ii) private non competitive and (iii) state non-competitive. In fact there is no clear dividing line between ‘competitive’ and ‘non competitive’. I.M.D little who has given this classification himself maintains that there can never be dependency in competitive trade or exchange. Of course there can be dependence of a particular country on a particular commodity (like that of Ghana on Cocoa or Sri Lanka on rubber) for which market is highly competitive. But such as competitive market dependency has nothing to do with the meaning of dependency as used by the under development school.

However, the meaning of dependency can be understood partially in terms of non-competitive trade. In this context non -competitive means that the dependent economy can be significantly affected by the decisions of a single foreign person or firm, a government agency.

5.2.3(b) Private Non-Competitive Trade

The developing countries often export primary products and minerals. It is argued that an account of monopolization of trade and industry by the purchasers the exports of these countries were often under priced. In addition, the ownership and operation of mines in the developing countries by the foreigners has also been a major source of exploitation and dependency. Such type of doctrine of dependency originated in Chile, where three United States companies dominated production arid exports of copper until they were expropriated in the early 1970s. However, due to growing government regulation of foreign capital in developing countries this situation of dependency is taking the form of interdependence a term coined by the spokesmen of developed capitalist countries. But in the process of interdependence between governments of host developing countries and large outside corporations, who benefits more becomes often difficult to state. So far as the manufactured exports of the developing countries are concerned the buyers from outside may hold down the prices by being able to exercise some market power, since alternatives for supplies may be limited. As with the exports, some imports of manufactures are certain to be at monopolistic prices. In pharmaceuticals, monopoly position is protected by patents. However, several products are being produced by many firms in different countries and the profit margins are very low due to growing competition. Due to this, trade dependence on private foreign corporations is regarded by some to be insignificant compared with trade dependence on government.

Government Trade and Manipulation of Private Trade: Governments of developed capitalist countries intervene extensively in trade by imposing import levies, imposing export restrictions to keep domestic prices low, quota restrictions, etc. such interventions were particularly severe in the pre WTO period. In additions, intervention for political reasons has often been made by the capitalist countries. Technology of strategic interest, export of armaments etc. are often restricted to political enemies. Trade restrictions are used for foreign policy reasons. U.S. embargoes on trade with Cuba and Iraq, its limitations on wheat export to the erstwhile U S.S.R., trade sanctions against the earlier white-regime South Africa are some such examples. On the contrary the trade policy trade sanctions by the developing countries though resorted to occasionally, have not been successful in any way harming the interests of developed capitalist countries . This is because taken together the former do not account for a substantial share of world trade both in terms of overall volume and in any particular commodity. This clearly implies that the developing countries are in general more dependent on the actions of capitalist countries especially the United States and Japan or on coalition like the EEC. The three most potentially damaging North-South economics dependencies in the world are: (a) those of capitalist countries especially continental Europe and Japan, on the oil exporters (b) those of the far Eastern countries whose specialization in manufactured exports, especially clothing, has made them highly dependent on the protective policies of the developed capitalist countries and (c) those of a great many developing countries and whose increasing reliance on imports had made them dependent on the United states, which is the supplier of last resort and whose government intervenes in the grain trades as well.

5.2.3(c) Dependency on Transfer

Transfer of resources from the developed capitalist countries to the developing countries can be made in three different forms, viz (i) Official Development Assistance (ODA), or aid, (ii) commercial borrowing, and (iii) private direct investment.

Official Development Assistance (ODA or aid) Aid comprises all grants and loans on concessionary terms, from government of the industrialized countries and from multilateral agencies to the government/agencies of developing countries. Technical assistance is the form of aid, where the transfer normally takes, the form of the direct provision of services and is small in terms of monetary value. Almost all liberal intellectuals/ developed countries and developing countries admit the necessity of aid for the attainment of rapid development but aid by itself is regarded by several economists harmful to the recipient and is deemed to be imperialistic in effect and even in intent.

Development capitalist countries often want to increase their leverage over developing countries policies and choice of investment. This adds to the dependence of the latter on the former. The imperialism of aid lies in the support it gives to the capitalist world, to the trade of developed countries, but most especially to private foreign investment by multinational corporations. It does this in a number of ways. The first and most important is that it helps to support the governments of the developing counties which follow the capitalist path of development. Second, it is used to further the causes of mining, cash crop agriculture, and open trading policies which suit the developed capitalist economies of the centre. Third, it helps to lay the foundations for private investment by providing the physical infrastructure required. In itself it shares some of the evils of private investment. Moreover, it tends to perpetuate itself, and consequently, dependency. It may reduce the domestic saving ratio. Also a country in the end must pay back several times more than it borrows, and in this way, also aid lends to perpetuate itself.

5.2.3(d)Commercial Borrowings

In the 1950s and 1960s commercial borrowings by the then underdeveloped countries consisted largely of suppliers credits, an expensive form of finance that has pushed some countries find it difficult to service debt. In such situations, being unable to pay back, the borrowing country gets the debt rescheduled, and it is then in a position of dependence.

Direct Private Investment. This is the most awful species in the bestiality of underdevelopment. It is used for creating of buying control of real assets in the host country. Such investment almost invariably encompasses all three of the possible forms dependency may take trade, monetary transfers and technology. We shall discuss the related issues in the subsequent pages of the lesson while discussing MNCs.

5.2.3(e)Industrial Dependency and Independence

Technological dependency has been an important aspect of discussion relating to overall dependency and underdevelopment. Before dwelling upon it at length it is essential to understand the distinction between industrial independence and ‘industrial dependence’. By industrial independence we shall normally mean not relying on foreigners. For this, condition must be

satisfied. First, it own citizens must be capable of initiating and sustaining production. This implies that important entrepreneurial and managerial decision must be taken be the nationals of the concerned country . In this situation even foreign a divers, or experts can be hired form a completive market. Second, the technique of production and technological knowledge must be competitively available. The fulfilment of these two conditions differs from one industry to another. The early stages of industrial development are often characterized by difficulties arise and multiply as the country embarks upon complex products and processes. The higher stage of industrial development requires high degree of entrepreneurial and managerial skill, the absence of which leads to industrial dependence of developing countries.

5.2.3 (f)Technological Dependency

All countries import capital goods. A very high degree of reliance does not constitute dependency in any threatening does not constitute dependency in any threatening sense, or in the sense of being exploited, if they are competitively available; this seems to be case except perhaps for some very special plant. A country does not become less dependent by making its own equipment; and indeed, it may increase its dependency if it thereby reduced the number of foreign firms on which it relies for know-how and design.

The argument that countries will obtain more appropriate (i.e. labour-intensive) techniques if they have their own capital goods industry is weak. In general, indigenous capital goods industries make equipment that is little different from what could be imported, although there are some examples of more labour-intensive developing country machinery. But the argument is weak primarily because there is a great deal of room for making production more labour- intensive in other ways. In most industries there is already a wide choice of techniques, but the choice is strongly biased in favour of capital intensity by a mystique on the part of local politicians, and local and foreign engineers and managers favouring the latest thing. Also many government policies distort prices and labour costs in favour of capital intensity and possibly most important, developing countries governments show a strong preference for industries that are highly capital-intensive. Knowledge is important in the selection of technology such knowledge is easy to acquire in the case of most of the more labour-intensive industries, producing the simple and most essential consumer goods. Difficulties mount as a country embarks upon more sophisticated capital intensive products. But they can be exaggerated several developing countries, for example have been able to unbundled and put together efficient steel plants using equipment from several different foreign firms and countries. Foreign consultant engineers may be used, but this is unlikely to be a perfect substitute for good indigenous knowledge, the lack of which has resulted in some inefficient and excessively capital-intensive unbundling. The acquisition of the technical knowledge required to choose well does not, however, presuppose that any of the equipment need be indigenous. Notwithstanding the possibilities of ‘unbundling’ the more sophisticated the industries a country wants to see on its own soil, and the taster it wants will it have to rely on private foreign investment.

Private foreign investment is wholly irrelevant to technological independence. A country with less foreign investment is industry is more

industrially independent after all, fewer foreigner are making decisions. But there is no reason to suppose that this makes the country less reliant on foreign technology in the process of production or the design of the product.

5.2.3(g)Transnational corporations and dependence

The dependency school considers multinational corporations (MNCs or TNCs) as a major threat to the economic and political independence of the developing 'countries. Their common argument relating to peripheral capitalism runs as follows:

Sunkel seeks to demonstrate the nature of the induced dynamic experience by dependent structure, emphasizing in particular its contemporary linkages to transnational capitalism and consequences of these linkages. Transnational capitalism, he argues is generating the break-up of national economies, social and cultural identity within the dependent economies. Increased international integration leads to national disintegration. Since the mid 1950s MNCs have made direct investments in underdeveloped countries with their head offices in the centres of world capitalism, where strategic decisions are made and new technologies developed. They determine the patterns of international economic change, thereby creating a new international division of labour. Their bargaining strength vis-à-vis developing countries have enabled them to strike very favourable deals with national governments. Conjointly, these factors have contributed to undermining national economic autonomy in the Third World. The developing 'countries' are consequently locked both into technological dependency and technological backwardness relative to the centres of world capitalism. Their activities reduce the scope for indigenous accumulation to overcome these disadvantages, both through the generation of net capital outflows from developing countries and through active promotion of consumerism. The investment strategies of TNCs generate both increasing international inequality and increasing internal polarization within the dependent structures.

5.3Summary and Conclusion

In this lesson, you leant some of the explanations or theories of under development. In the immediate post second world war years, the phenomenon poverty and underdevelopment was viewed in – term of a set of interlocking vicious prices which did not allow the process of development to start thought their Octopus –like grip over the economies of the them underdeveloped countries Several theories were put for the to explain the existence of these vicious circles of poverty. Out of these theories, viz the theory of sociological dualism technological dualism and the dependency theory of sociological dualism on the other hand , the theory of technological dualism sough to explain underdevelopment in terms of the co-existence of two sectors, one characterized by capital intensive technology and the other by obsoletes labour intensive technology . The former, instead of pulling up the latter with itself, tended to create conditions for the perpetuation of stagnation and unemployment in it.

The dependency explanation of under development came later in the 1960s and it was cast in neo- Marxian terms of exploitation of the periphery of the centre through the processes of dependency created for the former by the latter. These and other theories of underdevelopment are now of only an

academic interest, because once the shackles of the vicious circles of poverty have been broken, the more important questions now is how to design a development strategy to purpose the process of development vigorously in the future. Some of these issues are taken up in the following Lessons.

5.4 Glossary

- **Isocost Line –**Isocost line may be defined as a line which shows different possible combinations of two factors that the producer can afford to buy given his total expenditure to be incurred on these factors and price of the factors.
- **Isoquant Curve –** An isoquant curve may be defined as a curve showing the possible combinations of two variable factors that can be used to produce the same total output.
- **Vicious Circle** – A self reinforcing situation in which factors tend to perpetuate a certain undesirable phenomenon- for example, low incomes in the poor countries lead to low consumption, which then leads to poor health and low labour productivity and eventuality to the persistence of poverty.
- **Capital Formation** –Net addition to the capital stock after depreciation

- **Factor Proportions** –The ratio in which factor of production are combined.
- **Official Development Assistance** –Net disbursement of loans and grants, on concessionary terms, from government of the industrialized countries and from multilateral agencies to the governments or agencies of the developing countries

5.5 Self Assessment Test

Try these objective type questions:-

(i) Have the "interlocking vicious of poverty" been put forward to explain the phenomenon of (x) poverty of weaker sections of society (y) nation's poverty?

(ii) Which of the following statement describes Boeke's theory of sociological dualism correctly

(x) Underdevelopment is caused by clashing of imported and indigenous social systems.

(y) Underdevelopment is the result of society's social backwardness

(iii)Which of the following, is not consistent with the theory of technological dualism

(x) A country is backward because it does not use modern technology

(y) A country is backward because its modern sector does not absorb the rising labour force

(iv) Out of the well-known following firms operating in India, which one would symbolize dependency under the dependency theory of under development? (x) Reliance Industries Ltd. (y) Coco Cola India

(v) Which of the following portrays a fixed technical co-efficient? (x) An iso-product curve (y) an iso-cost curve

(Correct answers: (i)-y; (ii)-x; (iii)-x; (iv)-y; (v)-x)

5.6 Suggested Readings

1. Benjamin Higgins, *Economic Development Principles, Problems and Policies* Chap.12 and 14
2. C.P.Kindleberger and B.Herrick, *Economic Development;* Chap.IT(Section on “Redical and Marxiat Theories of Economic Development”)
3. T dos Santos, “The structure of Dependence”, *American Economic Review*.1970

5.7 Terminal Questions

Questions 1 Critically examine the theory of technological dualism as an explanation of underdevelopment.

Question 2 According to the dependency theory of underdevelopment which are the processes and mechanisms through which dependency of developing countries is sustained and perpetuated?

LESSON 6

APPROACHES TO ECONOMIC DEVELOPMENT-I

Structure

6.0 Objectives

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

- Explain the concept of Low Level Equilibrium
- Have an idea about Critical Minimum Efforts that are necessary for the underdeveloped economy to take-off
- Critically explicate the Big Push Theory.

6.1Introduction

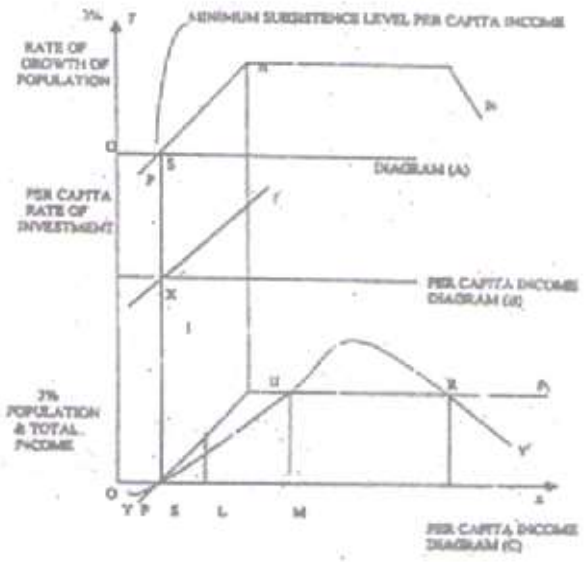
After having discussed the nature of underdevelopment and some or its possible explanations, we in this lesson move on to acquaint ourselves with a couple of approaches to initiating and sustaining the process of economic development these approaches to economic development were popular academics exercises in the post- Second world war period, when today's developing countries were looking for some workable and viable strategies to get a process of economic development going in an atmosphere of all round economic stagnation and lack of resources. In todays world these approaches to economic development may appear to be merely of a historical interest, since the process of development has already been underway for the last about half century. But these do serve the important purpose of showing to us how difficult it must have been for economists and policy makers to devise ways of escaping the poverty trap created by the vicious circles of poverty to which a section was devoted in the preceding lesson.

To start with in this lesson, we shall discuss the model which provide a formal explanation of how a vicious circle of poverty keeps an under developed economy tied to low level of per capita income. This is the celebrated theory of low level equilibrium trap. Having discussed it, we then pass on to essential question of how to escape the low level equilibrium

trap[p. for this there rate two approaches, although their essential logic is identical. These are the ethical minimum effort thesis and the theory of the big push, which we shall take up for the discussion in subsequent section of this lesson

6.2The Low Level Equilibrium Trap

This theory is a formal, model of a how a vicious circle of poverty, operates in an economy which for centuries has been stagnating at a very low level of per capita income. The theory has been developed by Richard Nelson, Harvey Leibenstein and Rosenstein-Rodan. It is based on two main assumptions, the first proportion is based on the classical view point that population will increases when the per capita income of the country rises above the subsistence level. It further goes on to state that although in the initial stages (as a result of increase in the per capita income) population grows rapidly, there is, however, an upper limit to the rate of population growth, say about 3% per annum. Beyond this limit any increase in per capita income will not result in pushing up the growth rate of population. Rather the later may even decline because of a fall in the birth rate as has happened in the developed countries the second assumption is that at low levels of per capita incomes people can neither save nor invest. This" interlocking vicious circle" would simply defeat any piece meal attempt to initiate and sustain the process of economic development. But once the per capita income crosses the 0 saving phase, arising proportion of the increases in income will be saved and thus invested. This will lead to an increase in the rate of growth of income



Both the foregoing assumptions come down to two main ideas: (i) there is-in inertia of stagnant economy or a low level equilibrium trap, and (ii) a minimum effort or big push is needed to break through this trap. We can explain this phenomenal by using the analogy used by the centre of international studies," there is a minimum level of resources that must be devoted to …… a development programme if it is to have any chances of success. Launching a country into self-sustaining growth is little like getting on airplane of the ground. There is a critical ground speed which must be

p[assed before the craft can become air board" . These arguments can be explained with a help of a set of diagrams given above. In diagram (A), the level of per capita income is measured on x-axis. Pp is growth curve of population. It tends to increase until upper limit of about 3% is reached.3 shows the minimum subsistence level per capita income. Population will decrease in per capita income falls below S. At S, it will be constant and beyond S it will start increasing. In diagram (B) the horizontal axis measures level of per capita income while the vertical axis shows rate of investment at different per capita income level. Here, point x shows the level of income with 0 savings and 0 investment. Any point below x on II curve shows negative investments while the upper portion beyond x shows positive investment. There is no upper limit to II curve. Diagram(C) has been simplified by assuming that the minimum subsistence level of per capita income S and 0 level of per capita income are the same. In this the third part of the diagram two level of per capita income is measured along X axis and the rate of growth of population and total income along the y Axis.

Diagram(c) will provide us with a very simple explanation of the process of development. Point S (equal to x) represents the low level equilibrium trap. Thesis similar to classical "stationary state" if there is any increases in the per capita income beyond S, the rate of growth of population (shown by p,p curve) will be higher than the rate of growth of total income(represented by y,y curve). Consequently, the per capita income will be pushed back to its original level. Such retrogression can be avoided only when the per capita income is given a discontinuous jump of more then SM. It Is so because it is one heard that increases on the population will be less than the increases in come. This will give us a new unstable equilibrium at U. Any further rise in per capita income beyond M, without further increases in the rate of population growth, would take us to a table equilibrium point R. Now it should be cleared to us that any small development effort to raise per capita income will be frustrated by population explosion. This keeps the economy tied to a low level of per capita income. In diagram(C), if per capita income is raised but is less then OM, it will return OS subsistence level, which is the low level equilibrium trap.

Yet the process is not as simple as explained above. It raises certain difficulties. It is too difficult to establish our relationship among the level of per capita income, rate of growth of population and the rate of growth of total income

Population growth and per capita income are not so mechanically related as shown here. In fact, the functional relationship between per capita income and total income is also more complex Income distribution pattern, control of financial institutions over community saving and productive organization of resources have a key role to play in this relationship, equally significant difficulties arise when, the time element is taken into account. Our diagram show timeless functional relations. Such an analysis gives a better description of fully developed economies and explains short run economic activities. Its usefulness for under developed countries is questionable. A.P. Thrillwall considers low level equilibrium trap model as unduly pessimistic and restrictive in its assumptions. He holds that the existence of a low level equilibrium trap in the absence of a critical minimum effort does not accord

with the historical experience. Hagen infact argues that population pressure might act as a stimulant to economic development

If we take time factor into account, the rise of income from S to L in diagram(C) may be accompanied by permanent and irreversible addition to capital stock and skills, such that the per capita income will not fall back to capital S but to some higher level between S and L. income growth within the range of per capita income OS and OL may thus become permanent. If this newly permanently higher per capita income becomes an new stable equilibrium, and the sequence of events is repeated, per capita income will reach OM in a series of step. No Critical minimum effort will be needed. Such a ratchet mechanism probably helps the developing countries to take off.

Another question that challenges this thesis is that if a country attains a rate of growth of income of more than 3%, does it mean that it has now entered a new unstable rise in income over time in a cumulative manner?

Experience has shown that it is not so because we have witnessed a number of abortive 'take offs' In such cases country fails to maintain over a period of two to three decades the higher levels of saving-investment ratio and growth rate of national income. On the other hand, that need geometrical model of low level equilibrium trap is not design to deal with these longer-term problems of changes in the economic and social frame work which ensures a successful 'takeoff', as argued by H.Myint

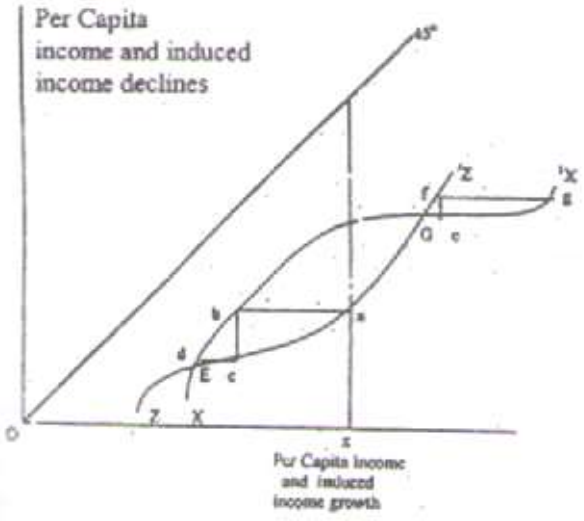
Exercise 6.1

Question 1 Bring out vital elements of low level equilibrium trap.

6.3 Critical Minimum Effort Thesis

The critical minimum effort thesis was advanced by Harvty Leibenstein in1957. Its essential logic is based on the theory of the low level equilibrium trap. While discussing this theory above, it became clear that if such a low level equilibrium trap did indeed exist, an underdeveloped, stagnant economy would not be able to move forward permanently with small development efforts. Such efforts would be thwarted by accompanying rise in population and the economy would continue to relapse back to its original position again and again. This is implied in the use of the word "equilibrium" .In the above set of diagrams, the equilibrium level of income is OS.

Leibenstein used several diagrams to illustrate the logic of his critical minimum effort thesis. Out of these, we have reproduced below only one diagram to bring out the essential logic of this thesis. But before that it is necessary to understand the meaning of the term' critical minimum effort'. It is clear that if a low level equilibrium trap exists, there is a certain minimum size of the developmental effort(in the form of investment, technical change, land improvement ,etc.)Which is of critical importance because any effort of a smaller size will merely set in motion inimical forces(like population growth) which will lead the economy back to its original level of per capita income. So a developmental effort of a critical minimum size is essential to escape the low level equilibrium trap.



Given above is one out of a set of diagrams used by Leibenstein to explain the logic of his critical minimum effort thesis. In the diagram, XX represents all the income raising forces(like investment, technical improvement etc..,)and the curve ZZ represents all the income depressing forces(like population growth).Induced(consciously made) increases and decreases are measured from the 45^0 line Point of intersection between the XX and ZZ curves at E shows the low level equilibrium trap if there is a fall in income below what corresponds to the E point, income with revert to the original level because below E income raising forces are stronger than income –depressing forces, i.e .ZZ curve lies above the XX curve. Alternatively, if per capita income rises above the equilibrium level by a small amount, the income depressing forces become stronger than the income raising forces(curve XX lies above the ZZ) which bring the per capita income back to its original, equilibrium level in this latter case, for example, if through a small developmental effort, per capita income is raised to the OX level, income-depressing forces being stronger, income will tend to fall along the path abed and ultimately to the equilibrium point L. Thus, a small development effort will not do Point G shows the critical minimum effort level the development effort is big enough to raise per capita income level to the one corresponding to the G point, now the income-raising and income-depressing forces are equally balanced .A development effort will have to exceed the critical minimum effort level G because only then will income-raising forces become stronger than the income -depressing forces. Having exceeded that level, the income will now grow along the path indefinitely.

The critical minimum effort thesis is a formal model portraying a rather common sense and simple fact concerning the economies that had been struggling to get away from the grip of stagnation before the process of economic development got underway, namely, that any small and piecemeal efforts to get such economies off the hook would be overtaken by the general inertia all around created by centuries old mind -sets of people, absence of dynamic linkages, poor and obsolete technology, government apathy towards issues of- development , poor

quality of meager resources, lack of entrepreneurship, and so on and so forth. In such a pathetic situation only a big jolt to the economy would help in shaking off its general inertia and inject growth stimuli strong enough not to let it slide back into its old groove. Thus, there is certainly a strong case for a critical minimum effort in this situation.

6.3.1 Critical Appraisal

1. Population Growth and Per Capita Income: It has been assumed that the growth of the population is an increasing function of growth of per capita income in the beginning. While later on, it is a decreasing function. But, it is not so. Rather, the population growth takes place along with the increase in public health facilities.

2. No simple relation between per capita income and the rate of income growth: According to Myint, the functional relation between per capita income and income growth rate, is not as simple as assumed by Leibenstein. It is complex and has two stages. In the first stage, the level of per capita income influences the rate of saving and investment which, in turn depend on the pattern of income distribution and the effectiveness of financial institutions in mobilizing savings. In the second stage, the relation between investment and resultant output depends upon the economic and social system of the country. The relationship can be improved through innovations. The meaningful innovation is possible when updated technology, skilled labour and necessary infrastructure are available in the country. However, the less developed countries woefully lack these basic parameters of innovation in the initial phase of development and minimum effort thesis runs into difficulties.

3. Role of State ignored: Leibenstein ignores the role of state in tackling the population problem. No government could afford to wait for wait for the per capita income to rise above the critical minimum level for the population growth to decline. There is a possibility that by the time per capita income rises above the minimum level, the country may reach the stage of population explosion. The population growth has assumed alarming proportions in many countries of the Third World and every government is taking steps to check it. Thus, it is difficult to believe that population will automatically decrease after per capita income has reached a particular level.

4. **Higher than three percent growth rate cannot ensure endless expansion:** According to Leibenstein, the biologically determined maximum growth rate of population is 3% and when the growth rate of national income exceeds this population barriers, the process of endless expansion will start. Even this contention has been criticized by Myint. He says" It is not difficult to find examples of abortive" take-offs in which a country may for a time succeed in raising its saving and investment ratio above 10% to 12% and raising the rate of growth in its total income above 3% level, but subsequently relapse into a slower rate of growth and stagnation. Even if a country succeeds in achieving a growth rate higher than 3% there is no guarantee for self-sustained growth. India's national income growth rate is higher than 3% of

GDP yet it has not achieved the sustained growth. Moreover, empirical evidence fails to support Leibenstein's assumption.

5.Time element ignored: Another defect of Leibenstein 's critical minimum effort is that it neglects time factor that is most essential for sustained efforts .The timeless illustration fails to make any distinction between the short run economic activities of the developed countries and the long run economic activities of underdeveloped countries. To quote Hla Myint in this context. "We may therefore question how far this type of (timeless) of analysis originally designed to illustrate the gear -shifts in the short run economic activity of a fully developed engine of growth in the advanced countries, is useful for the study of the problem of long run economic development of the underdeveloped countries which is concerned with the construction of the engine of growth itself".

6. Role of External Factors not discussed: In underdeveloped countries external forces play an important role in the initial stages of development. This theory does not explain clearly the role of external forces like foreign capital, foreign trade, international economic relations, etc. These forces exert a vital impact on development and these factors play an important role in the development process.

Exercise6.2

Question 1 Critically examine the 'Critical Minimum Effort' thesis as explained by Leibenstein

6.4. The 'Big Push' Theory

This theory is based on a logic for initiating the process of economic development similar to the one given above. Rosenstein-Rodan was the first to expound this thesis in his now famous paper, " The problem of Industrialization of Eastern and South-Eastern Europe"; published in 1943. He elaborated his thesis further in his paper of 1961 entitled. "Notes on the theory of the big push". His argument, which emphasizes various kinds of indivisibilities, is that the development of industries requires first heavy investments in social overhead capital, viz. transport, electric power, harbours etc. For technical reasons these forms of investment are indivisible and have a long gestation period. To take such heavy investments worthwhile, there must be a simultaneous development of a producer and consumer goods industries so that the capacity of social overhead capital is fully and quickly utilized Moreover, if various projects are launched simultaneously there will generate enough income and effective demand to observe the increased supply of goods his arguments state that an isolated factory may not be able to sell its output as the workers employed there would not be spending their whole income on the product of their own factory. But if several industries dwell simultaneously. Say's law will come into operation i.e., enough purchasing power would be generated so that all product market are cleared.

Another factor, which according to Rosenstein-Rodan ensures the chances of the success of all industrial projects if they are undertaken

simultaneously, is the creation of external economists. In the context of development economics, the term, external economies refer to all those outside events which reduce the costs of a firm. For example, when the development of a road or railways reduces the cost of transport to the firms it is described as external economies. It is argued that the cost of each individual projects would be lowered by the simultaneous development of other project, from which, the former buys it inputs, and by the development of the social overheads. Due to theses external economies, actual cost of an individual projects will prove to be lower than that which could have been anticipated by any individual entrepreneur contemplating investment in an isolated project therefore, projects which seem unprofitable to individual entrepreneurs, may be socially quite profitable, when several of them are under taken simultaneously.

6.4.1 Indivisibilities

Since Rosenstein-Rodan's argument for being push primarily rest on the‟ three indivisibilities". These need to be properly understood. These indivisibilities are based on the notion that some investment in order to make an impact on our all development scenario, cannot be made in small bits. By the very nature of the case, these investments have to be made in large lumps. Hence such investments are indivisible. The three indivisible are:

(a) Indivisibilities in the production function especially the indivisibility of supply of social overhead capital(including railways, roads, canals, power houses etc.) in these cases small investment will not be fruitful; a large investment has to be made in one go

(b) "Indivisibilities" of demand or complimentarily of demand. In a poor economy, starting a single factory will be an investment doomed to failure, because there will not be enough demand for its products, because of general poverty. However, if simultaneously a number of factories are started, as argued above, a large income will be generated for each other's products. Hence the individuality of demand.

(c) "Indivisibilities" In the supply of savings. This means that in order to make above mentioned investment on a large scale, a large amount of savings, domestic, foreign, or both will be needed. Small increments in saving will not do. Thus, a big push to development effort alone will enable a stagnant economy to experience a process of sustain economic development. Rodan also makes the additional points that a big push will also be required to produce a "bundle" of wage goods which would be needed by the additionally employed workers. Besides, he refers to the psychological indivisibilities in order to generate atmosphere of development effervescence or an all around enthusiasm for the emerging processes. Finally, Rodan makes out a case for government initiative in designing a big push strategy, since scattered individual entrepreneurs can plan only their own investments, not the entire range of investments which a big push would involve.

Another version of the big push theory, which is quite similar to Rosenstein- Rodan's has been presented by Ragnar Nurkse in his work Problem of Capital Formation in Undeveloped countries (1953). Nurkse's argument particularly emphasizes the role of simultaneous development of several industries and social overheads (Big Push) in breaking the interlocking vicious circles. Low real income so long "Nurkse's argument, "is a

reflection of low productivity which in turn is due largely to lack of capital the lack of capital a result of the small capacity to save and so the circle is complete." The inducement to invest, in turn, is limited. For any individual entrepreneur, the use of capital is inhibited, to start with, by the small size of the market.

According to Nurkse, the only way to break through interlocking vicious circles is a "more or less synchronized application of capital to a wide range of different industries". Like Rodan, Nurkse also emphasis the complementarily of various, industries on account of which they are suppose to provide a market for and thus support, each other. Nurkse's theory is better known as the theory of balanced growth.

Rodan- Nurkse -Libenstein theories of critical minimum effort or the big push had great deal of relevance for the under developed countries in the 1950s and the 1960s the theory also provided for planned economic development which most of these countries had then adopted. However, the problem arose when these theories were sought to be converted into actual strategies of planned development. Nurkse advocated his theory of the big push in the form of a balanced growth strategy, implying that when investments were made on a wide front, these should result in balance growth- balance being maintained between demand and supply among these industries, so that no shortages and surpluses arose.

Interestingly, just the opposite strategy of unbalanced growth was put forward by A.O.Hirschman he too believed in the efficacy of big push, but the push should be so designed that imbalances are purposely created among different industries so that these "strategic imbalances". Stimulated investments in related and ancillary industries, thus maximizing the growth rate of the economy. The quarrels primarily on the shape or form that a critical minimum effort or the big push should take, that of a balanced growth strategy or of an unbalanced growth strategy

6.4.2 Critical Appraisal

(1) Difficulties in execution and implementation-The execution and implementation of related projects during the course of industrialization may involve unexpected or on avoidable changes due to revision of plans, delays and departure from the original time frame .Hla Myint notes that the various departments and agencies involved in the process of development need to coordinate closely and evaluate and review plans continuously. Thus the problem of coordination has been one of the weakest points of planning machinery.

(2) Historically Inaccurate- When viewed in light of historical experience, no country displayed any evidence of development due to massive industrialization .According to Prof. John Adler, in case of India and Pakistan and many other countries of Asia and Latin America where capital output ratio is low. The theory is also not supported by the history of developed countries. The economic development of most of the advanced countries scarcely seems to be the result of crash programme. Historically, the presence or absence of a big push has not been a distinguishing feature of growth anywhere.

(3)Problems in mixed economies-In a mixed economy, where the private and public sector co exist, the environment for growth may not be a conducive. The process of coordination does not pose any problem when the two sectors function in close cooperation, and work complementary to each. The problem arises when the two sectors compete with each other for scarce resources like foreign capital, raw materials etc. In such a situation the tussle between both the sectors makes the problem of coordination more difficult.

(4) Neglect of method of production-Shortage of resources in underdeveloped countries- Eugenio Gudin criticizes the theory of Big Push on the grounds that underdeveloped countries lack the capital required to provide the Big Push for rapid development. If an underdeveloped nation had ample capital supply

Exercise 6.3

Question 1 Give a critical review of Big Push theory.

6.5 Summary and Conclusion

In the present Lesson you were first of all acquainted with a formal model of what are popularly called the vicious circles of poverty. The low level equilibrium trap model ingeniously inter – relates per capita income growth, investment and population growth so as to present an explanation of how forces of underdevelopment keep a stagnant economy tied to a low level of per capita income. Then, you learnt two approaches to the questions of how the aforementioned stagnant economy would be shaken out of its slumber through what one approach calls the critical minimum effort and the other approach refers to as the big push.

The critical minimum effort thesis argues, that once the level and range of per capita income around which the low level equilibrium trap operates, or the income level which is too inadequate to escape the poverty trap is identified, it would be easy to initiate and sustain the development process by merely ensuring an income level exceeding that critical minimum. The big push approach rests on similar logic but put forth its arguments in terms of the need to overcome the indivisibilities of investment which are inherent in a situation of underdevelopment. In view of these indivisibilities a bit by bit approach would be self defeating so that only a big push to the investment effort would alone ensure that an underdeveloped economy is pulled out of vicious circle of poverty. Identically; Ragnar Nurkse argues in favor of a balanced growth strategy which would rest on a wave of simultaneous investments in a large number of industries and sectors of the economy. The main trouble with the critical minimum effort thesis and the big push theory is whether to design such a strategy of development through the balanced or the unbalanced growth approach.

6.6Glossary

- **Vicious circle**-a sequence of reciprocal cause and effect in which two or more elements intensify and aggravate each other, leading inexorably to a worsening of the situation.

- **Steady State**- A steady state economy is an economy with stable or mildly fluctuating size. The term typically refers to a national economy, but it can also be applied to a local, regional, or global economy. An economy can reach a steady state after a period of growth or after a period of downsizing. To be sustainable, a steady state economy may not exceed ecological limits.

- **Per Capita Income**-Per capita income, also known as income per person, is the mean income of the people in an economic unit such as a country or city. It is calculated by taking a measure of all sources of income in the aggregate (such as GDP or Gross national income) and dividing it by the total population.

- **Big Push**- A concerted, economy wide and probably public policy led, effort to initiate or accelerate economic development across a broad spectrum of mew industries and skills.

6.7Self Assessment Test

Try the following objective type, questions:-

(i) The low level equilibrium trap thesis show how poor households in developing countries are steeped in poverty. Is this statement (x) true ,or (y) false?

(ii) For initiating a process of sustained economic growth in a stagnant economy, does the critical minimum effort thesis advocate attaining an income level

(x) Equal to the critical minimum, or (y) exceeding that level?

(iii) Which of the following statements is true?

(x)The big push theory rests on the concept of complementarily of investments.

(y) The big push theory shows investments to be competitive with each other.

(iv) A vicious circle of poverty is formally demonstrated by one of the following which one is it?

(x) The big push theory (y) the low level equilibrium trap

(v) The Rosenstein –Rodan –Nurkse -Leibenstein model demonstrate the inability of an underdeveloped economy to proceed on a path of economic development. Is the statement (x) true (y) false?

(Correct Answers(i)-y; (ii)-y; (iii)-x; (iv) –y; (v)-y)

6.8 Suggested Readings

1. Benjamin Higgins, *Economic Development Principles, Problems and Policies* 1963. Chap.16.

2. R.R. Nelson, "A theory of Low Level Equilibrium Trap". *American Economic Review; Dec.*, 1956.

3. Ellis Howard (ed). *Economic Development for Latin America 1961* ("Notes on the theory of the Big Push" by R.N.Rosenstein –Rodan).

4. A.P.Thirlwall, *Growth and Development with special reference to Developing economics*, 1896, Chap 6.
5. Harvey Leibsnstein, *Economic Backwardness and Economic Growth*, 1957, Chap.16.
6. Myint, *The Economics of the Developing Countries,* 1967,pp.102 to 127.
7. Taneja & Myer. *Economics of Development & Planning*, 2013, pp.181-182.

6.9 Terminal Questions

Question 1 Discuss low level equilibrium trap as a theory of the vicious circle of poverty. What are the weaknesses of this explanation of underdevelopment?

Question 2 What are the grounds on which a big push is advocated for initiating a process of development? Briefly examine Nurkse's arguments in this regards

LESSON 7

APPROACHES TO ECONOMIC DEVELOPMENT-II

Structure

7.0 Objectives

After going through this lesson you will be able to:

- Confer Lewis Philosophy regarding the process of economic development.
- Critically evaluate Lewis Philosophy on economic development
- Understand Ranis and Fei process of economic development in Agriculture and Industrial sector.
- Know on what grounds the Ranis and Fei views has been criticized

7.1. Introduction

In the last lesson, we examined a couple of approaches to understand how the process of development can initiate. In the present lesson too we shall continue the discussion of approaches to economic development and shall examine a hugely popular approach to this problem. We shall start with the exposition and examination of Lewis Model which was often said to be more appropriate to the under developed economies struggling to come out of the low level equilibrium trap in the 1950s. Later in this Lesson, we shall discuss a slightly modified and amplified version of Lewis Model, given by Ranis and Fei in l96l.

7.2. Lewis' Model

W.A. Lewis presented his model in his famous paper, "Economic Development with Unlimited Supplies of Labour," published in I954. His model is in the classical tradition in as much as its cornerstone is the mobilization of unemployed or disguisedly unemployed labour resources for creating capitalist surplus which provides the fuel for the engine of economic development. The model starts with certain empirical assumptions which we shall presently spell out. It is assumed that the underdeveloped economy has

a big subsistence sector in which surplus labour, in almost unlimited quantity, is available. Alongside the subsistence sector, there is also a capitalist sector, though very small and in need of full development. The distinguishing feature of the capitalist sector is that it uses reproducible capital and, what is more important; it produces not for subsistence but for profit. In the subsistence sector, marginal product of labour may be zero, or at least, less than the average product so that there is disguised unemployment or underemployment. You would recall that in Lesson 5 earlier, you were introduced to the concept of dualism, where two sectors, with entirely different economic characteristics co-existed. Lewis' model is also in the same tradition of a dualistic economy.

The capitalist sector draws its supplies of labour from the subsistence sector, and it is assumed that, as a result of rapid increases in population, the supply of unskilled labour is unlimited. Thus the main sources, from which labour is supplied to the capitalist sector, as this sector expands and, in consequence, economic development proceeds, are subsistence agriculture, casual labour, petty trade, domestic service, wives and daughters in the households, and the increase in population, Most of these sectors are assumed to be characterized by surplus labour so that marginal product of labour is either negligible or zero or even negative. Consequently, labour supply is assumed to be unlimited in the sense that the capitalist sector can obtain ever-increasing supplies of unskilled labour at the prevailing wage rate. The capitalist sector can, therefore, expand indefinitely without causing any increase in the wage rate.

The actual wage rate at which unlimited supplies of labour are available, may be determined by a conventional view of the minimum wage necessary for subsistence, or it may be equal to the average product per man in the subsistence sector plus a margin.

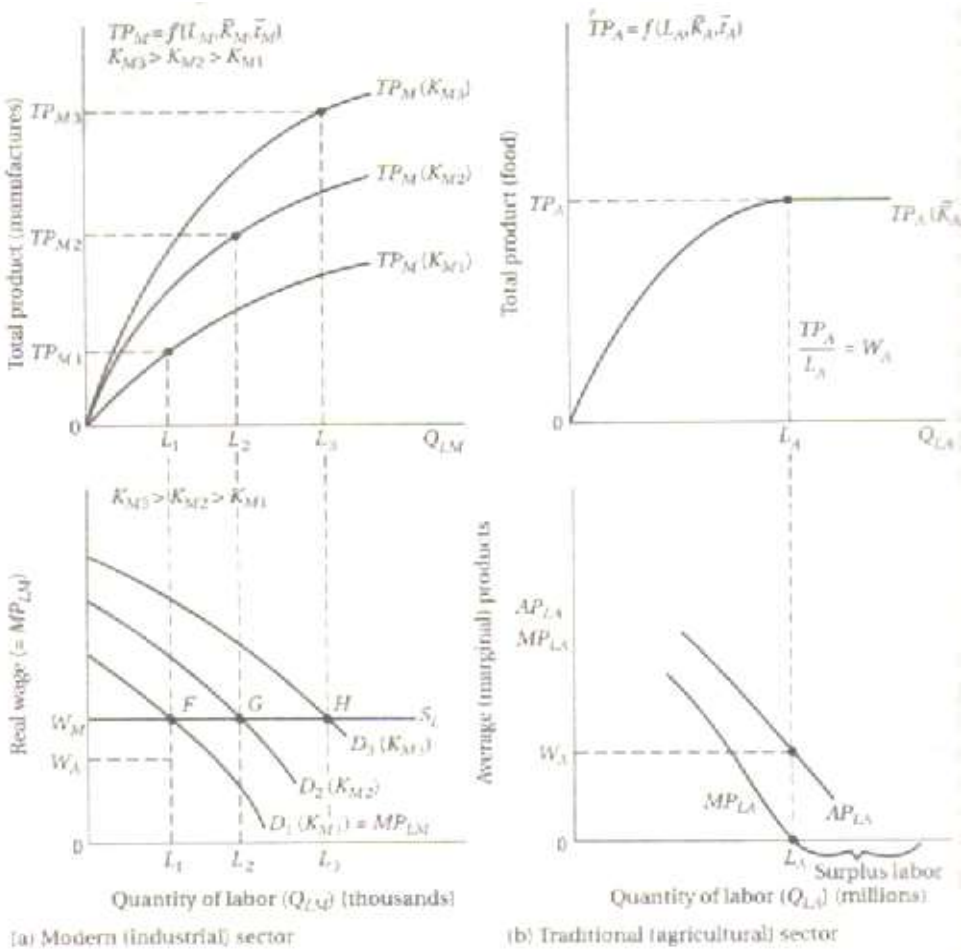
In the subsistence sector labour is employed up to the limit where MP of labour is zero. But in the capitalist sector labour is employed to the point where NIP of labour equals the wage rate (for this is the condition for maximizing profit or surplus). It is this capitalist surplus, which is the key to the process of economic development in Lewis's model. This surplus might be appropriated and employed for capital formation either by private individuals or institutions, as in the economies based on free private enterprise, or by the state, as in the case of the public sector enterprises.

The mechanics of Lewis's model may, briefly be explained with the help of the accompanying Figure as follows. Consider first the traditional agricultural sector portrayed in the two right-side diagrams of the Figure. The upper diagram shows how subsistence food production varies with the increases in labour inputs it is a typical agricultural production function where the total output or product (TP_A) of food is determined by changes in the amount of the only variable input, labour (L_A) ,given a fixed quantity of capital, $\overline{K_A}$, and unchanging traditional technology, $\overline{t_A}$ .In the lower right diagram, we have the average and marginal product of labour curves, AP_{LA} and MP_{LA}, which are derived from the total product curve shown immediately above. The quantity of agricultural labour (Q_{LA}) available is the same on both horizontal axes and is expressed in millions of workers, as Lewis is describing an

underdeveloped economy where 80% to 90% of the population lives and works in rural areas.

Lewis makes two assumptions about the traditional sector. First, there is surplus labour in the sense that MP_{LA} is zero, and second, all rural workers share equally in the output so that the rural real wage is determined by the average and not the marginal product of labour (as will be the case in the modern sector). Metaphorically, this may be thought of as passing around the family rice bowl at dinner time, from which each takes an equal share (this need not be literally equal shares for the basic idea to hold). Assume that there are L_A agricultural workers producing TP_A food, which is shared equally as WA food per person (this is the average product which is equal to TP_A/L_A. The marginal product of these L_A workers is zero, as shown in the bottom diagram of the Figure (b); hence the surplus –labour assumption applies to all workers in excess of L_A (note the horizontal TP_A curve beyond L_A workers in the upper right diagram)

The Lewis Model of Modern- Sector Growth in a Two- Sectoe Surplus- Labour Economy



The upper-left diagram of Figure (a) portrays the total production (production Function) curves for the modern, industrial sector. Once again, Output of say, manufactured goods (TP_A) is a function of a variable labour input, L_M, for a given capital stock KM and technology .t_M. On the horizontal axes, the quantity of labour employed to produce an output of, say.TP_{M1}, with

capital stock K_{M1}, is expressed in thousands of urban workers.L_1. In the Lewis model, the modern –sector capital stock is allowed to increase from K_{M1} to K_{M2} to K_{M3} as a result from reinvestment of profits by industrial capitalists. This will cause the total products curves in Figure (a) to shift upward from TPM (K_{M1})to TP_M (K_{M2}) to TP_M(K_{M3}). The process that will generate these capitalists profits for reinvestment and growth is illustrated in the products curves derived from TPM curves of the upper diagram. Under the assumption of perfectly competitive labour markets in the modern sector, these marginal products of labour curves are in fact the actual demand curves for labour. Here is how the system works.

W_A in the lower diagram of Figures (a),(b) represents the average level of real subsistence income in the traditional rural sector. W_M in Figure (a) is therefore assumed to be perfectly elastic, as shown by the horizontal labour supply curve W_MS_L. In other words, Lewis assume that the urban wages W_M above rural average income W_A , modern –sector employers can hire as many surplus rural workers as they want without fear of rising wages. (Note again that the quantity of labour in the rural sector, Figure (b), is expressed in millions whereas in the modern urban sector Figure (a, units of labour are expressed in thousands.). Given a fixed supply of capital K_{M1} in the initial stage of modern sector growth, the demand curve of labour is determined by labour's declining marginal product and is shown by a negatively sloped curve $D_1(K_{M1})$ in the lower left diagram. Because profit maximizing modern sector employers are assumed to hire labourers to a point where there marginal physical product is equal to the real wage (i.e., the point F of intersection between the labour demand and supply curves), total modern – sector employment will be equal to L_1. Total modern sector output, TP_{M1}, would be given by the area bounded by points OD_1FL_1.The share of this total output paid to workers in the form of wages would be shown by the area of the rectangle OW_MFL_1. The balance of the output shown by the area W_MD_1F would be the total profits that accrue to the capitalists because Lewis assumes that all of these profits are reinvested, the total capital stock in the modern sector will rise from K_{M1} to K_{M2}. This larger capital stock causes the total product curve of the modern sector to shift to TP_M (K_{M2}), which in turn induces a rise in the marginal product demand curve for labour. This outward shift in the labour demand curve is shown by the line D_2 (K_{M2}). In the bottom half of the figure (a). A new equilibrium modern-sector employment level will be established at point G with L_2 workers now employed. Total output rises to TP_{M2} or OD_2GL_2 while total wages and profits increase to OW_MGL_2 and W_MD_2G , respectively. Once again, these larger (W_MD_2G) profits are reinvested, increasing the total capital stock to KM_3, shifting the total product and labour demand curves to $TP_M(K_{M3})$ and to D_3 (K_{M3}), respectively, and raising the level of modern- sector employment to L_3.

This process of modern sector self sustaining growth and employment expansion is assumed to continue until all the surplus labour is absorbed in the new industrial sector. Thereafter, additional workers can be withdrawn from the agriculture sector only at a higher cost of lost food production because the declining labour to land ratio means that the marginal product of rural labour is no longer zero. This the labour supply curve becomes positively sloped as modern- sector wages and employment continue to grow. The structural transformation of the economy will have taken place, with the

balance of economic activity shifting from traditional rural agriculture to modern urban industry.

7.2.1 Critical Appraisal

There is little doubt that this model has clarified some important issues and has tried to weld observation and theory. But the model, which is implied to be more appropriate to the underdeveloped economies of the immediate post-World War period, is not without its flaws.

Firstly, the actual experience of development does not exactly correspond to it. For example, wages have risen dramatically long before the surplus labour from the subsistence sector has been absorbed in the capitalist (industrial) sector. Lewis's assumption that saving and its productive investment are done only by the class of capitalists is also not true. Small farmers too have been saving and investing; for example, it has been pointed out-that world's highest cocoa industry in Ghana is entirely the product of investment done by small farm enterprises (cf. FT. Bauer, Economic Analysis and Underdeveloped Countries). It will not be helpful to defend the model by. Saying that such small farmers should be included in the capitalist sector, for, in that case, although it, will be impossible to refute the model on this score, yet it will become irrelevant from the point of view of the experience of some underdeveloped countries.

Secondly, although Lewis's model is essentially designed to explain the process of economic development in market economies, yet it does not even pose, not to say of answering, the question as to who will buy what produced. An implication of the model is that the rate of capital formation can be maximized only by minimizing consumption out of the surplus in the immediate period. If the demand for consumer's goods is thus kept at minimum, then why should any entrepreneur buy the newly produced capital goods? Under such a dispensation, in fact, there cannot be any conceivable motive for reinvestment of surplus. It has been rightly observed, therefore, that Lewis's model is applicable to state capitalism or socialism rather than to the free-market economies.

Thirdly, this model completely ignores the fact that entrepreneurs, who, in this model, are assumed to be the agent through whom the expansion of the capitalist sector takes place, are too scarce in underdeveloped economies. This model rightly suggests the conditions necessary for the growth of the class of entrepreneurs, nor does it suggest the ways through which such conditions could be created. This lacuna also tends to confine the model to such economies where investment is mostly done by the state. But, in fact, even that would be saying too much in favour of this model, for, after all, entrepreneurial talents are indispensable even in the public sector.

However, it is the strategic assumption of disguised unemployment or underemployment underlying the model, which has come under sharp criticism. Disguised unemployment or underemployment is said to exist in the subsistence agricultural sector, if labour can be drawn away from this sector without any reduction in the total production, Some observers have pointed out that it is not possible in most of the underdeveloped economies to transfer large number of workers permanently and full time from the agricultural sector to the modem capitalist sector without a fall in agricultural output. Those, like Lewis, who believe otherwise, fail to recognize the seasonal character of the

agricultural operations. For, during planting and harvesting seasons the entire labour force in the agricultural sector is fully occupied. In fact, during these seasons, many workers, who in the off season eke out their living by taking up casual jobs in the non- agricultural sector, are called back. While reviewing the empirical studies related to this issue, D.W. Jorgenson observes that "when account is taken of the seasonally of demands for agricultural labour, the situation in the south- eastern Europe, Egypt, China and South East Asia appears to be one of labour shortage rather than labour surplus. This would re, ate, at least in the static sense, the assumption of a perfectly elastic supply curve of labour on which the classical models, like the Lewis's model, are based.

Exercise 7.1

Question1 Critically explain Lewis Model?

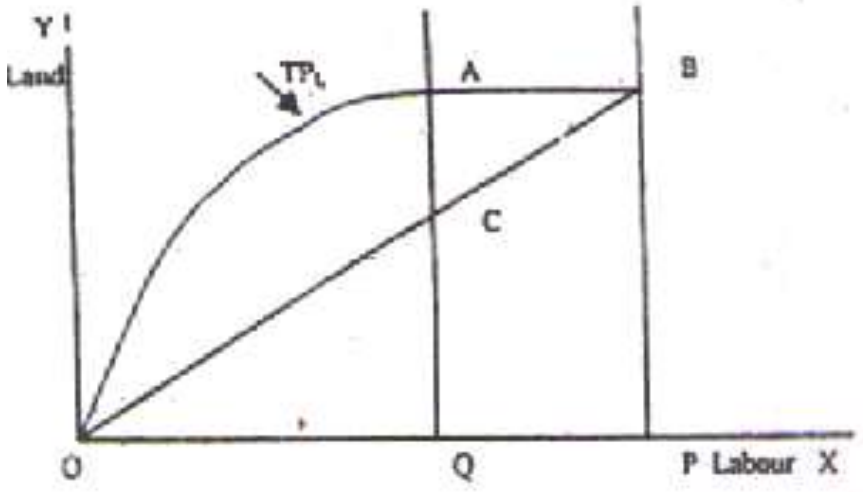
7.3 Ranis- Fei Model

Carrying forward the tradition of a dual sector economy, another model, with an approach to economic development identical to that of W.A. Lewis considered above, is that development by Gustav Ranis and J.C.H. Fei, first presented in an article in 1961 and later amplified in their book published in I964. In the Ranis-Fei model, the economy is divided into two broad sectors the agricultural sector and the industrial sector Within this dualistic framework, the possibilities of initiating and sustaining the process of economic development are explored broadly-on the lines indicated by Lewis in his model, but the Ranis-Fei model carries out the analysis of this process in a more rigorous fashion and adds some new insights which seem to be missing in the former model.

For explaining their model, Ranis-Fei use a set of diagrams, out of which we shall take here only two that are sufficient to comprehend the essential logic of the model. We shall indicate the situations assumed by Ranis-Fei in the two sectors separately and see how these situations are shown through a mechanism of interaction with each other to generate a process of economic development in an erstwhile stagnating economy.

7.3.1 The Agricultural Sector

This sector of an underdeveloped economy is assumed to be overburdened with surplus labour having scarce land, using unchanging technology and thus suffering progressively from the operation of law of diminishing returns as population increases. The working of these assumptions or the production system and employment pattern of the agricultural sector is demonstrated with the help of the diagram below. In the diagram, labour is measured along the horizontal axis and land, the other factor used in this sector, along the vertical axis. TPL shows the total physical product of labour. It is based on the celebrated law that as the variable factor is combined with a fixed factor, the total product will initially rise at an increasing rate, later at a constant rate and ultimately at a diminishing rate. Thus, in the diagram, the TPL curve at first rises sharply, then slowly and may ultimately slope downwards due to the operation of the marginal returns becoming negative (not shown here).



It is assumed that the total labour existing in this sector is OP. However, the TPL becomes flat after Point A, which shows that now in the sector marginal Productivity of labour becomes zero. Thus the total product of all labour (OP) within this sector is PB. But the same total Product would be produced by the sector even if only OQ workers are employed (i.e. PB=QA). From this, Ranis Fei conclude that QP workers in the agricultural sector are redundant (not needed by this sector). Only OQ workers are productively employed in this sector. These are called non-redundant labour.

7.3.2 The Industrial Sector

This sector is assumed to use capital and labour as primary inputs. While physical capital is produced within the sector, labour supply to this sector in sourced out of the redundant labour existing within the agricultural sector. Due to this source of supply of labour, the industrial real wage rate remains constant. This wage rate will start rising only after all the redundant labour from the agricultural sector has been fully absorbed in the industrial sector.

Labour in this sector will be employed till the marginal productivity of labour in this sector falls to the level of the constant wage rate. Since all the pre-marginal workers have a higher marginal Productivity than the wage rate, the difference between the two will be the profit of the employer. Like Lewis, Ranis-Fei also assumes that due to low wages, workers do not save anything, but capitalists on the other hand, save and re- invest in their enterprises. Thus, industrial profits are the major source of investment funds in this sector. Unlike, however, Lewis model, this model makes departure in arguing that there is hidden rural saving, which can be added to the supply of investment funds available to the industrial sector.

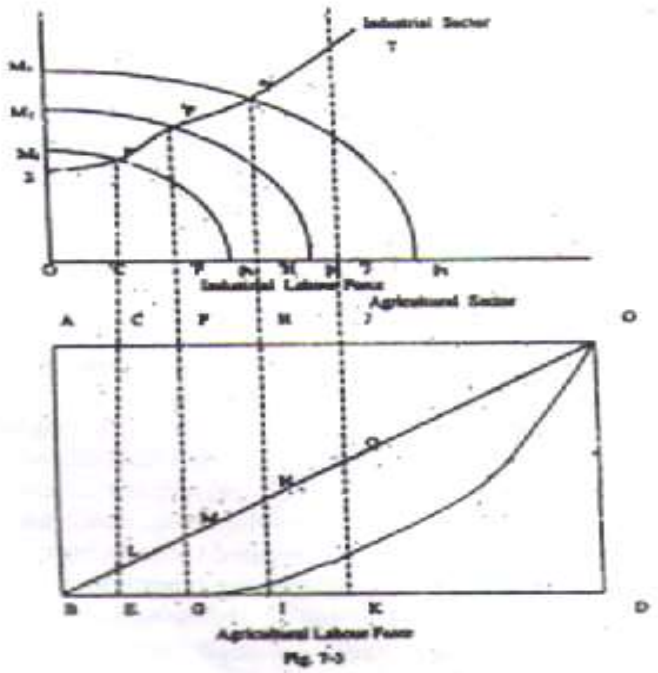
How do hidden rural savings of agricultural surplus arise? For this, let us revert to Fig. 7-2 above. It is assumed here that OP is the total labour force existing in the agricultural sector, which produces a total product of PB. Therefore, the average product of the total labour force would be PB/OP, which is the slope of the diagonal straight line OB. The model assumes that

the real wage rate in the two sectors will be equal to this average product of labour. This is called the “constant institutional wage" hypothesis.

Now, if OQ workers are employed in the agricultural sector, they would produce QA total output, but get a total wage of only QC. Thus, this level of employment generates a surplus product equal to CA. This b called by Renis-Fei as “total agricultural surplus”. This surplus arises only when a portion of the labour force existing in the agricultural sector is allocated to the industrial sector. If, for example, the whole of the labour force (OP) had remained in the agricultural sector, no agricultural surplus would have arisen. Renis-Fei point out that “we can think of removal of redundant agricultural labour as freeing a hidden source of rural savings for development, in the development effort. This surplus can be siphoned out as an investment fund for the development of the industrial sector.” A significant conclusion of this model is that the agricultural sector contributes to the process of development in the industrial, sector in two forms, viz. the agricultural manpower, which was redundant there, at a constant real wage rate, and secondly, the agricultural surplus which can be potentially converted into industrial capital.

Having discussed the two sectors of the economy separately and their interactive roles, let us take the two sectors together and see the process of interaction between them more fully. This is demonstrated with the help of the diagram below.

As is clear in Fig. 7-3, the upper part of the diagram relates to the industrial sector and the lower part to the agricultural sector. In the latter part, Fig. 7-2 has been inverted here so that the origin, O, is now located in the upper right hand corner. Labour inputs are now measured to the left of the origin, O, and the total output is measured downwards from the origin. Thus OB is the resultant total output curve, but now inverted. Now, earlier the entire labour force, OA, was employed in the agricultural sector. Subsequently suppose CA amount of labour is shifted to the industrial sector (which is equal to OC in the upper diagram) Similar shifting of labour shown by points F, H, J in the lower part of the diagram, shows corresponding increases in labour employment in the industrial sector, represented by points F, H, J etc. in the upper part of the diagram.



Now, take the industrial sector component of Fig. 7-3. Here, the initial demand curve for labour (which is its marginal productivity curve) is M_1M_1. With OC amount of labour, shifting from the agricultural sector, the equilibrium point on the M_1p curve is P. In the agricultural sector, as total employment is OC, a product of CE is now produced out of which CL the total wage is paid, while LE is the agricultural surplus. Significantly, AC units of labour in this sector were earlier redundant, because their marginal product was zero. Now, when the same labour is shifted to the industrial sector, it gets productively employed, and produces a total output of $OCPM_1$. In the agricultural sector, as employment falls by AC and now OC workers are employed, an agricultural surplus of LE is generated. This surplus there is viewed by this model, as a wage fond, needed by the shifted workers for their consumption in the industrial sector.

This brings out the supportive role of the agricultural sector in the process of economic development in this model. Agriculture provides to the industrial sector the manpower at a constant wage rate as also the agricultural surplus which is used as a wage fund to support the shifted workers' consumption requirements. Industrial profits, along with the agricultural surplus, provide the, much needed investment for over-all economic development. Although the focus of production now shifts to the industrial sector, with its expansion depends on this supportive role of the agricultural sector, it is also clear that for acceleration of the process of economic development it, this model gives the pride of place to the relocation of workers to the industrial sector. The faster it is the greater is the industrial output (as shown by the outward shifting of the demand curves of labour, M_1P_2, M_2P_2, etc). The growth path ST, shown in the upper part of the diagram, is obtained by joining the equilibrium points on each successive marginal productivity curve of labour, as the process of relocation of workers from the agricultural to the industrial sector continues.

By way of conclusion, Ranis and Fei make a couple of more points regarding this approach to economic development. As such a process of economic development accelerates, per capita incomes rise, which change the pattern of demand for goods. At higher incomes, less of agricultural goods and more of industrial goods are needed in accordance with the Engel's Law of consumption. This provides an additional justification for re-allocation of labour to the industrial sector. When it is pointed out that, as long as redundant labour continues to exist in the agricultural sector, wage rates and thus consumer purchasing power will remain low, thus creating very little rise in demand for industrial consumer goods, Ranis and Fei respond by arguing that the rationality of re-allocation of labour lies in "the need to produce industrial investment goods than in terms of industrial consumer goods satisfying Engel's Law pressures." Besides, this model also makes a case for a relatively larger role for government, especially at the earlier stages of growth, to engage in invest lent activity, particularly in the provision of social and economic overheads like roads, railways, canals, education, communications etc. These are investment activities which have a typically long gestation period and this inhibits private investment in them.

7.3.3Critical Appraisal

It is easy to notice that out of the two approaches to economic development discussed in this Lesson, the Ranis-Fei approach is more meticulously worked out than the Lewis approach. However, the Ranis-Fei model is not without its critics. The more important points of criticism of this model are the following:-

First, this model, just as the Lewis, rests .on the assumption of marginal physical productivity of labour in the agricultural sector being zero. Critics have provided evidence from several developing countries, where disguised unemployment may certainly be a fact of life, yet there is a certain degree of seasonality about this phenomenon. In all such countries, agricultural labour may be deemed to be redundant in some slack seasons, but during the sowing and harvesting seasons such labour is fully employed. If this is so, can one argue that if such labour is removed from the agricultural sector, agricultural output will remain unchanged?

Secondly, it is pointed out that agricultural backwardness is made out in this model to be primarily due to the existence of redundant labour there. In reality, a major cause of such backwardness is due to institutional factors such as retrogressive feudal agricultural relations, calling for land reforms to set things right in this sector.

Thirdly, only real factors like availability of additional labour and agricultural surplus are considered in this model to be essential for the growth of the industrial sector. No role has been assigned to the availability of credit and financial capita' to spur economic growth.

Fourthly, some theories and strategic of development put forward in the I960s and l970s have stressed the need for balanced growth of the agricultural and industrial sectors. It is pointed out that lack of improvement of agricultural productivity can act as a drag on the accelerated growth of the

industrial sector. The Ranis-Fei model ignores the need for measures to simultaneously improve agricultural productivity.

Finally, Ranis-Fei model assumes a closed economy. The existence of an open economy with possibilities of international trade and foreign capital transfers can release some of the constraints on the development process. Food grains and other wage goods needed by the industrial workers can be imported from abroad. Even capital for the industrial sector can be arranged through foreign aid. These possibilities are ignored by the Ranis-Fei model.

Exercise7.2

Question1 Examine the relevance of Ranis and Fei model of development?

7.5 Summary and Conclusion

This Lesson has dwelt in detail on two approaches to economic development in a stagnant, underdeveloped economy. There was, first of all, the highly influential

Lewis model of the l950s, which was then hailed as a relatively easy solution to the difficult problem of initiating and sustaining a process of economic development in an overwhelmingly large number of underdeveloped countries in the post Second World War period. This model seeks to show how the unlimited supplies of labour in these countries could be used for capital formation it merely needed to transfer surplus labour from the subsistence sector to the capitalist sector. The perfectly elastic supply of labour would ensure a subsistence wage to such workers. But their-marginal productivity being higher than the subsistence wage would ensure the operation of profits to the capitalists, who would by and large re-invest their profits. This would ensure capital formation and economic development on a sustainable basis.

Another approach discussed in this Lesson is that in the form of Ranis-Fei model of economic development. This approach, though with its core logic being identical to that of the Lewis model, is more thorough-going in dealing, with the mechanics of the process of economic development through the use of idle labour. As long as there is redundant labour, with zero marginal productivity, in the agricultural sector, the industrial sector can keep on drawing upon such labour into its employment, with real wage rate being tied down to the averse product of labour in the agricultural sector. Besides, the latter sector also generates an agricultural surplus, which supports the consumption of industrial workers. This model primarily rests on two significant processes for economic development viz. the transfer of labour from agricultural sector to the industrial sector, and secondly the contribution of the agricultural sector to the process of economic growth in the form, of supply of labour and the agricultural surplus. The profits generated in the industrial sector too spur the process of capital formation and contribute to over-all economic development. The focus shifts to the industrial sector during this process in response to changes in the demand pattern. The sector produces primarily investment goods to satisfy the demand of such goods for the growth of the social and economic overheads, which should be produced

by the public sector, since their long gestation period discourages private sector from undertaking such investments.

7.6 Glossary

- **Disguised Unemployment**- Unemployment that does not affect aggregate output. Disguised unemployment exists where part of the labour force is either left without work or is working in a redundant manner where worker productivity is essentially zero. An economy demonstrates disguised unemployment where productivity is low and where too many workers are filling too few jobs.
- **Dualistic economy-**A dual economy is the existence of two separate economic sectors within one country, divided by different levels of development, technology, and different patterns of demand. The concept was originally created by Julius Herman Boeke to describe the coexistence of modern and traditional economic sectors in a colonial economy. Dual economies are common in less developed countries, where one sector is geared to local needs and another to the global export market.
- **Capital formation**-A term used to describe net capital accumulation during an accounting period. Capital formation refers to net additions of capital stock such as equipment, buildings and other intermediate goods. A nation uses capital stock in combination with labour to provide services and produce goods; an increase in this capital stock is known as capital formation.
- **Lewis two-sector model**- Theory of development in which surplus labour from traditional agricultural sector is transferred to the modern industrial sector whose growth over time absorbs the surplus labor, promotes industrialization and stimulates sustained development.

7.7. Self-assessment Test:

(a) Try the following objective type questions:-
(i) Are the Lewis model aid Ranis-Fei model of economic development (x) completely unidentical approaches (y) somewhat identical approaches (z) completely identical approaches?
(ii) Lewis model implies that greater inequality of incomes contributes to economic growth is the statement
(x) True or (y) false?
(iii) Which of the following properly describes a situation of redundant labour in the Ranis-Fei model?
(x) Labour is paid a wage less than its marginal productivity; (y) Marginal productivity of labour is zero?
(iv) Does (x) the Lewis Model or (y) the Ranis-Fei model, completely ignore international trade?
(v) Does empirical evidence (x) admit, or (y) deny the existence of disguised unemployment in the developing countries?
(Correct answers: (i) - (y); (ii) - (x) ; (iii) - (y); (iv)_
(y); (v) - (y)

.7.8. Suggested Readings

1. W.A. Lewis, “Economic Development with unlimited supplies of Labour," reprinted in Aggarwal and Singh (ed), *Economics of Under development.*
2. Ranis and Fei, “A Theory of Economic Development,” *American Economic Review* ,No.4. l96l.
3. Benjamin Higgins, *Economic Development Principles and Policies* 1963, 357-357. " _
GM. Meier (Ed); *Leading Issues in Economic-'Development*. l990 (“Lewis" Dual ‘Sector Model-Note“)
5. S. Ghatak and K lngersenl, *Agriculture and Economic Development,*1984, Chap 5. (Sections 2.and 3). .

7.9 Terminal Questions

Question 1 Do you agree with the view that the Ranis-Fei model is an improvement on the Lewis model of economic development? Give reasons.

Question3 Discuss the salient features of the Ranis Fei model of economic development. What are the limitations of this model?

LESSON 8

STAGES OF ECONOMIC GROWTH

Structure

8.0 Objectives

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

- Discuss Karl Marx's philosophy regarding economic development.
- Explain the process of social evolution through different stages.
- Critically evaluate Marxian theory
- Gain knowledge about the five stages of economic growth as given by Rostow.
- Know, on what grounds, the theory of Rostow has been criticized.

8.1 Introduction

In the present Lesson, you are going to study two very influential theories of long-term economic development and growth. One of these forms a part of Karl Marx's analysis of the evolution of society from primitive communism to the highest stage of socialism. The other is in fact an antithesis of Marx's analysis of social evolution. This is W.W. Rostow's theory of stages of economic growth. One common feature of the two theories that you are going to study here is that both take a very long term and thus historical view of socio-economic change and evolution. Marx's analysis is more in sociological terms, while Rostow's is more in economic terms. These two

theories of long-term economic growth seek to divide such a process into successive but distinct stages, each stage yielding place to the succeeding stage due to the compulsions of the evolutionary forces.

You would recall that in Lesson l earlier, we had tried to distinguish between economic development and economic growth, both being measured in terms of growth of per capita income, but the former being identified with structural-changes and the latter with mere change of scale of operations. In the case of these two theories, although they are termed as theories of stages of economic growth yet the process that they seek to analyze partake of both the features of economic development as well as economic growth, as also all the other changes that transform a society's socio-economic framework from the preceding to the succeeding stage. Thus, these two theories provide a panoramic view of the various changes which take place, according to their respective perspectives, in an economy and society as it grows historically from a low to a high stage of-evolution.

8.2Karl Marx (1818-83)

Karl Marx (1818-83) has several epoch-making books, pamphlets and articles to his credit, the better- known ones being the Critique of Political Economy and Das Capital, the latter published in four volumes. Marx was influenced by the German radicalism the Hegelian philosophy of dialectical materialism this philosophy is based on the premise that relations of production, i.e. the totality of social relations that are involved in the process of production, distribution, exchange and consumption, should be studied to understand the process of the social evolution. The social evolution (i.e. how the society develops and evolves historically over a very long period of time) can be viewed as a succession from one stage of development to the next higher stage. The social relations constitute the economic structure of society. Each economic structure consists of a peculiar structure of productive powers. The society tries to increase these productive powers but in the process, conflict arises between the productive powers and the social relationships. These conflicts give rise to political revolutions and consequent change. Class struggles are inevitable in these conflicts. Thus, for Marx, all history is a record of class struggles.

8.2.1Marx’s Theory of Stages of Economic Development

Marx's theory of social evolution or the theory of laws of motion of society is essentially dynamic in nature. To Marx the mode of production conditioned the whole process of social, political and intellectual life. Since mode of production is the prime determinant of historical evolution of society as well as that of its economic structure, it is essential to understand its proper meaning in this Marxian theory. Mode of production consists of forces of production (which include material aspects like economic organization, skills of labour, status of labour, techniques of production, and material inputs, etc.), and relations of production (which include the totality of relations that take shape in the process of production, consumption, exchange and distribution of material goods). Mode of production has logic of its own and it changes because of its internal necessity. At any stage of human evolution, forces of production, as defined above, change first, but this causes changes

in the relations of production. As the latter changes in response to the changes in the former, property changes hands from one class to the other. This leads to class struggle. This is broadly true of all stages of social evolution.

According to this Marxian theory, social life always evolves from a lower to a higher form Marx divides the process of social evolution into four stages before the society attains the final and. according to him, inevitable stage. This process of social evolution through these-different stages is discussed below:

8.2.1 (a) Primitive Communism -According to the theory, life began some 90 crore years ago, but it took man to emerge from the animal kingdom a very long period and it is only about twenty lakh years ago that this finally happened. The stage of primitive communism is estimated to have instead till about 4000—-3000 B.C this long stage of human evolution is subdivided into two sub-stages, viz. the gathering economy when basic needs were satisfied through gathering of fruit, hunting of wild animals, use of tree bark etc. But gradually human being learnt to produce goods for satisfying needs and thus entered the second sub-Stage of what is called the reproducing economy. Crop growing and livestock rearing started with the help of very primitive implements like sticks, bones, bow, arrow etc. Naturally, the productive forces were very weak. The chief characteristic of relations of production was the communal ownership of land, livestock etc. Human life was marked by struggle for existence and the little production that was taking place was for subsistence alone. So there was initially no exploitation in any form.

Later, however, some-disintegrating forces started appearing. These were gradual increase in productivity and thus appearance of some surplus of production, private ownership of land, livestock etc., and inequalities which created the class of rich and poor, though in a primitive form of that period. Further features of conflict emerged like inter-tribal wars, slavery, holding of prisoners of war and so on. According to the theory, from now onwards, history of mankind is marked by class struggle.

8.2.1(b) Slavery — This second stage of social evolution is said to have historically existed during 4000-3000 B.C. With the emergence of division of labour in some form, the importance of labour power and the surplus that it could generate became clear and it gave rise to subjugation and slavery. The new mode of production was characterised by appearance of private property and division of society into the classes of slaves and their owners. The slaves were a form of property. Slavery was thus the first form of exploitation of man by man. New implements like ploughs appeared slavery permitted further division of labour. These new developments also facilitated the appearance of towns.

Antagonisms were inherent in wars and slavery. New antagonisms and contradictions appeared between villages and towns. A new class of merchants was also born. All these, according to this, theory, intensified class struggles. Before the start of the Christian era, the period was marked by slave rebellions. The new productive forces created conditions for the end of slavery and beginning of feudalism.

8.2.1 (c) Feudalism -This stage of social evolution is said to have existed between the 5th and the 15th century, This period is called the Middle Ages. Feudalism was like was like a social pyramid in which the bottom was formed by a broad mass of serfs (labourers working on farm land) slightly above them being the craftsmen and as you climb the social ladder, you have the lower nobility, the priests, merchants, money lenders, princes, bishops, cardinals with the top being formed by the kings. Under the system, the serf was tied to the land and was the main producer. The classes higher in the hierarchy lived off the produce of land and exploited the classes at the bottom. The system of appropriation of the surplus of land by the landlords and other upper classes came to be perfected during this stage. Exploitation of one class by the other got a further boost during this period. Means of production improved in the form of iron ploughs, harrow and other tools in agriculture commodity exchange also grew. Volume of trade inevitably increased. The internal contradictions and antagonisms further intensified. In agriculture, the coercion of serfs and their exploitation were manifest forms of class conflict. In small scale industry to the petty producers' dependence on the merchants alienated the producers from the means of production. The emerging features of this mode of production created conditions for transition to a new socio-economic order. Among these were the peasant uprisings of l4th to 16th centuries, primitive accumulation of capital in capitalist enterprises, the democratic movements, the agrarian transformation, and the consequent collapse of feudalism under advancing capitalism.

8.2.1 (d) Capitalism — Out of the bitter struggle between serfs and the feudal lords arose a class of emancipated serfs who became merchants and were instrumental in ushering in the first phase of capitalism This stage of human evolution into which society all over the world is at the moment, has some distinguishing characteristics like-purchase of labour power for money wages, means of production being owned only by the capitalist class, worker having no control over what he produces, gradual concentration of the means of production in a few hands, a very high degree of technological advance, and a very bitter class struggle taking place between workers and capitalists.

Although Marx considered capitalism as a stage of high degree of social evolution, yet, he argued that the internal contradictions of the mode of production during this stage, as amply brought out by its distinguishing features enlisted in the preceding paragraph, would bring about its downfall. The internal logic of the working of capitalism, according to Marx would lead to substitution, of capital for labour, one,-on account of their desire to increase their share-of surplus value (profits), and two, their adoption of capital-intensive techniques, all this resulting in "increasing immiseration" of the proletariat, thanks to the rising reserve army of the unemployed, The capitalist class too would face a falling rate of profits on account of a host of factors, including the change in the composition of capital, with constant capital (fixed capital) rising in proportion to variable capital, decline in consumption demand for their goods as .the share of wages in total output falls as well as due to increasing "competition among the capitalists. - ,

Finally, these structural maladjustments mount the system co1lapses. The collapse of capitalism, according to Marx, is brought about inwardly through the internal contradictions of the system coming to a head, but

externally the bitter class struggle between workers and capitalists eventually making the former to emerge victorious and establishing the “dictatorship of the proletariat.” This would, however, be only a transitional phase since the final stage of social evolution is the establishment of a full fledged socialist (i.e. communist) society

8.2.1 (e) Socialism — This is the ultimate stage of social evolution in this theory. Ironically, the actual working of the social system in ink final stage is not fully delineated. Only euphoric references to it are made. For instance, it is expected that the state would wither away as a superfluous institution. Marxism considers state as at instrument of oppression. The state would not be needed because it is expected that there would be no conflict it the society under socialism. The chief characteristic of a truly communist society is from each according to his ability, to each according to his needs. This is considered to be the Marxian Utopia or El Dorado.

8.3 Critical Appraisal

Critical Evaluation of Marx's Theory of Stages of Social Evolution -- In evaluating Marx’s theory, critics have tried to distinguish between his analytical abilities as a social scientist and the ‘predictive power of his theory and analysis. So far as the former goes, Josheph Schumpeter in his History of Economic Analysis, showers praises on Karl Marx. The former says that the latter’s economic interpretation of history, historical materialism, represents a “powerful analytical achievement,” and that his “all-comprehensive system and grand vision of an imminent evolution of the economic process ..... constitutes Marx’s claim to greatness as an economic analyst."

Marx is, however, considered to be a bad prophet. His prophecies about the working of the capitalist system and its impact on the productive system and capitalists and workers, have been falsified by actual experience. Thus, in the first place, the imnrseration of the working class has not materialized. Rather, there has been a secular uptrend in the real wage rates of labour in the capitalist countries which has been the direct consequence of the demand for labour rising against its nearly ‘stationary supply. Besides, the rise of trade unionism has greatly strengthened the bargaining power of labour.

Secondly, the menacingly growing reserve army of unemployed labour is nowhere in sight. Such a happening was essential for the eventual overthrow of capitalism.

Thirdly, even in the erstwhile socialist countries like the U.S.S.R., Poland, Czechoslovakia and presently China, state, far from withering away was growing stronger and stronger.

Fourthly, Marx’s concept of considering labour under capitalism as the sole source of value, capitalist’s usurpation of surplus value, his exploitation of labour in the Marxian sense, are all considered to be faulty theoretical constructs.

Fifthly, theory of stages of economic growth has been falsified by history in so far as even those countries which in the last century had experimented with socialism have reverted back to capitalism rather than advancing into the final stages of communism.

Finally, Marx failed to precisely work out the details of the mode of production in the final stage of social evolution, viz. socialism. Besides, it is hard to believe that a society which advances from primitive communism to capitalism and socialism would stop progressing further once socialist society comes into existence.

Exercise 8.1

Questions 1 Critically examine Marx's theory of development.

8.4. Rostow's Theory of Stages of Economic Growth:

W.W. Rostow published a small but very influential book titled Stages of Economic Growth in 1961. The book bore the sub-title A Non-Communist Manifesto, suggesting that the theory of stages of economic growth that was propounded in the book was intended to be an alternative to Marx's theory. Rostow too analyses the historical sequence of the process of economic growth and tries to show how a subsistence Agricultural economy acquires the features of a growing modern economy, with the forces of self-sustaining economic growth getting built into it. In other words, Rostow starts from a situation where an economy is hardly experiencing any economic growth (i.e. the growth of per capita income) and then visualises the forces and factors which over a long historical period the economy, through distinct and well-defined stages into a state of its fully realised growth potential.

Rostow divides this long-term process into five stages, each of which is discussed in some detail below:

8.4.1 The Traditional Society

This is the initial stage into which most of the currently developing economies had found themselves before the process of economic development got underway in them about half a century ago. These countries had been the traditional societies for many centuries having the features of a painfully slow, almost imperceptible, process of economic growth, due primarily to the non-application of post-Newtonian science and technology, and a traditional -and thus backward frame of human mind. Since these were subsistence economies, agriculture was the dominant productive activity, along with which the rural society was cut up into hierarchical classes. All this accounted for very low labour productivity in all spheres of production. Industrial activity was slowly growing but lack of application of scientific knowledge and absence of an appropriate mindset thwarted its progress. Social organization was characterised by a joint family system and close connections. Within such a social structure, vertical mobility of labour was getting constrained. Because of economic features like subsistence production and existence of local markets, trade and commerce did not flourish. The political and administrative system, with their being dominated by the landed aristocracy and features of the medieval period, did not suit the requirements of a growing and modernizing economy. All these characteristics of a traditional society thwarted' the forces of economic growth from taking roots and kept the economy tied to a low level of per capita income.

8.4.2 The Pre-Conditions for Take-Off

The term take-off (with which Rostow's theory is, in fact, identified in developmental literature) needs, to be, first of all, properly understood. This term has been borrowed from aeronautics, where take-off is understood to be the leaving of the ground by a fast moving aeroplane when it has attained a certain critical minimum speed. In Rostow's theory, the take-off is a "decisive transformation" of an economy. According to his definition, take off is "the interval during which the rate of investment increases: in such a way that real output per-capita rises and this increase carries with it radical changes in production techniques and the disposition of income flows which perpetuate the new scale of investment and perpetuate thereby the rising trend in per capita output".

During this second stage of Rostow's theory, the industrial revolution in a traditional society'is yet to take place. What does happen is that pre-conditions for take-off, i.e. for a rapid transformation of a traditional society and stagnant economy into a forward moving one, are created during this stage. The major change that takes place now is that modem science comes to be applied to agriculture. Europe at the end of the 17th century is cited as an example. For this to happen, there must be entrepreneurs and investors present who are prepared to implement and financially support the new ideas. A second change in production structure takes place in the building of social and economic overheads, primarily at government initiative because of the long gestation periods involved in such investments. Thirdly, attempts start being made to transform an agrarian into an industrial society in the form of setting up small enterprises.

All this causes as well as facilitates the rate of investment to rise during the pre-conditions to take-offstage. In a traditional society, the rate of investment as a proportion of the national income is estimated to be a bare minimum of about 5%, which is enough only to keep the capital stock intact and provide a little capital to the workers entering the labour force. However, during the transitional period of the pre-conditions to take-
Offstage, the rate of investment starts Creeping up.

Other economic changes of significance during this stage include: (a) enlargement of the area of commercial activity-or the size of the market, and (b) coming into being of the mechanisms to transfer economic surplus into the hands of those who would profitably invent it.

Then there are fundamental changes during this stage in social values, human motivation and the political system which start getting attuned to the requirements of a rapidly growing economy. People now start realizing that through their ingenuity and hard work they are capable of overcoming the natural constraints. They are now more-ready than before to adopt new-methods of production, to undertake risks and to bring about changes in the conditions and methods of work. Politically, the dominance of the colonial power and the traditional landed interests in the state power start being replaced with effective centralized national state imbued with a new nationalism. These changes are a necessary component of building pre-conditions for takeoff.

8.4.3 The Take-Off Stage

The take-off, as defined by Rostow, is a watershed between a traditional socio-economic system and a modern growing economic during which a “decisive transformation takes place”. It is a stage marked by “radical changes in production techniques and the disposition of resource flows" which perpetuate the rising trend in per capita income. There are three -most important characteristics of this stage of economic growth: (a) The ratio of savings and investment to national income rises to at least ten percent during this stage (b) At least one significant manufacturing sector with high growth rate will emerge during the take-off, (c) A framework, either political or social will support the expansion of the broad modern sector.

The take-off, which Rostow has identified from the growth experience of the already developed countries, has been shown to have got compressed into a very brief historical period of just two to three decades, unlike other stages of economic growth some of which may have spanned even over centuries. The “radical changes”, which Rostow talks of, get concentrated over a brief period, but after the successful completion of the take off, economic growth becomes a normal condition of the society. During the period, a sharp stimulus to economic growth is provided by say a technological innovation, a political revolution or even a favourable international environment. Any of these will spur the growth process.

As noted earlier, even during the pre-conditions for take-off stage, small attempts for transition from an agrarian to an industrial economy are already underway.

Now, during the take-off stage, industrialization assumes a critical role in the sense that the economy gets prepared for a structural transformation in the next stage in a big way.

Rostow makes it clear that the take offstage does not follow a set or fixed pattern. The past examples of the take-off stage show that each country followed a different path in the form of the dominant or the leading sector that spurred over-all growth of the economy and helped in raising the investment ratio to the critical 10% level.

For example in the U .S.A., Germany, France, Russia and Canada, it is the rail road construction which led the process of economic growth. In Britain, it was the cotton textile industry, while in Japan; it was the foreign trade sector. Each of the currently developing countries either already experienced or is about to experience its own peculiar growth stimulus.

For a successful take-off, a necessary condition, already noted above, is the rise in the saving-investment ratio to at least 10%. For this to happen, mobilization of investable funds is essential. These funds, according to Rostow, come primarily in the form of ploughed-back profits, taxation, deficit financing, and even capital imports. Besides the investable funds, another necessary condition for the take-off to happen is the emergence of an entrepreneurial class. An appropriate value system (like some people seeking social recognition, power or prestige through commercial activity, etc.) may lead to the emergence of such a class. There may be a variety of reasons, both material, and non-material, for the entrepreneurs to come forward to engage in industrial activity and start taking risks. The society should,

however, be supportive of those people who are Non conformists and seek accumulation of wealth through their entrepreneurial activities.

Table 8.1

Country	Take –off	Country	Take-off
Great Britain	1783-1802	Russia	1890-1914
France	1830-1860	Canada	1896-1914
Belgium	1833-1860	Argentina	1935-
United states	1843-1860	Turkey	1937-
Germany	1850-1873	India	1952-
Sweden	1868-1890	China	1952-
Japan	1878-1900		

To know the time interval of take-off stage. Table 8.1 prepared by Rostow, furnishes the tentative and approximate time period required for the take-off. Table 8.1 that in Great Britain, France, Belgium and United States, the take-off occurred during the last quarter of the 18th century and the first half of the 18th century. Germany, Sweden and Japan experienced take-off in the last half of the 19th century. In Russia and Canada, the take-off occurred before the out-break of the First World War. Argentina, Turkey, India and China appear to be in the midst of takeoff stage. It is still premature to judge whether India and China have achieved take-off or not.

8.4.4 The Drive to Maturity

This, according to the theory, is the-fourth stage of the process of economic growth. As its name implies, it is a long period of continued progress between the take-off and technological maturity, with the level of investment rising to as high as 20% of the national income. In general, this stage is supposed to last, about 60 years. Rostow defines this stage "as a period when a society has effectively applied the range of modern technology to the bulk of its resources." The major criterion of judging whether an economy has reached this stage or not is that it should have attained a level of development where its entrepreneurial and technological skills are capable of producing anything that it wishes to produce.

During this stage, the sectors which led the growth process in the take-off stage have already exhausted their growth potential and new leading sectors emerge to take the formers place. The type of these new leading sectors will be determined by the resource endowment of the country, the pool of technology which it has acquired, the character of the preceding take-off and the force shaving been set into motion during that stage, as well as the government policies regarding the directions it intends to give to the growth process.

Besides the foregoing economic features of the drive to maturity like rise in the ratio investment the growing width of the range of products that can be produced and the emergency of new leading sectors of the economy, there are some significant non-economic changes too that, according to Rostow, take place during this stage. He mentions primarily three changes: First, the composition of the labour-force changes, with a steady decline in the proportion of labour employed in agriculture. As the workers move to the non-agricultural sectors, the new skills and their real wages increase. Secondly,

during this stage, industrial leadership changes from the hands of the “buccaneering lords" to professional managers. Thirdly, the enthusiasm for more industrialization starts waning and the society starts raising questions regarding the human costs of the new pattern of development. People start wondering about the objectives of the growth process, whether these should be to promote general welfare or to dominate the world through international trade etc. Rostow believes that an economy can attain technological maturity in sixty years after the beginning of take-off or forty years after achieving the take-off .On the basis of this assumption, he has prepared the following table, which furnishes the tentative dates for technical maturity.

Table 8.2

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

On the basis of these dates, it has been worked out that India may attain technological maturity by 2017 i.e., by the end of the 12thFive-Yyear Plan. This calculation might come true if Indian Economy by that time demonstrates its capacity to absorb and apply efficiently the fruits of advanced technology to wide range of its resources.

8.4.5 The Age of High Mass Consumption

This stage is the longest According to Rostow, it took the U.S A. about 100 years to move from maturity to the level of this final stage. It is characterized by an affluent population and by mass production of sophisticated consumer goods and services. This is a period of consumption management rather than the management of production, the latter problem having been left behind as the stage of maturity is completed. During this stage, consumer is the real sovereign, with real incomes soaring and income elasticity of demand for consumer-goods being high. The society is no longer bothered by the questions of meeting the basic needs of the people rather the larger issues of promoting consumption and welfare of the people in its widest sense are the real social issues.

Rostow identifies three major objectives for which resource allocation and political support are sought. The first objective is to promote external power and influence and this necessarily involves substantial allocation of and resources for achieving military pursuits. Secondly attention too is paid to promote general welfare and to establish a more egalitarian society. Thirdly, consumption is directed towards goods and services other than the basic necessaries of life. Society attempts to strike a fine and delicate balance among these objectives during the age of high mass consumption.

Rostow says that the U.S.A. was the first country to reach this stage in the post-Second World War period of 1946-56.Western Europe and Japan-followed soon after and reached the stage in the 1950s. Although Soviet Union was ripe to attain this distinction in the 1960s, yet everybody knows that things went wrong with this region subsequently and after disintegration of the Soviet Union, its component states are now facing economic survival.

8.5 Critical Appraisal of Rostow's Theory

In the 1960s and the ‘l970s,' this theory had at acted a great deal of attention, particularly because if was a -period when, through planned investment, the presently developing countries were looking for some theoretical support for linking the rate of investment to economic growth, Rostow‘s theory had linked a 10% growth rate to the take- offstage.

The theory was, however, soon swamped by criticism which questioned its validity on analytical, theoretical and empirical grounds. Even the Marxian economists had attacked it, since it had been touted as a non-communist manifesto. The following are the major criticisms or Rostow’s theory.

In the first place, Simon Kuznets an influential economic historian criticized Rostow' s theory on these grounds : (i) A valid theory of stages of growth should be able to specify distinctive characteristics of each stage to distinguish it from other stages easily. Rostow refers to the preconditions for take-off and the take-off stages where distinctions between the two are not clear. Agricultural transformation and the building of social overhead capital are put forward as the distinctive forms of investment in the pre-conditions stage, but in reality the two activities are carried on even during the take-off stage. So there is an overlap of these activities in these two stages. This lack of clearly distinctive features, according to Kuznets, is also noticeable between take-off and the following stage, (ii) Kuznets also criticizes Rostow’s assertion that once take-off is completed, economic growth becomes automatic and self-sustaining during and after the drive to maturity. Kuznets makes the point that “in one sense any grow this self sustained it means an irreversible rise to a higher level of economic performance that may facilitate the accumulation of reserves for further growth ..... In another sense growth is self-limiting; the rise to a higher level may mean a reduction in incentive pressure upon scarce irreproducible resources and perhaps most important, the strengthening of entrenched interests that may resist growth in competing sectors,” Thus both these opposing forces operate simultaneously.

Secondly, AK. Cairncross has attacked the empirical basis of Rostow’s theory on the ground that the latter has used statistical data of the past century or two in respect of a dozen countries to identify the different stages through which each of them had supposedly passed. Until recently, these data were incomplete so that no firm conclusions could be drawn from such weak data base.

Thirdly, G.M. Meier criticizes the theory on the general ground that “stage-making approaches are misleading”, because they view long-term economic growth as a linear process implying that all countries uniformly pass through the same series of stages. It is preposterous to think that all countries follow exactly the same process of economic development, because this is a very complex affair. The uniqueness of the development process in the case of each country follows from differences in resource endowments, government policies, degree of openness of economies and so on.

Fourthly, the linear conception of economic history implying the same course of history for all countries is especially suspect in the case of some of the currently developing countries. All these countries started their process of economic development in the 1950s and 1960s. Yet some of them, like

Malaysia, Indonesia and Brazil have attained a fairly level of development, while those in South Asia, including India still remain mired in poverty. A common feature of all these has been that their- saving and investment rates have exceeded 10%, and in most of them, have attained a rate of 20% or more, over the last couple of decades. Yet, as Hla Myint says, "few would venture to claim that the ‘central problem’ of their economic development has been solved." Therefore, doubts arise about the applicability of Rostow's stages theory to all countries uniformly.

Fifthly, Albert Fishlow has discovered a duality in Rostow’s concept of take-off According to him, “At one level the take-off is a sectored, non-linear, threshold notion. This is the realm of leading sector with its forward and spreading effects ...." The other level, according to Fishlow is “highly aggregative." At this macro-level, Rostow makes the rate of growth of national output critically dependent on the rate of saving and investment. Rostow neither tries to integrate the two into a single framework, nor to say under what conditions one rather than the others critical for successfully completing the take-off".

Finally, two Marxian political economists, viz. Paul Baran and Hobsbawm, although appreciative of Rostow ‘s attempt to cast his theory in terms of historical stages of evolution, bitterly criticize him, obviously for having dared to present an alternative to Marx s theory. They call it as “an unwise decision”, for the Marxian questions are fundamental to any attempt at any understanding of the process of economic development Baran and Hobsbawm maintain that Rostow's “theory of stages” actually tells us nothing except that there are stages. The four other stages are implicit in the take-off and add nothing to it."

Exercise 8.2

Question 1 Critically examine Rostow’s theory of growth.

8.6 Glossary

- **Socialism -** A term used to describe the general doctrine that the ownership and control of the means of production- capital and land- should be held by the community as a whole and administered in the interests of all. For Karl Marx socialism is an intermediate stage in the inevitable transformation of capitalism into Communism. The socialist state is characterized by the dictatorship of the Proletariat and existence of scarcity.
- **Feudalism-**A type of political and economic system dominant in Europe in the Middle Ages. It was characterized by a social pyramid extending from the dependent peasant through the ‘fief ‘endowed lords and knights to the monarch. A rigid class of status structure linked to the land was the basis of the society. The lord who was granted an estate in return for a military obligation to the monarch rented this land to serfs in return for a rent in kind of money, and having his estate cultivated by these serfs. This decentralized economic system relied on legal immobility of the serfs and went into demise with the growth of the urban population and a system of wage labour.

- **Traditional Society**- is defined as one which is based on pre-Newtonian science and technology; usually having a large agricultural sector and hierarchical social structure.
- **Pre–Conditions for take-off**-relates to the application of modern science to agriculture; Europe at the end of the seventeenth century is given as an example'; there must be entrepreneurs present in the society and investors who are prepared to give financial support to new ideas.
- **Take-off** -this stage is characterized by growth as the normal, steady state, rather than only appearing in short bursts of sudden activity. In general the ratio of savings to national income will rise to at ten percent during this stage. As well as this growth, there are two more characteristics of the third stage. There has to be atleast one significant manufacturing sector with a high growth rate; and a framework, either political or social, which will support the expansion of the modern sector. Rostow also defined the take-off as an industrial revolution.
- **Drive to maturity** –This stage is between take-off and maturity which is basically a long period of continued progress, with the level of investment rising as high as 20 percent of national income. In general this stage last till 60 years
- **High Mass Consumption** – This stage is the longest. It is characterized by an affluent population and by mass production of sophisticated consumer goods and services..

8.7Self Assessment Test

Try the following objective type questions

(i) Stage of economic growth do not provide a link between economic stagnation of

an economy and its high level of development. Is the statement (x) true, or (y) false?

(ii) Which of the following is one of the factors accounting for the break –down of capitalism according to Marx

(x) Failure of exports (y) Lack of investment opportunities (z) rise in the reserve army of the unemployed workers.

(iii) Is "primitive communism" (x)the final stage, (y) the middle stage, (z) the initial stage of social evolution in Marxian theory of stages of economic growth?

(iv)Is 20% rate of investment in Rostow's theory of stages of economic growth linked to (x) the take-off stage, or (y) the drive to maturity stage?

(v) Who, out of the following economists, is a bitter critic of Rostow's theory of stages of economic growth (x) Simon Kuznets (y) Gunnar Myrdal?

(iii) (Correct answers: (i)-y;(ii)-z; (iii)-z; (iv)-y; (v)-x)

8.8 Suggested Readings

1. Eric Roll, *History of Economic Thought*, chapVI.
2. W.W.Rostow, *The Stages of Economic Growth,*1962,chap,2and 10.
3. G.M.Meier*, Leading Issues in Economic Development*,1990,chap,II,A1.

4. Paul Baran, *The Longer View*,3974,See Baran and Hobsbawm's article, " The Stage of Economic Growth" .
5. Simon Kuznets, *Economic Growth and Structure*,1965,See essay entitled : "Notes on Take-off"
6. Albert Fishlow, "Empty Economic Stages" *Economic Journal*, March,1965.

8.9 Terminal Questions

Question 1 What a distinguishing features of capitalism as a stage of social evolution in Marxian Theory? Enlist the factors that lead to the break- down of capitalism in this theory.

Question 2 What are the pre-condition that lead to the take-off in Rostow's theory of stages of economic growth? What are the distinguishing features of the take-off stage?

LESSON 9

THEORIES OF ECONOMIC DEVELOPMENT

Structure

9.0 Objectives

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

- Know about Classical Views on the process of Economic Development.
- Explain the views given by Robert Malthus, his population theory and its effects on the economy
- Discuss about Karl's Philosophy regarding Economic Development.
- Explain Schumpeter's Theory of Unstable Growth.

9.1Introduction

This is the last Lesson of the II Unit. Here, we shall go back in time and-notice how some of the well-known schools-of thought like the classical, the Marxian and the Schumpeterian, have analyzed the process of long-term economic growth, particularly within the capitalistic framework, as has been experienced by the developed countries of the West. These schools of thought have also attempted to show, what would happen to that long-term process of economic growth as the concerned economies tend to attain the plateau of such growth. We shall, first of all, see how "the corpus of literature produced by the classical economists of the late eighteenth and early nineteenth centuries was concerned to a notable degree with the analysis of long run economic growth. with its causes, its impact on other macroeconomic variables, and with the prospects of sustaining growth in the long run. Then, there was a body of literature that represented Marxist political economy of development finally, we shall take up the Schumpeterian model of economic development. '

9.2. The Classical Theory of Capitalist Development

The Classical economist's writings devoted sufficient attention to the issues relating to the conditions of economic progress. Among them the three most original contributors were Adam Smith, Ricardo and Malthus. The present section will be devoted to the discussion of pre- Marxian literature on economic growth while Marxian approach "will be taken up thereafter.

It seems appropriate to mention here that prior" to the emergence of classical approach, another group of economists had, earlier in the eighteenth century, also studied the process of economic growth. in France, the physiocrats analyzed the scope for increase in both total output and output per worker, concluding that this could only be clone by the agricultural sector : only labour engaged, in agriculture was capable of generating-surplus output in excess of the value of material input and the labour employed.

From the time of Adam Smith's Wealth of Nations, there has been recognition that a growth dynamic can be generated in manufacturing as well as agriculture: both sectors can generate advances not only in total output but also in labour productivity. The classical indeed perceived the scope for productivity increases to be greater in manufacturing than in agriculture. These developments in-perception were associated with the articulation of a number of propositions concerning the causes of growth, some of which were completely new, and with a new elaboration also of the constraints to economic progress.

The classical economists regarded the process of economic growth as a race between technological progress and population growth a race in which technological progress would be ahead -of population growth for some time but which would and in a dead heat or stagnation. To them technological progress was a function of capital accumulation, which would ensure increasing mechanism and greater division of labour. The rate of capital accumulation, in turn depended upon the level and rate of profits.

Following the form of presentation of Benjamin Higgins the basic propositions the classical growth theory can be translated "into a series of mutually consistent and interacting propositions.

Proposition 1: The Production Function

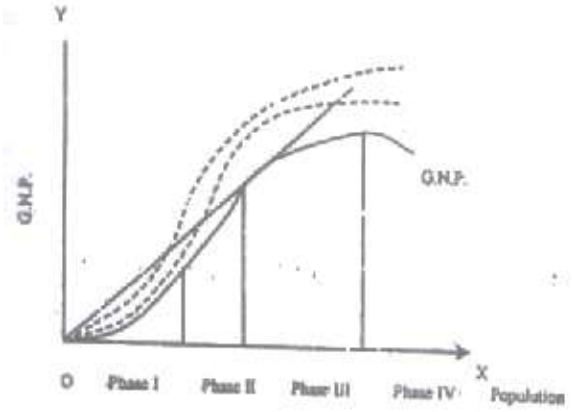
Adam Smith. Malthus all believed that total output. (O) depended on the size of labour force(L).the stock of capital (Q) The amount of land available (K) (land here is taken to mean the supply of known resources); and the level of technique (T). This can be written as:

O= f(L,K,Q,T).....(1)

In other words total output depends on the size of labour force, the supply of land the stock of capital, the proportions in which these factors of production can be combined and the level of technology. Most classical economists probably regarded production function as linear and homogeneous, imp1ying that the doubling of the quantities of all factors of production would double the output. Adam Smith, however might have made a case for increasing returns to scale due to increased opportunities of division of labour on account of expansion of market

For classical economists, the key cross-section of the production functions was the one that showed as to what happens to output when land is fixed and the labour supply is increased. This cross section is shown by the solid line in the Figure 1 below. It is divided into four phases: increasing

marginal returns, decreasing marginal returns, decreasing average returns, and decreasing total returns.



The solid curve GNP in Fig. l shows what happens when the amount of labour is increased while the land utilized is fixed and nothing else happens either. Phase I shows increasing marginal returns; Phase II shows decreasing marginal returns; Phase III shows decreasing average returns; and Phase IV indicates decreasing total returns. Now if additional capital is accumulated the curve will have the same general shape but will be located at a higher level as indicated by dotted curves in Fig.1.Each higher curve shows the effect of using a larger stock of capital. Together with the fixed amount of land and varying amount of labour.

Proposition 2: Capital Accumulation Permits Technological Progress

The classical economists maintained that there was great potential for the supply of better techniques and new commodities but the rate at which these opportunities could be exploited was limited by the flow of capital for new investment. They believed that new saving was needed to permit the society to take advantage of the steady advance of technology; reinvestment of depreciation reserves would not be enough.

Classical regarded the whole process of technological progress as capital-absorbing, whatever might have been the nature of inventions. In symbols then our second equation is:

$$T = T(I) \ldots\ldots\ldots\ldots (2)$$

This implies that the level of output depends on the level of investment. On account of this functional relationship the classical economists stressed the need for capital accumulation and saving, rather than technological progress as an independent factor.

Proposition 3: Investment Depends on Profits

All economists of classical school firmly believed that capitalists invest with a view to earning profits, and that when the capitalists expect with regard to profits in future depends a good deal on what profits are now. Investment is taken in its net sense also implying a net addition to the stock of capital which can be expressed as:

$$I=\alpha\ Q=1\ (R)..... (3)$$

where R is return on fixed factors of production (i.e. land and capital) or profits.

Proposition 4: Profits depend on labour Supply and the Level of Technique

Profits are affected by pa great variety of economic events. Yet some things affect profits to at larger extent than do the others. As populations grew, diminishing returns set in agriculture. This would raise labour cost and reduce profits. This was not true for industrial sector where the tendency was for increasing returns, especially on account of improvements in techniques of production. The relative power of increasing or decreasing returns is not a question of theory but of facts and it varies from country to country as also with in each country from time to time. Classical generally believed that technological progress kept the country head for the being (this optimism was based on post-industrial revolution era in England), but it could not win for all time in future. The fourth equation then is:

$$R=R\ (T, L)\ ...,..... \quad (4)$$

It implies that the level of profits depends on the level of technique and-the size of labour force. The labour force and the population generally moved / varied together. Population growth always brought a decline in the per capita output unless offset by technological progress.

Proposition 5: **The size of labour Force depends on the Size of Wage Bill**

Classical theory was based on the 'iron law of wages' the broad idea of these economists was that the rate of population growth depended on-how much money wages available to pay wages. If use total wage fund is increased and real average rates rise above the subsistence level larger numbers of working class children can survive to add to the labour force. The additions to labour force would force a constant tendency for the real wage rates to return to the subsistence level.

Sometimes the classical appeared to view subsistence wages as a true psychological minimum below which children could not survive; at other times they appeared to think of some accustomed normal 'living'-standard, not much above the physical 'subsistence level', which working class families would not endanger by having more children.

The above argument may not-be relevant in the present day developed countries, but it probably gave a fairly accurate description of what happened in Europe in the rate eighteenth century and what is now happening in the third world countries.

Proposition 6: The Wages Bill Depends on Level of Investment

The classical growth theory regarded capital or at least a part of it as consisting of a Wages- fund an amount of money available for hiring labour - This wage fund was built up by saving and put into effective use through investment." Except for Malthus, who showed high degree of sophistication in this respect, the classical believed that savings found their way into investment more or less automatically. .Thus wage bill could be increased on by additions to net investment

Our next equation, thus is

$$W = W\ (I) \quad \text{.....(6)}$$

Closing the System

The above six equations constitute all ‘propositions expressing fundamental causal relationships of the classical system. But so far we have listed only seven variables and have six equations; the system-remains indeterminate. We can close ‘the system by adding an identity, total output equals profits plus wages", or

O=R+W..... ..... (7)

This equation can be explained in two ways. If we define profits as we have done above, for include returns on fixed factors of production, including land and capital, the equation expresses as an identity by definition; the total national income equals total cost of all the goods and services produced, and this amount is divided between workers and others. On the other hand, in a more purely classical form, this equation can be explained by taking into account the classical theory of rent. According to the classical school, value equals the labour cost of production on ‘marginal’ or no rent land; Included in this labour cost is the cost of embodied labour tied up with capital; so value included a return to capital as well as to labour. Price is value in money terms. Thus if we think of O as equal to pq. (Price multiplied by quantity of all goods and services), it will be equivalent to the total wages bill plus total return to capital. If landlords succeed in getting rent, it is because workers or capitalists get less than their actual contribution to the value of output. As a matter of general theory this treatment of rent at the hands of classical appears to be a bit of nuisance. Therefore, it is better -to stick to the first explanation of equation 7.

With this," we have a determinate system with seven equations and seven unknowns. If we like, we can add an eighth variable, w, to mean the minimum wage rate, which is a constant. and then add as eighth equation expressing a long run equilibrium condition :

W= wL..... (8)

Now you write down all the eight equations and these would give you the entire classical growth system. This equations system gives sufficient evidence of the circularity of argument of the classical economists; We can break into the circular flow anywhere and show how the system will evolve under various conditions, but let us start with profits as the prime mover of the capitalist system. We could write schematically “*dR ? dl ? dQ? dT, dW? dL?dR.* That is, an increase in ‘profits brings an increase in investment, and so an’ addition to capital stock which would, in turn permit capitalists to take advantage of the steady flow of improved techniques and also raises the .wage fund; that brings an accelerated population growth; which causes decreasing returns to labour on the land, raising labour costs and reducing profits. We could ‘ go on further by saying that reduced profits mean reduced investment, retarded technological progress, diminished wage fund and slowing down of population growth.

The classical theory of economic development gives a pessimistic picture of the future. In fact, classical theory of economic development ends up in a stationary state. Economic growth, as seen above stimulates population growth. In the end, population is so large; the pressure on marginal lands so great and the rents so high that, while wages remain tied to the subsistence level, the profits are very low. Thus, no capitalist would like to

accumulate further capital. With the stoppage of capital formation, the process of economic development comes to a halt in the classical theory of economic development, their theory of rent, the law of diminishing returns and the Malthusian theory of population all combine to bring about a stationary equilibrium.

Exercise 9.1

Question1 Discuss the Classical Theory of development.

9.3 The Malthus Version

The classical theory of economic development would be incomplete without the understanding of the refinements introduced in it by the Malthus analysis. Certain features of his theory make it particularly enlightening both for an understanding of the requirements of steady growth in advanced countries and for the launching of development in underdeveloped countries.

In An Essay on the Principle of Population.(l798), Malthus shows himself to be more concerned with what could be expected to happen ‘over time to mass welfare in an-economy than with economic growth par see These concerns were probably promoted by contemporary events, in particular the younger Pitt's proposed revision of the Poor Laws to give larger allowances to families with more children, and the poor harvests’ and-food shortages of preceding years.

Malthus analysis is based on a mixture of argument and factual assertion, the essence of which may be summarized as follows: Economic growth generated increased demand for labour and hence rising real wages Rising wages lead, in turn, to an increase in population growth and hence labour, supply with an increase‘: in living standards ‘parents choose to have more children and, in addition, a higher proportion of children survive infancy, These points were commonly made by the- classical The distinctive feature of Malthus' thesis is the next step in his analysis. .

Malthus asserted that any rise in mass standards of living could only be -temporary because the increase in population would rapidly outstrip the capacity of agricultural sector to meet the growing demand for food. for additional land brought into cultivations generally less fertile than that already cultivated It is in this context- that Malthus made Ins famous assertion that while the population grows in geometric progression (i.e. by a‘ constant proportion each time),.agricultural output can Only grow in arithmetic progression (i.e. by a constant , absolute amount per given time period).

Malthus took the view that a rise in wages and mass living standards. Followed by a period of population expansion, could only be succeeded by one of growing food shortages and mass misery. This would, in turn, result in a decline both in the birth rate and in infant survival until, as a result of the decline in population growth, labour shortages re-emerge, and the cycle repeats itself. The only acceptable way out of this impasse was for. the working classes to exert greater restraint on family size, but Malthus did not "anticipate this happening. He concluded that only in a society with-an unequal distribution of wealth and income could some people ------the wealthy minority--persistently enjoy high living standards. In a society with equal income and wealth distribution all would experience periods of fluctuating well being and misery.

In his Book ll of the Principles of Political Economy Malthus showed more appreciation than most of his contemporaries of the importance of a distinct and systematic theory of growth; He defend the problem of development as explaining any difference between potential national income and "actual national income. In his opinion there was nothing automatic about economic growth. To say that population growth by itself is enough to promote economic growth is obvious In the first place, population growth—despite the strength of psychological forces ‘ending to bring it about--is an end product of the ' whole. economic process. An increase of population - cannot take place without a proportionate or nearly proportionate increase of wealth. He explained that in countries like Spain, Portugal, Hungary, and Turkey together with the whole of Asia, Africa and the greater part of America, lack of wealth was a constraint -on population growth.

According to Malthus mere increase in population does not provide stimulus to economic growth; population. Growth encourages development only if it brings about an increase in effective demand. And the level of effective demand (including that for labour) would depend upon the rate of capital accumulation. But workers often fail to create effective demand as they lack purchasing power with them due to the lack of demand for their labour

Malthus differed from both Smith and Ricardo on the postulate that savings always equal Investment, and therefore, any act of saving necessarily enhances the wealth of society. Rejecting Say‘s Law that supply creates its own demand, he argued that saving (planned) implies a reduction in effective demand due the fall in consumption, and this in turn brings about a decline in profits and investment. By arguing so, Malthus came to be regarded as a precursor of Keynes.

As per Malthusian explanation, profits, are..Equal. to total output (income) minus workers’ wages. Workers getting subsistence wages are too poor to save anything. In other words, workers spend whole of their income on consumption. On the other hand, capitalist’s earnings are more than they need For consumption; Hence they save a part of their income. According to Malthus, all savings are not invested by capitalists. Savings create additional income to the extent they are invested. In case savings are not invested, these savings would tend to retard growth. He further argued that even if savings exist, beyond a point, the opportunities for profitable investment get exhausted. At this point, savings on the part of capitalists would only reduce effective demand and exercise adverse effects on national output.

Malthus gave a proper exposition of the factors that push the economy into stationary state. First, he refers to the backward sloping supply curve ‘applicable to workers! Second, .the inability of an economy to progressively transform itself structurally into an industrial economy may eventually result in economic retardation Third, Malthus suggested that the technological progress in’ a country should be rapid enough to permit large investments in the industrial sector so as to offset the adverse effects of diminishing returns in agriculture. Often the pace of industrial development is not adequate enough to mitigate the adverse effects being faced in the agricultural sector; and-this brings to a halt the process of development.“

Malthus also made a reference to the causes of underdevelopment in the backward countries,

In his opinion, in the state of autarky, 'i.e. in the absence of international trade the agricultural and industrial sectors constitute markets for the products of each other. If either of the two sectors fails to grow, the growth of the other sector is automatically restricted. The limited demand for agricultural products due to slow development of industrial sector prevents the increased productivity efforts of the farmers.

Exercise 9.2

Question 1 Explain Robert Malthus views on population growth and its effect on the economy?

9.4. The Marxian Theory of Economic Development

Karl Marx is considered by many as an influential economic thinker who predicted the doom of capitalism, as noted 'in the preceding Lesson, and whose ideas contributed a, lot in shaping the social and economic policies of the erstwhile Soviet Union, China and several of other socialist countries. This section of our lesson is not intended to evaluate the Marxist System as a while, but would instead highlight the key propositions of its pure theory of economic development. Of course, Marx's theory of economic development was the core of his system, yet it is not possible to elaborate all aspects of his theory here for want of space. As .such what follows is the condensed presentation of 'Marx's theory of economic development.

Marx never underestimated the capacity-of the capitalist system for economic expansion. Rather he was far more, optimistic than Mill or Malthus with regard to the capacity of this system to sustain itself on the path of development True, he predicted the doom of capitalism, but for sociological reasons, not because of stagnation, and only after a very high degree of development had been attained. This you have already studied in the preceding lesson. We shall focus on the basic elements of the Marxian theory of economic development and how the process will breakdown. As in the previous section, we shall use simultaneous equations based on the basic propositions of Marx-'s theory of economic development:

Proposition 1: The Production Function

Marx's ideas about the production function were the same as those of the classical and the same; equation can be used here

$$O= f (L, K,Q, T) \quad ..... \quad (I)$$

However, the Marxian approach laid greater stress on technological progress as the engine of economic growth and he assigned key role to-the entrepreneur. He could visualize more clearly the two-way relationship between investment as 'at precondition for ethnological progress, as well as the technological progress itself providing opportunities for profitable investment.

Unlike the classical theory, L in Marx's approach implies the labour force actually, employed since, 'Marx incorporated unemployment into his analysis, and population and employment cannot be treated as moving together in his system. Marx could also be said to have had a "clearer picture of the role of overseas interaction in the development of capitalist economies of England and France. Like Classical he regarded land as a fixed factor and subject to decreasing returns. But unlike them he maintained that foreign

trade offered a means of escaping these returns. Later his followers came out more explicitly with the Marxian theory of imperialism on the basis of his insights.

Proposition 2 : Technological Progress Depends on Investment

The point is already explained in the classical theory and can be adopted in Marxian formation as

$$T = T(I) \ldots\ldots\_(2)$$

Proposition 3: Investment Depends on Rate of Profit

The Marxist theory of investment is -slightly more refined than the classical theory. Whereas the classical regarded profits as a category "of income accruing 'to capitalists and providing' funds for savings and investment, Marx thought of investment as depending, not merely on the size of capitalist's income but also on the "rate of return on capital. Using R to mean this rate of return, the Marxian investment theory can be written as:

$$I = I(R) \quad \ldots,\ldots(3)$$

Marx himself used the term 'surplus value ', but surplus value was really what we have previously called profits' in classical' theory, or the difference between national income and wage bill. He divided capital into two components —— variable capital and constant capital. The variable capital or working capital denoted by W is nothing but the wage bill. The constant capital Q means the stock of capital goods and inventories. - .

Proposition 4: Rate of Profits is the Ratio of Profits to Wage Bill plus Capital Cost

The rate of profits can be written in the form of an identity to which Marx attached great importance

$$R = \frac{O-W}{W-Q} = \frac{R}{W+Q} \quad = \quad \text{-------(4)}$$

Here Q means capital goods and inventories used up in producing O. Here Q can be regarded as having a fixed relation to both Q and O. Thus, "the rate' of return, R', is really a rate of return on turnover; and it is profits in this sense that Marx regarded as determining investment. Since Marx regarded technological progress to be labour-saving, there was naturally a tendency for capital per worker to rise. This would also imply rising capital-output ratio and capital-labour ratio.

The implication of these tendencies is that unless these are accompanied by an increased spread between-national income and the, wage bill, the increase in capital per worker must result in the rate of profits to fall

Proposition 5 : Wages Depend on the Level of Investment

In Marxian theory, the wages bill would depend on the level of employment as well as on the wage rate.

Therefore:

$$W = W(I) \ldots\ldots\ldots\ldots\ldots\ldots (5)$$

Proposition 6: Employment Depends on the Level of Investment.

Both employment and wages depend on the level of investment for Marx; however, innovation was essentially a labour-saving device. As a result, he put great emphasis on technological unemployment. An investment boom would tend to increase employment, but each addition to capital stock would increase the 'reserve army' of the technologically displaced persons; Employment rises only if investment goes up relative to the existing stock of capital.

Thus we may write:

$$L=L\ (I/Q) \ldots\ldots\ldots (6)$$

Proposition 7: Consumption Depends on the Wage Bill

In the preceding section of this Lesson we pointed out that Malthus had, prior to Marx, referred to the danger that under consumption and hence lack of effective demand might slowdown economic growth. Like him, Marx also stressed the interrelationship between sectors but he argued in terms of capital goods and consumer goods sectors. These two kinds of sectoral breakdowns are of course closely related, though not identical whereas Malthus emphasized capitalists' consumption and investment as providing the market for industrial, sector Marx argued that investment cannot be profitable unless consumption increases enough to absorb the increased output of final products, and that, however luxuriously capitalists may live, it is the workers who provide most of the market for consumers goods. This may be expressed as:

$$C=C\ (W). \ldots\ldots\ldots ..(7)$$

Proposition 8: Profits Depend on the Level» of Technology and the Level of Consumer Spending.

What determines the level of profits, i.e…the spread between national income and the amount paid in wages? As in the classical theory, the level of techniques is a major factor, but technological progress being labour saving, it would permit a given output to be produced with less labour. With wages steady at the subsistence level, an increase in man-year productivity permits an increase in profits. Unfortunately for the capitalists, there is a 'contradiction' here, according to Marx. For workers do most of consuming and reducing labour costs will not raise profits if it lowers workers spending the output must be sold if profits are to be earned. So the Profit determining equation in the Marxist system can take the form:

$$R= R\ (T, C)\ldots. (8).$$

Let it be made clear here that Marx emphasized the rate of profit rather than the aggregate amount of profits as the factor determining capitalist behaviour. It is the rate of profit that must fall in the Marxist system Thus what happens to R is important primarily for its effect on R in Equation 4.

We have three identities for closing the Marx's model:

$$O =R + W..... (9)$$

Since Marx divided economy into capital and consumer goods sectors, we may add:

$$O = C + I..... (10)$$

Finally, we can treat current capital costs as bearing a fixed relation to the stock of capital, which we shall denote by u to mean 'user costs', the

added cost of using capital to produce goods and services rather than holding it. We shall assume that u is given. Then

$$Q = u.\ Q \quad \ldots\ldots\ldots\ldots\ (l1)$$

We have eleven equations and eleven unknowns Marx's model of capitalistic development is neither "free from contradictions nor is it wholly supported by empirical evidence.

Exercise 9.3

Question 1 Explain the main components of Marxian theory of development

9.5 Critical Appraisal

Marx's analysis of development has been widely accepted as a gospel of truth. However, it is replete with many short coming in its analysis the first inconsistency relates to his assertion about the falling rate of profits. This assertion is based on his assumption that the organic composition of capital rises while the rate of surplus value remains constant Paul M. Sweezy maintains that Marx was hardly justified even in of his own framework to constant rate of surplus value simultaneously with a rising organic composition of capital, if both the organic composition of capital and the rate of surplus value are assumed variable, as they should be, then the direction in which rate of profit will change becomes indeterminate to the event that the rate of profit does not decline with the rise in the organic composition of capital, competition among capitalists need not increase with capital accumulation and technological changes need not result in larger unemployment forcing share of wages in total output to fall.

The logical error in Marx's explanation of industrial development has been brought to the fore by Irma Adelman. She admits the tendency of firms to expand in order to reap the benefits of economies of scale. Yet it may not necessarily imply a rise in the degree of concentration; This is particularly true in the countries having very strong monopoly regulation besides, the share of wages in the national income need not fall in the process of development. And if this does not happen, then the ratio of the rate of growth of means of production need not fall and the economic crises in an economy need not become increasingly severe.

Some of Marx's predictions have also not withstood the empirical verification. For example, contrary to his postulates; the real wages of the workers have increased over time in, capitalist c countries. Likewise, the growing capital intensity has. not led to a marked increase in structural unemployment of the labour force.

Nonetheless the aforementioned deficiencies do not undermine the importance of Marx's analysis of capitalistic growth. For as Schumpeter has rightly remarked, "Mark's performance is yet the most powerful of all."

9.6. Schumpeter's Theory of Unstable Growth

In section 2 earlier, we noted that for the classical economists the *premium mobile* of economic growth was, variously, the expansion. of market, saving and investment out of profits, and the driving determination of the capitalist to accumulate ever-increasing wealth.

Joseph Schumpeter, who was a great admirer of capitalist system, has provided a penetrating analysis of the origin, operation and evolution of system The basic ideas of his theory of economic growth, were presented in the German edition of his *Theory, of Economic Development* in 1911. These ideas were subsequently elaborated and refined in his *Business Cycles* published in 1939.

Before explaining in detail Schumpeter's theory of unstable growth, let us examine his view on the nature of production function. He had similar notion of production function as the Classical and Marx, i.e. O = f (L, K, Q,T) implying that the total output depends on the size of labour force, supply of land, the stock of capital, the proportions in which these factors are combined and the level of technology.

According to Schumpeter saving is done with the purpose of either future consumption or for investment. With this definition workers as well as capitalists are able to have and both will save more as their incomes rise. This is distinctly different from the saving function of Classical and Marx. However, Schumpeter kept in mind the neoclassical proposition that savings would tend to increase with the interest rate. According to Schumpeter savings are a function of wages, Profit income, and mainly the rate of interest.

One of Schumpeter's important contributions was the distinction between two kinds of investment -induced investment and autonomous investment. Induced investment is that which is stimulated by recent increase in output, income, sales or profits. The investment which is brought forth by long run considerations - such as technological change is called autonomous investment. The sum total of autonomous and induced investment constitutes total investment.

Induced investment depends on the level of profit and interest rate. The factors determining induced investment might be expressed in various ways, but Schumpeter laid particular stress on the relationship between profits and interest rate. In this respect he followed the neoclassical tradition that induced investment tends to rise as current profits rise and to fall as interest rate goes up. Induced investment is thus inversely related to the rate of interest.

Autonomous investment depends on resource discovery and technological progress. According to Schumpeter most important part of private investment is determined by long run factors, not directly related to recent changes in income, output sales and profits. He made his major contribution to the theory of investment by laying a particular stress on what he called innovation as the mainspring of autonomous investment. According to him innovation means any change in the production function which would bring about an increase in output. This concept of innovation covers the following, five changes made for the first time: (1) The introduction of new goods, (2) the introduction of new methods of production, (3) the opening of new markets, (4) the discovery of a new source of supply of raw material, and (5) the bringing into existence of a new organization of any industry like creation of a monopoly position.

Technological progress and the rate of resources discovery (innovations) depend upon the supply of entrepreneurs. The stress or the leading role of the entrepreneurs in economic development under capitalism is the main feature of the Schumpeterian system.

In Schumpeter's system, the entrepreneur has been assigned a strategic role. The entrepreneur is the person or organization who sees the opportunity for introducing a new technique or a new commodity, an improved organization, and use of newly discovered resources. He raises money to launch a new enterprise, assembles the factors entrepreneurship chooses the managers and sets the organization going.

He need not be a capitalist he may not provide any funds of his own. Inventions or discoveries by themselves have little economic effect Supply of entrepreneurs is something not easily measurable. Yet Schumpeter has attributed most-of the economic growth to the determining, role of entrepreneurship.

Further - Schumpeter says that the "supply of entrepreneurs depends on rate of profits and the social climate." Like Marx, Schumpeter laid considerable stress on sociological factors. This is what is meant by the "social climate", a complex phenomenon reflecting the whole social, political, and socio-psychological atmosphere within which entrepreneurs must operate. It would include the attitude of society towards business success, and the nature and extent of the prestige and other social rewards, apart from profits, which accompany business success in the society. A particularly important component of "climate" is the entrepreneur's understanding of the "rule of game", the conditions under which he must operate.

According to Schumpeter excess of investment over voluntary savings, financed by credit creation will raise gross national product by an amount which will be some multiple of the original gap between investment and saving. Conversely, an excess of voluntary savings over investment will reduce gross national product, in value terms, by some multiple of the original gap.

Schumpeter carried over into his system the proposition, common both to the classical school and to Marx that wage incomes tend to increase with investment and vice versa.

i.e.,

$$. w = w (I)$$

That is, the wages bill depends on the level of investment.

The "Social Climate" is reflected by the distribution of income. We know that Schumpeter's concept of climate is a very complex and subtle affair. However, it is clear from some of his later writings that he considered income distribution to be a good "thermometer" of the general climate. Any development tending to squeeze profits, such is growing strength of trade unions, progressive income taxes, social welfare programs, or any other government intervention' designed' to' limit profit or to redistribute income, is tantamount to deterioration of the "climate". AH the forms of government intervention have a direct short-run impact on the relationship between wages and profits.

Then, at last to close the system, we can -resort once more to the familiar identity,

O = R + W. i.e., Gross National Product is equal to the profit always.

9.6.1Growth and Development of an Economy

Schumpeter's analysis may be regarded as wider or narrow scope, depending on expects from theory of economic development. In general the

scope of Schumpeter's system is about as broad as that of the classical school, and bit less broad than that of Marx. Schumpeter does not try to provide a systematic explanation of changes in non-economic data, but in explaining changes in economic data he draws on a wide range of sociological Schumpeter psychological, political and technological factors.

Schumpeter starts his analysis with an economy in stationary equilibrium characterized by a "circular flow" which forever repeats itself. Schumpeter assumes a perfectly competitive economy which is in stationary equilibrium in such a stationary state there is perfect competitive equilibrium, no profit, no interest rates, no saving, no investment and no. involuntary unemployment. This equilibrium is characterized by what Schumpeter terms the circular flow which continues to repeat itself in the same manner year after year, similar to the circulation of blood in an animal organism. In the circular flow, the same products are produced every year in the same manner. According to Schumpeter, "The circular flow is a stream that is fed from the continually flowing springs of labour power and land, and flows every economic period into the reservoir we call income, in order to be transformed into the satisfaction of wants."

Development takes place only when there is discontinuous disturbance of this circular flow. The discontinuous disturbance comes in the form of an innovation. The innovation entails, say, construction of new plant and equipment, is undertaken by new firms. Historically, there is no lack of realism in such an argument Most of the major innovations—such as the railways and steamships of the nineteenth century, and the automobiles, chemicals and electric power of the twentieth — have in fact been developed mainly by new firms.

Schumpeter also argues that the development of new firms is usually associated with the rise to business leadership of New Men, and here too he points to history to substantiate his argument. This point of Schumpeter's theory is very important, if it is true, for it means that unless business leadership is forthcoming to build up new firms for the exploitation of innovation, capitalist economic system may suffer more or less chronic depression.

The development of new industry is followed by the adaptation of old industries to the changed pattern of demand The development of railroads entailed the construction of new towns, relocation of old industries, expansion of the iron and steel industry and so forth the development of the automobile industry brought with it the movement to the suburbs. The construction of highways, the development of new recreation centres, enormous expansion of the petroleum and rubber industries, and so on a big, innovation like railroads, or automobiles can generate a huge wave of new investment through its direct and indirect effects on the economy.

Schumpeter, like most other analysts of economic fluctuations assumes that the wave of new investment is financed largely by new credit created by the banks, in his opinion an entrepreneur needs credit in order to carry out innovations whereby development takes place. In order to acquire the purchasing power the entrepreneur has to borrow. There may also be some other motives for borrowing, such as consumption, maintenance of a business, and so forth. Schumpeter, however, believes that inflationary pressure generated from the granting of credit for development has a

tendency to weaken in the long period as fruits of innovation inevitably result in far greater increase in the social products than the credit created by banks.

When the “gestation” period is over, and the new plants are completed, the rate of investment drops the level necessary for replacement only; net investment ceases. Moreover, once the new plants are in operation there will be a new and increased flow of consumer's goods into the market; this factor in itself would tend to reduce prices. Reducing debt means that the money supply contracts. With increasing supplies of goods on the market arid a decreasing supply of money to buy them. Prices naturally tend to fall. Some firms incur windfall losses as a result of these unforeseen drops in prices commercial failures increase and aggregate profits decline. Expectations become gloomy and the impulse for innovation itself dries up.

Although Schumpeter’s theory is not in itself a complete theory of business cycles, it contains elements which can be included in any complete theory. In particular, his analysis of innovations is still the best explanation. Certainly he had made an important contribution to the theory of, development by his systematic exposition of the thesis suggested by Marx that capitalist development tends to proceed by leaps and bounds, and falls rather by a smooth and steady progression.

In his Business Cycle he talked of three business cycles the kitchen cycle of three to four years duration, the Juglar cycle of seven to eleven years and the Kondratieff cycle of fifty five years. According to him change is inherent in capitalism. Thus, the growth under capitalism does take place, but it is essentially unstable growth. He says, “Stabilized capital is a contradiction in terms.”

However, Schumpeter’s theory of long-term economic growth development has also been criticized for having in it a large element of tautology (circular reasoning). In this theory, economic growth occurs due to the rise of a new men (i.e.. entrepreneurs). These arise in a conducive “social climate”. But the only test to see is if that climate is conducive or not , whether entrepreneurship is rising or not. This is circular reasoning.

Schumpeterian theory also throws doubt or the government be forming the entrepreneurial function in developing countries. His entrepreneurs would arise only under unbridled capitalism. Even if in the counties like India, government as an entrepreneurs is coming under the clouds of doubt, yet there is no denying that in the last fifty years the government as an entrepreneur has been responsible for a great deal of economic growth.

Exercise 9.4

Question1 Elucidate the essential elements of Schumpeter’s theory of development.

9.7 Summary and Conclusion

In this lesson you studied three theories or models of long term growth within the institutional framework of capitalism, i.e. free enterprises .In all the three theories the ,long term economic development is based on capital accumulation, technological change and profits as the driving force or the engines of economic growth or the secular rise in the national income. However, the emphasis on the chief factors of economic growth varies from one theory to the other. In the classical theory of capital accumulation and its

determinants, the profits play a crucial role in the long term economic development. In Marxian theory, labour saving technological change too is considered to be a critical factor. In Schumpeterian theory, innovation and entrepreneurial functions are the driving forces of economic development.
In the Classical Theory, the process of long term economic growth development is a fairly smooth affair, but it ends up in a stationary equilibrium where the motivation for capital accumulation vanishes due to the working of various economic forces. The Marxian theory pinpoints various internal contradictions of the capitalist system which finally prove to be a cause of the doom of various systems itself. Schumpeterian theory highlights the short term spurts and downturns in the long term process of economic growth which thus is inherently unstable. An innovation will spur the economic growth, but it affects soon peters out and till the next wave of innovation, economic growth slows down.

As far as the lessons for the developing countries are concerned, the three theories discussed in this lesson Barely identify the major factors which determine the process of economic development under any institutional framework. These factors emerging from the three theories are capital formation, technological change and others form of innovation. Entrepreneurship extent of the market, division of labour, etc. However since all the three theories discuss the process of long term economic development within the capitalist framework, their relevance diminishes to the extent that in developing countries economic planning has undoubtedly played a significant role in building social and economic overheads, in initiating the process of industrialization and even in evolving and adapting new technology, like the green revolution technology in India.

9.8 Glossary

- **Technological Progress –** Increased application of new scientific knowledge in form of inventions and innovations with regard to both physical and human capital. Such progress has been a major factor in stimulating the long – term economic growth of contemporary developed countries.
- **Autonomous Investment-** Capital investment which is unrelated to changes in income levels. Public investment, investment which occurs in direct response to inventions, and much of 'long range' investment which is only expected to pay for itself in the long run are examples.
- **Innovation-**The application of inventions of new production processes and methods to production activities as well as the introduction of new products. Innovations may also include the introduction of new social and institutional methods of organization and management commensurate with modern ways of conducting economic activities.
- **Stationary State-** Stationary State refers to a situation in which entrepreneurs will have no tendency either to increase or decrease output. It implies that development variables remain unaltered. The growth theory of Classical Economics may be essentially described as a progression towards the situation of a stationary state or zero economic growth. Ricardo has explained stationary state in terms of falling rate of profits.
- **Organic Composition of Capital -**The term introduced by Marx for the ratio of constant capital to variable capital and which approximates

but is not synonymous to the modern concept of the capital labor ratio, since constant capital represents just the capital and raw materials used up in the process of production , rather than the total capital and materials available to labor.

- **Invisible hand-** A concept originating in Adam Smith's famous book The Wealth of Nations that holds that the unbridled pursuit of individual self- interest automatically contributes to the maximization of the social interests.

9.9Self Assessment Test

Try the following objective type of questions:-

(i) The Classical, Marxian and Schumpeterian theory of economic development, portray the development process under capitalism to be smooth and devoid of any constraints. Is the statement (x) true, (y) false?

(ii) Is the notion of the stationary state in the classical theory of economic development a (x) Macro, or (y) Micro?

(iii) Which of the following is more responsible for the rise of a reserve army of unemployed person in the Marxian theory of capitalist development? (x) Falling rate of profits,(y) rise in the organic composition if capital.

(iv) In Schumpeter's theory of economic development, which of the following is actually held responsible for the rise of the entrepreneurial class:-

(x) An appropriate social climate (y) Increase in investment opportunities

(v) Which of the following statement is correct

(x)Classical theory of economic development is highly relevant for solving the problems of the developing countries,

(y) Classical theory of economic development is only peripherally relevant for solving the problems of developing countries.

(Correct answers:- (i)-y ; (ii)-x ; (iii)-y ; (iv)-x; (v)-y)

9.10 Suggested Readings

1. Benjamin Higgins, *economic Development Princiles,Problems and Policies,*1963, part-2

2. Y.S.Brenner, Theories *of Economic Development and Growth,*1969,chap.2.

3. M.C.Howard and J.E.King (Ed), *The Economics of Marx,*1976,pp,32-43 and Part-4

4.Joseph Schumpeter, *The Theory of Economic Development,*1966

5. Irma Adelman*,Theories of Economic Growth and Development,* 1962

9.11 Terminal Questions

Question 1 Analyze the economic forces that lead to a stationary state in Classical Theory of economic development, and to the downfall of capitalism in the Marxian theory of capitalist development.

Question 2 What do the terms “innovation” and “the New Men” mean in Schumpeter’s theory of economic development? What role do these two play in the process of economic development in this theory?

LESSON 10

STATE INTERVENTION LIBERALISATION AND PRIVATISATION

Structure

10.0 Objectives

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

- Define the State Intervention
- Discuss the role of state and market mechanism in the process of economic development
- Have an in depth knowledge about trends towards liberalization and privatization.
- Elucidate about the core areas of State Intervention under liberalization
- Explain the debate between State Intervention versus Liberalization and Privatization in the context of the currently developing economies.

10.1 Introduction

In the lessons relating to the first two units of this course that you have studied so far, you have learnt the terminology of development economics and major theories of long haired economic growth. This earlier part of the course deals with topics where the contentions issue of who propels the process of economic growth and development was ignored since the underlying assumption was that development is best left to the market forces. Now is the time to enter the debate concerning market versus state intervention. In the following five lessons of unit 3, you will be introduced to the debate and having taken the need for economic planning as a fait accompli, you will learn about the process of plan formulation and certain techniques that are used in this process.

The present one is the first lesson of unit 3. Here, we shall be concerned with a debate relating to the relative roles of the state and the market mechanism in the process of economic development in the developing countries. This has been a contentious issue since the past Second World War period and the debate is refusing to die down even at the beginning of the twenty-first century, after nearly six decades.

In this lesson, we shall .start with the arguments that were put forward in favour of state intervention in the 1950s and the 1960s. Although some of these arguments have been rendered redundant by changes that have occurred since then as well as the process of state intervention itself having

assumed some negative feature, there are some academicians professing a certain ideology who still cling to those earlier arguments favour of state intervention.

We shall subsequently take –up the question of liberalization and privatization, especially why this issue has arisen in the recent decades, and what are the Merits and drawbacks of a market system in the context of economic development in the developing countries.

Finally, we shall take up the question whether there is a role for state intervention, and if so, what type, in a liberalized economic system. Thus, this whole lesson is concerned with debate on state intervention versus liberalization and privatization in the context of the currently developing economies.

10.2 State Intervention

State intervention is a term which is the antithesis of laissez-faire. When the state assumes the role of an entrepreneur or regulates the private business activity and thus tries to supplant the market system or even attempts to interfere with its free working, it may be referred to as state intervention: Such intervention make take the form of formal comprehensive centralized economic planning or just certain ad hoc policy, administrative or legislative measures.

State intervention became acceptable in some limited circles after the adoption of economic planning by the erstwhile Soviet Union in the 1920s, but the range and width of acceptance increased considerably in the post-Second World War period, when the then underdeveloped economies started implementing their Five Year Plans. However, even then certain neo-classical economists continued to be arranged against the theory and practice of state intervention.

The main question is: why state intervention became so fashionable in the currently developing economies in the post-Second World War period, till the wave of liberalization swept the world in the last two decades of the twentieth century? There were some special reasons for the adoption of state intervention in the form of comprehensive economic planning in the 1950s and the 1960s. Some of these reasons, as we shall notice below, were peculiar to that period justifying state intervention on a wide scale, while some other reasons were of an ideological nature which according to their proponents hold good even today. These bases of state intervention, particularly relevant in the post-Second World War years, are discussed below:

These post-War years were marked by overthrow of colonial rule in several .countries, rise of nationalism among the leaders of nearly all the underdeveloped countries, a general antagonism against the western powers, and a wave of enthusiasm to economically catch up with the developed economies in the shortest possible time. In order to achieve this general objective, it was necessary to mobilize all available resources. But the situation prevailing then in these countries made their political leaders pessimistic about the role of the private sector in this respect. It was a period marked by shortage of all resources capital, entrepreneurship, technical and managerial skills, foreign exchange, etc. for initiating a process of speedy economic development. Against this background, it came to be assumed that

since private sector was incapable of mobilizing these resources of the required magnitude and expeditiously, the governments of these countries would be in a better position to do the job domestically and from abroad: This became a major justification of state intervention at that time.

Then there was the general argument that for the achievement of some social objectives like reduction of poverty and inequality, provision of some of the non- marketable goods and services like education and public health with government alone having the necessary will and capacity, state intervention would be needed.

Those having been convinced of the efficacy of state intervention for solving the economic problems of the then underdeveloped countries rationalized. It with the incontrovertible argument that state intervention was justified because of the rampant market failures there. Market failures occur in an economy, if there are externalities-both negative and positive-in an economic system, the markets are imperfect or nonexistent, there are public goods to be produced and supplied, there are structural rigidities in the economy and there are imperfections of availability of information. Even the most liberal economists would admit that in the face of market failures state intervention can be justified.

The then prevailing view was also that the public sector was more motivated as well as capable to mobilize resources for economic development on a big scale, and besides, it alone could ensure efficient resource allocation among socially desirable uses and activities. It was thus assumed that the market system is a poor allocator of resources so far as social, needs is concerned. This was supposedly a huge justification for state intervention. Behind this assumption lay a further assumption that wherever, in an underdeveloped country, state intervention was being 'made, the government was good- intentioned and efficient relatively to the private sector to discharge its duties.

Finally, this period was marked by a Marxian hatred for capitalism and private enterprise in several countries where the governments started intervening in a big way. One of the basic tenets of the Marxian dogma has been that the market system is exploitative in that the propertied classes usurp income and produce of the working class. This also supported the general view that the .means of production should be nationalized if not socialized and these should be freed from .The ownership and control of the exploiting class and thus used for the good of the society. Quite an influential class of intellectuals also supported this view during that period. Wherever such a sentiment prevailed, state intervention was naturally justified.

It is clear from the foregoing that when the process of economic development was initiated by the underdeveloped countries in the post-Second World period it was done primarily with state intervention for which the governments of these countries found a great deal of support, based on logic as well as sentiment. This intervention got organized under a wide-ranging and comprehensive system of economic planning. For this, there was already the example of the Soviet Union where five year plans had been in progress since the 1920s. The fact that this country under planning had built up a huge mass of heavy industries supporting the economy in general and the armaments industry in particular (enabling its leaders to challenge the military might of even the U.S.A. at the time), got a big boost to planning and

state intervention in the underdeveloped world. Most countries in this part of the world adopted an institutional framework of the five year plans for their economic development at the time. Economic planning got mass support in the initial years, based primarily on these considerations: (a) That comprehensive planning and state intervention were the only means of catching up with the developed countries in the shortest possible' time span; (b) That state intervention alone could maximize social welfare through planned investment and resource allocation (c) That state intervention above could save the weaker sections of society from the exploitative ways of the capitalists and other propertied classes.

During the last about six decades, the character and the extent of state intervention has varied from country to country in the so-called Third World. Naturally, the results of state intervention and the fulfilment, or otherwise, of people's hopes and expectations from such intervention have varied from one country to the other. These results have been determined by a host of factors, including the nature and extent of state intervention, the quality of leadership and bureaucracy, the degree of openness of their economics permitted, the efficiency with which available foreign aid was utilized, and other factors based on luck and chance.

In countries like India, state intervention without doubt greatly helped in accelerating the development process and in breaking the secular stagnation of the earlier period. In most countries, structural changes infrastructural development, development of factor markets etc. was initiated through state intervention and economic planning. The rate and nature of economic development in the currently developing economies has been greatly influenced by the process of state intervention in the preceding about six decades

However, the wave of liberalization, globalization and privatization which has swept the world in the last two decade is without doubt ascribable to a great extent to the failure of the process of stale intervention in the Third World. Before we go into these failures, it needs to be recognized that this wave of liberalization can also be attributed to the pressure that the Western-developed countries have brought to bear on the developing countries through various means not the least through the multilateral financial institutions like the World Bank and the I.M.F. Ideologically the developed countries, which had by and large developed within the capitalistic framework, were opposed to wide-ranging state intervention which smacked of a. movement towards socialism. These countries, therefore, used all means to wean the developing countries away from economic planning and state intervention.

It would, however, be naive to think the liberalization has been adopted and state intervention toned down by the developing countries merely under pressure from the developed West. It would be more realistic-to recognize the fact that state intervention in general and economic planning in particular failed to deliver the goods vis-a-vis the objectives and targets set by the governments in their policy pronouncements, as well as the aspirations and expectations of the people. It has also been a fact that state intervention bred a gnat deal of corruption, government regulatory regimes became increasingly oppressive, and political leadership as well as bureaucracy became blatantly unresponsive, self-serving and devoid of accountability.

There has been a progressive deterioration in the delivery of public services in these countries. Cost and quality of these services have left much to be desired. The original commitment for public service from leaders and bureaucracy is nowhere in sight. During this period of rising state intervention, huge financial resources have been mobilized through recent and other means, but profligacy, misdirection of public funds, rise in unproductive public expenditure etc. became the order of the day. Public debt, both internal and external, has mounted in the developing countries. Some of them have also landed themselves in a debt trap. Due to all these factors, there has been an all-round disappointment and frustration over the working of the public sector and its enterprises, People in general have desired to throw the yoke of government controls and regulations off their backs. This has paved the way for adoption of policies of liberalization in the developing economies.

Exercise 10.1

Question 1 Define State Intervention?

10.3 Trends towards Liberalization and Privatization

Before we discuss these-trends, let us first be clear about the meaning of the terms ‘liberalization and ‘privatization’. To start with, it should be clear that liberalization is a broader process than privatization in fact; the latter is a part of the former. Liberalization is a politico-economic process which derives inspiration from the concept *of economic liberalism*. The doctrine of economic liberalism advocates the greatest possible use of markets and the forces of competition for economic activities It all have the state perform only those "motions which the market cannot perform (the major example being the provision of public goods) or those which are necessary to enable the market system. to operate efficiently (e.g. the establishment of legal framework to enforce property laws and contracts between economic agents like .buyers and sellers, or adoption of policies such as anti-monopoly legislation.) Liberalization is a politico-economic movement as a reaction against state intervention. At the international level, liberalization has been adopted under what are called market-friendly reforms. The components of these reforms were adopted as “The Washington Consensus “, which include: fiscal discipline, "limiting public expenditure to education, health and infrastructural investment, broadening the tax base, determination of exchange rates and interest -rates by the market, trade liberalization, openness" to foreign private investment, privatization of state enterprises, deregulation (.i.e. abolition of regulations which impinge on the -freedom of enterprise), and legal security for property rights. Thus, the Washington Consensus defined liberalization in its widest sense.

As is clear from the foregoing, privatization (of state. enterprises) is only a minor part of the process of liberalization. However, as we know from our own experience in India, privatization is perhaps the most difficult to accomplish. There are two major reasons why privatization as a component of liberalization poses problems of implementation. The most difficult to overcome is the dogged resistance of those who have come to have a vested interest in the continuance of the public enterprises. There are not only the employees of these enterprises who resist attempts at privatization but also

the political leaders and bureaucrats who enjoy patronage of various types from such enterprises.

Secondly, problems arise in dealing questions like whom to sell, when to sell, which of them to sell first, at what price to sell, and what mechanism of sale to adopt. These are not easy problems to overcome, especially in a democratic system, because governments are usually: grilled by the opposition regarding the sale of public enterprises which in India is sentimentally equated to the sale of "family silver".

However, privatization has gone apace rapidly in many developing countries. According to William Megginson, this has become a "global orthodoxy" He estimates that by the year 2000, more than 100 governments had sold public enterprises to private investors, rising $ I trillion. In any state intervention versus privatization debate, one must remember that the sale of public enterprises to the private sector do not usually diminish the overall extent of state invention. This is so because after reducing their role in business and industry through privatization, the governments restructure their public expenditure in favor of greater provision of services and transfer payments such as provision of social security measures, and undertaking other redistributive tasks. .

Liberalization measures usually benefit the consumers because of increased competition. These measures too have helped raising national wealth, due to usually increased growth rates observed in the post-liberalization periods. But the positive results of liberalization have neither been always spectacular nor uniformly spread among all the liberalizing countries. World Development Report 2000/2001 (in Chapter 4) has reviewed various studies which have tried to evaluate the impact of economic reforms on different countries and regions. From these, the Report concludes thus. In sum, market-oriented reforms have been wide-spread though uneven throughout the developing world. On average they have delivered lower inflation and higher growth, both powerful forces for reducing income poverty. But reforms can go awry, with painful consequences for poor people. Lack of supporting -institutions,, mistakes in sequencing reforms, and the capture of the reform process by powerful individuals or groups lie at the bottom of most failed reforms.

Some Programmes of liberalization like opening up the economies to foreign trade and investment, and Privatization of public enterprises have raised the level of production efficiency. in these countries, thus contributing to increases in the growth rate of GNP. At the same time, there navel been negative effect as well. For instance, opening up of these economies has destroyed smaller enterprises especially in the informal sectors. Privatization also resulted in lay-off of especially low skill workers and female labor in some cases. However, in this debate there is not much enthusiasm for return to the older order of state intervention.

Exercise 10.2

Question 1 what do you mean by the terms privatization and Liberalization?

10.4 Core Areas of State Intervention under Liberalization

Luckily, the swing away from state intervention has not resulted in anybody advocating a return to *laissez- faire*. In budgetary terms, the votaries

of liberalization are not advocating a drastic reduction in public expenditure so much as they have been arguing in favor of restructuring such expenditure so that the lagging development of the social sectors like reduction, public health drinking water supply, nutrition to the vulnerable classes, and infrastructural development can get a fillip. The question these days is not how much state intervention in the market economy, but what kind of state intervention People are now veering round to the view that instead of the public and the private sectors competing with each other for investment space, the two should evolve a synergistic connection so that one helps, the growth of the other and in the process promotes growth of national wealth. This synergy requires dismantling the disabling government regulations and establishing the enabling state. On its part the private sector should help the government to effectively perform its assign functions (by say payment of all taxes which by common consent are. due from it).

So then, what are these core functions that the state should continue performing even after a switch over to a market economy. Reference has already been made above to the social sector development. By its very nature the components of social sector development- development of education, health care facilities, supply of safe drinking water, provision of nutrition to women and children of vulnerable classes, and development of physical infrastructure usually lag behind in a market economy. Out of these, the market system would help in the development of sub sectors like education and health care facilities only to the extent that these complement the requirements of the employment market. Same may be the case with physical infrastructure like roads, transportation, communication, power supply. These would be taken up for development under the market system only so far as these supply inputs to private firms. Some social sub-sectors like drinking water supply and nutrition to the weaker sections of society may not enter the economic calculus of the market system at all.

Clearly thus, the social sector would remain inadequately developed under a purely market system. Besides, in the case of most of these activities, there are strong, positive external economy effects. For example, education benefits people, households and firms beyond those who actually spend money on education and get certificates and degrees in return. A really educated person is a great asset to the society at large, even though the society may not have borne the cost of his education.

We can conclude by saying that even after a full-fledged market system has been established in the developing countries, state intervention will not cease. There will only be a restructuring of government activities. Market will do what it is best suited to do, while the government sector will devote itself vigorously to those activities, which due to the internal logic of private enterprise system, will remain Under developed or inadequately developed under this system The social sector development is an integral part of over-all development. In fact, the major components of this sector, notably education and health care, have a dual significance for society. According to Amartya Sen, these have intrinsic value as also instrumental rules. The former refers to being important in itself to the people, while the latter refers to the role of an activity in promoting economic development. So to the extent that education and health (as well as other components of. social sector development) have an intrinsic value/or the society. these will remain the core

area of state intervention even under liberalization. Besides, there are some other activities which too will have to continue to be performed by the government. These include setting up a regulatory frame work for performance of tasks by the private sector, legislative measures for enforcement of property rights and contracts between economic agents like producer and consumers overseeing the preservation of the physical environment, and so on and so forth.

Exercise 10.3
Question 1 Is state intervention relevant under liberalization.

10.5 Summary and Conclusion

This lesson has focused on the somewhat contentious issue of the relative roles of the public and private sectors in the currently developing economies. We noted that the process of economic development in these countries got initiated with the help of wide- ranging state intervention and centralized economic planning in the Post-Second World War period. Initially, state intervention did much of the groundwork for subsequent economic development of these countries. But gradually state intervention in the form of direct public investment and plethora of regulatory laws acquired bad reputation due to inefficiency, corruption and discretionary supply of public services. So, the last two decades have seen the emergence of the market system under economic reforms of liberalization and privatization in these countries.

The Eansition to liberalization and privatization has been full of problems and controversy. The process is still confirming, speedily in some countries and rather haltingly in others. The evidence on the impact of these economic reforms in different countries is rather mixed. These have not been an undoubted boon to all the countries having adopted them. However, on average, the inflation rates have fallen and the growth rates of GDP have risen in such countries. Now, support is increasing for a synergistic role of the public and private sectors in developing countries.

There are some core areas where state intervention is highly relevant even under liberalization these are areas, primarily the social sector development, where the market system plays a rather weak and hesitant role. Some of the components of social sector may not be supplying any inputs to the private forms and, therefore, these get ignored in a market economy. Yet all of these components are highly useful to the society at large. Besides, these components of the social sector have significant, positive external economy effects on the society. All this justifies state intervention in social sector development including the development of physical infrastructure. Public expenditure needs to the restructured in favour of these core areas of state intervention.

10.6 Glossary

- **Privatization –** The policy of converting public ownership of an asset to private ownership or the transfer of ownership, property or business

from the government to the private sector is termed as privatization. The government ceases to be the owner of the entity or business.

- **Liberalization-**Liberalisation is the process of liberating the economy from various regulatory and control mechanisms of the state and of giving greater freedom to private enterprise.
- **State Intervention-** When the state assumes the role of an entrepreneur or regulates the private business activity and thus tries to supplant the market system or even attempt to interfere with its free working, it mat referred to as state intervention.
- **Globalization –** is the system of interaction among the countries of the world in order to develop the global economy. Globalization refers to the integration of economics and societies all over the world it involves technological, economic, political, and cultural exchanges made possible largely by advances in communication, transportation, and infrastructure. In simple words Globalization means linking or integrating the economy of a country with the economies of other countries by means of free trade, free mobility of capital and labour, etc.

10.7Self Assessment Test

(a) Try the following objective type questions.

(i) Which of the following was the main cause of adoption of state intervention for economic in the Post –Second World War years?

(x) The objective situation of a weak and low performing private sector, (y) the government suspicion of the intentions of the private sector

(ii) Liberalization and Privatization are synonymous terms .Is this statement (x) true, or (y) false.

(iii) Has the process of Economic Reforms in the last two decades been (x) a complete success, or (y) a mixture of success or failure in different countries ?

(iv) Which of the following is associated with the privatization of the public sector enterprises? (x) Lay –off of low skill workers in many cases, (y) Rise in the prices of products produced by former public sector enterprises.

(v) One of the core areas identified for state intervention under a market economy is the running of profitable public sector units. Is the statement (x) true, or (y) false.

(Correct answers:- (i)-x ; (ii)-y ; (iii)-y ; (iv)-x; (v)-y)

10.8 Suggested Readings

1. M.P. Todaro, *Economic Development in the Third World,* 1987, appendix 15.1

2. G.M.Meier and J.E.Rauch, *Leading Issues in Economic Development,* 2000, Chap IX,A and IX.C.2.

3. William Megginson, “Privatization”, *Foreign Policy*, spring 2000;

4. World Bank, *World Development Report* 2000-01, Chap:4

5. C.Rangarajan,”Economic Reforms: Issues and Concerns”. Tin: *Indian Economic Journal* Oct-Dec 2001-02

10.9 Terminal Questions

Question 1 What has been the benefits of state intervention adopted for economic development in the underdeveloped countries in immediate Post Second World War period? Why is state intervention being replaced with market economy in these countries?

Question 2 What is meant by market – oriented economic reforms? Is economic planning completely irrelevant in a liberalized economic system?

LESSON 11

DEVELOPMENT PLANNING PROCESS AND PRICE MECHANISM

Structure

11.0 Objectives

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

- Have precise knowledge about Need for and Nature of economic planning
- Discuss the process of Plan Formulation
- Understand how planners deal with questions –as determining the size of the plan, the overall growth rates, and setting targets and priorities of planning.
- Comprehend how Price Mechanism is relevant under planning.

11.1 Introduction

You have learnt in the preceding lesson that in the immediate post-Second World War years many underdeveloped countries plunged head on into a process of economic planning with the objective of accelerating the pace of economic development so that the countries concerned could make up for the lost time and catch up with the developed countries in the shortest possible time span. In the present lesson, we shall deal with the question of economic planning in greater detail. We shall start the discussion win an introduction to the need for and nature of economic planning. Then we shall take up the process of economic planning and notice how the planners deal with such questions-as determining the size of the plan, the over all growth rate,' and setting targets and priorities. At the end of the lesson, we shall discuss the interesting question of whether the planner tries to supplant the price mechanism in its entirety or he uses some of the elements of this mechanism while formulating the plans. In other words, the question would be whether or not the price mechanism is relevant under planning.

11. 2 Nature of Economic Planning

Till the Soviet experience of planned economic development, economic development had been the result of the free working of the market forces. In fact, Adam Smith's work was a powerful plea against state intervention in economic activities and for letting the market forces work freely in the interest of economic development. However, many of his postulates, particularly his postulate of free competition and absence of monopolies, were not satisfied in the underdeveloped countries. It was felt there that if the process of economic development is left entirely to private initiative and the working of the market forces, the process of economic development may prove to be too slow, apart from having other undesirable features. It was widely recognized that the gap between the developed and the underdeveloped countries, which was already very big, had been growing wider and wider. Therefore, it was generally felt that it might not be possible to achieve development in under-developed economies. or to achieve it at the desired rate, if planned measures were not deliberately employed by the countries concerned. It is the recognition of this fact which had given great importance to development planning in economic literature.

Besides, the general feeling was that to a great degree the development of each particular country would have to be planned in a more or less unique manner in the light of the particular conditions prevailing there. Nevertheless, what we have already discussed in the context of development does provide us with some guideline for planning economic development. A development plan has usually the following main components:

i) A capital budget comprising public investment projects related to development.

ii) A budget of government expenditures which through not generally treated under capital outlays, contributes to economic development; for example, expenditures on education, manpower training, health etc.

iii) Investment plans and targets us also regulations governing the activities of private enterprise and institutions so as to direct and guide and encourage these activities in' a manner contributing to economic and social development and to achieve objectives laid down.

Each of these components impinges upon the decisions regarding the allocation of resources, human and material. To facilitate efficient decisions on these matters, the objectives of the plan must be clear and couched in terms which admit of quantitative measurement. Moreover, it should always be kept in mind that a plan of economic development is not static but is subject to constant revision as portions of it are completed and new information becomes available.

Under economic planning practiced the developing countries in the initial stages of their development, the plans, generally five year plans set multiple targets to be achieved. The major targets included achieving a certain growth rate of GDP per capita, attain targets relating to employment generation, poverty reduction, achieving price stability and in achieving sundry sectoral and inter-regional goals. The nature of the planning process was determined by as small coterie of political leaders and bureaucrats, constituting the national planning authority. They laid down the objectives to be achieved and the instruments to be used for the purpose. The goals were laid down on the assumption that these would best serve the interest of the people at large. In

a democratic set up, the public representatives were supposed to know what was in the best interest of the people and how it was to be achieved.

An important issue in economic planning was what should be the ideal time horizon of each economic plan.

The fact that in almost all underdeveloped countries, a five-year time horizon was chosen had primarily depended on two things. In the first place, there was already the example of Soviet Russia having implemented five-year plans. Secondly, in most democratic countries a political party was elected for a five year term and, therefore, thought it wise to complete a plan during its tenure in power. However, longer term plans, enveloping several five-year plans, were also sometimes drawn up. These longer term plans-the perspective plans-were drawn up in India too.

All the underdeveloped countries, outside the small group of socialist countries, were primarily capitalistic in character since ownership and control of private property was freely permitted in them. In such a system, the marrying of a capitalistic economic system with planning a socialistic concept was a difficult exercise. In the planning process, the overall plan had thus to be divided into two components, one for the public sector and the other for the private sector. As already observed above, the latter component of the plan was sought to be executed through a host of measures like incentives, exhortation and, in the extreme case, even punishment. However, this component of the plan for the private sector was difficult to be implemented since the private sector did not necessarily see an identity between the national interest and its own goals, it was for this reason that, more often than not, the overall objectives and targets of plans in these countries remained unrealized. This was a common weakness of economics planning in developing countries. The non-realization of goals and targets in general due to this, constraint was in no small measure responsible for the, suspicions about the efficacy of economic planning in solving socio-economic problems of the developing countries, which has finally resulted in dilution of the planning process in the last two decades.

Exercise 11.1

Question1 What are the components of development plan?

11. 3. The Process of Plan formulation

Planning represents an attempt to co-ordinate economic decision making over the long run, in order to give direction to and accelerate a country’s development. The kind of planning a country does is largely determined by the combined effects of its social, economic and political structure and stage of development. But two factors, more than any others, condition the form and role of a country’s planning: its institutional framework and its stage of development.

The planning process is an accumulation or repetition of a government's co-ordinate efforts among a large number of different economic and social units, Working together to produce desirable pattern of economic management of the society concerned. For this attempt to be successful a common understanding of the process of planning in necessary. A dialogue between government planners, policy makers, and other technicians and

representatives of important economic and social units participating in the process of plan building is often mentioned as one of the most important pre-requisites of plan and its implementing policies.

The process of planning involves choosing social objectives, setting various targets, disseminating information, as well as organizing a framework for the formulation, co-ordination, and monitoring of the plan. For the time being we shall concentrate on the structure of planning the organization of the decision-making process, relationship between various decision-makers and planners and strategic for plan implementation.

It should be borne in mind that development planning is not the same thing as a development plan. Those who confuse the two mistake a product of the planning process for the process itself. Planning as a process is an indispensable, pre-condition for the formulation of effective development policies and measures. Whether or not the basis and rationale for these policies and measures should be set forth in a paper plan is a separate matter. Moreover, plans have been found to be useful devices for initiating or stimulating the development process.

11.3.1 Objective of Planning

A precise definition of development objectives is at least as important for a country economic development as it's kind of planning and even as important as the existence of a plan. A precise definition of development objectives is logically the first component of development plan since it is a pre-condition for the establishment of coherent strategy for allocating investment resources among competing demands. In the absence of a clear statement of plan objectives, the targets and projects are likely to be chosen arbitrarily.

Which organizational framework for planning is most appropriate for any country depends on many factors, including how economic decisions are made, which sectoral growth strategy is adopted, and what direct and indirect powers are given to planners on the central and sectoral levels. Socialist countries will choose objectives unlike those in mixed economies democratic nations will have objectives, as well as means of giving them effect, which differ from those of authoritarian lands, and the underdeveloped countries will have different development objectives than the more developed ones.

Development objectives may be economic, social and political. In many cases, objectives represent a combination of economic political and social factors. The ultimate objective 61 national development in most countries is to raise the standard of living of all people in the country through expanded output and provision of services for education, health and cultural activities. For almost all the developing countries, this requires and acceleration in the rate of economic growth to provide higher per capita incomes.

Besides there are other social objectives, such as reduced unemployment, greater equality of income and reduced economic instability as indicated earlier above. Where a government defines its objectives clearly in the initial step of plan formation, a sound foundation stone is laid for the planners to prepare a development plan which conforms to the country`s basic aims. But in most cases, governments are unable to define clearly their development objectives. The objectives in India` s first and second five year

plans were incompatible. They included a large increase in national income in order to raise the level of living, rapid industrialization with emphasis on basis and heavy industries, a large increase in the employment opportunities, as well as a reduction in inequalities in income and wealth. It was impossible to attain all these objectives simultaneously.

One may, therefore, find among the objectives of a plan conflicting economic and social objectives. the failure to reconcile incompatible objectives in a plan makes it difficult to formulate policies which are appropriate for the plan` s implementation.

11.3.2 Plan Targets and Priorities

The next step in the process of formulation of a plan is to quantify the development objectives of the plan in the process of planning. The most effective way of giving objectives concrete meaning is by quantifying them, whenever possible, thereby transforming them into targets quantified objectives or targets act as guide-posts for the preparation of effective's policy instrument. When an objective of a plan is not merely to increase per capita income, but to increase it at a definite rate, the objective has been transformed into a target. Targets are quantified objectives. The fewer their number the better.

The targets also perform other important functions. They may be used to set limits on output for some industries as well as to increase output for others. The targets also help the planners to determine the. required amount of raw materials, manpower, funds including foreign exchange and other resources which must be allocated to various sectors in order to obtain the desired results. The planner can set large number of targets pertaining to different branches of national economy. Besides income generation targets, the planners can lay down production, saving, investment, employment, export, import and a large variety of other targets. Finally, targets make it easier for input supplying sectors and industries to match their supplies with demand targets and thus avoid shortages and surpluses. The targets can be over all targets, sectoral products or commodities targets. These can be set in physical units of output as well as in value units. The targets can be regional (for particular regions of the country) or national.

The inclusion of a large number of targets in a plan introduces rarities in the planning process which may impede the growth of an economy. Larger the number of targets in a plan, the greater is the need to co-ordinate them, which will result in frequent revision of the targets an under-developed country should, therefore restrict itself only to a few essential targets

A target differs from a forecast or a projection. A projection is a tool of analysis for clarifying the implication of certain assumptions or to check the consistency of the assumptions themselves. Without policies and instrument, a target would be reduced to a
mere forecast or a projection. The main difference between a target and a projection is that while steps are taken to achieve the former, there is not such sanction behind the latter. It does not, however, mean that forecasts and projections are useless exercises of imagination. Few developing countries, however, have learned that a target and the policies and measures for realizing it are inseparable.

Besides detailed targets, the planners have also to determine plan priorities. Priorities have to be laid down because of, one, the scarcity of resources, and two, a large number of, demands on these resources this basic problem of economies makes it clear that due to the scarcity of resources, all needs cannot be satisfied. So priorities are set in a descending order. The set of priorities is determined by a national consensus about what is more important. Then these needs ranked in a descending order, with the most urgent need taking the place of the first priority and so on.

11.3.3 The size of a plan and growth rate

The next question that confronts planners concerns the proper size of a plan after setting various objectives and plan targets. The size of a plan is measured in terms of the total outlay that needs to be made so that the objectives and targets are realized. Three main approaches have been used for determining the size of a plan one is to have the country's requirements determine it, another is to have the country's resources fix it, the third is to set the growth rate somewhere between the two limits laid down by the first and the second approaches. The sources approach is both more feasible and more realistic. It implies that the size of the plan should be tailored to the resources, domestic and. foreign, available to the nation. The available resources should be distributed among the different sector. of the economy in such a way that these can bring about the best possible results. But this approach, realistic and practical though it may be, yields a rate of growth which most governments of the under developed countries consider rather too low. The empirical evidence show that for the under-developed countries, therefore, neither the requirements approach nor the resources approach brings desired results. It is the third approach which proves to be helpful in fixing the size of the plan, viz. through fixing the growth rate first.

Attempts have been made to set minimum growth targets which would be generally feasible in under-developed countries. Arthur Lewis had suggested in the 1960s an annual rate of growth per head of GNP somewhat in excess of 2 per cent. If the planners in an underdeveloped country fix a growth rate which is over-ambitious and beyond the country's capacity, that will do more harm than good. It may lead to inflation, balance of payments difficulties, political crisis and disillusionment with planning. In the words of Lewis “If the targets are fanciful, the whole plan will be fanciful. Planners will promise more than they can perform throwing every thing out of gear so that the economy might just as well not be planned at all".

It is interesting to note that the plan size and the growth rate of national income are interdependent variables. If one is fixed first, the other will follow from it. So a planner may start with the question how much investment should be made or in other words, what should be the plan size? In this connection, the planners have luckily some growth models which they can utilize for the purpose of determining the size of investment. An increasing number of planning models have been used in the developing countries. One can mention the highly aggregative Harrod-Domar model, in which the operations of an entire economy in terms of aggregate saving, investment and relationship can be taken.

Interestingly, Harrod-Dornar model was in fact a growth model dealing with the question of inherent instability of economic growth in the developed

countries. Subsequently, however, it came to be used as a planning model as well and the first five year plan of India was said to have been based on this model so far as the determination of growth rate of GNP then was concerned

Harrod-Domar growth model had a growth equation or identity in it which came to be used as a planning exercise. This identity is used to calculate the national income growth rate during a plan, if the plan size (i.e. investment to be made) has already been decided. Conversely, if the GNP growth rate is already somehow given, then how much should be the plan outlay to- achieve it, can be calculated from the Harrod-Domar growth equation. We give below a simplified form of the Harrod-Domar growth equation'.

It is a simple fact that the national income, or GNP, is an annual flow which results from the capital stock (K) of the country. So just as GNP (or Y) bears a constant relationship to K, similarly an increment in the former (i.e. ΔY) will also bear a constant relationship to increment in the latter (i.e. ΔK). Since increment in capital stock is the result of investment (I), $\Delta K = I$ by definition.

The relationship between K and Y is expressed by capital/output ratio, k. Using these relationships, the simple Harrod-Domar growth equation can be derived as below:

Saving (S) is some proportion, s, of national income (Y) such that we have the simple equation

$$S=s\ Y \quad \ldots\ldots (1)$$

As we have seen above, change in capital stock (JIK) is the result of investment (I) so that

$$1=\Delta K \quad \ldots\ldots (2)$$

We have also seen above that K bears a direct relationship to Y, which is expressed by capital/output ratio, k. Then it follows that

$$\frac{K}{Y} = k$$

$$\text{Or} \quad \frac{\Delta K}{\Delta Y} = k$$

$$\text{Or} \quad \Delta k=k\Delta y \quad \ldots\ldots (3)$$

Since total national savings, S, must be equal to total-Investment, f, this equality is

$$S =I \quad \ldots\ldots (4)$$

But from equation (1) above we know that S=s .Y, and from equations (2) and (3) we know

$$I- \Delta K = k\Delta Y.$$

It therefore follows that the saving investment equality of equation (4) can be written as

$$S= s.Y- k\Delta Y=\Delta K =I \quad \ldots\ldots (5)$$

Or simply as

$$s.\ Y=k\Delta Y \quad \ldots\ldots (6)$$

Now by dividing both sides of equation (6) first by Y and then by k, we obtain he following expression:

$$\frac{\Delta K}{\Delta Y} = \frac{S}{K} \quad \ldots\ldots (7)$$

In this final equation (7), the left hand side represents the rate of growth of GNP and the right hand side shows that this growth rate is equal to (or is determined by) the national savings ratio and the capital-output ratio, k. Further, it is clear that the savings ratio is positively related and the capital-output ratio negatively related to the growth rate of GNP.

This simple growth equation can be used by the planners in plan formulation. If the planners decide how much investment (plan outlay) they can make out of the national income, depending on how much savings they can generate as a percentage of national income, then given the capital output ratio (which planners estimate from the past actual experience of relationship of K and Y in their country), they can calculate the annual growth rate of GNP during a plan period. Conversely, they may take a political decision regarding how much should be the growth rate of GNP during the plan period (keeping the future requirements of the economy and the people in view) Given the GNP growth rate and the capital output ratio, the savings ratio, and therefore rate of investment, will be given by a product of the growth rate and the capital Output ratio. In other words, it will show how much saving and investment (i.e. plan size) would be needed to fulfill the growth target.

Exercise 11.2

Question 1Explain the process of plan formulation?

11.4 Planning and Price Mechanism

Many economist, especially the Marxist, economists have been challenging the conventional economic proposition that the enterprise system is an impersonal and at the same time, the most reliable method for bringing about not only the optimum allocation of resources but also the optimum rate of economic development. It is but proper that we should start with an examination of pros and cons of the role of the system in economic development.

One way of looking at the problem of planning and price mechanism is to regard them as antithetical to each other, to regard planning as direction of the economy by the government and to regard reliance on the price system as the adoption of a policy of *laissez faire*. Prof. Faster brook has shown that this way of looking at the problem is not quite justified at least from the historical point of view, for economic development of countries based on the market system has been, almost invariably a mixture of planning and direction, on the one hand, and freedom of enterprise on the other. It has been a mixture of government intervention and control on the one hand and freedom of enterprise on the other. In the mixed system the government has, generally, taken care of the major risks of development, while private enterprise has faced and overcome the major risks.

Another way of looking at the problem is to concede general direction of the economy as an establishment principle, and to present the price system, as a regulatory device, in the form of an alternative to the more direct means of detailed control that is to say, if it is accepted that economic development is to be planned, should we resort to direct detailed planning by a central authority and thus to completely replace the market mechanism, or should we

leave the working out of details as far as possible to the operation of the price system?

The classical and the neoclassical economists in the line of Adam Smith had been emphasizing the economic function of the price system in solving the basic problems of an economy. If the price system works freely, it is suggested, the pursuit of self-interest (maximum satisfaction by consumers and maximum profit by producers) will ensure the optimum allocation of resources in the production of an optimum product mix. Provided the distribution of income is acceptable, it is a socially efficient regulatory device. The static allocational problem is not the only problem that is solved efficiently by the price system. If is claimed that the price system also helps in economic development by providing various types of incentives, the availability of good through the market stimulates the consume to seek to increase his income, and free access to the market provides an opportunity for investment and innovations of all kinds it stimulates the accumulation of personal capital in the form of trained skill in as much as such skills earn it higher reward it stimulates the accumulation of material capital also, because such capital is source of income.

The above argument boils down to this that a properly functioning price system tends to stimulate both economic efficiency and economic development. And, it is argued, it is no less an advantage that the price system helps to achieve this without any big administrative apparatus or government intervention.

The above argument in favour of the price mechanism is based upon two fundamental assumptions which are inherent in all arguments based on the original Adam Smith's economic philosophy. One of the assumptions is that the market is perfect and other is that the people behave rationally in the sense that they act in the pursuit of consumption and profit maximization. Both of these assumptions may not be valid, especially in the underdeveloped economies. The first of these assumptions is violated in the underdeveloped economics due to ignorance as well as a host of socio-economic and cultural factors which hinder mobility. Apart from it, in the small modem sector which some of these underdeveloped economies might have developed in their initial stage of development, there are generally oligopolistic or monopolistic rather than freely competing firms. The second assumption is even more likely to be violated in the underdeveloped countries. The problem of economic development there cannot be merely a problem of perfecting, the market system, even if it could be entirely possible, but it is basically a problem of transforming the attitudes of the public which are based on tradition, customs and habits rather than on rational thinking.

Then, the price system does not correct the already existing uneven distribution of wealth and incomes. It will not be quite honest for economists advocating the price system as against central economic planning to protect themselves by the seemingly innocuous phrase, “provided the distribution of income is acceptable”. In an economy where this distribution is highly skewed, the pattern of production would be distorted in favour of the rich minority against the poor majority. And if you add to it the distortion brought about by the competitive advertisement of oligopolists and monopolists the so called efficiency of the price system would be under cloud.

What is still more important is that even if the market and the price system function perfectly, they will not produce the best results even on the criteria emphasized by the proponents of the price system, if social benefit or cost diverges from private benefit or cost. This happens when there are external economies or diseconomies. This type of case is particularly relevant to economic development. The individual entrepreneur is unable to visualize and estimate the benefits flowing from external economies, with the result that he might not start an enterprise which, in fact, would be profitable not only to the society as a whole but, ultimately, to the private entrepreneur too. The heavy investment made by the government of India in multipurpose river projects, steel mills and fertilizer, plants could not have come about through private enterprise guided by the price system.

Many of these public enterprises are still running at a loss which could not be borne by the private entrepreneurs, if these projects had been left to come up as a result of the working of the price system alone. These individual projects might presently unprofitable from the point of view of the individual entrepreneur but when we take account of the external economies generated by them in the form of cheaper and more plentiful supplies of inputs to the other industries, they may turn out to be quite profitable from the point of view of the society as a whole. Such cases in underdeveloped countries are quite important.

Harry G. Johnson, a votary of free enterprise, has conceded that there is a strong case for the objection that the free price system “Will not produce as high rate of growth as desirable……., because people’s actions in regard to saving and investment depend very much on their guesses about the future”. But although the people are expected to know their own current requirements better than the government, “the requirements of the future have to be looked at not from the individual or family point of view or that of national as a collection of individuals but from the point of view of the ongoing society". Many economists would agree that the future needs of the society tend to be underprovided for in an economy regulated by the price system.

If the under-developed economics of the immediate post Second World War period could not have developed under the free enterprise system, because of its weaknesses enlisted above, what was the alternative for them, the alternative was obviously, the formulation of a comprehensive state plan giving quantitative targets for the output of each industry of any importance. Such a quantitative plan would, in many cases, also include the main uses of the planned production of each industry. For example, how much of the product of a given industry is to be marketed within the country and how much of the output so earmarked is to be employed each of the several uses. When these details were appropriately worked out, the whole plan would then be implemented by a series of state controls. Raw materials and capital goods etc would be allocated and licensed to achieve their planned use. Labour would be directed to plan employments in the appropriate accounts. The consumption of many, if not of all, products would be subject to rationing.

Whatever has been said above does, in no way, imply that prices have no function to perform in a planned economy. In any economy making use of money, some sort of function has to be conceded to the price system. It has to perform the accepted function in a controlled manner in the private sector

of the mixed economies. In such economies it is possible to combine to some extent the peculiar efficiencies of the price system with an extension of the field for state planning and control. Even in the public sector prices may serve as a basis of calculating the costs and benefits of individual projects in order to assess their desirability as well as the financial resources necessary for their execution However, it is now generally recognized that crude market prices might not be a reliable basis for the calculation of costs and benefits. In practice, prices can provide only a useful first approximation to costs and benefits. But, in so far as the price system does not function perfectly, the test of profitability based on it is not decisive. An enterprise may make a profit, because it is paying less for its resources than they are worth in alternative uses. In the contrary case, it may make a loss, because it is paying more than they worth in alternative uses. It is due to such imperfections of the price system that more and more emphasis is now being placed on shadow prices. This is because prices may not be a good guide for knowing the cost of a product. Similarly they may not be a reliable basis for the calculation of benefits. The latter refers to the case of projects which create external economies which are not exchanges to the individuals and firms who benefit from them.

In the developing economies planning had been undertaken in the past decades in the institutional framework of a mixed economy. To start with, these economies were predominantly capitalistic in nature since private property was widely owned and controlled. The public sectors emerged and expanded after the planning process started. In such a situation the market mechanism could not have been replaced by a system of centralized decision making.

Keeping all this in view, it would be clear that the price mechanism (i.e. a market economy) did not become completely irrelevant. Rather the actual situation was that of the price mechanism being widely used. So far as plans for the private sector were concerned market prices could not but have been used in the evaluation of costs and benefits. But even in the public sector component of the plans, since inputs were purchased from private firms and output sold in the open market, the price mechanism could not be done away with. Besides, as long as private property was widely held, with social control over means of production remaining minimal, again the market mechanism remained fairly intact despite economic planning. As long as these economies remained mixed ones, price mechanism could not be dispensed with. In fact, it may not be far from the truth that as attempts started being made to replace some of the market prices with subsidy-laden and controlled prices, distortions crept into the system leading to structural deficiencies like the mounting fiscal deficit, misdirection of resources, shortages and black marketing. It is in no small measure that all these attempts to replace the market mechanism discredited economic planning and led to its dilution in developing countries.

Exercise 11.3

Question1 Examine the role of prices in planned economies?

11.5 Summary and Conclusion

This lesson started with a discussion of the nature of economic planning the underdeveloped economies of the 1950s and 1960s. Then, we

discussed the process of plan formulation comprising mainly the determination of the size of the plan arid the planned growth rate. It was noted that plan formulation was a complex exercise and a wide variety of considerations entered into the process. In setting the target of GNP growth rate and in determining the size of a plan, the planners had even borrowed from reputed economic models, like the Harrod-Domar model. We went, into the question of how mutually consistent GNP growth rate and the plan size could be determined with the help of the Harrod-Domar growth equation.

We too discussed the contentious issue of how far the price mechanism was relevant under planning in developing countries. Although centralized planning and the price mechanism are antithetical to each other, yet in the developing countries of today, centralized planning never became a reality in the past because of their being mixed economies and the persistence of the capitalistic mode of production. Thus, the price mechanism remained in use not only for the private sector component of the plan but also for the public sector component. Since the duality between the two could not be satisfactorily resolved, it only helped in distorting both the planning mechanism and the market mechanism, leading ultimately to the paling into insignificance of the planning process.

11.6 Glossary

- **Economic Planning -** A deliberate and conscious attempt by the state to formulate decisions on how the factors of production, shall be allocated among different uses or industries, thereby determining how much of total goods and services shall be produced in one or more ensuring periods.
- **Price Mechanism –**Used with reference to the free market system and the way in which prices act as automatic signals which coordinate the actions of individual decision making units. By means of this role, the price system provides a mechanism whereby changes in demand and supply conditions can affect the allocative efficiency of resources.
- **Objectives of Planning-**Economic growth, self-reliance, removal of unemployment, reduction in income inequalities, elimination of poverty, modernization.
- **Planned Economy –** An economy where crucial economic processes are determined to a large extent not by market forces, but by an economic planning body which implements society's major economic goals, in such a system the greater part of production activity is determined by obligatory input and output targets generated by vertical signals from an administrative hierarchical body.

11.7 Self Assessment Test

Try the following objective type questions:-

(i) Which one out of the following has been the single most important objective of economic planning in the developing countries? (x) Accelerating the growth rate of GNP, (y) Reducing inter-regional inequalities.

(ii) Harrod -Domar model has been used by planners in developing countries to determine plan targets and priorities. Is the statement (x) true or (y) false?

(iii) Were the underdeveloped countries able to adopt the Russian model of planning in its entirety? (x)Yes (y) No.

(iv) Which of the following statements is true?

(x) The developing countries could not replace the market mechanism with their development plans.

(y) The developing countries replaced the market mechanism with their development plans.

(v) After adopting market friendly reforms, has the process of planning in developing countries become (x) completely relevant, or (y) partially irrelevant?

(Correct answers:- (i)-x ;(ii)-y;(iii)-y; (iv)-x;(v)-y)

11.8 Suggested Readings

1. M.P.Todaro, *Economic Development in the Third World* 1987,Chap.15 and Appendix 15.1
2. K.B.Griffin and 3.L.Enos, *Planning Development*.1970, Chap.3.
3. W.A.Lewis, *The principles of Economic Planning* 1963, Chap.1.
4. Jan Tinbergen, *Development Plnning*, 1967, Chap.3.
5. C.P.Kindleberger arid B.Herrick, *Economic Development*, 1977,Chap.22.

11.9 Terminal Questions

Questions1Why has been the acceleration of growth rate of GNP the single most important objective of planning in developing countries? How is an appropriate GNP growth rate determined?

Question2 Are economic planning and the price mechanism mutually compatible under a system of completely centralized decision-making? What were the chief constraints faced by the developing countries in achieving such compatibility?

Lesson 12

INVESTMENT CRITERIA FOR PLAN PROJECTS

Structure

12.0 Objectives

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

- Know about choosing the projects when investible resources are limited.
- Explain the major components which planners seeks to maximize
- Have in depth knowledge of different investment criteria for plan projects.
- Know on what grounds the different investment criteria have been criticized.

12.1. Introduction

In the preceding Lesson we started a discussion on the process of plan formulation. In the present Lesson, we shall continue that discussion. An economic plan in the development countries includes several projects for implementation. But the question that the planner faces in the first place is how to choose these projects, especially when the investable resources are limited. This is a problem of investment criteria in these countries involving principles underlying the allocation of scarce investment resources in irrational manner so as to maximize the growth of national income and attain other objectives. The investment criteria that are useful for the appraisal of projects for inclusion in the development plans must answer to start with two questions first what do you mean by the benefit of a project? Naturally, we are ruling out private profit as the benefits, (if private profits were to be taken as a measure, projects such as construction of a road or the establishment of a university would never become eligible for inclusion in the plan).The direct social benefit of a project would surely be the addition that it would make to the national output. Besides, there may be indirect benefit of the project. These include its external economy effects. Secondly, to what extent does the project contribute to the realization of other objectives of the plan? All these could be given proper weights in any formula evolved to measure the benefit of a project. There is, however, sharp difference of opinion among the economists

as to which variable should a project maximize, the current output or the future flow of national output , employment or the rate of capital formation , growth of output or its distribution, etc.

However, the chief point that is usually contested is what is it that should be maximized by an investment project, so that the projects could be ranked according to the net benefits of the measure adopted and accordingly a selection of projects made. We shall briefly discuss some of these investment criteria below.

12.2 Investment Criteria for Plan Projects

12.2.1The Social marginal productivity (SMP)

The social welfare function is a function of many variables, of which national income and balance of payments are considered to be the most important. The problem is the allocation so a given rate of investment of the plan period between alternative projects in such a way as to maximize the annual average increment in social welfare. The annual average is computed through a discounting process. The SMP of a project is defined as the average annual increment in national income (plus balance of payment effect) resulting from the marginal unit of investment in that projects. The increment in national income is calculated after making correction to social and private benefit due to the presence of unused resources , tariffs, subsides and external economies. The (SMP) function is static in nature as it does not take into account future product and factor prices in the computation of increment to the flow of national income. A similar case is with the correction of market prices Kahn and Chenery have defended their static view on these accounts (a)that the project increment is too “small” to affect the future course of prices , or (b)that the future course of prices in independent of current choices.

Two main proposals for applying (the social product) criterion have been put forward. One is based on an assessment of the project’s direct, indirect and secondary consequences , in which all values , indirect and secondary consequences , in which all values are reckoned at “ accounting prices” whereas the other proposal (SMP)principle by applying it to a number of empirical situations in several countries . In allocating investment resources it is maintained that the total net contribution of the marginal unit to national product should be taken into account rather than the portion of the contribution accruing to the private investor.

Prof. Chenery evolved a formula for the quantitative measurement of the SMP concept. He ranks investment projects according to their social value and studies value and cost of domestic and imported materials used therein. The selection of projects depends on their rank on the basis of their SMP and cost of domestic and imported materials used therein. The selection of projects depends on their rank on the basic of their SMP and funds at disposal of the planner .Taking the balance of payments to be in equilibrium, the Chenery equation is:

$$\text{SMP} = \frac{X+E-L-M-O}{K}$$

where
X=increment in the value of the outfit due to the project.
E=added value of the output due external economies
L=cost of labor
M=cost of material
O=over shed costs including depreciation.
K=capital funds invested

$$\text{Or SMP} = \frac{V - C}{K}$$

Where V is the social value added domestically and equals (X+E) and C is the total cost of factors which equal (L+M+O).

Since foreign exchange is usually scarce in underdevelopment countries, the balance of payment effect assumes importance as a criterion should be given to those projects which minimize the balance of payment effect. It has two different effects, namely the negative effects and the operating effects. Investments have been classified into three types. Type I includes exports and substitution for imports showing positive operating effect. Type II which is neutral is replacement for goods sold in the home market The Type III is negative where goods sold in the home market exceed the demand resulting from the increase in real incomes. Accordingly, the refined formulation is:

$$\text{SMP} = \frac{V-C}{K} + \frac{Br_2}{K}$$

where r shows the difference between the actual and official value of the foreign currency in terms of the local currency. B_1 is the annual authorized impact on the balance of payments of servicing initial borrowings from abroad, and B_2 is the annual effect of the project's operation on the balance of payments. To simplify the formula $r(aB_1 + B_2)$ is represented by Br_2, the combined balance of payments effect and the final formula is

$$\text{SMP} = \frac{V-C}{K} + \frac{Br_2}{K}$$

The ranking of projects according in the SMP helps in their selection when the funds at the disposal of the pi inner are not equal to the cost of all the projects.

The value of national product is maximized by the efficient allocation of the resources in such a way that the social marginal productivity of capital is approximately equal in the different uses.

The main criticism of the SMP criterion is that it is expressed in terms of a once for all effect on the national income, and does not include the specific multiplier effect of investment on future income. It does not take into account changes in the nature and quality of the factors of production and what happens to the final products. According to W. Galenson and Leibenstein the appropriate goal of development should be the maximization of per capita output, or average income, at some future points in time rather than the maximization of current national income. Hence, the correct criterion for investment must be to maximize the rate of savings and thus of reinvestment and to "choose for each unit of investment that alternative that

will give each worker greater productive power than any other alternatives." Apart from human factors such as the quality of the labour force, it is the capital labour ratio (or capital intensity) that determines output per capita. As a corollary, the investment criterion favors capital-intensive projects even where capital is scarce.

It was often argued that since underdeveloped countries were generally characterized by massive underemployment along with scarcity of capital, those investment projects should be selected that substitute abundant labour for scarce capital, or, in other words, mobilize the maximum amount of labour per unit of investment. And it need hardly be said that the problem of unemployment was the basic problem which deserved to be given topmost priority by the planning authority. The use of labour-intensive technique would result into the release of scarce capital resources for other important uses on the one hand and saving of foreign exchange on the other. The employment absorption criterion had a family relationship with low capital labour ratio.

The maximum labour absorption, however, would lead to the emergence of inefficient productive units. Moreover, a course of maximizing the rate of investment may do more in the not so distant future to provide work for the Underemployed than the capital-saving and labour-intensive use of the existing investment potential can do in immediate future. R. Nurkse had drawn attention to the potential savings concealed in rural underemployment and proposed to mobilize the same for capital formation.

The SMP concept is vague it is less definite than the private profit criterion, a quantitative assessment of the indirect social costs and benefits arising from investment is not possible. Market prices do not correctly reflect social values and are not a correct guide to resource allocation. There is a wide difference between the equilibrium and the market rates of interest, wages and foreign exchange because of serious imperfections in capital and it hour markets. There are seven namely(inflation, currency overvaluation, wage rates and underemployment, imperfect capital markets, large projects, inelasticity of demand for exports and import quotas and export disincentives) important and fairly non-controversial reasons which shows why the price mechanism and the profit motive may not work as closely for the social advantages as in developed countries.

The balance of payment effect is incorporated in quantifying the SMP principle. The difficult foreign exchange situation overemphasizes the balance of payment effects in investment allocations. This criterion, therefore, needs to be balanced by the consideration of comparative advantages in the long run.

Whatever the criteria for allocation of resources, problems arise in the measurement of present and future benefits from a given project and of the cost that are incurred in obtaining such benefits .Market prices are imperfect guide to resource allocation in underdeveloped countries because of the existence of fundamental disequilibrium reflect in the prevalence of massive underemployment at prevailing levels of wages. The equilibrium level of wage rates is considerably lower than market wages whereas contrary is true in the case of interest rates. It becomes essential to remedy this defect if a criterion is to be based on the principle of social product. This is done with the use of 'accounting prices' or 'shadow prices' which are discussed below. These prices reflect intrinsic vales of factors of production. In principle, the shadow price system itself is instrumental principle, the shadow price system itself is

instrumental in nature, usable in the cost-benefit analysis of investment projects. However, use of such prices can be made only with great circumspections, care and much reservation.

12.2.2The Marginal Per Capita Reinvestment Quotient Criterion (MRQ)

Harvey leibenstein- criticizes the SMP principle on the ground that forces of economy's growth in an underdeveloped country. Galenson and leibenstein also criticize Chenery for using tools of economic statics in analyzing the dynamic problem of economic growth. The social welfare index is an increasing function of the per capita output potential at some future point of time. The per capita output potential is a function of a number of factors of which capital per worker and the quality of labor are important. Galenson and Leibenstein introduced the concept of the marginal per capita reinvestment quotient as the criterion for investment in under-developed countries. The reinvestment potential of an economy's output is the difference between the output per laborer produced with a given capital per worker on the one hand, and the consumption of the population, and the wear and replacement of capital equipment on the other. The MRQ of a project is determined by the annual surplus it generates over and above wages and depreciation costs, taking into account the contribution of the project towards improving the quality of the labor force and bringing about a decline in its rates of growth. Galenson and Leibenstein conclude that the "best allocation of investment resources is achieved by equating the MRQ of capital in its various alternative uses."

Assuming that total national income is divided into wages and profits little is saved out of wage income but a good proportion of income accruing in the form of profit is saved and becomes available for reinvestment. The larger the volume of profit, the higher will be the 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 future. The building up of total capital in the form of capital goods and human capital thus depends on general reinvestment year after year and the increase in the size of the population. MKQ is likely to be higher in capital intensive than in labour intensive projects.

W. Galenson and H. Leibenstein argued that the appropriate goal of development should be the maximization of per capita output, or average income at some future point of time, rather than the maximization of national income now. The investment pattern use maximize the rate of saving and thus investment, and to "choose for each unit of investment that alternative that will give each worker greater productive power than any other alternative." Since wages are largely spent and profits are largely saved for investment, the best allocation of investment of resources is to be achieved by distributing the available capital among the various alternative uses in such a way that MRQ is approximately equal in the various uses. It is the capital labor ratio that determines output per capita. As a corollary, the reinvestment criterion favors capital-intensive projects even where capital is scarce. Galenson and Leibenstein use the following formula to determine the rate of investible surplus(r).

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

where P is the product per machine,
e = the number of men per machine,
w =real wage rate
c = the cost of machine.

If annual reinvestment is to be large, the proportion of profits to national income is to be maximized and the proportion of wage income is to be minimized. This would therefore necessitate increasing the ratio of capital to labour in production, i.e., it would lead to the adoption of capital-intensive methods of production. Production processes, having higher capital labour ratio result in a larger share of income going into profits and a small share into wages. Thus a larger proportion of the initial income is available for investment through profits. Further, capital-intensive production processes imply a long life for capital goods, the ratio of replacement cost to gross investment would be considerably lower and as such, other things being equal, reinvestment quotient will be higher. The adoption of capital-intensive method is also justified on the ground that the rate of growth of population in most underdeveloped countries was quite high and unless productivity of labour was considerably increased through the application of more capital to each unit of labour, output per head of population would fall which would make accumulation of capital impossible. Heavy investments become necessary for providing basic economic environment in the form of social overheads to meet the growing needs of population. The investment allocation should be so made that there is rapid capital accumulation early in the process of economic development. Leibenstein conceived of a critical minimum in the initial investment effort as we noted it an earlier Lesson. If this level of investment was no reached, the country would rover to its former underdeveloped state. Urbanization following industrialization would go hand in hand and would create an environment conducive to the lowering of the birth rate and a decline in the rate of growth of population.

Thus, according to this investment criterion, projects would be ranked in the descending order of their MRQ and therefore only those projects would be, included in the plan which has a high MRQ.

However, O. Eckstein criticizes planned investment based on reinvestment criterion and opines that it might be desirable to employ fiscal means to attain an income distribution which will yield sufficient savings, The reinvestment quotient criterion has been criticized on the basic assumption that large profit would led to large investments the surplus may be larger per unit of capital, but if the propensity to save of the people engaged in that production comes down investible surplus is adversely affected.

Product per unit of capital and product per worker are two different things. The proportion of labor to capital employed goes down when there is capital deepening in any industry, which would result in an increase in product per worker on the one hand and rise in the investible surplus from each worker’s output on the other hand but looked at from the point of view of capital, as the volume of capital is increased, the output per unit of capital decreases.

The application of MRQ principle would lead to the rise in the profit/wage ratio and the capital/ labour ratio. It is not enough if the profit/ wage ratio rises; it is important that the ratio of savings to output should rise. It

is wrong to assume that reinvestment is always larger in capital-intensive industries. Further the view that propensity to save out of wages is zero is also not acceptable. A rise in the productivity of labour increases aggregate real output and if wages remain constant it is possible for the labourers to save more. When total output rises, government through appropriate fiscal measures will see to it that consumption remains constant and does not reduce the savings.

Adoption of capital invective methods of production would lead to displacement of labour. MRQ criterion neglects the social, costs of unemployment and violates social welfare ideals; it is unwise to be solely concerned with making the MRQ as larger as possible in each period, especially when this concern results in an inadequate supply of consumer goods throughout. It would be better if direct methods are used to bring down the rate of growth of population than depending upon indirect methods (increasing income and urbanization).

The attachment of a premium on future incomes as against present income and levels of consumption has also come in for criticism. In less developed countries, sufficient attention has to be devoted to improve the living condition of masses. Neglecting the consumer goods sector in favour of capital goods sector is wrought with serious social consequences.

Leibenstein's thesis has also been criticized on the ground that it fails to take into account the balance of payment effects of an investment policy. There is a truth in that the role of investible surplus is higher in capital-intensive industries as compared to labor-intensive industries, but it is possible that the former are also more import-intensive. It would be unsound policy to concentrate investments on capital and import intensive projects creating an unfavorable balance of payments position.

Despite these limitations, the MRQ criterion is useful in so far as it lays great emphasis on a higher rate of income growth overtime as the main objective of investment policy. It is more realistic than the SMP criterion, for it takes in to consideration the effects of population growth on the rate of investment in future.

12.2.3 The Marginal Growth Contribution (MGC)

Eckstein tries to synthesize the Kahn-Chenery approach and the Galenson-Leibenstein approach. His social welfare function is the sum of the discounted value of the stream of consumption resulting from a given current investment K and the future reinvestment occasioned by it. The MGC of a project is the sum of two terms: (a) the present value of the project's direct contribution to the consumption stream and (b) the present value of the consumption stream resulting from reinvestment associated with the project. The optimal allocation of K result when the amounts invested in each project are so allocated that the MGCs of the different projects are equal. Eckstein also makes an attempt to determine the rate of investment itself by determining the interest rate through a marginal utility approach.

The practical significance of Eckstein's approach has, however, been questioned. First if one wants to consider an infinite time horizon as Eckstein does, one cannot proceed as if capital were the only scarce factors at all points in time. Second, there is no reason to direct all reinvestments to one

project. One can, at the very least postulate that the same projects are available at all future periods of time as at the beginning.

12.2.4 The Time Series Criterion

Sen considers an economy which has two alternative investment projects in view, the one capital-intensive, and the other labor-intensive. The consideration here is not the rate of returns on the capital invested, but the absolute returns which either of these projects will yield over a given period of time. Let the time at the economy's disposal be a period of 10 years, and the annual returns of the project are as follows:

Period	(I) Capital – intensive Project (Returns) (in millions)	(II Labour intensive Project Returns) (In trillion)
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	12.5
10	17.5	13.0
	100	100

X Excess over 2nd 58.0-49.0=9.0

+Excess over 1st 51.0-42.0=9.0

Over the first six years, the returns of labor intensive project are more than that of the three project; but after the 6th year the yield of the capital-intensive project increases more rapidly so that the sharper increase in the latter part of the ten year period offsets the deficiency in the first six years. Both the projects yield same total turnover over the entire period of ten years. If the time at the disposal of the economy is fairly large, it hardly matters as to which of the projects is selected. This time period is called the period of recovery, because it is the period of time required over which the higher income of the capital-intensive project in the latter period just offsets its deficiency in the earlier period. If time is not fixed, then the capital-intensive project will be preferred, because after 5th year its yield rises steadily at a much faster rate than from the other. But once the time limit is fixed the choice between the two techniques becomes important.

The time factor is certainly an important consideration in the determination of the techniques of production in underdeveloped countries. But there is an element of arbitrariness in the fixation of the time limit in the time series criterion which detracts from its apparent simplicity. Moreover, the returns pattern over a period of years does not depend only on the techniques, organization and operation of the particular project but also on the external economics available and manner in which it is affected by the growth of other sectors of the economy. It is not possible to isolate a particular project

from the rest of the economy in order to estimate the effect of the time factor on its attractiveness or otherwise from development point of view.

Most of the underdeveloped countries, however, had adopted a combination of different investment criteria involving a compromise between the opposing techniques of production in their investment policies, rapid growth of population, low income of the people, decline in the land-labor ratio, the necessity for raising the levels of consumption and for providing the necessity and for providing the necessary social and economic infrastructure , rising prices and unfavorable balance of payment position, all these impinge upon the limited resources of these countries. The major problem with regard to investment allocation in these countries is the choice of such a combination of the methods of production which would ensure a high rate of growth of income on the one hand and rise in the level of consumption and employment on the other.

Exercise 12.1

Question 1 critically examine the different investment Criteria for plan projects

12.3. Summary and Conclusion

This lesson was a continuation of the discussion of process of plan formulation started in the preceding lesson. An important aspect taken up here, dealt with the question of investment criteria. The question has two major components, viz what should the planner seek to maximize, and how should investment be allocated to the different projects for such maximization ? there are several approaches available in this respect one of these is the social the marginal productivity criterion which defines the social welfare function as comprising, the national income and balance of payment. It recommends the maximization of such a social welfare function through allocation of plan investment. The social marginal productivity of a project is defined as the average annual increment in national income plus the balance of payment effect resulting from the marginal units of investment in that project. According to the criterion, investment allocation is efficient when the social marginal productivity of capital is equalized in different uses. Another investment criterion is the marginal per capita reinvestment quotient (MRQ) criterion. The criterion seeks to maximize per capita output potential at some future date. This is done by some equation the MRQ of capital in its various alternative uses. The MRQ of a project is the surplus of a project over and above wages and depreciation costs, as also the contribution the project makes to improve the quality of labor forces. This criterion leads to the selection of projects which are capital-intensive.

A third criterion is the marginal growth criterion (MGC). The social welfare function to be maximized here is the sum of discounted value of the stream of consumption resulting from current investment and the future reinvestment brought about by it. The optimum results are obtained when the MGCs of different projects are same.

Finally we considered in this connection A. K. Sen’s time Series criterion. It compares the results expected to be obtained in terms of the absolute returns from the alternative capital – intensive project. If the time horizon before the planner is fixed but fairly long, it is immaterial which type of

project is chosen. However, if time period is not fixed, the capital intensive projects would be preferred, because these start giving higher income stream after a while.

None of these is a perfect investment criterion. Each one has invited criticism. However, the use of such criteria does help the planner to make a rational choice of investment proposal and projects.

12.4 Glossary

- **Investment** – The term is most commonly used to describe the flow of expenditures devoted to increasing or maintaining the real capital Stock. In fact a more accurate definition, which clearly encompasses the above, is that investment is the flow of expenditures devoted to projects producing goods which are not intended for immediate consumption. These investments projects may take the form of adding to both physical and Human Capital as well as inventories. Investment is the flow , the volume of which is determined by all those projects which yields a positive net present value, or an internal rate of return greater than the interest rate..The former is known as Net present value criterion and the latter as the marginal efficiency of investment.
- **Marginal per capita reinvested quotient criterion** – An investment criterion with an objective of maximizing income per head at a future date. It states that the best allocation of resources will be achieved by equating the marginal per capita reinvestment quotient of capital in each of its uses. It is assumed that the profits are reinvested and wages consumed. Gross productivity per worker minus consumption per worker determines the gross amount per worker available for reinvestment. The criterion thus favors projects where profits are high.
- **Social marginal Productivity criterion** –This criterion states that the total net contributions of a unit of investment to output should be considered when allocating resources and not simply the part which accrues to private investors. The social marginal productivity of capital should be equated in its various possible uses if resources are to be allocated efficiently.
- **Capital intensive –** A process of production that uses a higher proportion of capital relative to other factors of production such as labor or land per unit output. A technique of production A is said to be more capital intensive than some other equivalent technique B if the ratio of capital to other factors of production is greater in A than in B.
- **Labour Intensive** - Method of production that uses proportionately more labour relative to other factors of production. A process or technique of production A is said to be more labour intensive than an equivalent process or techniques B if the ratio of labour to capital used is greater in A than B.

12.5Self Assessment Test

Try the following objective type questions:-

(i) Which of the following components of plan formulation of investment criteria belong to?

(x) Investment planning
(y) Determination of plan size
(ii) The Kahn – Chenery approach is associated with marginal per capita reinvestment quotient criterion. Is this statement (x) true or (y) false?
(iii) Did Harvey Leibenstein's investment criterion favor the choice of (x) capital – intensive project or (y) the labour – intensive projects?
(iv) Does the social marginal productivity investment criterion (x) include, or (y) not include, the balance payment effect, in the social welfare function?
(v) A.K. Sen's time series investment criterion favors the choice of capital – intensive projects in one of the following time periods. Which one is it?
(x) Short period time horizon (y) infinitely long time horizon
(Correct answers: (i)- (x) (ii)-(y) (iii) – (x) : (iv)- (x): (v)- (y)

12.6 Suggested Readings

1. W. Galenson and H. Leibenstein," Investment criteria, Productivity and Economic Development," *Quarterly Journal of Economics*, 1955.
2. A. N. Agarwal and S.P. Singh (ed) *Accelerating Investment in developing Economies* 1969 section 2.
3. A.P. Thrilwall, *Growth and development,* 1986, chap 6
4. Benjamin Higgins, *Economic Development* 1963, pp 653-68

12.7 Terminal Questions

Question 1 Why does a planner need to use an investment criterion? Evaluate in this respect the social marginal productivity criterion.
Question 2 Critically examine the per capita reinvestment quotient criterion, especially in the context of the labour surplus economies.

LESSON 13

COST BENEFIT ANALYSIS AND SHADOW PRICES

Structure

13.0 Objectives

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

- Explain the concept of Cost benefit analysis
- Have in depth knowledge of social rate of discount and what are the alternative approaches available to decide the appropriate social rate of discount
- Understand the meaning of Accounting or Shadow Prices
- Explain different methods of calculating Accounting or Shadow Prices

13.1 Introduction

Project evaluation is a process of evaluate the rate of return on a project, its social profitability and its side effect on the growth rate of population, on employment, labour and management training and on rate of investment. Any reasonable project evaluation procedure must have as its background some conceptual framework which could be spelled out as an optimizing model. Any attempt to construct and work out such a model in quantitative terms can help a planner, in a particular country's empirical context, to understand the framework with which investment projects are to be evaluated.

Under economic planning in the developing countries, the planner faces the problems of choice of projects for inclusion in a plan. So each project has to be evaluated in suitable terms so that the objectives laid down in the plan are maximized. For this purpose, cost-benefit analysis for public sector projects has been evolved. During the 1970s, huge literature on cost-benefit analysis was produced by organizations like O.E.C.D. and UNIDO, as well as economists like Mishan, Marglin, Prest and Turvey etc. The principles and procedures of cost-benefit analysis shall also discuss in this Lesson. Besides,

we shall also discuss the concept and uses of shadow prices which are utilized to evaluate the social costs and social benefits.

For choosing a project for investment, the private sector entrepreneur uses what is called the profitability analysis, where net profits are compared to the cost of the project to the investor. Obviously, this can't be the criterion for the planner to select projects for inclusion in a plan.

13.2 Costs-Benefit Analysis

Cost-benefit analysis is a way of setting out the factors which need to be taken into account in making certain economic choices. Cost-benefit analysis can also be applied to proposed changes in laws or regulations, to new pricing schemes and the like. Cost-benefit analysis is undoubtedly the most used, and arguably the most useful method for project evaluation. It involves the enumeration, comparison and evaluation of benefits and costs. Its objective function is the maximization of net social benefit. This objective function can be expressed as the maximization of the present value of all benefits less the present value of all costs, subject to specified constraints.

The cost-benefit analysis thus starts with the identification of *social* costs of a project to be included in a plan, as well as *social* benefits. These have to be suitably valued, and the present value of the costs and benefits has to be estimated. Each one of these presents complex problems in the exercise of cost-benefit analysis. We take up these problems below. First, what do we mean by the benefits of a project. Naturally we are ruling out private profit as a measure of benefit, since there are many reasons for thinking that profits are not always a good measure of the net benefit to the society. The direct, social benefit of a project would surely be the addition that it would make to the national output. Besides, there may be indirect benefits of the project. These include its external economy effects or the investment that it stimulates in other sectors of the economy. In addition to that, to what extent does the project contribute to the realization of other objectives of the plan? All these could be given proper weights in any formula evolved to measure the benefits of the project.

Next, let us take the social costs of a project. Among the direct social costs are the resources of the society (land, labour, capital etc.) that would be used by the project. Then there may be the scarce foreign exchange that may be used for importing machinery, raw materials etc. for the project. The indirect social costs may include the external diseconomies generated by the project. As an example of such diseconomy, is the common observation of air and water pollution created by an industry, which that industry. All such social costs of the project have to be estimated.

Then, there is the problem of estimation of the *present value* of the social costs and benefits. The project would produce a good or service over a long period of time while the benefits would be created and costs incurred. Their present value has to be estimated. The method of estimation is given below. A Project will be profitable to society if the social benefits of the project exceed the social costs or in other words, if the net present value of the project to society is greater than zero. The *net present value* may be formally defined as :

$$NPV \quad \sum_{t=0}^{T} \left\{ \frac{(V_t - C_t)}{(1+r)t} \right\} \ldots$$

Where Vt is the annual flow of social benefit during period t, C_1 is the social cost of inputs during period t, r_t is the rate at which future costs and benefits are discounted.

Now the question arises how should a project's social cost and benefits be measured of valued and what common numeraire (i.e. common unit in terms of which value is arrived at) should the costs and benefits be expressed in, given a society's objectives and its trading opportunities with the rest of the world?

There are two-broad approaches to these questions, viz (a) UNIDO Guidelines and (b) Little and Mirrlees approach.

According to UNIDO Guidelines, benefits and costs may be measured at domestic prices with adjustments for divergences between private and social cost and benefits, taking consumption measured in domestic currency as numeraire. Second approach is by Little and Mirrlees according to which all benefits and costs may be measured at World Prices, taking saving expressed in foreign exchange as numeraire. According to UNIDO approach domestic and foreign resources are made comparable making use of shadow price of foreign exchange whereas in the second approach the domestic and foreign resources are made comparable by valuing everything at World Prices with special attention given to saving. In the developing countries there are serious imperfections of the market and private and social benefits and costs widely diverge from each other, therefore, usually the use of shadow prices is recommended in this respect. We shall discuss shadow prices later in this Lesson.

As we shall notice later, the divergence between private and social values is corrected by deriving a shadow price of labour if the wage rate does not reflect labour's opportunity cost and using an accounting rate of interest (ARI) to reflect the social opportunity cost of capital if saving is less than socially desirable.

The social Rate of Discount the literature on the choice of appropriate interest rates for public investment projects in quite voluminous. In equation (1) above, future benefits and costs are discounted at the rate r. Why do we discount future benefits and costs and how is the rate of discount determined? Again it depends on the numeraire taken. If consumption is taken as numeraire, the answer to the first part of the question is that if income and consumption are expected to increase over time, it is natural to value present consumption more highly than the same absolute amount of consumption in the future. If we make the present consumption the unit of measure, the aggregate consumption benefit (B) over time can be expressed as:

$Bt = B_0+V_1B_1+V_2B_2+\ldots\ldots\ldots\ldots V_tB_t\ldots\ldots\ldots\ldots(2)$

Where the weights attached to future consumption stream $V_1 \ldots V_t$, decline overtime, because the distant the time, the less it is valued now. The weights V_1 V_2….. Vt are called discounted factors. These express the amount by which future consumption gains must be, discounted to make them comparable with benefits. The question is, how are V_1 V_2, Vt determined, or what determines the social rate of discount, because if we assume that the

weights decline over time at a constant percentage rate (n), then it can be shown that equation
(1) Becomes

$$B^* = \sum_{t=0}^{T} \left\{ \frac{(B_t)}{(1+r)t} \right\} \ldots\ldots\ldots (3)$$

Where r is the social rate of discount there are several ways of showing how r should be determined. As yet there is no consensus on it. There is considerable controversy about 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 secondly, the allocation of resources between the provision of present and future goods and services. The social discount rate is the rate at which society discounts future social benefits to find out whether such benefits, are worth their present social cost it represents the social opportunity cost of the funds committed to a project.

In order to use the present value criterion for project appraisal, it is-necessary to decide what is the appropriate social rate of discount. In this respect, three alternative approaches are available, which are discussed below:

13.2.1 The market rate of interest as a measure of social rate of discount

Some argue that market rate of interest is determined by the rate at which the society prefers current consumption over future consumptions. According to this view, interest rate arises because of the social time preference (i.e. society's preference to consume rather than, save for the future), otherwise: no savings would arise. The market rate of interest, which is supposed to reflect the social time preference, is according to them a good measure of social' rate of discount. However, several problems arise in this connection. First, the market rate of interest may be difficult to choose out of several rates that actually prevail in the market. Secondly, there may be market imperfections which prevent the market interest rate from being equal to the social time preference.

13.2.2 The social time preference rate

As noted above, the: society is impatient to consume today rather than in the future because they discount future consumption. The rate, at which future consumption is discounted over current consumption, is called the social time preference rate. The rate would be quite appropriate for use as a social rate of discount, but the problem is that of actually estimating it. It is sometimes argued that this rate should be politically determined because the state can properly assess the collective demand for investment to derive its benefits in the future. But there are serious differences of opinion as to how the state should determine the social rate of time preference.

13.2.3 The social opportunity cost rate

Social opportunity cost is the loss of benefits to the society when resources from the marginal private sector Projects are diverted to the public sector projects. Some argue that the government borrowing rate, Which is considered risk-free, can be appropriately used as a measure of social opportunity cost, and' as such this government borrowing rate may be used as the social rate of discount. However, even this approach is also not acceptable to many others.

Thus, it will be seen that when the question of using the social discount rate arises in the context of estimated the present value of costs and benefits, serious differences, of opinion arise and, therefore, it is safe to assume that there are theoretical and practical problems in this approach to cost-benefit analysis.

Another problem that arises in the cost-benefit analysis is how to arrive at the value of the costs and benefits, once these have been identified. The seemingly straight forward approach to this problem of valuation of costs and benefits of projects, namely, to use market prices for this purpose, is not acceptable for the reason that market prices in developing countries do not reveal the true worth of commodities produced and the factors of production used during the production process. Market prices are distorted by several factors. Just to mention the wage rate as a market price of labour, it is in fact institution tally determined in a labour surplus economy, because the government or the society will not allow it to fall below the subsistence level; although the forces of demand and supply would have forced the wage rate to near-zero level.

Exercise 13.1

Questions 1 critically inspect the role and working of cost benefit analysis as a method of project evaluation.

13.3 Accounting or Shadow Price

As seem above, in a labour surplus economy, the market wage rate does not reflect the true price or intrinsic value or scarcity value of this factor of production. The true price of labour would be the one which is equal to its marginal productivity (i.e. zero or near zero wage rate).

Similar may be the case with other factors of production or inputs. In a country like India interest rates on investible funds may not be very much different from those prevailing in the developed countries. Yet capital in the former is much more scarce than in the latter. The interest rates in the unorganized sector of the developing countries (such as the lending rates of money lenders in India) may truly reflect the capital scarcity in these countries. Interest rates will not be a true indication of the cost of capital to the society in these countries. Besides, the exchange rates (in terms of which costs of imports are computed) are usually over valued where free foreign exchange markets are not allowed. People are prepared to pay a higher price for a unit of foreign currency than the official exchange-rate. Thus, official exchange rates also fail to truly reflect the actual scarcity value of foreign exchange in those countries where free markets in foreign exchange do not exist.

When, therefore, the planner has to allocate resources (including labour, capital and foreign exchange) among different uses; projects and sectors, he would have to calculate the costs and benefits of-the use of available resources for each of the different projects and sectors. Finally, those projects, would be selected which would maximize the difference of benefits over costs, out of a given plan out lay. But as noted above, if the market prices of these factors and of the commodities that are produced are used for calculating costs and benefits, they would neither reflect the real cost of the factors nor the real benefits of those project to the society.

It would be thus clear that the market prices of factors ate an unreliable guide to the desirability of making investments in different projects and sectors. Hence a planner makes use of shadow prices (or accounting prices) in place of market prices while making a cost-benefit analysis.

The idea is that, in place of observed or market prices, such prices should be use as would (i) reflect the relative scarcity of the inputs or commodities used in an investment programme, and (ii) bring about equilibrium in their markets, i.e. equate their demand with their supply. (We noted earlier that in a developing economy with surplus labour the wage rate cannot fall to near zero. The result is that since the wage rate does not fall below a certain floor, limit, demand for labour does not increase up to the point where it would be equal to its supply. It is in this sense that the market wage rate fails to bring about equilibrium between the demand for and supply of labour, leading to the consequent unemployment). Jan Tinbergen, H.B. Chenery and Ragnar Frisch are among those economists who first advocated the use of shadow or accounting prices in place of market prices in investment planning. Tinbergen defines shadow prices as "intrinsic values that would prevail if (i) the investment pattern under discussion were actually carried Out, and (ii) equilibrium existed on the market …". A Qayum defines them as "the values of the marginal productivity of factors when a selection of techniques has been made which produces the maximum possible volume of output, given the availability of resources, the pattern of final demand and the technological possibilities of production."

The above definitions thus bring out the true nature of shadow, prices. These are those implicit prices which reflect the true or intrinsic value of a factor or product in the sense of their being equilibrium prices. Equilibrium prices are those that bring about equality between the demand for and the supply of a factor. These prices thus reflect the degree of scarcity of factors and commodities. It is the use of shadow or accounting prices rather than that of market prices which would maximize the output of a given investment programme. It is also clear that if market prices are used in computing costs and benefits, the investment programme would be a sub-optimal one.

It is interesting to note that if shadow prices are used in investment allocation, In the case of abundant factors their use would be encouraged and in the case of scarce factors their use would be discouraged so that equilibrium would be established in their respective markets. In other words, accounting prices justify the inclusion in a plan of only those projects which if not executed would lead to the persistence of disequilibrium in the factor or commodity markets.

13.3.1Calculation of Accounting (Shadow) prices

Having discussed the rationale of accounting prices; we may now briefly refer to various methods that have been suggested to compute shadow (accounting) prices. As we shall notice a little later, accounting prices have usually to be calculated by a planning agency while programming investment, such an agency. is faced with the problem of choice of projects to be included in a given plan or investment programme. The choice is made on the basis of some notion of costs and benefits of each project. But in order to compute costs and benefits of each project if market prices of factors and resultant output are used, as we noted earlier, it would give us a distorted picture of usefulness of each project. It is in this connection that shadow prices have to be calculated by the planning agencies.

A number of methods have been, suggested by different economists. J. Tinbergen has suggested two methods, which we shall discuss first before taking up those suggested by others.

(i) Trial and Error method: This is perhaps the simplest method known to planner and project evaluators. Since an accounting price, as we noted above is one which will equate demand for and supply of a particular factor, thus restoring equilibrium in its market, the calculation of these prices starts from an arbitrary assumption. Of accounting price for each of the productive factors, assigning priorities to projects in a plan on that basis and then finding out whether equilibrium has been restored in the market of each of these factors. if this set of accounting prices fails to achieve this result another, set may be assumed, and the process will continue till an equilibrium has been restored in the factor markets. This method may turn out to be as impracticable as it looks to be simple. This may be especially the case where the number of factors, commodities and projects involved in the exercise is very large.

(ii) Systematic method: Tinbergen, himself aware of this limitation of the trial and error method, suggests a more systematic one especially when the exercise is expected to be of a complicated nature. This method involves the use of algebraic prices which would be used in such a way that these help restoring equilibrium in the commodity and factor markets.

Therefore, those... accounting prices would be used which would equate the existing and the supplementary demand for a commodity (or a factor) with its existing supply and the supplementary increase in supply created as a result of the execution of those projects. According to Tinbergen, even this is going to present formidable difficulties. Therefore, he lands the virtues of "rough estimates for the recounting prices" which might suffice to evaluate the projects for inclusion in an investment plan.

(iii) Linear Programming Technique

H.B. Chenery and Ragnar Frisch are enthusiasts of linear programming technique, for the calculation of shadow prices According to the programming technique; let us assume that a feasible programme consisting of set production levels consistent with the availability of factor Supplies (of labour, capital, foreign exchange etc.) has been worked out. This investment programme has; suppose, been prepared after taking into account the

demand structure for various commodities and the trading possibilities that are open to the country with the rest of the world For the economy to be in equilibrium (i.e., the factor and product demands to be equal to their projected supplies) such a programme implies unique set of product and factor, prices. Now, assuming production activities in different sectors to be: subject to constant costs, linear programming technique provides a method of calculating shadow prices corresponding to the equilibrium conditions In these equilibrium the price of each commodity would be equal to its cost of production. Those prices (the shadow. prices) would be determined by the solution of a set of simultaneous equations, for which you may look up suggested reading No. 2 or this Lesson.

(iv) During the last few years some attention has been paid to evolving suitable methods of project evaluation (i.e... selection of projects for inclusion in a given plan on the basis of their relative benefits and costs), and the calculation of shadow prices. One of the important studies in this sphere has-been that by I.M.D. Little and I.M. Mirrlees *(Manual of industrial Project Analysis. in developing Countries)*

Little and Mirrlees advocate the use of world prices as accounting prices to calculate the costs and benefits of a given project According to them all goods that are intended to be .produced under a given investment plan' can be divided into two categories traded goods and the non-traded goods. The former included these part or whole of which are imported into or exported out of the country. The latter would be those that don't enter foreign trade at all.

Take the traded goods. Their relative accounting price should be-measured, in terms of foreign exchange equivalent.

In the case of non-traded goods the accounting price would be equal to the marginal social cost (MSC). MSC of project that use imported raw materials or machinery would be built up from the marginal import cost and the shadow wage rate. There will be a minimum accounting price which will make the production of a non traded good socially profitable, so that if the price is reduced below this minimum project will not just be undertaken.

(v) The most recent approach to the determination of, shadow prices makes some important departures from the earlier approaches. In the first place, it is emphasized that the determination of shadow prices cannot be independent of the socio economic objectives of planning in developing countries. Thus the shadow-prices must be derived from- the actual and projected policies of the government. The emphasis has shifted to such shadow prices as would reflect the social opportunity costs of using a particular commodity or factor, of production.

The new approach is based upon the individual writings of A.K. Sen, S. Marglin etc., as well as UNIDO study entitled Guidelines fag Project Evaluation (written by P. Das Gupta, A.K. Sen and S. Marglin).

13.3.2 Use of Accounting Prices

The foregoing discussion of accounting prices must have made it clear to you that these prices are among the important tools of programming techniques making the most use of shadow prices in project evaluation or the cost-benefit analysis. When a national plan is to be formulated, while the investment budget available may be- a limited one, there may be numerous

projects and schemes competing with each other for inclusion in the plan. Since all of them can't be included because of the budgetary constraint, only those would be chosen that would optimize the social welfare (in whatever terms it is measured). The criteria chosen for the selection of projects are a part of project evaluation. Project evaluation is carried out in terms of some idea of costs and benefits of each project. But as we noted earlier, if factor costs and benefits from projects are calculated in terms of market prices the results would turn out to be sub-optimal.

Therefore, while evaluating the different projects to be included in a plan, shadow rate of interest, shadow exchange rates etc. have to be determined on the basis of which cost benefit analysis of different projects would be carried out. Investment plan chosen on the basis of accounting prices are the optimal ones.

Exercise 13.2

Question1 Define shadow prices and discuss the main methods of estimation of such prices.

13.4 Summary and Conclusion

In the present Lesson, you studied a technique of investment planning, or project selection appraisal. Investment planning is a significant par and indeed the core of development planning. The planner is faced with the difficult choice of projects because capital, foreign exchange etc are scarce in deve1oping countries. For their optimal use, projects have to be selected on a rational basis. Cost-benefit analysis is the technique available in this respect. Cost-benefit analysis is based on the identification of the social costs and social benefits of each project, an appropriate valuation of these costs and benefits, and finally, the estimation of the present value of these social costs and benefits. The projects are then ranked according their benefit cost ratios and those projects are included in the investment plan which (i) have the highest benefit cost ratios, and (ii) can be accommodated within the overall size of the plan. For estimating the present values of the social costs and benefits, a suitable 'social rate of .discount has to be chosen. This is, however, not on easy task, because so far no suitable social discount rate has been discovered. Each measure of the social discount rate has one drawback or the other.

So far as valuation of social costs and benefits is concerned, this cannot be done at the market prices of factors of production and commodities, because these market prices in developing countries fail to reflect the true intrinsic scarcity value of these Factors and commodities. Therefore, for this purpose, shadow or accounting prices are recommended. These prices are those which would prevail in an economy with perfect competition in all the markets. These are, therefore, equilibrium prices in the sense that these would equalize the demand and supply in each market. These shadow prices are estimated and then used for valuation of social costs and social benefits. Several methods of estimating such prices have been suggested. These prices are merely notional and used only for accounting purposes. Their use helps in preparing optimal investment plans.

13.5 Glossary

- **Cost benefit Analysis –** A basic tool of economic analysis in which the actual and potential private and social costs of various economic decisions are weighted against actual and potential private and social benefits. Decisions or projects that yield the highest ratio of benefit to cost are usually thought to be more desirable.
- **Shadow prices –** A price that reflects the true opportunity cost of the resource.
- **Project Evaluation –** The quantitative analysis of the relative desirability (profitability) of investing a given sum of public or private funds in alternative projects- for example, building either a steel mill or a textile factory. Cost – benefit analysis is the main analytic tool of project evaluation

13.6 Self-Assessment Test

(a) Try the following objective type questions

(i) Investment planning and choice of projects is synonymous terms in economic planning. Is the statement (x) true, or (y) false?

(ii) Which of the following would qualify to be called an external economy effect of a railway project?

(x) Purchase by the railway company of railway engines from other, firms

(y) Fall in The demand for carrying goods by roadways after the railway company starts operations.

(iii) Is it true that the present value of the costs and benefits of a project are primarily determined by the current revenues and profits flowing from it?

(x) Yes, (y) No.

(iv) Is the market rate of interest, a true measure of the social rate of discount for public sector investment planning?

(x) Yes, (y) No.

(v) Which of the following reflects the real use of shadow prices in planning?

(x) For the valuation of social costs and benefits.

(y) For the estimation of total outlay to be made during a plan.

(Correct answers : (i);x- (ii);-y, (iii) ;– y, (iv)-y, (v) – x)

Attempt the following questions :

13.7. Suggested Readings

1.Jan Tinbergen, *The Design of Development,* 1958, chap. 1-2

2.Richard Layard (ed), *Cost Benefit Analysis*, 1974.

3G.M. Meier (ed), *Leading Issues in Economic Development,* 1984, cahp. X, section-C.

4.A.K. Das Gupta and D.W. Pearce, *Cost Benefit Analysis – Theory and Practice* 1985, Part-2.

5.C.P. Kindleberger and B. Herrick, *Economic Development,* 1977, chap. 12.

13.8 Terminal Questions

Question1 Briefly discuss the different steps that a planner has to take in the appraisal of public sector projects.

Question 2 Discuss the nature of shadow prices and show how these are used in planning.

LESSON 14

USE OF INPUT-OUTPUT AND LINEAR PROGRAMMING TECHNIQUES IN PLANNING

Structure

14.0 Objectives

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

- Define input –output analysis
- Familiarize yourself with the methods that are usually adopted at the operational level to make the physical targets of the plan consistent
- Have in depth knowledge of Linear Programming Technique
- Know how Linear Programming Technique helps the planner to optimize an objective function subject to constraints

14.1 Introduction

We discussed the process of plan formulation at the macro phase in the preceding lessons. In the present lesson we shall look at the process of plan formulation at a somewhat disaggregated level. We shall presently familiarize ourselves with the methods that ate usually adopted at the operational, level to' make the physical (as distinct from financial) targets of the plan consistent with each other so that both surpluses and shortages could be avoided. Secondly, we shall be discussing the linear programming technique, which helps the planner to optimize an objective function subject to the constraints imposed on him by availability of resources, technology, etc.

14.2 The Input-Output Technique

Although the genesis of the input output analysis can be traced-back to Tableau Economique (l785) written by French physician Quesnay and its essential logic to Leon Walrus general equilibrium analysis, yet the true father, of the technique is Wassily Leontief, a noble prize winner in economics. The essential logic behind the technique is that different economic activities in an

economy are interdependent so that if there is a change in anyone of them, a chain reaction would start in the rest of the economy. More specifically, this interdependence is demonstrated vividly, in the field of production where each industry buys a number of inputs from other industries, and in turn supplies, its own product to a number of other industries, the latter also using it as an input. It should not be difficult to see that when a plan is drawn up in the interest of internal consistency, the planner cannot overlook this sort of an inter-industry relationship, This is specially so when the investment and output targets are being paid down for different industries and sectors. These targets must be set in such a way that no shortages and surpluses arise. To ensure such a consistency in the targets for different sectors, the planner has to have some idea of these inter-industry relationships which are revealed by an input-output table. But before we try to see what such a table looks like, let us first of all find out the essential features of the Input-output technique.

The productive system of economy can be visualized, as consisting of a number of sectors; each called an industry or 'activity'. An industry is a broad sector like agriculture, animal husbandry, services sector, etc.) which may be producing products that are alike but not necessarily homogeneous. Each industry, as noted earlier, buys some of its inputs from other industries, to produce is output. Similarly, it also, sells its own output to other industries so that the latter could use it as an input. That Part of the output of an industry which re-enters into the productive process as inputs in other industries is called the intermediate products. The rest which is sold to the final consumers is called the final, products. "A table summarizing the origin of all the various outputs of all industries in an economy is called an input-output table".

An input-output (Table) provides the structural framework of the input-output analysis. Such a table may contain any number of industry or sectors, depending upon the availability of data and computing facilities as also the purpose behind the exercise.

By way of illustration, let us look at hypothetical table which consists of only four producing sectors or industries, viz agriculture, manufacturing, power and transportation each sector figures both in rows and columns. Rows (reading' horizontally) show what happens to the output of a sector. For example, agriculture (row) produces 140 (say, units of value, all figures in the table being measured at constant prices, so that 140 units might mean Rs. 140 lakhs). Of this 30 units of value are used within agriculture itself (as seeds etc.) and 70 units in manufacturing (as raw material etc.) These 50 units are used as intermediate products ,and. fall within the category of inter-industry transactions rest 90, units go to satisfy direct demand, as consumption Demand in the household and government sectors, exports and investment demand. The last item in each row gives the total output of a sector or industry (total intermediate demand plus total final demand).

Columns (reading vertically) show the items entering into the cost of producing the goods in a sector., For example, if we take column 4 (transportation), the .sector buys in all 35 units-of value from other industries (i.e., manufacturing, power and, from itself), uses 5 units of imports, 15 land 20 of labour and capital respectively and pays 5 units of value to government as taxes. (The government tax is considered an input because without such a payment either production or sale of the commodity or service is not possible). The use of primary Inputs (rows 7 + 8 + 9 +10), gives us the value added.

Thus the total purchases from other Industries plus imports plus value added gives us the value of the total inputs in any column, Note that the total of column 4 (total inputs) is the same as the total of row 4 (total output). That is true of each column and its corresponding row in the case of producing sectors. The reason, is that the value of all the inputs used (primary, intermediate imports and government taxes) is just equal to the value of the total output produced by an industry.

Now, a little bit of matrix algebra and important terms and notation the input- output table (Table 1) is a transactions matrix a matrix is a set of numbers arranged in columns and rows in rectangular form. Each item in a column or row is an element of that Set or matrix. Look at the following examples:

A=a1,a2,a3,a4 $\quad$ B=$\begin{Bmatrix} 5 & 7 & 9 \\ 3 & 0 & 2 \end{Bmatrix}$

E=$\begin{Bmatrix} e1 \\ e2 \\ e3 \\ e4 \end{Bmatrix}$ $\quad$ T=$\begin{Bmatrix} 20 & 100 & 9 \\ 10 & 8 & 6 \\ 0 & 5 & 2 \end{Bmatrix}$

In the above examples, there are four matrices A, B, E and T. Matrix A consists of one row and four columns, matrix B of 2 rows and three columns, matrix E of four rows one column, and matrix T 3 columns and 3 rows The last one is square matrix because it consists of equal number of rows and columns. (How many elements are therein each of these matrices?)

$$A=\begin{bmatrix} a11 & a12 \dots \dots \dots \dots \dots am1 \\ a21 & a22 \dots \dots \dots \dots \dots am2 \\ am1 & am2 \dots \dots \dots \dots amn \end{bmatrix} \quad =(a_{ij})$$

You will note that each element of the matrix has two subscripts (such as a12 which will be read "a one two" rather than "a twelve") The first subscript refers to the position in the row and the second to the position in the column, .Thus al2 means that a is an element in the first row and second column of the matrix These superscripts, therefore, indicate the address or the position of an element in the matrix. The entire matrix A above represented by (aij) Thus ij represents the product of the ith industry or sector, say, manufacturing (where y = 1,2, ……n) used by the jth sector, say agriculture in its production (where j = 1,2, n).

Now let us again look at Table 1 and try to understand some of the notation used there in parenthesis (like, X_1 X_{12} or Y_1 or X_4).

The subscripts used for producing sectors are, agriculture 1, Manufacturing: 2.Power 3 and Transportation: 4.

X_{11} = total output of sector i

X_{12} = sales of sector i to sector j,

Y_1 'final' produce of sector i.

Then in any row X = $(x_{11}+x_{12}+x_{13}+x_{14})+Y1$ This means that the gross output of a sector or industry is the sum total of its sales to other industries for use as intermediate inputs in the latter, plus the sales to the final Consumers.

If you look at the 5th column of Table 1, you will find that summation sign∑ (capital sigma) has been used in the first four rows. This column shows the total intermediate demand for the product of each industry. When we have to add a series of numbers such as $x_{11} + x_{12} + x_{13} + x_{14}$ (which is adding

together the intermediate use of product of the industry in row 1 i.e. agriculture, by other sectors 1, 2, 3 and 4) their Sum can be expressed as:-

$$\sum_{j=1}^{4} x_{ij}$$

It means that industry sells for intermediate use its product (x) to j industries where the number of j industries is from1 to 4 in the matrix. This might explain to you the meaning of:-

$$\sum_{j=1}^{4} x_{ij}$$

in the 5^{th} column of Table 1

14.2.1 Use of Input-output Analysis

In the last about five decades input-output analysis has been put to a number of uses. H.B. Chenery, in one of the assessments of this branch of analysis, says that it"has proved to be one of the-most far-reaching innovations in applied economics". We may refer to some of the important uses of this technique.

If a comprehensive input output table is constructed, it can give us an idea of the gross domestic product (GDP) of the country for a particular year. GDP in terms of table 1 can be found out both by the incomes and the product approaches of the national income accounting. Taking the income or the value added approach, GDP is the sum total of the payments (both intermediate and final) to primary factors plus and taxes. These in the table amount to 158. (See the last column of row 10). Alternatively, according to the product approach, GDP total final demand minus imports. This also gives the same amount i.e. 158. (The taxes paid by consumption investment and exports sectors are not included in GDP because these are paid out of incomes derived in the producing sectors and in order to avoid double counting these have been put within parenthesis).

Secondly, the table also reveals the balance on current account of the balance of payments. In Table 1, exports (column 8) are 35 while imports (row 6) are 34 so there is a surplus of 1 value unit in current account.

However, input output analysis is of immense use in planning and economic policy in general. For example, an input-output table can be used to forecast the effects of autonomous changes on the final demand, intermediate demand, GDP and employment in different industries of the economy. Such projections made with the help of input output technique are useful in planning and we shall discuss this more fully later in this lesson.

It would also be clear that input-output tables can be easily used for the preparation of consistent plans since the effects of a change in one sector or variable on other sectors and variables of the table can be worked out with the help of input output co-efficient that are implicit in the matrix. Thus consistent forecasts of sectoral production targets can be made with the help .of this technique.

In addition to the problems of planning and development of regions and countries many an international economic problem can be subjected of an empirical study with, the help of input-output technique (is not Leontief Paradox an outstanding example of such a use of the technique?)

14.2.2 Input-output Co-efficient

Now we shall start a discussion of how input-output analysis can be used for estimating the consumer and intermediate demand for the period covered by a plan for that we make a start with input-output co efficient One of the vital assumptions of this input- output analysis is that of constant returns to scale or a linear relation between inputs and outputs it is assumed that when the level of output in a sector or industry changes the input requirements also change proportionately.

This is therefore called the assumption of fixed proportion of factor inputs. Given the assumption, the data contained in an input-output table enables us to project the input requirements when output targets are laid down in plan.

From a given input-output table we calculate the input requirements for the production of one unit of output in a sector or industry. Now if you refer to table 1, you will find that for producing, for example, 140 units in agriculture, 15 units are supplied by the manufacturing sector, 10 units by transportation and so on Thus, for producing one unit in agriculture, manufacturing industry supplies 0.107 units of inputs and transportation 0.071 units These are nothing other than technical Input-output co-efficient or simply technical co-efficient. The word technical is used because this co efficient defines the technological relationship between inputs-and outputs. If all the elements of matrix relating to the inputs used for producing given outputs converted into such coefficients, the input-output table would then be called the technical input-output table or technical matrix. Such, a table will show the input requirements from different other sectors and primary inputs, per unit of output of each sector- or industry.

Thus for deriving a matrix of technical co-efficient of production, the value of a_{ij} will be calculated, where it represents the amount of input of ith industry required to produce one unit of output of i^{th} industry. Stated more formally

$$Aij = \frac{X_{ij}}{X_j} \quad \begin{pmatrix} i=1,2,.....n \\ j=1,2,.....n \end{pmatrix}$$

while x_{ij} is the number of units of good i used by j industry, and X_j is the total output in industry j.

The entire matrix of technical co-efficient, with 4 x 4 elements i.e. four industries as input using and output- producing sectors, as in Table 1 ,would be represented as in Table 2 below :-

Table-2

4 x4 Matrix of Technical Co-efficient

Sectors → ↓	1	2	3	4
1	a_{11}	a_{12}	a_{13}	a_{14}
2.	a_{21}	a_{22}	a_{23}	a_{24}
3.	a_{31}	a_{32}	a_{33}	a_{34}
4.	a_{41}	a_{42}	a_{43}	a_{44}

The equation $a_{ij}=\frac{X_{ij}}{X_j}$ given above can be then used to calculate values of the a_{ij} of Table, from the original transaction matrix i.e. Table-1; this would give us the following matrix of technical coefficients of production.

Table - 3

Matrix of technical coefficients for a hypothetical Economy with 4 sectors

	Agriculture	Manufacturing	Power	Transportation
Agriculture	0.214	0.182	0	0
Manufacturing	0.107	0.228	0.333	0.187
Transportation	0.071	0.182	0.166	0.125

The above table (Table -3) should not be difficult to explain. Take, for example, agriculture. The Table shows that in order to produce a unit of output in 'this industry,, agriculture itself provides 0.214 units of' inputs, manufacturing provides 0.107, power 0.107 and transportation 0.071 units of intermediate products.

14.2.3 Demand Projections for Consumer products

With this much elementary knowledge input-output economics we can find solution to a few questions of plan formulation. One of these is to estimate or project the change in the demand for consumer goods in, the terminal year of the plan. Along with this, if other final demands for the projects of each industry are also projected, we come to have output requirements or production targets in different sectors and industries. With the help of these final output targets, the inter-industry flows or transactions for the plan period can be projected with the aid of the matrix of technical coefficients.

Suppose the transaction matrix in Table1 pertains to the year i.e. the base or the last year before the plan starts, The question is, how can we form the estimated of consumer demand for the product of various industries for t + x year, (i.e. the terminal year of the plan). The general guidelines, as stated by W. Arthur Lewis are below:

(a) In the first instance, to estimate the demand for a particular consumer good for the t+ x year, the amount demanded in the base year should be multiplied by a factor for population increase The planner, then must first estimate the rate of growth of population over the plan period.

(b) The base year consumption should be multiplied by a factor for an expected increase in the per capita expenditure and the income elasticity of demand for each commodity. The income elasticity of demand would naturally be lower for necessaries of life and much greater for items of luxury and services Therefore, before projecting end of the plan figures of consumer demand the estimates of income elasticities of demand as well as the expected rate of growth of consumer expenditure over the plan period should be available. These should then help in finding out the expected increase in consumer demand for each item.

(c) Some increase in consumer demand would be due to such factors as changes in tastes and fashions. These can be extrapolated from the past

but it would require some ingenuity on the part of the planner to isolate such a trend factor from the changes due to rise in income etc.

Suppose that after taking the above, factors into consideration the consumer demand for various goads relating to the base year (such as that contained in Col. 6 of Table 1) is multiplied so as to arrive at the estimates for the t+x year. Similar projections maybe made regarding the final, demand for investment and exports purposes industry-wise. All this would yield the estimate of total demand for the products of various industries and sectors for the t+x year.

Now suppose that the planning authorities have, on the basis of above estimates of changes in final demand for t+x year, planned targets of final demand as follows:

Y1 (t+x)= Y1(t) + Δ Y1, (i.e. the final demand for the commodity in row 1 in the t+ x year will be equal to the final demand for it in the base year plus expected change in its demand for the plan period). If suppose ΔY1, is estimated, or planned to be 10 value units, then $Y_{I\ (t+X)}$ 100 (because YKD in Table- 1, which refers 0 the year t is 90). And suppose that, by using the same method for other commodities (i.e. manufacturing, power and transportation), $Y_{2(t+I)} = Y_3(t+x)=20$ and $Y_{4(t+x)}$ 40

Once the. values of Y1 ,Y2 etc. for the year t+x have been calculated, the next task is to derive from them the value of X_1,X_2, etc. (i.e. the column vector of total output in different industries) for the same years. For this the formula is, $\bar{X} = \frac{Y}{1-A}$ where $\bar{X}$ is the column vector of total output in (1-A) different industries i.e. X1, X2… , Y is the column vector of final demand i. e. 'Y_1, Y_2… and $\frac{1}{1-A}$ is the inverted Leontief matrix.

We are not going to calculate the inverse of a 4 x 4 Leontief matrix, as the example of hypothetical country cited earlier demands, because this would involve as many as 256 calculations. For such calculations electronic computers are usually used. However, let us suppose that we have calculated the total output that each industry would have to produce in the t+x year.

14.2.4 Projection of Intermediate Demand

With the total output figures for each industry for the year t+x already projected we proceeded on to the estimation of intermediate input flows i.e. the intermediate, demand for the output of each sector and industry, or the Xij for the t+x year. Thus

$$X_{ij(t+x)} = a_{ij} X_{j\ (t+\ x\ )} \qquad \begin{matrix} i = 1, \quad 2 \cdots\cdots\cdots, 4 \\ j = 1, \quad 2 \cdots\cdots\cdots, 4 \end{matrix}$$

Now suppose that the total output requirements for the t+x year that have been calculated are as follows, industry-wise.

Agriculture = 156 unit; manufacturing. =122 units; Power=65 units; and transportation 90 units.

Using the equation of the preceding paragraph we can calculate the intermediate demand for the product of each industry with the help of these total output figures and the technical coefficients contained in Table-3. You would recall the important assumption for the input-output analysis viz, that there is a linear relation between input and output. This would mean that if at

the end of the plan (i.e. in the t+x year) a larger total output is: required, the input co-efficient do not change and, therefore the input requirements would .increase proportionately with - increase in output. Therefore,

$$X_{11} = a_{11}X_1 \quad . \quad . \quad .$$

i.e. the intermediate, demand for the output of agriculture, so as to increase the output of this same sector, will be equal to the Input coefficient in this sector multiplied by the planned output in agriculture for (t+x). Now substituting values, we have,

0.2 14 (156) = 33.384 units. .

Same will have to be calculated for all industries with reference to the year t±x. The same procedure can be followed for other elements of the transactions matrix, viz

..

$$\begin{Bmatrix} X_{11} & X_{12} & X_{13} & X_{14} \\ \dots & \dots. & \dots. & \dots. \\ \dots. & \dots. & \dots. & \dots \\ X_{41} & X_{42} & X_{43} & X_{44} \end{Bmatrix}$$

where the value of X_{11} has already been calculated above. The rest are being left for you to calculate and practice.

We have thus devoted the present lesson to a fairly technical topic on plan formulation. This discussion would demonstrate that the final demand, intermediate demand and output targets for, the terminal year of the plan (t+x) would be consistent with each other, since one set of these variables helps to find out the value of others.

Exercise 14.1

Question 1Discuss the assumption and nature of input-output technique and illustrate its uses.

14.3 The Linear Programming Technique and Planning

A natural complement to the input-output production specification is optimization of some welfare function and to select the "best" pattern of final demand and resource allocation from the many which are possible. Since input-output technological assumptions are of a constant coefficient (linear) type linear programming is the appropriate computational means for doing this. The important problems in economic planning are the allocation of scarce resources among competing sectors providing the required output either by domestic production or by import substitution The linear programming models provide the necessary extension of the consistency models of the input-output variety to optimization criteria Linear programming (L.P) is an optimization method applicable for the solution of problems in which the objective function and constraints appear as linear function of the decision variables.

Given the objective of economic policy, which could be the maximization of income output, or employment the LP models provide optimal solution for combinations among sectors or techniques, including optimal combinations, of domestic production and imports in each sector. Optimization is subject to the restraints or constraints inherent in technological

production possibilities and limited resources these constraints can be in terms of foreign exchange, domestic-savings and skills or any other scarce resource as identified by the policy makers.

The linear programming type of optimization was first recognized in the 1930s by economists while developing methods for the optimal allocation of resources. In typical linear programming situation a firm or farm must not only avoid producing beyond its resource capabilities but it must also often choose from among another of possible Methods of production that method which makes the best use of its limited resources Activity analysis and programming represents an attempt to supplement the inter-industry model with the question of 'choice' both between method of supply and the composition of final demands. It also attempts to recognize strategic resource constraints that must be taken into account when formulating a development programme. The technique of LP can assist in providing a simultaneous solution to these main these of development planning.

Linear programming is a very versatile technique. It can be put to four important uses in the context of developing countries (or any country concerned with, allocative efficiency)

First, it can be used for choosing between different techniques for making the same commodity; second, it can be used for deciding the best combination outputs with given technique and factor endowments; third, it can be used for deciding whether it is more efficient to produce commodities at home or buy them from abroad; and fourth, it can be used to determine the most efficient spatial location of activities. All the above mentioned issues are optimizing decisions of one form of a programming problem consisting of three parts: (1) the *objective function* to be maximized; (2) the constraints which must not be violated and (3.) the non-negativity conditions, e.g. the-output or exports should not be negative.

14.4 The Linear Programming Technique: Basic Concept

Activities and Restrictions: An activity may be defined as any possible transformation of fixed proportions of inputs into fixed proportions of commodity outputs. The principal characteristic of a problem that can be solved through linear programming technique is linearity. By linearity we mean that the problem which is to be analyzed through LP must be formulated in terms of linear functions of two or more variables which are also subject to set of linear constraints. Linearity is not merely a simplifying assumption but also a realistic description of the real world situation.

A process is another fundamental concept of LP as applied to the theory of production and firm. A process is also called activity or complex. The fixed proportion between inputs to produce a particular product is an essential property of a production process. Since each process requires the use of fixed proportions between factors, no substitution within a process is possible. The concept of a process is technological in nature. The higher the level at which the process is used, the greater the output produced. Given the linearity assumption, in each production process, proportion between factors remains constant. As a result, each production process can be expressed through of straight line passing through the origin. There can be more than one process available for the production of a commodity and various levels of output of the commodity can be produced by working at different levels of processes. A

part of the output of a commodity can be produced with one process and another part with another process. Objective function, describes the "determinants of the quantity to the maximized". An objective function has two parts, the primal and dual. If the primal of the Objective function is to maximize output, then its dual will be the minimization of the cost. The maximization of the objective function is subject to certain, limitations which are called constraints. Examples are input-output balances, bounds, on total factor uses, and balance of payment constraint.

There are two ways of looking at LP optimization in planning. The first is based on the idea that parametric programming methods provide a fairly cheap means of exploring the frontiers of the economy choice set so long as it can be described in linear inequalities. Three types of restrictions seem to enter the specification of applied planning models. The first reflects real limitations on economic growth that are easily and realistically modeled. The second type' of constraint represents an attempt to capture important but not well understood limitations on economic growth generally some constraints are included in the model on the ad hoc basis for purely technical reasons, to avoid overspecialization in trade, "flip-flop" consumption pattern, and other forms of extreme behavior to which linear systems are prone. All these constraints together make up a fairly realistic approximation to the set of feasible alternatives faced by the real side of the economy. The LP simplex algorithm is an effective means to get out to the boundaries of this sect which input-output models normally cannot do.

Given this standard form of a programming problem let us illustrate the principle of LP and its important use for the valuation of resources by taking-the case of the choice of outputs X_1 and X_2 that can be produced with given techniques subject to constraints over the availability of resources Y_1 and Y_2.

Consider then, the case of two commodities X_1 and X_2 whose price per unit is Pi and X_2. The objective function to be maximized is $P_1 X_1 + P_2X_2$, which will maximize national income. The problem is, what combination of X_1 and X_2 to produce, subject to the. non negativity conditions, ≥ 0, $X_2 \geq 0$, and the resource constraints. Suppose that there are two resources, capital and labour, and no more than Y_1 labour is available and no more than Y_2 capital. Suppose, further that commodity X_1 requires all labour and a_{11} capital, and commodity X_2 requires a_{22} labour and a capital, per unit of output. The objective function must therefore be maximized subject to the two constraints or inequalities.

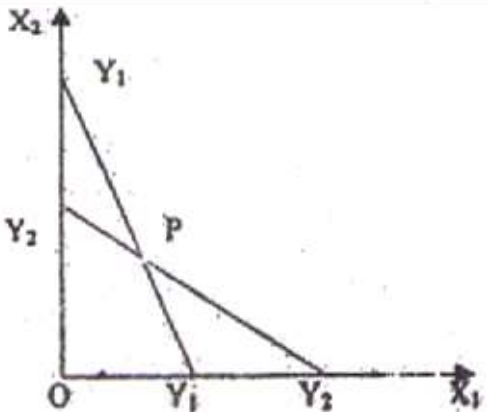
$$a_{11}X_1+a_{12}X_2 \leq Y_1 \text{ (labour)}$$
$$a_{21}X_1+a_{22}X_2 \leq Y_2 \text{ (capital)}$$

The problem is linear since in both the expressions to be maximized, and in the constraints, all the variables are multiplied by constants and added together. Commodity prices remain the same regardless of the level of output similarly; the input coefficients remain constant, implying constant returns to scale.

Our programming problem can now be considered diagrammatically. In the figure below the quantities of the two goods, X_1 and X_2 are measured on the two axes and the 'resource constraints are represented by the straight lines Y_1 Y_1 and Y_2Y_2.

The first constraint $a_{11} X_1 + a_{12} X_2 \leq Y$ is represented by the line Y_1 Y_1which gives the maximum combination of two commodities that can be

produced given the amount of labour available. Another constraint represented by the line Y_2Y_2 is $a_{22}\ X_1 + a_{22}X_2 \leq Y_2$. The combination of two goods X_I and X_2 that can be produced must satisfy both inequalities, and thus only combinations on, or within, the boundary $.Y_2OY_1$ are now feasible. Outside this boundary of the constraints would be violated. The area bounded by the Y_2OY_1 represents a kind of production possibility curve and is called in linear programming "the feasible region". Any point within the feasible region, representing combination is of X_1 and X_2 which do not violate the capacity constraint, is called a feasible solution.



It is clear that not every feasible solution will involve the full employment of resources. Any point within the area Y_2OY_1 will involve unemployment of both resources. Points on the line Y_2Y_1 but off one of the constraint lines, will involve underutilization of one of the resources. Point P is the only combination of X_1 and X_2 that would fully employ both resources. Underutilized resources are called ‘slack variables’ and represent ‘costless’ resources. As we indicated at the outset, we are interested in the optimal value of these slack variables since they will be indicative of shortages and surpluses. Let us label the slack variables S_1 and S_2 and now refer to the variables X_1 and X_2 as structural variables, with the use of slack variables, the constraint equations become equalities and the programming problem becomes:

Maximize Subject to $P_1X_1+P_2X_2$

Subject to: $a_{11}X_2+a_{12}X_2+S_1=Y_1$

$a_{21}X_1 + a\ X_2+S_2=Y_2$

and the non-negativity, conditions:

$$X_1 \leq O;\ X_2 \leq O;\ S_1 \leq O;\ S_2 \leq O$$

As before, any values of the variables (X_1, X_2, S_1 and S_2) which satisfy both the constraints and the non- negativity conditions are said to present a feasible solution. Any set of values of the variables in which the number of non zero valued variables (either ordinary or slack) is equal to the number of constraints is called a basic solution All basic solutions are feasible, and what we want to show is that in any linear-programming, problem an optimal solution can be found by considering only the basic solutions which reduces the task of the allocation problem enormously.

In any linear programming problem an optimal solution can be found by considering only the basic solutions there will always exist an optimal solution in which the number of non zero valued variables is exactly equal to the

number of constraints in the problem this problem of resource allocation would seem to be greatly simplified by this conclusion for the implication is that if an economy has only n constraints but n+m activities to choose from (m>0), national income .can be maximized.

The LP model also permits choosing from alternative activities this problem of choice can be introduced on the supply side as well as the demand side for these further planning issues solved through the LP model you may look up the suggested readings of this lesson.

Exercise 14.2

Question1 In what respects Linear Programming Technique is an improvement over input –output analysis?

14.5 Summary and Conclusion

The present lesson dealt with a technical aspect of plan formulation, where the planner has to produce targets that are consistent i.e. in harmony with each other, so that neither shortages nor surpluses a rise another issue dealt was that of optimization of the objective function subject to constraints. The first issue (of consistency) is tackled through the use of input-output technique while the second issue that of optimization makes use of the linear programming technique The input-output technique rests on the input-out table, idea. the transaction matrix and the matrix of technical coefficients- The final output targets, which are consistent with each other and set first, and then the set of inter-industry or intermediate demand targets, which too are consistent with each other, are derived from the former.

The linear programming technique helps the planner in maximization of the objective function, say, the national income, subject to constraints which are in the form of availability of primary inputs, foreign exchange or available activities in the form of technology etc The choice of alternative activities maybe available on the supply side as well as the pattern of demand.

The use of these techniques helps the- planner to formulate plans which are based, on methods of efficient allocation of resources.

14.6 Glossary

- **Input output** - A method of analysis in which the economy is represented by a set of Linear Production Functions, describing the interrelationships between all sectors. In other words it is a formal planning model dividing the economy into sectors and tracing the flow of inter-industry purchases (inputs) and sales (outputs).
- **Linear Programming –** a technique for the formalization and analysis of constrained optimization problems in which the objective function is a linear function, and is to maximized or minimized subject to a number of linear inequality constraints. The method is very useful in such problems as the determination of the optimal allocation of scarce resources. Linear Programming is also related to uses of Duality, to Sensitivity Analysis and to activity analysis.
- **Inequalities –** A relationship whereby a function of a variable (or set of variables) is represented as being greater than, or less than, some quantity, and denoted by the symbols (< less than, > greater than,≤ greater than or equal to,≥ less than or equal to,)The greater than or

equal to , and less than or equal to relations are called weak inequalities, since they do permit of equality. The strictly 'greater than' or 'less than' relations, with no equality components are referred to as strong, or strict inequalities. The normal application of inequalities in economics is in the formulation of constraints

$$rK+wL \leq TR$$

Where r is the per unit cost of capital
W is the per unit cost of labor
L is the amount of labor
TR is total revenue

Would be interpreted to mean that factor payments must be less than or equal to total revenue

- **Objective function –**A function relating the objective (the variable to be optimized) to the choice variable in an optimization problem
- **Matrix –**A rectangular array of numbers (or variables) .A matrix of order m×n has m rows and n columns. The typical element of a matrix is often denoted as aij, which implies that it occupies the ith row and jth column. Matrices are often used to simplify notation when dealing with large numbers of simultaneous equations.

14.7Self Assessment Test

(a) Try the following objective type questions: -
i) An input-output table concerns one of the following. Which one is it?
(x) Inter-industry transactions
(y) Total inputs used and outputs produced in an economy.
(ii) Does the input-output technique help the planner in (x) optimizing the, objective function, or (y) in setting consistent targets?
(iii) With which of the following is the name of Wassily Leontief associated
(x) Input -output technique, (y) Linear Programme Technique. -
(iv) In linear programming technique the term process is synonymous with one of the following. Which one is it
(x) Inequalities (y) .activity.
(v) In linear programming, a feasible solution is one where at least of the constraints is satisfied. Is the statement (x) true, or (y) false?
(Correct Answers: (i) - x; (ii) -y; (iii) -x; (iv) -y, (v)-y)

14.8 Suggested Readings:

I. M.P. Todaro, *Development Planning., Models and Methods*, Chap/ 2-3
2. Chiou-shuang Van, *Introduction to Input-output Economics*, Chap.2.
3. W. Arthur Lewis, *Development Panning,* 1966, Chap. Hi-Sections 5-6.
4. A.P. Thirlwall, *Growth and Development*, 1986, Chap. 10-11
5. M.P. Todaro, *Economic Development in the Third World*; 1987 pp. 471-480
6. Robert Dorfman, *"Mathematical or 'Linear' Programming Economic Review"* Dec,. 1953.

14.9 Terminal Questions

(i) Discuss the main features of input-output technique; briefly indicate how this technique is used for setting consistent targets by planners.
(ii) Linear programming is an optimization method used for the solution of problems in which the objective function and constraints appear as linear function of the decision variables. Discuss the statement.

Table-1 A Hypothetical Input-Output Table or Transactions Matrix for year t.

Using Sectors (Inputs)	Intermediate Use					Final use (demand)				
Producing Sectors (output)	Agriculture	Manufacturing	Power	Transportation	Total intermediate demand	Household & Govt consumption	investment	Exports	Total	
	1	2	3	4	5	6	7	8	9	10
1. Agriculture	$30(x_{11})$	$20(x_{12})$	$0(x_{13})$	$0(x_{14})$	$50\sum_{j=i}^{4} x_{ij}$	60	10	20	9-0 (Y_1)	140 (X_1)
2. Manufacturing	$15(x_{21})$	$25(x_{22})$	$20(x_{23})$	$15(x_{24})$	$75\sum_{j=i}^{4} x_{ij}$	20	10	5	35 (Y_2)	110 (x_2)
3. Power	$15(x_{31})$	$20(x_{32})$	$0(x_{33})$	$10(x_{34})$	$45\sum_{j=i}^{4} x_{ij}$	10	5	0	15 (Y_3)	60 (X_3)
4. Transportation	$10(x_{41})$	$20(x_{42})$	$10(x_{43})$	$10(x_{44})$	$50\sum_{j=i}^{4} x_{ij}$	20	10	0	30 (Y_4)	80 (X_4)
5. Total purchase	70	85	30	35	220	110	35	25	170	390
6. Imports	10	5	5	5	25	4	5	0	(9)	25 (34)
7. Govt. Taxes	15	5	2	6	27	(20)	(12)	(8)	(40)	27 (67)
8. Labour	40	7	10	15	72	3	0	10	13	86
9. Capital	5	8	13	20	46	0	0	0	0	46
10. Value added	60	20	25	40	145	3	0	10	13	158
11. Total inputs	140*	110	60	80	390	117	46	35	192	582

* All the figures in the Table, as indicated in the text of this lesson, are valued in terms of some price such as the market price or the ex-factor value etc. Instead indicating the value in terms of "so many rupees" we have simply referred to them as units of value or supply units. The units are not physical output but units of mon

LESSON 15

POLICY MODELS, PROJECTION DEVELOPMENT PLANNING MODELS

Structure

15.0 Objectives

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

- Have an overview about Projection and Policy Model
- Elucidate about the Development Planning Models
- Understand the relevance of development models to economic planning.
- Discuss the shortcomings of planning models

15.1Introduction

The next six lessons will deal with topics included in Unit-IV of this course. In the preceding few lessons, you have learnt some of the techniques of plan formulation. The present lesson also takes up similar topic, viz. one dealing with planning models after having learnt about these economic models in general in the following lesson you will be introduced to some of the planning models underlying India's five year plans after that the next four lessons will discuss various aspects of resource mobilization for planning .As you will notice there the policy measures for resource mobilization are an aspect of planning which, though very important, presents formidable problems of implementation for the planners .Having taken this preview of what is to follow in the next few lessons, we start with a discussion of the nature and types of economic models which are available for use in the exercise of development planning.

In the present lesson, we shall discuss some of the models that are used in economic planning the economic models that are relevant to the

planners in developing countries help them in plan formulation in a variety of ways these help them, for instance, in preparing optimal plans consistent plans appraisal of projects or making projections of output targets, resource requirements and so on as so forth. The planning models are usually divided in to the categories of policy models projection models and the macroeconomic development planning modals. Their nature and characteristics are as below.

15.2 Projection Models

An economic model is a mathematical representation' of the working of a micro or macroeconomic entity. The economic models generally help in making quantitative predictions .These are theoretical conceptions quantitatively expressed in an inter-related form. They are applied to the determination of economic policies in two different ways. One category of these economic models, used in planning, is called projection models. Projection models consist of the following elements:

i) Set of economic measures, such as investment in heavy industries, consumer goods industries and intermediary industries etc

ii) Economic relationships in the form of equations containing variables specifying the links that exist between the variables.

iii) Coefficient describing the intensity with which one variable affects, through a particular link, another variable

iv) Projections to be made based upon the effects of the various inter-relationships

In the case of these models, objectives may not be specifically laid down, However, the projections of various variables are based on the fulfillment of objectives The projection models are of varying complexity and sophistication These indicate the paths that economic variables will take during the planning period, based on past experiences For example population projections would be based on a series of assumptions relating to, the fertility and mortality rates etc.

The projection models may relate to the macro variables such as working put of growth rate of the economy or income distribution in the plan period, with the projection being based on alternative assumptions regarding the inter-relationship between the independent and the dependent variables For example the growth rate of the economy is usually projected with the help of the inter relationships implicit in the Harrods Domar growth model, among savings rate, the capital-output ratio and the growth rate .The projection models may also be used in the context of sectoral or regional planning, where growth paths of the relevant variables may be projected for the sectors or geographical areas of the economy.

Exercise 15.1

Question 1 Explain in brief the concept of Projection Models

15.3 Policy Models

The policy models are also sometimes called the decision models They are designed to determine the most appropriate set of policy measures to

achieve various plan objectives which may have been politically pre-determined keeping in view the perceived: needs or requirements of the society. The set of objectives may include those relating to the desired growth rate of national or per capita output, employment generation, balance of payments deficit, and so on. The policy or decision model would then help the planner to choose the most appropriate and feasible of policies and instruments out of the several which may be available.

Policy Models consist of the following elements:

i) Set of objectives such as maximization of income attainment of full employment, reduction in balance of payments deficit etc

ii) Set of policy measures to achieve the above mentioned objectives they are called instrument variables. Examples of such, variables are levels of savings, production, investment, exports and other factors influencing the sector or set of sectors under consideration in various ways.

iii) Other variables not directly affected by government action such as prices of commodities and factors of production and consumption of individual commodities.

iv) Economic relationships in the form of equations containing the above mentioned variables. Such equations express the relationships between such variables as consumption and income, capital and output, labour and output, import requirements and levels of national income alternatively, these may take the form of accounting identities such as equality of total supply and demand or balance between domestic savings plus net import of capital and total investments, or equality of total value of imports and foreign exchange earnings plus net receipts from foreign loans and grants.

v) Co-efficient describing the intensity with which one variable affects other variables.

The foregoing are, however, the sub-categories of what are called development planning models. These subsume both the projection and policy models and, therefore, we shall discuss the different types of development planning models in greater details below.

Exercise 15.1

Question 1 List out the elements of Policy Models.

15.4. Development Planning Models

What is a development model? An economic model may be defined as an organized set of relationships that describes the functioning of an economic entity. Whether, it is the individual household or firm, the national economy, or the world economy under a set of simplifying assumptions. In the context of planning, economic models provide a logically systematic and internally consistent operational framework based on an important set of structural interrelationships in the economy. (M.P. Todaro). A planning model in other words sets out the relationship between the crucial (key) variables in the process of planned economic development within the stipulated time horizon of the plan.

15.4.1 Type of Planning Models

When development models are used to solve certain planning problems, they may also be referred to as planning models.

The planning models are usually divided into the following three broad categories:

(a) Aggregate or Macro-economic or Simple Models

As the very name implies such models try to provide solutions to the development problems in terms of such aggregative variables as consumption, savings investment, labour supply, imports, exports, balance of payments etc. They are simple in the sense that the complexities involved in sectoral distribution of resources etc., are avoided and these are usually used to determine value of the instrument variables when the target rate of growth of national output is given. In the exercise, the constraints, such as the availability of foreign exchange, skilled labour, taxable capacity etc; may also be specified.

The Harrod-Domar model is an important example of this category of planning models. It is clear that the relationship among such aggregate variables as savings, investment, labour and capital productivity rate of growth of population etc. will determine the overall growth rate of the economy. In the absence of economic planning in the developing economy the independent or 'natural' growth rule may be so slow that near stagnation may prevail in them. The task of the planners is to influence the aggregative instrument variables so that the growth rate gets accelerated to a satisfactory desired target.

According to the Harrod-Domar model the growth rate of an economy is determined by the level of net capital formation and, its productivity. Net capital formation in these countries is constrained by the, amount of savings available. Productivity of capital is ascertained from the overall or global capital-output ratio. Thus if

$s=\frac{S}{Y}$ (the saving income ratio)

$k=\frac{I}{\Delta Y}$ (incremental capital output ratio)

$g=\frac{\Delta Y}{Y}$ (the growth rate of national income)

Then if I=S

$$\frac{\Delta Y}{Y}=\frac{S}{Y} \; / \frac{1}{\Delta Y}=\frac{S}{Y} \; * \frac{\Delta Y}{I}=\frac{\Delta Y}{Y}$$

Substituting in the above equation, we get:-

$g=\frac{S}{k}$ this is the growth equation of the Harrod-Domar model, with which you are already familiar (see Lesson 8)

This shows that given the values of s and k and assuming them to be constant over the plan period, the growth rate of economy would be determined by the ratio $\frac{S}{K}$ when a near stagnant underdeveloped economy starts its process of planned economic development, it saves 5 to 6% of its national product. (That was in fact the case when India's First Five Year Plan

was launched in 1951). The ICOR Of such an economy may be between 2 and 4. Thus, if the value of u is assumed to be 6% (or 0.06) and that of k=3, then.

$$\frac{\Delta Y}{Y} = \frac{0.06}{3} * 100 = 2\%$$

Now, if the annual growth rate of population $\frac{\Delta P}{p}$ is also 2%,-the growth of per capita income would be zero $\frac{\Delta Y}{Y} = \frac{\Delta P}{P} = 0$ it is here that the planning model would reveal that if no effort is, made to change the variables of the system suitably, there would be hardly any improvement in economic welfare and the standards of living of the people

While using the model for plan formulation, it is natural that changes would have to be made in the strategic variables so as to produce a plan which would make some visible impact on the standards of living of the people. In terms of this aggregate model, either of the two things can be done take the growth rate in per capita output to be exogenously (independently) determined and then see what would be the increase in net investment (and savings) necessary to achieve that rate given the value of k alternatively, we could plan changes in the values of s and k then see on the basis of the new values what growth rate could be achieved let us for the sake of illustration take the latter course.

Suppose $\frac{\Delta P}{P}$ is given at 2% p.a., but steps are taken during the plan to increase taxation, some deficit financing and measures to induce people to have more besides measures are taken to reduce k (by, for instance, utilizing idle capacity, improving the management and organization of productive enterprises, and selecting projects with very short gestation periods) Suppose the planners hope to increase the value of s from 6% to 10% of national output and at the same time to reduce k from 3 to 2.5. This would give us

$$\frac{\Delta Y}{Y} = \frac{0.1}{2.5} * 100 = 4\%$$

On the basis of these values we could expect the per capita output to grow at 2% p.a.which for a hitherto stagnant economy could be an achievement

Although the simple Harrod-Domar model takes capital formation and mobilization of savings as the key constraints on the growth process, other constraints such a availability of foreign exchange and skilled labour could also be introduced into the model Besides, it could be used to determine the requirements of objectives (such as employment level balance of payments equilibrium etc) other than the rate of growth of national or per capita output.

The macro model it would be clear, is the mathematical tool that the planner could employ at the preliminary stages of plan formulation but for elaboration of the targets other models would have to be constructed

(b) Sectoral Models

The macroeconomic models provide only the first approximation to the problem of plan formulation they yield the broad aggregative targets and the

values of the aggregative instrument variables However, in order to make the plan operational document, sectoral models have to be built.

The sector models may be single sector project model or complete main sector planning models. In the case of the former, plan formulation starts from the project level. Individual projects are appraised for inclusion in the plan and thus the aggregative requirements of the plan are built up. If the saving, investment, imports and skill requirements of all appraised projects come to an aggregative figure that is not feasible or is difficult to achieve, some projects are excluded. Such an approach as followed in Pakistan in their earlier plans. Although such models are capable of producing an internally consistent and co-ordinate plan still the danger, is that they may yield a plan which is only a collection of sundry projects.

The complete main sector planning models are a more sophisticated form of sectoral planning models. These divide the whole economy into a few main or broad sectors such as public and private sectors, consumption and investment goods sectors, domestic and export sectors, or agricultural and non-agricultural sectors etc. The investment, skills foreign exchange requirements etc. are worked out for each such sector aid consistent targets are set for each of them. The following is a simple main sector planning model.

Suppose the entire economy is subdivided into two main sectors, the consumption goods sector and the investment goods sector. Then

X_1+X_2 =GDP

where X_1 is total product of the consumption goods sector, X_2 the total product of the investment goods sector, and GDP is the, Gross Domestic Product now if c denotes the marginal and average propensity to consume, it is

Clear that $\frac{X_1}{X_2} = \frac{c}{1-c}$ If c =0/6 $\frac{X_1}{X_2} = \frac{3}{2}$

Now if the value of c remains constant during the plan, the outputs of the two sectors will grow at these relative rates. The planners would, however, try to lower its value so that by saving more the investment goods sector could grow at a faster rate.

The investment goods sector is of crucial importance here because if the consumption goods sector has to grow, faster, the former (which supplies machinery and equipment to the latter) must grow even faster. Thus the growth rate of one sector is determined by the growth rate of the other sector and, therefore, their targets cannot be set independently.

In this model, if the targets are to be mutually consistent the following Harrod-Domar type of information would be needed:

(i) A target growth rate of national output,

$\Delta X_1+\Delta X_2/X_1+X_2$

(ii) The propensity to consume, c, -and

(iii) The sectoral ICORs, k_1 and k_2

We know that if (ii) and (iii) are known (i) can be calculated with the help of the Harrod-Domar growth equation. Thus if the marginal propensity to consume (which suppose is expected to remain unchanged), c=0.6, then s (i.e., I-c)

=0.4. Similarly if sectoral ICORs, k_1 and k_2 are statistically ascertained and assumed to be of the order of 3 and 6 respectively, then k, the global ICOR would be simply the weighted average of the sectoral ICORs. Thus $k=k_1 + (I-c) k_2$ (we get k=4.2).

With this much information available, the aggregative Harrod-Domar model could be written in terms of this sectoral model as below:

$$\frac{\Delta Y}{Y} = \frac{\Delta X_1 + \Delta X_2}{X_1 + X_2} = \frac{s}{K} = \frac{1-c}{ck1+(1-c)k_2}$$

$$AY - AX_1 + AX_2 = s\hat{}\quad 1\text{-}cY\quad x,4\text{-}x_2\qquad k\quad ck+(1\text{-}c)k_2$$

With the values of c, k_1 and k_2 as given, the output targets could be projects for the different years of the plan. The plan could as well provide for a change in the parameters c, $k_1$and k_2 themselves.

The number of sectors within the model can be increased depending upon the availability of reliable sectoral data. Although the sectoral models are a more elaborate planning exercise as compared to the macro- models, yet even these may not unfold the intra- sectoral complex relationships. Therefore, the most complete form of planning models are those which analyze even the sub sectoral relationships at the industry or even firm levels. We come to a discussion of these models now.

(c) later-industry models

You are already familiar with the input-output technique which was discussed in the preceding lesson. The inter-industry models make use of this technique and some of them use even linear programming technique.

As noted in the preceding lesson, the input-output table gives a synoptic view of the inter-industry relations and transactions. It is, however, necessary for building up input- output tables that two conditions are satisfied as pre-requisites, viz (i) that a country should have developed at least a few manufacturing industries, so that the inter-industry transactions are quite substantial, and (ii) sufficient data should be available so as to facilitate the construction of input-output tables. Thus, only those countries satisfying these conditions should rely upon inter-industry models in their plan formulation.

Whenever it is practicable to build inter-industry models (using input-output technique), these turn out to be the most elaborate Ones and can be really termed as multicultural, the entire economy is divided into as many sectors or industries for as many the requisite data can be mustered.

Let us look at a static planning model of this type. The objective of such a model may be to ensure consistency among sectoral outputs at a future date, say end of the five year plan period, t+x. You- are already familiar with the input-output technique of which the input- output table happens to be the centre piece. If you look at table 1of the preceding lesson, you will notice that each sectoral row gives a relationship of this type:

$$X_1 = \sum_{j=1}^{4} X_{ij} + X_1C + X_1I + X_1X \ldots\ldots\ldots(1)$$

Where X_1 total output of sector: 1, is the total delivery of goods from sector I to sectors (which are 4 in number), X_1C = use of r sectors output for consumption, X_1I use of it output for investment, and XX exports of i sector's output. Such a disposal of sectoral outputs can be expressed for all the n sectors that would be there in a table. Now, as stated above if the objective of constructing such a Models, to ensure consistency in sectoral outputs in a target year (t+x), we can proceed like this with the input-coefficients of different sectors already known (from the input-output table of the base year), the deliveries Of goods from one sector to the other can be related in the year t+x as below:

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

where aij is the input-coefficient of j sectors and expresses the unit of i goods needed to produce one unit of j goods. Now equation (i) can be rewritten as below:

$$X_1 = \sum_{j=1}^{4} X_{ij}XjX_1C + X_1I + X_1X \ldots\ldots\ldots (II)$$

Equation (ii), therefore, shows that if X_1C, X_{11} and XX are exogenously (independently). Determined, than the output of sectors i needed for inter-industry deliveries (Xi) in year t+x can also be determined. This equation, therefore, becomes a system of a simultaneous equation (each equation for a sector) in as many unknown variables which can be solved. With the help of such a static model the planner can explicitly lay down production targets in each industry and sector.

Further elaborations of inter-industry models are also being carried out these days. For example, in equation (ii) the final output targets X_1C, X_{11} and XX are assumed to be exogenously determined; Out of these, the, model can be used to determine X_1I in the year t+x. Besides, optimization procedures can also be embodied in the model, to make it really dynamic. However, it is recognized by economists that such models are as yet only in the process of evolution and experimentation and are operationally practicable only in those countries where the computational facilities are available.

A word about the linear programming models which also belong to this third category. The input-output models do help the developing countries in producing plans that enable them to set sectoral targets that are consistent with each other. However, the targets so laid down might make impossible demands on the resources of the economy. Therefore linear programming models may be built up which not only take an explicit notice of the resource constraints or boundary conditions but also provide a solution to the problem of making an optimal use of such resources. .

The optimizing decision that can be taken with the help of such models are for example, given the constraints which techniques out of many would be optimal what would be the best combination of goods to be produced which would be the best location for a particular productive activity, and so on For a detailed discussion of such a model you may refer to the reading list.

15.4.2 Relevance of Development Models to Economic Planning

By now the relevance of development models to problems of economic planning must have been clear to you. We may refer to some of the specific uses of such models in economic planning.

The planner may be clear in his mind about the objectives that he intends to achieve within the plan horizon. But which policies should-be adopted to achieve those objectives would become, clear only after the crucial or the strategic variables of the planning process have been isolated and. their interrelationships delineated. Alternatively, the planner may have decided upon the instrument variables of the model but may like to be specific about the outcome of the use of such policy measures. Thus models help in planning the relations between the objectives the instrument variables and the inter-relations among them in a logical and systematic manner.

Some of the models, as we have noted, may be helpful in making projections for forecasting the magnitude of different measurable changes that would take place during the plan period. Models of the input-output variety also help the planner in seeing to it that the projected changes during plan are also consistent and no surpluses or shortages need be feared. Besides, they also help the planners to prepare plans that do not require more resources than are available. The resource that would be forthcoming during a plan can be introduced as constraint or boundary conditions and the planner has to project targets that lie within these boundary conditions.

There are a number of choices involved in the process of plan formulation .Not all the choices are optimal The planning models help not only in making optimal choice but also the optimal time path of a variable can be ascertained with the help of these models Thus the planner can ensure that he uses the resources in such a way that the objectives set by him are optimized.

Briefly, therefore, we can say that the development models are helpful to planning authorities in three different ways all of which are instrumental in preparing an ideal economic plan (i) The development models can be used for ensuring consistency in a plan This is necessary if the misutilization of resources, which is implicit in a system of shortages and surpluses is to be avoided (ii) The planning models can be used to prepare only feasible plans an ambitious planner is liable to set his sights high and plan for more than what is achievable Planning models thus help in producing plans that are manageable within the resource constraint (iii) The planning models are also useful in preparing optimal development programmes investible resources can be used in a number of ways, but the best way of utilizing them would be one which helps in optimizing the plan objectives Thus alternative policies can be fed info a model and then their outcome ascertained out of these the optimal policies can be adopted.

15.5 Shortcomings of Planning Models

Although models building and perfecting has been one of the most favourite exercises in the heyday of economic planning in the developing countries, yet the use of development models in planning has not gone unscathed In fact planning models suffer from two types of defects those that emanate from the considerations of practicability and those which are of an analytical character.

The first category of defects in the use of planning models is the results of the inherent character of the economies where these have been used planning model building requires intellectual expertise which was beyond the means of many underdeveloped countries in initial stages of planning (Many of them had to requisition the services of foreign economists to frame plans) secondly, the nature of some of these economies may preclude the use of such exercises as inter-industry models thirdly, inadequacy of reliable data and non-availability of computational facilities also rendered many sophisticated models irrelevant for these countries initially lastly, some models using that Keynesian and Harrod-Domar framework might yield unsatisfactory result because these were primarily developed to provide answers to the economic ills of the developed countries.

Then there are shortcomings in the use of models which are of an analytical character. Paul Streeten, for instance, opens his attack on planning models saying that "they are shapely and elegant, but lack the vital organs". He makes himself clear by pointing out the following drawbacks in the development models. We may briefly refer to them below:

(a) Assumption of automatic modification of noneconomic factors

The non-economic factors like, social attitudes, literacy, quality of civil service, political leadership etc. are important for economic transition, but the planning models do not consider a reform in favorable noneconomic factors as an instrument variable of any “significance. Rather it is assumed that if the conventional economic variables like saving and I investment are taken care of in a model, the non-economic factors can be taken as given i (ceteris paribus) or that these would automatically modify themselves as the process of economic development take place. This may be assuming too much.

(b) Misplaced aggregation

Paul Streeten feels that in many under developed countries, due to cast barriers, apathy to economic reward, and other peculiarities, it is futile to talk of employment, 'labour force', ‘savings’/''investment’ etc, in aggregative sense, because these countries cannot be considered cohesive economies in the same sense in which the developed ones are. Therefore, building models in terms of such national aggregates would be a misplaced endeavor.

(c) Illegitimate Isolation

The different planning models may illegitimately isolate some of the policies as being vital for economic development. Such isolation of alleged, crucial variables may lose sight of important complementary relations and the price that may have to be paid would be wastage of resources.

Despite these criticisms there, is no denying the fact that the use of planning models imparted an element of rationality to the whole process of planned development of course, as Richard S. Hekaus observes, "development models are one but by no means the only method of knowing more about the detailed structure and working of a developing economy".

Exercise 15.3

Questions 1 Discuss the important merits and drawbacks of planning models as a tool of plan formulation.

15.6. Summary and Conclusion

There are several types of economic models available to the planners with the help of which they solve some of the problems associated with plan

formulation. Thus, there are the projection models which help the planners to estimate the objected values of certain variables, with the objectives to be attained and other significant inter relationships taken as given. On the other hand, the policy or decision models help in the process of rationalization of instrument. Variable or policies, which may be used to attain pre-determined objectives.

The foregoing are, however, subsumed under the major category of economic models, called the development planning models. These are of different types, with the macroeconomic or simple models being used at the most aggregative level of plan formulation. Harrod- Domar type of exercise, to estimate the planned growth rate with saving investment rates exogenously determined, or vice versa, is the most common type of planning models. But séctoral models are used at a more disaggregate level, where the sectoral targets- which are feasible and consistent with each other, may be set. The inter- industry models, making use of the input-output or linear programming techniques, are the most elaborate and sophisticated: These can be used at the most disaggregated, industry or even firm level, depending on the availability of data and the expertise to operationally them, as well as the computational facilities. Such models are both static and dynamic in nature, and may be used for formulation of optimum and consistent plans. These models, though used for solving several planning problems, are not without their shortcomings which may be of practical or analytical nature.

15.7 Glossary

- **Models –**A formal or informal framework of analysis which seek to abstract from the complexities of the real world those characteristics of an economic system which are crucial for an understanding of the behavioural, institutional, and technical relationships which underlie that system. The intention is to facilitate the explanation of economic phenomenon, and for the generation of economic forecasts.
- **Planning model –** A mathematical model (e.g., an input –output model or macro planning model) designed to stimulate quantitatively the major features of the economic structure of a particular country. Planning models provide the analytic and quantitative basis for most national and regional development plans.
- **Policy model –** Also called decision models are designed to determine the most appropriate set of policy measures to achieve various plan objectives which may have been politically pre-determined keeping in view the perceived needs or requirements of the society. The set of objectives may include those relating to the desired growth rate of national or per capita output, employment generation, balance of payment deficit and so on.

15.8. Self-assessment Test

(a) Try the following objective type questions:.

(i) Projection models and policy models help the planners solve identical problems. Is the statement (x) true or (y) false?

(ii) Are the Harrod-Domar type of models used by the planners to solve (x) macroeconomic problems or (y) industry-level problems?

(iii) Do the inter-industry planning models make use of (x) only input -output technique or (y) both input-output and linear programming techniques?
(iv) The planning models are not used for one of the following components, of plan formulation. Which one is it?
(x) Determination of multiple plan objectives.
(y) Optimization of plan objectives, subject to constraints.
(v) The use of planning models in developing countries was criticized on the ground that these models were designed for the developed countries, is the statement (x) true or (y) false

(Correct answers: (i)-y; (ii)-x; (iii).y; (iv)-x; (v)-y)

15.9. Suggested Readings

I. M.P. Todaro, Development Planning Models and Methods, 1971, Chap. 1 and 4-5.
2. M.P. Todaro, Economic Development in the Third 1975. World. 1987, pp. 468-485.
3. R. S. Ickaus, "Appendix on Development Planning", in C.P. Kindleberger. Economic Development, (II edition).
4. Paul Streeten., The Frontiers of Development Studies, Chap. 5.
5. Blitzer, Clark and Taylor (Ed), Economy- Wide
Models aid Development Planning, 1975.

15.10 Terminal Questions

Question 1. Discuss the nature of macroeconomic or simple planning models and illustrate with a suitable example the type of problems that such models are designed to solve.

Question 2. Discuss the uses of planning models and bring out the limitations of such models in solving planning problems.

LESSON 16

MODELS UNDERLYING INDIA'S FIVE YEAR PLANS

Structure

16.0 Objectives

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

- Identify the models which have provided intellectual backbone to that plans
- Have in depth knowledge of Harrod-Domar model and Mahalanobis model as adopted in planning
- Discuss the models underlying the 11th and 12th plans

16.1 Introduction

In the preceding lesson, you studied some of the economic models which are used in the process of plan formulation in the developing countries. India had been in the forefront in using fairly sophisticated planning models in the formulation of her five year plans right from the beginning. In the 1950s and the 1960s many economists from the West, like Ragnar Frisch, Richard Eckaus, Lefeber, Alan Manne, Ian Sandee, etc. became actively involved in building planning models for India. Several Indian economists collaborated with them in this endeavor.

In the present lesson, we shall deal with some of the well-known models underlying India's five year plans. We shall especially deal with the Harrod-Domar model as adapted to the requirements of. Indian planning the Mahalanohis model, and some of the models underlying India's subsequent plans. .

It may be noted to start with, that India is one of those few developing countries where the experiment with planned economic development in the heyday of planning had been of a more thorough going type than was the case with most others of her kind. By, thorough-going type what We mean is that, in the first instance, the economic plans of this country were more comprehensive in terms of their coverage of the economy than in many other countries, in fact, there was no sector of the economy, not even the least

important among them, which did not receive the attention of the planners. Secondly, the process of planning itself was of a more thorough nature especially in the later plans, so that plans were prepared after a .good deal of expertise had, gone into their formulation. Now all this was due to the fact that India was more fortunate in certain respects than the other similarly placed countries of the world, for instance, the political leadership was much more enlightened, civil service more efficient and a larger and more dedicated band of engineers, economists and statisticians were available within the country, than was the case with many others. Result fully, therefore, the plans that came to be produced evoked a worldwide interest in not only the outcome of planning but also the procedures and methods adopted in, formulating the plan documents. A large number of foreign economists, as pointed out above, tried to test their newly developed concepts, theories, and models in terms of India's Five Year Plans. It was a happy coincidence that when India was formulating her successive Plans the world economists had also been groping for a theory of economic planning. It was therefore, natural that India's plans provided these economists, with ready-made material to test their theories on. India's planning process was perhaps richer for this interest shown by the leading planning experts of that time.

16.2 Models Underlying India's Plans

16.2.1 The First Five Year Plan

No planning model was explicitly built to provide a logical basis for this plan. However, it came to be recognized later that from the type of logic implicit and variables inter-related in the Plan document, the model that had influenced plan formulation at the time was broadly the Harrod- Domar growth model. The target growth rate of the plan had clearly been deduced from the propensity to save and the overall capital-output ratio of the economy. This model had clearly helped the planners to make long term growth projections for the next generation as well as the short term growth projections for the Plan period;

You are already familiar with the Harrod-Domar growth equation, which was discussed in some detail earlier in lesson 9 as well as in the preceding lesson. In the first plan, 10 (i.e. investment in the year of the plan 1950-51) was estimated to be 5% of the national income, k the output-capital ratio was put at 0.33 and the average propensity to save was estimated to be 0.20 for the first plan period, which was projected to be raised to 0.50 in the subsequent plans. From this, the growth rate of national income was deduced to be 2.1 %'per annum. Although the original Harrod-Domar model assumes the average and marginal propensity to save to be equal, yet the first plan modified this assumption, and stipulated that the marginal propensity to save would be greater than the average saving rate. This implied that as the national income would grow during the Plan, the average saving rate would also rise. If this assumption of marginal propensity to save being higher than the average propensity to save was to hold good in the coming plans, the Harrod-Domar growth equation would result in a rising growth rate of national income, plan after plan. The obvious drawback of this model is that it holds saving and investment as the key policy variables determining growth of the economy. It -pays no attention to the structural problems of the economy such

as the interdependence of agriculture, industry and other sectors such problems did crop up in the subsequent period.

16.2.2 The Second Five Year Plan

The Second Plan was virtually the brain child of late PC Mahalanobis He was convinced that a structural transformation of Indian Economy in favour of capital goods industry would be necessary to ensure a high rate of economic growth Thus the model underlying the Second Plan was a structural model.

This model is popularly known as the Màhananobis model P.C.Mahalanobis had discussed in 1953 and 1955 two and four sector models respectively, which appear to have strongly influenced the strategy of investment allocation in the Second Five Year Plan the two sector model closely resembled the Feldman model developed in Russia during the 1920s. For building his two sector model Mahalanobis used the following symbols

λ = Net investment

λ_k = Fraction of net investment in capital goods sector (or K sector)

λc=Fraction of net investment in consumer goods sector (or C sector)

Y = National income

C= Consumption

K = Investment

1t =Points of time

a = Growth of net investment

b_k = Incremental income investment ratio in capital goods sector.

The following two sector model was built using the above symbols

$K_{1+1} = K_1 = \lambda_k \beta_k K_1$ ……(i)

Equation (i) shows that the change in the capital Stock between periods t and t + 1 is equal to the product of fraction of the net investment in the capital goods sector, the income investment ratio in that sector and the aggregate capital stock at time t In this and the four sector models international transactions are ignored and therefore, the implication of equation (i) is that change in capital stock between two periods of time is determined by the charge in productive capacity in the capital goods sector,

$C_{1+6} — C_1 = \lambda_e b_e K_1$……(ii)

Equation (ii) shows that consumption between periods and t + 1 equal the product of the fraction of net investment in the consumer goods sector the Income investment ratio in that sector and the stock of capital at time t.

The total stock of capital at any period of time t will be determined from equations (i) and (ii) as below

$K_1=(1 + \lambda_k \beta_k)K_0$ (iii)

This equation shows that the volume of capital at time t will depend upon the capital stock in period 1 plus the changes in it during period t.

The income in period t will be determined in this model as under:-

$\gamma_t - \gamma_0\ 1+\alpha_0\ \frac{\lambda k\, \beta k+\lambda c\, \beta c}{\lambda k\, \beta k}\ (1+\lambda_k \beta_k)$ (iv)

Equation (iv) shows the determinants of income in period t ft is in fact deduced from equations (i) and (ii) above. Thus y_1 would depend upon the initial income in period, zero, rate of net investment in the zero period, investment allocations between K-sector and C sector and the income investment ratios in the capital goods and consumer goods sectors.

In 1955 Mahalanobis built a more disaggregated four- sector model which uses in addition to the above, the following symbols:-,

K = Capital goods sector

C_1 = Factory consumer goods sector

C_2 =Agriculture and household industries producing consumer goods.

C_3 = Service consumer goods sector.

λ_k, λ_1, λ_2, λ_3 = Fraction of net investment in K, C_1, C_2, C_3 sectors.

β_k,β_1,β_2, β_3 = Incremental income investment ratios in sectors K, C_1, C_2, C_3.

θ_K = Net investment per person employed in K-sector

θ_1, θ_2, θ_3. = Net investment per person employed in sector C_1`, C_2, C_3.

N = Total additional employment created in the Five Year Plan period.

n_1, n_2, n_3 = Additional Employment in sector C_1, C_2, C_3.

A = Total investment in the Five Year Plan period.

E = Total increase in income over the Five Year Plan period.

N = Constant stipulated annual rate of growth of national income over the plan period.

It is assumed or obvious that

$\lambda_1+\lambda_2+\lambda_3+\lambda_k = 1$

$n_k + n_1 + n_2 + n_3 = N$

Now using the above symbols and assuming a plan period of 5 years, the four-sector model is built as below:

If $N = n_k + n_1 + n_2 + n_3$, and A is the total investment over the plan period, then sector-wise increase in employment is given by

$nk=\lambda k\ A/\theta_K$, $n_1=\lambda_1 A/\theta_1$,$n_2=\lambda_2 A/\theta_1$

and $n_3=\lambda_3 A/\theta_2$ (v)

The equation (v) shows that total investment in the Plan period (A) equals the sum of investment in each sector. The investment in each sector is the product of additional employment and the net investment per employed person in each sector. For deriving the total increase in income (E) over the plan period, the following equation is given.

$$E=\beta_k=\theta_k n_k +\beta_1 \theta_1 n_1+\beta_2 \theta_2 n_2+\beta_3 \theta_3 n_3. \quad \text{(vi)}$$

The equation shows that in any sector the increase in income would be the product of the income investment ratio (θ) the net investment per person employed (β), and the additional employment in the sector concerned (n). By adding these, sectoral increase in income we derive the total increase in national income (E) over the Plan period, as in equation (vi) above.

The increase in income can also be derived from the annual rate of growth, which is assumed constant and the initial level of income yo as below:

$$E= Y_0 (1+ n)^5 -1 \quad \text{(vii)}$$

The equation shows that if the initial level of income is known, as also the constant rate at which it is expected to grow during the five years of the plan, then the total increase of income over the Plan period (E) can be known.

Mahalanobis had solved the different equations of the model by substituting statistical estimates for the different algebraic symbols in the equation. This numerical solution of the model makes it easy to understand the different inter-relationships in the model. For such an exercise you may look up -the appropriate reading of this lesson.

It must be remembered that Mahlanobis had strong views on the pattern of investment allocation. In his model K-sector is also the key sector. The reason would be clear from the words of Mahalanobis. The proper strategy would be to bring about a rapid development of the industries producing investment goods in the beginning by increasing appreciably the proposition of investment in the basic heavy industries. As the capacity to manufacture both heavy and light machinery and other capital goods increases, the capacity to invest (by using home-produced capital goods) would also increase steadily and India would become more and more independent of the import of foreign machinery and capital goods.

For increasing, the supply of consumer goods and to generate substantial employment Mahalanobis pins his hope on the C-sector specially the small, scale and household industries.

Exercise 16.1

Question1 What is the difference between the models adopted under the first and the second five year plan?

16.3 Critical Evaluation of the Models

Mahalanobis models have been an important contribution in the field of plan model building. This is at once clear from the fact that it received a world-wide attention of the economists. Besides, the shift in Indian planning since the Second Plan in favor of development of basic and heavy industries was in no small measure due to the logic behind these few models.

As Angiras Shukla observes, this model is one of those few models which employ the inductive method in finding the values of some important dependent variable & in economic planning such as income and employment simply by ascertaining the values of parameters such as Ps and 8s.

It was in fact an important departure in the direction of disaggregate model building away from the aggregative thinking behind the First Plan.

However, despite these merits of the model, it was severely criticized by'-different economists. We shall consider some of these points below:

l) Jagdish Bhagwati and S. Chakiavarty had noted these deficiencies in the, model: (i) It assumes a closed economy and does not consider the possibility of imports of certain goods, capital or consumer, from abroad, (ii) The precise choice of the proportion of investment in the K-sector appears to, be arbitrary and no economic considerations determining such a choice have been spelt out. (iii) These two economists felt that Mahalanobis was merely impressed by the Soviet strategy of economic development (with its emphasis on the development of heavy industries) and without considering domestic or foreign constraints of such a policy, he prescribed the same remedy for India, (iv) Bhagwati and Chakravarty agreed with R. Komiya (Review of Economics and Statistics, Feb., 1956) that the solution of the model was deficient in the sense

that by altering the investment allocations, it would have, been possible to generate greater employment and / or output. This strengthened their belief that the four-sector model was built up simply to provide ex-post facto rationalization and intellectual respectability to investment allocations which had been made on some other considerations.

(2) Richard S Eckaus (In National Economic Planning editeu by M. Milbkan) had also mounted his criticism on the Mahalanobis model. He contended that these models were too limited in scope (with a maximum of four sectors considered) to make, a rational allocation of investment possible besides, no efforts was made to find optimum allocation, to take into account dynamic inter-relations and to examine alternative long term growth paths.

(3) S. Tsuru (Economic Weekly, Annual number 1957) had questioned the methodology employed by Mahalanobis to estimate the value of the parameter 13s. According to the former 13s can be estimated from an input-output table and would be the ratio between the net output and the replacement value of equipment in the Sector. However, this method cannot be employed in the estimation of 13k because only a part of the output of the, K-sector is retained within the sector, the rest going to the consumer goods sector. Only the former part leads to further investment in the sector. Mahalánobis derived 13k from the total out of the K-sector.

(4) Charles Bettelheim (Some basic Problems of Planning) has questioned some-of the implicit assumptions of the model which, according to him can be valid only in a fully planned economy. These are:

(i) As supplementary equipment becomes available the requisite number of trained, workers would be- available.

(ii) With the availability of new equipment from the K-sectors raw material and power etc. would be forthcoming.

(iii) With the new equipment being' available there would be no lack of effective demand.

Thus the constraints of skills, raw material and power as well as the effective demand are simply washed away in the Mahalanobis model. However, like any, other analytical construct in economics this model has its share of deficiencies, but as pointed out earlier, its-impact on Indian planning has been undisputedly great.

Exercise 16.2

Question 1 Critically examine the Mahalanobis planning model.

16.4 Model Underlying Subsequent Plans

Since the Second Five Year Plan, new techniques of model-building have been tried out in the subsequent plans. You are not required to study these models in detail, except the model underlying the current Five Year Plan. So in this sub-section, we shall merely review the model- building exercises under the third five year plan to the …….plan. .

The Third Plan document does not explicitly mention any model on which' the plan was based. However, several models, such as Jan Sandee's Demonstration Planning Model for India (1960) and S. Chakravarty's The Mathematical Framework of the Third Five Year Plan, may have influenced the formulation of the plan. With these models, the practice of using inter-industry models, based on input-output technique, to ensure sectoral

balances, started: Unlike the Mahalanobis model, the new models explicitly noted the role of foreign trade and aid.

The Fourth Plan was based on model building exercises carried out by academicians Alan Mamie Ashok Rudru and others in their "A Consistency Model for India's Fourth Plan", and Planning Commission's two technical papers, "The Macro-Economic Hypothesis for the Fourth Plan and Draft Fourth Plan: Material and Financial Balances, 1964-65, 1970-71 and 1975-76". In these models, the growth rates were exogenously determined, and terminal year consistency was to be ensured through inter-industry analysis. One of the Planning Commission's models was a 77 sectors Industry consistency model.

The Fifth Plan, model was based on a paper. "A Technical Note on the Approach to the Fifth Five Year Plan" prepared by the Planning Commission in 1973This was multi-sector model of the modified open-ended static input-output variety A feasible growth rate was determined the model explicitly built into itself the (objectives of reduction of poverty and inequality, through some redistribution' of resources. Average per capita consumption of the lowest 30% of population was to be raised by reducing the average per capita consumption of the richer classes, on these assumptions; the average annual growth rates for different sectors were computed by comparing the solution vector of consistency model for the terminal year with the base year of the plan

The Sixth Plan model, based on Planning Commission s, A Technical Note on the Sixth Plan of India 1980-85. was a much more elaborate exercise than the earlier models It comprised of a core model and several sub models The sub models aimed at providing inputs for the core model The core model was comprised of seven blocks One each for input output, investment private consumption financial resources, imports employment and perspective planning The sub models were five in number. One each for agriculture, exports etc. There was a separate sub system on inter industry balances and was used for checking overall consistency

In the Seventh Plan and subsequently the plan modeling exercise in India has been broadly on the pattern of the sixth plan In the seventh plan there were separate sub-models for investment in the public sector, inflation adjustment in resource estimates, investments in the basic needs sub sector, and poverty alleviation through overall growth and public sector investment In the public sector investment sub-model investments in the sector were treated at a more disaggregated level than before In the basic needs sub model equations were provided for allocation of investment to such sub sectors as female literacy, infant mortality, and fertility rate, which have a great impact on the quality of life of the people.

The Eighth Plan (1992-97) was launched in the aftermath of two major developments one, the adoption of the policy of liberalization in 1991 and two the final start of the plan after three earlier versions of the plan had become infrauctuous due to frequent changes in the government at the centre in late 1980s and early 1990s.With the redefining of the role of the government since then planning in India became more of an indicative type. The allocative role by the Planning Commission got restricted to those sectors where the market mechanism is inherently weak Due to all this elaborate model building in this plan was dispensed with Bare bones of such an exercise were provided by

the Planning Commission in its directional paper, Thrusts and Macro-dimensions of the Eighth Plan - 1991 92. In this implicit model, there are two macro and sectoral components In the former case, a Harrod-Domar type of exercise was done with the investment rate of 23.2% being estimated by adding up the domestic saving rate and the inflow of foreign savings.

The ICOR was estimated to be 4.1, which yielded a GDP growth rate of 5.6 per cent for the plan period. Then, the sectoral pattern of output and related growth rates were obtained through the consistency model, starting with the vector of final demand, taking account of inter sectoral linkages via the input-Output table.. The - employment projections were derived from the sectoral employment elasticities.

The Ninth Plan- The liberalization of the economic policy regime in the 1990s has naturally resulted in giving formal plan model building in the Ninth Plan the go-by. The Ninth Plan document “explicitly recognized that there are uncertainties in the system and limitations in the ability of the planning system to accurately predict future trends”. This clearly brings out the growing irrelevance of rigorous economic planning and, therefore, model- building in the five year plan of the country.

Infact the Ninth Plan completely shifted towards making public investment in social sectors, infrastructure development and rural development. These broadly accounted for about three- fourth of public sector outlays. Mathematical modeling is not very reliable tool, when the planner is dealing with investments in education, health, minimum needs, environmental protection, poverty alleviation, and so on.

However, even in the absence of a formal mathematical model. The Ninth Plan does show traces of rigorous analysis in matters like planned saving and investment and parameters like ICOR. Similar analysis is discernible in estimating the unemployment/employment scenario that is projected to emerge not only during the Ninth Plan period, but also beyond that. These estimates show that full employment could be attained by the year 2007. This is the most that one can observe by way of rigorous analysis in the Ninth Plan

The Tenth Plan covered the period of 2002-07. The strategy of the plan was to make India one of the ten fastest growing nations. The chief aim was to achieve equitable development. The main elements in the strategy of tenth plan were to increase rate of growth of national income and per capita income; improve the quality of life by providing social services like health, drinking water, education, reduction of poverty from 26 percent to 21 percent by 2007, environmental protection, reduction in growth rate of population, development of agriculture small and cottage industries. Promoting employment opportunities, Controlling fiscal deficit and inflation. Upgrading technology, enhancing foreign direct investment and development of infrastructure

Further the plan aimed at decreasing the relative importance of the public sector by decreasing the ownership of government in many existing PSUs to a minority. As such , the industrial growth was expected to depend largely on the private sector, Moreover , to encourage outward orientation of growth strategy, the most effective way was to lower tariffs on imports so that

the anti-export bias in policies and mindset get corrected. This was accompanied by rationalization of domestic tax structure and the consequent simplification of export promotion regime

Exercise 16.3

Question1 Discuss the models underlying the Indian Plans.

Question 2 Bring out the salient features of ninth plan model.

16.5 Model Underlying Eleventh &Twelfth Plan

The Eleventh Plan covered the period of 2007-12 .The strategy of this plan focused on achieving 'Faster and More Inclusive Growth'. The key elements in the strategy of the plan envisaged(a) continuation of the uptrend in domestic investment and savings observed in the tenth plan,(b) a comprehensive strengthening and restructuring of Indian Council of Agricultural Research(ICAR) system to give greater focus on to research in strategic areas to improve agricultural productivity.(c)infrastructural development , involving a combined response-an increase in public sector investment in infrastructure from 4.2 % to 6.4% of GDP and also an increase in private sector investment from 1.2 percent to 2.9 percent of GDP through Public -Private-Partnership (PPP) or directly wherever feasible, and (d) repositioning of Employment Exchanges to encourage them to function as career counseling centers and greater emphasis on skill development by creating a 'Virtual Skill Development Resource Network'.(e) to ensure that benefits of growth reach all sections of the society(f) provide enhanced health and education facilities (g) control inflation rate(h) technological up gradation (i) to achieve rapid growth and bring improvements in the living conditions (j) to stimulate growth of manufacturing sector

The Twelfth Plan focused on achieving 'Faster Sustainable and More Inclusive Growth'. The main elements of the strategy of this plan was(a) improve standard of living of all sections of the society (b) to boost agriculture sector and its allied activities for more inclusive growth (c) to accelerate growth in the manufacturing sector (d) to boost services sector for faster economic development (e) to accelerate growth in the export sector by setting more special economic zones(SEZs),National Investment and Manufacturing Zones (NIMZs) and Agri-Export Zones (f) to encourage Public -Private-Partnership (PPP) projects for faster economic development (g) to focus on skill development for youth for reaping benefits of demographic dividend (h) to strengthen infrastructural facilities (i) to encourage Research& Development(j) to upgrade technology (j) to develop of backward states for balanced regional development.

Exercise 16.4

Question 1 Elucidate the development strategy adopted under the eleventh and twelfth plan.

16.6 Summary and Conclusion

In the present lesson, we discussed the 'models underlying India's different five years plans. It was noted that model building, by Indian and foreign economists and the Planning Commission, started in right earnest after the Second Plan, For the Second Plan itself the celebrated; even if somewhat

controversial; Mahalanobis model started this exercise During and .after the 'third plan input-output technique came to be used for ensuring internal consistency of growth rates and output targets. The sophistication of these models continued improving with successive plans, and it was only during the 1990s, after the adoption of the policy of economic liberalization and consequent dilution of the planning process, that serious model building for our five year plans got a setback. Now, because the public intervention is getting diminished and planning process is being limited to the social sectors of the economy, where market mechanism works rather inefficiently, the importance of plan formulation in a rigorous form is naturally declining. No wonder, therefore, that sophisticated mathematical modeling for India's emasculated five year plans is becoming irrelevant.

16.7 Glossary

- **Economic Planning-** Economic Planning refers to a process wherein a central planning authority ,keeping in view the resources of the country makes an attempt to regulate economic factors with a view to achieve pre-determined objectives within a specified period of time.
- **Marginal propensity to save** – The change in savings as a result of an additional unit of income .It may be written as

  $$MPS = \frac{\Delta S}{\Delta Y}$$

  Where S is saving, Y is income, and 'Δ' is 'change'

- **Harrod- Domar growth Model-** A functional economic relationship in which the growth rate of gross domestic product (g) depends directly on the national net savings rate (s) and inversely on the national capital-output ratio (k), that is ,g=s/k. The model takes its name from a synthesis of analyses of the growth process by two economists, Sir Roy Harrod of Britain and E.V Domar of the United States.
- **Capital-output ratio –**The ratio of the amount of capital to the amount of output produced by that capital. A constant capital-output ratio forms the basis of the Acceleration principle.

16.8 Self-Assessment Test

(a) Try the following objective type questions:-

(i) Was the Harrod -Domar growth model (x) explicitly built for India's first five year plan, or (y) was only implicit in estimation of its growth rate? .

(ii) Under which of the following category of planning models did Mahalanobis model fall?

(x) Aggregative planning models, (y) Sectoral planning models,

(iii) Did the Mahalanobis planning model include foreign trade as one of the sectors?...(x) Yes, (y) No

(iv) Since India's third five year plan, the model building exercises have been based on the inter-industry analysis. Is the statement (x) true, or. (y) false?

(v) Is it true to say that lately, with each successive five year plan in India, the model building exercise has become more and more sophisticated? ..

(x)Yes,(y)No
Correct Answers:((i)-y, (ii)-y, (iii)-y, (iv)- x (v)-y)
(b) Attempt the following questions.:.

16.9 Suggested Reading

1. P. C.'Mahalanobis, *The Approach of Operational Research to Planning. in India,* Chapter4.: .
2. AngirasShukla, *Dynamic Models, and Possibility of their Application to Planned Economic Development.* Chap. 7, Sections 9-10
3 J N Bhagwati and S Chakravarty, *Contribution to Indian Economic Analysls;* A su7'ey 1971, Chap. 1..
.4. S.P. Gupta; *Planning Models. in 'India,* 1973.
5. B.A. Chansarker, *Models 'for Planning' in India,*1987.
6. Taneja & Myer, *Economics of Development & Planning,* 2013

16.10 Terminal Questions

Question 1 Discuss the main contribution of the Mahalanobis model to India's planned development. On what grounds was the model criticized?

Question 2. What are the main features of planning models underlying India's five year plans in the 1990s.

LESSON 17

DOMESTIC RESOURCE MOBILIZATION: THROUGH FISCAL MEASURES AND MONETARY REGULATION

Structure

17.0 Objectives

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

- Explain the concept of resource mobilization
- Discuss the measures taken by the developing countries for resource mobilization in private sector
- Elucidate resource mobilization through monetary policy
- Explicate resource mobilization through fiscal policy and its various instruments

17.1Introduction

The rest of the lessons in this Unit shall deal with the question of resource mobilisation general. In the present lesson, we shall concentrate attention on domestic resource mobilization for planning, especially through fiscal or budgetary measures as well as monetary regulation by the monetary authorities of the country.

Mobilization of financial resources is fundamental to the whole problem of planned economic development If sufficient funds are not forthcoming the achievement of physical targets is not only difficult but almost impossible The instruments through which a nation can mobilize resources include taxation public borrowing, surpluses of public enterprises and deficit financing Since various sources of financing are available which is the most appropriate mix of financing economic development that should be adopted is a difficult task Which source ought to be tapped most will depend upon a host of factors such as the nature of the economy and its level of development the socio-political framework objectives to be pursued etc.

Problem of resource mobilization is somewhat different in developing countries from the advanced countries In advanced countries the national

income and rate of saving are high while in developing countries it is low. Since the task of capital formation could not be left to the private sector in the latter countries in their initial stages of development the state held to come forward to shoulder the responsibilities of raising the level of saving and investment in the economy. The Government could influence economic activities Although several instruments of policy such as monetary policy, fiscal policy, physical controls through orders and prohibitions Fiscal policy was an important and widely used instrument of policy to mobilize resources for development.

Owing to the existence of a sizeable segment of non monetized sector in, developing economies earlier, the extent of the operation of monetary policy was limited .Moreover, as an instrument of mobilization of resources for economic development monetary policy could not be placed at par both in its effectiveness and importance with fiscal policy

It must be emphasized here that much of the resource mobilization effort on the part of the planning authority which is being discussed here, was relevant for the period, when development planning was passing through its heyday and when private sector was being permitted only a marginal role in overall economic development in the developing economies. Lately, as the wave of liberalization sweeps the world, domestic resource mobilization for planning is losing its significance. Therefore, much of the discussion here relates to the earlier period when economic planning held great say in the developing economies.

Even during this earlier period, economic development was being planned within the framework of a mixed economy. The public and the private sectors co-existed. In a country like India, the public sector got a pride of place, in planning, and resource mobilization was normally discussed in the context of planned economic development primarily for the public sector. However, the overall objective of economic planning was to maximize the growth of the economy through the joint efforts of the public and private sectors. Before coming to domestic resource mobilization for the plan and therefore for the public sector, let us briefly look at methods of resource mobilization for the private sector under planning.

Exercise 17.1

Question 1 Define resource mobilization?

17.2 Resource Mobilization for Private Sector Investment

Since economic planning included financial and physical planning for both the public and the private sectors, the developing economies took some measures to help resource mobilization for the private sector as well. At the broadest level, this included measures for the development of the money market, the capital marker and sprucing up the system of financial intermediation through primarily the banking and non-banking financial institutions and the insurance sector. The money market deals in short term credit and the capital market in long-term loanable funds. Financial intermediation relates to facilitation of safe deposit of savings and there canalization into the investment channels Thus the developing economies took ample measures during the period of planning to put the banking, the non-banking and the insurance related financial structures of their economies

on a sound footing, so that savings were encouraged, their sale deposit facilitated and their ultimate flow into primarily planned investments in the private sector ensured.

Despite economic planning and public investment, private sector economic activities continued to remain dominant in the developing economies. Huge sectors of the economy, including agriculture and trade, remained in private hands. Therefore, the private sector's role in capital formation could not be minimized. That therefore, was the reason why the development of those institutions which facilitated the availability of credit)o the private sectors, was made a component part of the development programmes in these countries. It is interesting to note that, while on hand; resources have tended to dry up for the public sector investment with successive plans as we shall notice .below, the measures taken for resource. mobilization for the public sector during the planning period have eventually created a climate of confidence in the ability of the private sector to deliver the goods under a policy of liberalization in recent years. Banks, non-banking financial companies and the insurance sector in these countries grew at a rapid rate so that now resource mobilization and credit availability for the private sector have improved a great deal in most developing countries in the last half of a century.

For the mobilization of resources for the private sector, the monetary authorities like the central bank have used the monetary policy as an important tool. We shall discuss the operation of monetary policy in developing countries below.

Exercise 17.2

Question 1 What measures do the developing countries take for resource mobilization in the private sector?

17.3. Mobilization of Resources through Monetary Regulation

Now we shall discuss the monetary regulation of financial resources in the developing countries.

With a view to secure an accelerated rate of economic growth the monetary authority can press into service its techniques of credit control to influence and shape the character and pattern of investment and production. This will, however, depend on the range of credit institutions that exist in the economy and also on the forms of credit controls that are adopted by the Central Bank. In most of these countries where banking system is still not fully developed, the commercial banks mainly give short term credit facilities to businessmen and traders and are, unwilling to provide medium and long-term credit in order. to finance the industry and the manufacturing units in general. The monetary authorities may step in to make suitable guarantees and provide rediscounting facilities with a view to induce and encourage banks to provide these loans for productive purposes. Besides joint loans, commercial banks and state owned financial institution can greatly help in this direction.

Similarly selective credit controls may be adopted to influence the pattern of investment and production, by differentiating between the cost and availability of credit to different sectors and industries. The selective credit control, unlike quantitative credit control, makes discrimination between essential and 'non-essential use of bank credit and helps the funds to flow into

desirable channels and uses without affecting the economy as a' whole. Thus in a developing economy, the uses of money and credit should be controlled by the monetary authority, so that investible resources flow into desirable and productive channels without adversely affect in investment and production. This will help in quickening'. the pace of development.

Monetary policy can speed up. the process of economic development by improving the volume of credit and currency in the economy. For this purpose, more banks and financial institutions are set up. In this way, the savings of the people can be mobilized effectively for economic development. By expanding the network of rural banks & co-operative credit societies with apex banks financed by the Central Bank can help in fulfilling the needs of rural people for credit. Setting up of industrial banks and financial corporations can help to provide the required finance to 'business, industry and foreign trade.

There exists 'a vast informal sector in developing economies including small scale farming, household industries and petty trade, which lies outside the cowerol of organized banking and, therefore, outside the effective control of the Central Bank. Therefore, all out efforts must be made by. the monetary authorities to extend the sphere of the monetized sector to make monetary policy a success. .. ,

Public borrowing can 'also be used as an' effective instrument of monetary policy to regulate the volume of credit and currency in the economy. Through the variations in the volume, composition and yield rates of public debt, the financial markets in the economy can be influenced and regulated in' the desired direction. As Radcliffe Committee, in. U.K. emphasized in its Reports public debt forms a significant portion of the total credit• 'supply in the, country,.' and is 'therefore, intimately connected with the working of the economy. Anyone who owns some public debt possesses a purchasing power which can be quickly and easily converted into spendable purchasing power. Therefore, through changes id the volume and composition of market 'debt, lengthening of the maturity composition of public debt should be expected to reduce the overall liquidity of a given amount of public debts while a shortening of the public debt maturity will have the opposite' effect. The authorities; therefore, can swap longer maturities with the shorter ones and vice versa as a matter of policy.

Similarly by raising or lowering the rates of interest on Government securities market rates of interest can be moved in the desired direction, which in turn will influence the market value of -various financial and real assets A change in the interest rates will affect the volume and pattern of demand. for investable funds. When interest. rates go up investment activity will be slowed down and inflationary pressures will be brought under control On the other band, falling interest rates will encourage investment activity It means cheap money policy should normally be followed since it makes public borrowing cheap keeps the cost of public debt servicing low and thus stimulates investment both public and private

However, in an elaborately planned economy monetary regulation by the central bank was only an indirect tool of resource mobilization. It worked rather inefficiently in the developing economies These economies were financially fragmented with two distinct segments viz. the organized sector and the unorganized sector Monetary regulation was effective only in the

former Thus, monetary policy only partially successful Besides, the economists were also divided among themselves regarding the efficacy of the monetary policy as a tool of resource mobilization The Keynesians placed greater faith in the fiscal policy rather than monetary policy. On the other hand monetarists rejected fiscal policy out of hand and advocated the use of only monetary policy for the short period For, the long period;, even they thought that no discretionary policy was needed

As the developing economies move into a period of liberalization, monetary regulation become more relevant but only in the context of facilitating an efficient working of the private sector financial institutions In a period of market determined rates of interest monetary policy too is getting relegated to the background

Exercise 17.3

Questions 1 What are the components of monetary policy in developing countries?

17.4 Resource Mobilization through Fiscal Measures

When economic planning was initiated in the underdeveloped economies in the post-Second World War period ground had already been prepared for adopting a discretionary fiscal policy, though in the context of full employment in developed countries State can mobilize resources for increasing public expenditure through its budgetary or fiscal policy The fiscal measures can be adopted only by the state agencies since the fiscal powers are not available to the private.. sector. Through these measures the state can raise huge finances for meeting requirements of public expenditure in the developing economies a major portion of such expenditure can be directed towards capital formation and therefore economic development.

The most important fiscal measures for raising resources are taxation, public borrowing surpluses from public enterprises and deficit financing we shall discuss these sources of domestic resource mobilization in some detail below

17.4.1 Taxation

Taxation is an important source of resource mobilization both quantitatively and qualitatively. Quantitatively it raises the volume of public savings to be used for capital formation consistent with the requirements of growth of savings in the economy. Qualitatively, it directs the--flow of resources into useful and productive channels of investment and helps to check the misuse of resources into speculative and unproductive activities. Given the aggregative level of taxation, the tax structure can be a, important independent factor in determining the growth potential in the economy. The tax structure may encourage savings, help to raise investment in general in particular industries, and stimulate particular expenditures by individuals and business firms.

Since the developing countries are generally characterized by wide inequalities of income and wealth and as a result there is a major section of society which does not save much because its share in the total national income is too meager whereas there is another small section whose 'share in the national income is so large that it tends to-use-that for conspicuous

consumption, it is that, these countries should have steeply progressive direct taxes and widespread indirect taxes-.

The use of taxation for the mobilization of development finance may be considered from static and dynamic aspects. in the static aspect, when the economy tends to stay at a stable level of underdevelopment equilibrium, taxation should impinge on the consumption constituent of aggregative demand in such a way that the basic incentives of the economy are not unduly impaired. to the extent that taxation releases resources from non-functional consumption and inessential investment, its importance lies not so much in the reduction of overall effective demand, but in the reduction of demand for certain resources which are thereby set free and made available to the public sector. But in its dynamic aspect, as the aggregate output tends to extend due to the expansion of investment, tax policy must aim at checking the increment in output from being consumed, by deliberately sloughing back an increasing proportion of it into the pool of investible resources of the public sector.

Tax policy is thus a vital instrument in the hands of the Government. It plays a multifold role in the process of economic growth in several ways.
Taxation adds to what is called public savings' or savings that become available to the public authorities for making investments, either directly in public sector enterprises or infrastructure, or for providing loans and subsidies for encouraging productive activities in the private sector. These public savings are that part of public revenues (tax and non-tax revenue) which are left over after meeting public consumption needs in the form of expenditure on civil administration and defense etc. Taxation can add to resources available for capital formation only if tax revenue is high' enough and public consumption low enough to generate a sizeable surplus in the form of public savings.

17.4.2 Public Borrowing

Taxation alone cannot generate adequate resources. Hence resources have also to be raised through public borrowings to finance expenditure of the Government. Government can borrow within the country and outside the country. The classical economists like Huine Arid and Adam Smith condemned public borrowing and thought that it was the cause of nation's run.

After the Great Depression of 1929, 'there was a marked change in economic thinking which was brought about by J .M. Keynes. He was of the opinion that public debt through multiplier effect would raise the national income and effective demand in the economy and thus employment and output would also increase,

Public borrowing is resorted to in the developing economies to bridge the gap between the resource needs and the revenues available in the normal course.

Public borrowings can be justified, if under planning there exist viable and socially beneficial projects for which funds are not available through government revenues. Such projects, financed through public borrowings would create physical assets like infrastructure, or productive capacity in commodity sectors. After a while the increased output so obtained would generate sufficient surpluses to repay the loans. Thus, public borrowings can be justified to fill the resource gap under planned economic development.

The internal loans may be raised by the government through borrowings from the central bank which leads to increase in currency in circulation and may thus be inflationary in nature, at least in the short run. Another source of public borrowings is the private sector banking and other institutions to which bonds and securities may be sold which carry a fixed rate of interest. For the creditors, such bonds are a very safe investment. However, this second source too is. not without its drawbacks since With the private sector financial institutions the investible funds are limited. The more such institutions invest in government bonds, the less is left as commercial loans for the private sector. This has two implications. One is that public borrowings crowd out private sector credit and thus investment in that sector. Secondly, too much public borrowings would put an upward pressure on the rates of interest. It is on these grounds that the monetarists advise against any public sector investment since in their view this will have nil net effect on the overall rate of capital formation.

Public borrowings are a soft option of resource mobilization available to the governments. Because of this option the governments usually shun the harder choice of raising taxation and other user charges for fear of antagonizing there vote banks. If too much public borrowing is resorted to, and besides, the funds so raised are inefficiently utilized, these my lands the government in a debt trap. This is a situation where, to repay past loans, new loans are raised. In India currently, several of the state governments are already feared to be in this debt trap position '. .

Thus, public borrowings 'as a method of resource, mobilization for planned development is considered to' be an economically viable proposition provided that care is taken to make the projects on which such funds are spent to pay their way.. but this may not always happen because the public-sector everywhere. is characterized by its dullness inefficiency and corruption due to which the expected increases in national output through investment of borrowed funds may not materialize .

17.4.3 Surpluses of Public Enterprises

Apart from taxation and public borrowing another source of financing development expenditure is surpluses, generated by public enterprises. The Surpluses from public enterprises are the balance of resources available with public enterprises after providing for their working expenses, normal replacements, interest and dividend. A big advantage with such a method of financing is that it is a painless and very convenient method of resource mobilization. Administratively and politically, it is a convenient method of raising resources for development and does not entail any administrative expenditure as, taxation does.

There is also no tax payers resistance because the profit element is camouflaged in the price of the product. The earning of surpluses by public enterprises is also necessary in order to realize a return on the capital expenditure incurred in the establishment of such enterprises when a substantial portion of such expenditure might have been financed by internal or external loans.

U.N., Report on Domestic. Financing of Economic Development has pointed out, "When private enterprise failed to operate in' a profit making field, it was appropriate for public financed enterprise to fill the gap, profits could be

made available for further development. Furthermore, a public owned profit making enterprise might be carried on in underdeveloped countries in order to serve a yard-stick-to measure, the efficiency taxpaying capacity and prices of private enterprise. Government enterprises profit-making fields might also put the public authorities in closer touch with economic realities and thus enable them to control' the process of development, formulates development programmes and improve economic policies generally".

However, this method of financing the plans, though administratively and politically feasible, has the potential of the Government feeling tempted to exploit its monopoly position and to raise the prices very often Prices can be raised to screen inefficiency. The element of profit contained in the prices of public enterprises is a concealed form of commodity taxation and as such is bound to be regressive.

As is well-known by now, the potential of this method of resource mobilization has remained by and large unrealized. The public sector enterprises have been on the whole a big failure in generating surpluses .even for the future growth of these enterprises. Profit-making enterprises have been few and far between. Even those which did generate surpluses could not boast of having given a reasonable return on the investments made. In India, the inefficiency of public sector enterprises is quite well-known. Even in a country like China the loss-making public enterprises are a huge milestone round the neck of the political leaders in that country. Governments all over the world have proved to be very poor entrepreneurs and that in a big way has contributed to the current swing towards liberalization and privatization.

17.4.4Deficit Financing or Inflationary Finance

Even when the Government has tapped all sources of revenue available, as discussed above, there may still remain a gap between available receipts and total investment necessary for economic development. Under such a situation the .Government has, therefore, to resort to deficit financing. Broadly speaking, deficit financing is a technique that enables the Government to incur expenditure beyond its current revenues. This becomes possible through the borrowings from• the central bank and hence the issue of additional currency. On The basis of additional currency, banks are able-to create more credit. It provides opportunity to the Government to undertake investment activity in advance of saving. Deficit financing..as an instrument of resource mobilization may be assessed from three points of view.

(a) In an underdeveloped economy there are generally large under-utilized physical resources which will remain inactive unless they are mobilized with the help of "created money". So long as there are idle physical resources available no amount of "created money" would have any inflationary effects. This will bring about an expansion of production through the multiplier effect and will also increase the supply of consumption goods.

(b) A policy of large-scale deficit financing adopted by the government which results in inflation may be regarded as a mechanism of forced savings: It aims at transferring resources from private consumption sector to the public sector for use as investible resources. Further, an inflation-induced redistribution Of real income in favor of variable income groups against fixed income groups may strengthen the former's saving propensity more than it

weakens the latter's saving habits. This means that the marginal propensity to save out of variable income becomes larger than that out of fixed income 'in consequence of inflation-induced redistribution. Prof. Kurihara regarded profit-takers and dividend-receivers as constituting the most important single group among the variable income groups and interest and rent receivers as the dominant groups among the fixed income receivers. In this way, overall marginal propensity to save would increase.

But it would be a mistake to assume that all the inflationary profits become available for economic development. There may be positive dis-savings on the part of other income groups in the community in their attempt to protect their customary levels of consumption which are threatened by an inflationary rise in prices. The consumption of profit-receivers may also increase as their real incomes rise. Thus, only a fraction, perhaps only one-third of the inflationary profits emerge as an addition to real resources for development. Since in a developing economy the volume of assets expressed in money terms-bonds, insurance policies and savings deposits are relatively small, the repercussions created by deficit-induced inflation would be less serious. Besides, inflation would react favorably on equity dividends, corporate and business profits and government tax revenues. In response to a secular inflation, the consumers would also adjust their consumption expenditures downwards in order to increase the volume of saving to make up for the decrease in the real value of assets. On the basis of these arguments, Prof. Kurihara had observed that, "Underdeveloped economies should be encouraged to develop their productive resources as rapidly as possible without fears of inflation".

(c) If a developing economy's output is growing as a result of planned development, there is a case for an expansion of money supply in order to satisfy the growing transaction's demand and the need for marketing increased production. This will help in quicking the pace of development.

The theory of inflationary finance (deficit financing) as a method of resource mobilization is quite sound. As the government borrows from the central bank to cover its revenue-expenditure gap, fresh money comes into circulation, thus causing inflation in the short-nm. Real incomes and consumption of the people fall, thus releasing resources for investment in the public sector. The government uses borrowed money to create productive capacity in the economy. After a While thus, output and supplies also start rising, ultimately pushing the general price level downwards.

However, in practice inflationary finance has not generally worked as expected and there have been some of its negative fallouts. Inflation in the developing countries have tended to worsen the balance of payments position. Besides, inflation generates social tensions, labour unrest and soured industrial relations, the latter thus disrupting the productive process. Finally, the governments in developing countries have been found to misdirect and miss-spend newly created money, which results in permanent rise in prices without creating the expected productive capacities in the economy. Deficit financing may thus turn out to be a dangerous tool in the hands of the government.

Exercise 17.4

Question 1What do you mean by Deficit Financing?

Question 2 Elucidate resource mobilization through public borrowings.

17.5 Summary& Conclusion

In this lesson, after leaving behind the technical aspects of plan formulation, we entered the discussion of some practical issues in this area of planning. Financial planning and resource mobilization are important problems discussed here. In the initial stages of planning in developing countries, domestic resource mobilization is important problems discussed here. In the initial stages of planning in the developing countries, domestic resource mobilization is a difficult proposition, since on the one hand, the investment requirements are quite heavy, and on the other hand, domestic sources of investible funds are difficult to come by. In such a scenario, the planner puts into place institutional framework for generation of private sector savings and their canalization into productive channels. This is sought to be done through monetary policy and regulation, which unfortunately proves to be of limited efficacy because of the inherent weakness of such economies.

Fiscal policy is a direct and more effective instrument of resource mobilization for planning. The government has several discretionary powers exercised through the budget in this respect. Taxation is one such instrument, but the more undeveloped an economy the less is the taxpaying capacity of the people. The government, therefore try to full the budgetary gap through internal borrowing. They also try to mobilize the surpluses of public enterprises for this purpose, but the record of these enterprises in different countries has not been encouraging. Finally, therefore, when other instruments of resource mobilization through the budget prove to be insufficient, the government resorts to deficit financing. or what is termed as forced savings and inflationary finance. In theory, this could generate real resources foe public investment and beat the temporary inflation that increase in money supply sets into motion, through increase in the output after a gap of time. But in reality, deficit financing may prove to be a dangerous tool in the hands of the governments, if proper investments are not made, or the newly created money is diverted to unproductive uses.

17.6 Glossary

- **Resource Mobilization-** Resource mobilization means expansion of relations with the resource providers, and the skills, knowledge and capacity for proper use of resources. Not only the use of money it denotes the process that achieves the mission of the Organization through the mobilization of knowledge for human use of skills, equipment, services etc. Also includes seeking new sources of resource mobilization as well as correct and maximum use of the available resources.
- **Monetary Policy –**Monetary policy may be defined as the deliberate and conscious management of money supply for the purpose of attaining a specific objective or set of objectives. It aims at regulating the flow of currency, credit and other money substitutes in an economy with a view to affect the total stock of such assets and to influence the demand of the community for such assets. In its broad sense monetary policy refers to the monetary system of a country and deals with all those monetary and non-monetary measures and decisions which

have monetary effects'

- **Fiscal Policy –** Generally refers to the use of taxation and government expenditure to regulate the aggregate level of economic activity. Broadly speaking consists of taxes, public borrowings and public spending. It is related to public finance and it means the uses all these instruments to secure economic stabilization in developed countries and economic growth in underdeveloped countries.
- **Bonds-**The term is used generally and more loosely to denote any fixed- interest (debt) security, e.g, a gilt-edged stock or a debenture. The asset is negotiable (saleable) and contracts to pay the holder a certain fixed money sum at regular intervals (the coupon payments) until maturity, that is until such time as the liability is discharged and the outstanding sum (the principal) is repaid.
- **Deficit Financing –** The financing which is required in the situation in which expenditure deliberately exceeds income. The term is also used generally to refer to the financing of a planned deficit whether operated by the government in the domestic affairs or with the reference to the balance of payments deficit.

17.7Self Assessment Test

Try the following objective type questions:-

(i) The planner problem of resource mobilization arises in the context of one of the following .Which one is? (x) Need of creation of infrastructure, (y) Defending the countries against foreign aggression.

(ii) Which of the following structural deficiencies of developing countries renders monetary regulation less than effective (x) Segmentation of the economy into organized or unorganized sectors, (y) Division of the economy into rural and urban sectors?

(iii) Which one of the following instruments of resource mobilization is designed by the monetary authority (x) Fiscal policy (ii) monetary policy.

(iv) Surpluses of public sector are not an important source of investible funds for planning because of the faulty pricing policies pursued by these enterprises. Is the statement (x) True, or (y) False

(v) Forced savings as a method of resource mobilization are generated by governments through budgetary means by selling one of the following financial assets. Which one is it?(x) Foreign currency held by the central bank (y) Government Bonds.

(vi) (Correct answers: (i)-x; (ii)-x; (iii)-y; (iv)-x; (v)-y)

17.8 Suggested Readings

1. Subrata Ghatak, *Monetary Economics in Developing Countries*, 1981.Chap.5 and7.
1. G.M Meier and J.E.Rauch. *Leading Issues in Economic Development*(7th ed)2000
2. C.P.Kondleberger& B.Herrick, *Economic Development.*1977,Chap.14.
3. M.P.Todaro. *Economic Development in the Third World,*1987.Chap.16
4. World Bank, *World Development Report* 1988. Part-II

5. Westerly and R.Sergio. *“Fiscal Policy and Economic Growth*”. Journal of Monetary Ecomonics.No.32,1993.

17.9 Terminal Questions

Question 1. Discuss the main components of monetary policy in the developing countries. What are the deficiencies of this policy as a method of resource mobilization?

Question 2 Why does the need of inflationary finance as a method of resource mobilization arise? What are the limitations of this method?

LESSON 18

DUAL-GAP ANALYSIS AND FOREIGN BORROWINGS

Structure

18.0 Objectives

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

- Define the concept of Dual-Gap analysis.
- Elucidate the problems related to foreign borrowing &Debt servicing.
- Have an idea about recent decades Debt crisis

18.1Introduction

In the preceding lesson, we started a discussion of resource mobilization for planned economic development, and there we confined ourselves to domestic component, of resource mobilization. In the present and the succeeding lessons, we shall deal with foreign borrowings and other sources of foreign savings. In initial stages of development, foreign savings are relatively more important because domestic savings then are too inadequate to fulfill all requirements of investment. In this context, in the 1960s, analysis of the domestic saving-investment gap and the gap between export earnings and import requirements was carried out in the form of dual-gap model, which we shall discuss here.

Traditionally, the role of foreign borrowings was seen by countries as a supplement to domestic saving to bridge a savings-investment gap for the achievement of faster growth The concept of dual-gap analysis, however, pioneered by Hollis Chenery and other-writers, shows that foreign borrowing may also be viewed as a supplement to foreign exchange to achieve a faster rate of growth and development. The gap between foreign exchange earnings from exports and necessary imports is larger than the domestic saving investment gap, and domestic and foreign resources are not easily substitutable for one another. Foreign borrowing must fill the larger of the two gaps if the target growth rate is to be achieved. The historical sequence of experience originally suggested by Chenery was that the countries in the pre--take-off stage of development would have a dominant savings-investment gap. Almost all -the developing countries have a sizeable foreign exchange gap, which results in a chronic balance of payments deficit on current account, while domestic resources lie idle. These gaps are needed to be financed in order to develop the economy at a faster rate.

18.2. Dual-Gap Analysis

In the 1960s, several dual-gap models -appeared and in this respect Hollis Chenery and Alien Strout's article ("Foreign Assistance and Economic Development, American Economic Review, Sept.., 1966) was most influential. The model starts with the macroeconomic national income identity as below:

Aggregate output and income = aggregate expenditure therefore; Y=C+ I+ (X-M), where Y represents national income, C aggregate consumption, I investment, X export, and M imports rearranging the identity.

Y+M = C + I + X.

If we subtract C from both sides and define saving, S as abstention from consumption, (i.e. S =Y – C) then we generate an equation which describes the two gaps.

Foreign exchange gap= domestic savings gap or M - X=I - S

This identity emphasis the point that at the end of any national income accounting period, the two gaps shown above must be equal. But at the beginning of the period, i.e. ex ante. This need not to be so because the four variables in the above equation i.e. X, M, S and I are independently determined. Exports are determined by foreign demand and international prices, imports are determined by the import requirements to fulfill the capital and raw material requirements of planned development, as well as the propensity to import, planned investment depends on various targets to be met, and savings depend on level of distribution of income and the propensity to save.

Thus, at the beginning of the accounting period, i.e. ex ante, the two gaps will not be equal, but to bring about equality ex post, i.e. at the end of the accounting period, suitable adjustments will take place in the economy, for which there are several possibilities. If imports are greater than exports, foreign aid may fill the gap but as long as the two gaps are unequal, growth process will be hampered. If the foreign exchange gap is larger than the savings gap, imports will fall and thus slow down the growth process. If the latter is larger, planned investments might fall.

Foreign inflows in the form of aid, grants, loans or foreign direct investment might fill both the gaps. These would bring about the needed adjustments to equalize the foreign exchange gap and the savings gap.

The dual gap model is valuable in the sense that it emphasizes the importance of the necessary adjustment process otherwise the persistence of these gaps will hamper the growth process.

Dual-gap Theory thus performs the valuable service of emphasizing the role of imports and foreign exchange in the development process. It synthesizes traditional and more modem views concerning aid, trade and development. On the one hand, it embraces the traditional view of foreign assistance as, merely a boost to domestic saving: on the other hand, it takes the more modem view that many goods necessary for growth cannot be produced by the developing countries themselves and must therefore, be imported with the, aid of foreign assistance. Indeed, if foreign exchange is truly the dominant constraint, it can be argued that dual-gap analysis also presents a more relevant theory of trade for developing countries which justifies protection and import substitution. If growth is constrained by a lack of

foreign exchange, free trade cannot guarantee simultaneous internal and external equilibrium and the gains from the trade may be offset by the under-utilization of domestic resources.

The basic underlying assumption of dual-gap analysis is lack of substitutability between foreign and domestic resources. This may seem to be a stringent assumption, but nonetheless may be valid particularly in the short period.

The pioneering study of dual-gap analysis was undertaken by professor Chenery and his associates. Of the countries that were studied, the typical sequence seemed to be an investment-saving gap followed by an import-export gap in the 'take-off stages of development, sometimes of considerable stubbornness. A study by UNCTAD in 1968 of forty developing market economies found no significant difference between the investment-saving gap and import-export gap for the countries as a whole, and made forecasts of foreign borrowings of these countries on the assumption of 6 percent growth. All these ‘calculations, however, were subsequently upset, and now almost every non-oil producing developing country is confronted with a dominant foreign exchange gap. How temporary or permanent This dominant constraint will be is a matter of conjecture depending on the future price of oil, the future export performance of developing countries and their ability to generate domestic saving.

Exercise 18.1

Question1 Briefly explain the concept of Dual-Gap Analysis?

18.3 Foreign Borrowing and Debt Servicing Problem

The argument often advanced that the rate of return on investment in the borrowing country exceeds the rate of interest is no indication of whether the debt can be serviced since the loan must be repaid with interest in foreign currency.. Thus the questions of the profitability of borrowing and of the capacity to service debt are conceptually distinct. The ability to service debt depends on whether additional foreign exchange can be earned or saved by the borrowing country. This depends, on the domestic economic policy pursued by the country concerned, and on the ability to export which depend on world economic conditions. A major part of the debt- servicing difficulties that have arisen in the past decades has more to do with changes in world economic condition, Which have depressed the foreign exchange earnings of developing countries than with the miscalculations of rates of return on investment, the misuse of investment funds, or the use of the capital inflows to raise present consumption as sometimes alleged in, the west. There is a parallel in the. 1980s when the collapse of the world prices of key commodities, and a general shrinkage of the world trade, caused major debt defaults (which subsequently dried up the flow of private capital to developing countries). The trouble started in 1982 when world trade volume .shránk by 2.5.percen and the terms of trade for developing countries as a whole deteriorated by over 10 percent. The slowdown of economic activity and recession in world market, in 2001-02 is also a case in point. Not even the most prudent borrower 'can foresee such events which may occur halfway through the life of loan than commitment entered into under quite different economic circumstances. When such unforeseen events occur, beyond the

borrowers control which make it difficult for loans to be repaid and serviced without economic disruption, two questions arise: What is the optimal degree of debt rescheduling, and who should bear the cost? It is naturally in the interest, of private banks that loans be repaid on schedule, but it is not necessary in the global social interest if this leads to 'a contraction of imports of the borrowing country which then reduces the exports of other countries, leading to a deflationary spiral in the whole world economy If 'there is a divergence between the private and social interest, 'this" would seem to call for an international subsidy for lenders and borrowers to accept more rescheduling with no subsidy at all. If the international economy derives 'a benefit from rescheduling, however, why should the: poor debtor countries bear the-full cost?

The benefits of borrowing to the individual countries and to world at large are clear. But how far should borrowing go. It is possible that after a certain point, even though a developing country still requires resources for development, 'disadvantages of further borrowing outweigh the advantages. Unfortunately there are no precise objective criteria that can be laid down in this respect.

Debt as a proportion of national income is sometimes taken as a criterion. There has been a progressive rise in the ratio of debt to the GDP of developing countries India's external debt, as a percentage of Gross Domestic product at current market prices rose sharply from 26.7 per cent in 1989-90 to a peak of 37.6 per cent in 1992-93. But the ratio declined to 30.9percent,in 1993-94 because of better management and there was a further sharp drop to, 18.7, percent in 2007-08, but it is not clear what economic significance should be attached to this ratio as a. measure of the ability to service debt and therefore as a measure of the possibility of default, It is true that to service the debt export earnings as a proportion of national income should rise, but tin's suggests more direct measure of the proneness to default relating debt-service payment to exports Indeed by far the most widely used criterion for assessing the desirability of future borrowing and proneness to default- is the debt-service ratio which measures the ratio of amortization and interest payments to export earnings. While it is not possible to fix a limit to the debt-service ratio that should not be exceeded (because other factors also matter), a progressively rising ratio means a greater fixed claim on export receipts and therefore the greater the proneness to default if these receipts fluctuate and- foreign exchange requirements for other purposes cannot easily be curtailed. For India the debt service ratio has been a mixed trend. Debt service as a proportion of current receipts which reached a peak of 35.3 per cent in 1990-91 come down steadily to 6.1 percent in 2004-05. This has slightly increased to 9.9 per cent. in 2005-06. This was a healthy trend and needed to be strengthened. But it has again worsened to 10.2 per cent in 2007-08.

In the case of the least developed countries today, however, there is little evidence that they have the ability to pay off their past in debtedness and cut down on net resource inflow. The need for resources is as acute as ever,in the case of these countries and their indebtedness is mounting, because an import-export gap has exceeded the investment-saving gap.

Notwithstanding the attention paid to the debt service ratio in practice the only good predictor of default, the ability to repay depends also on the

ability to attract new capital and on the relation between foreign exchange earnings and necessary import requirements. Proneness to default depends on a complex of factors, of which the debt service ratio is just one. In fact six variables have been identified which significantly affect the probability of default: the debt service ratio per capita income, the ratio of net foreign capital inflows to debt service payment, the growth of GDP per capita, export growth and the ratio of imports to international reserve holdings.

Exercise 18.2

Question 1 Can foreign borrowings fill up the dual gaps? Give reasons.

18.4 The Debt Crisis of Recent Decades

The debt crisis erupted in the summer of 1982 when Mexico suspended for the first time the repayment of loans due to the private banking system and sovereign lenders. The crisis has smoldered ever since with more and more countries finding it difficult to service accumulated debts out of foreign exchange earnings. In 1987, Brazil became the first country to suspend interest payments to foreign creditors.

The 'crisis' aspects of debt can be looked at from different points of view from the point of view of the individual borrowing countries, or the lenders, or the whole world economy. As far as borrowers are concerned, there are basically two types of 'problem' countries. First, there are a small number of poor, commodity dependent countries, mainly in Africa but also elsewhere where private banks are not involved. It becomes a crisis for these countries if they have to cutback essential imports in order to service debt. The rescheduling of debt has already taken place in many countries. There have been over 80 rescheduling in Africa alone during the last two decades. The second set of countries comprises a few industrializing countries mainly in Latin America, which borrowed from the commercial banking system at floating rates of interest, whose export market then became depressed. The sums of money involved here are huge non-repayment of debt becomes a crisis for the private banking system and a crisis for the individual country, if the threat of default dries up the flow of new capital. There would also be a crisis for the world economy.

In recent decades, the debt crisis has worsened for many of the least developed countries. This is clear from the fact that the. debt GNP ratio of 90 developing countries increased from 13.3% in 1970 to 35.4% in 1986. What is still worse is that in this period, the actual outstanding debt of these countries rose more than 100 percent. For some countries, the position has continued deteriorating even in the 1990s. Thus, the external debt as a percentage of GNP in 1998 was 279 for Angola, 280 for the Republic of Congo, 262 for Nicaragua, and 181 for Zambia and for India the percentage was luckily only 20. It reached to 18.8 per cent in 2005-06.

The debt crisis has arisen because these countries were provided loans at relatively high rates of interest and with stringent repayment schedule no effort was made by the aid donors to help these countries by increasing access to their exports. Some of the poorest countries spent borrowed funds on building infrastructure which does not help to increase output and income in the short or medium term.

The solution of this problem does not lie in improving aid and conditions underlying it, as had been suggested under what was called the Baker Plan of 1985. Under the plan poor debtor countries were to grow out of their debt problem through the provision of $ 8.20 billion of additional lending from the commercial banks and $ 8.9 billion of multilateral lending, contingent upon market friendly growth-orientated structural adjustment in 15 highly indebted countries There are no easy solutions to the debt serving problem short off lenders writing off past debts or waiving interest payments. This has happened to a limited extent. In addition, there are a number of ways in which the present and future burden on the debtor developing countries could be ameliorated.

First, there is debt rescheduling. Secondly, variable maturity loans might be issued so that debt service payments remain unaltered as interest rates float upwards on private debt. Thirdly zero coupon bonds might be offered which delay interest payments until the loan has matured. Fourthly, fixed interest debt can be given certain equity features so that the return and repayments are related to the performance of the economy. The conversion of debt into equity could make a major contribution to the solution to debt servicing difficulties and liquidity problems.

The most lasting solution to the debt problem lies in increasing market access to the exports of the indebted countries so that .their export earnings, and thus, their repayment capacities improve. Besides, such countries should be enabled to diversify their exports so that they don't have to depend on only one or two export products. In fact, since the 1980s, the slogan has been "trade not aid". This should be done under a well-thought out strategy, worked out by the international 'community for the benefit of the least developed countries. In the case of such countries, it is now amply clear that the traditional method of providing loans has worsened their economic condition rather than having helped them out of this situation.

Exercise 18.3

Question1 Elucidate the debt crisis of the recent years?

18.5 Summary and Conclusion

The present Lesson took up some aspects of resource mobilization 'for planned development through external borrowings. In this context, the dual-gap model of the 1960s was briefly reviewed. The model highlighted the fact that the development process created simultaneous need for more savings and foreign exchange. Thus arises the dual gap that between investment needs and domestic savings, and that between foreign exchange needs through imports and the export earnings. The two gaps act as constraints on the development process. The model held out the hope, that through foreign borrowings both the gap could be filled and foreign borrowing would set into motion an adjustment mechanism so that while the dual gap was filled, the development process would also be accelerated.

We noted, however, that the theory of foreign borrowing has not worked the way it was expected to do, at least in the case of the poorest countries, and in recent decades, a debt crisis has arisen. The least developed countries have, been in a deep debt crisis in the last two decades, with mounting, debt-GDP ratios, frequent defaults in repaying past loans, with

only feeble efforts by the international community to reschedule repayments or write off their loans. The real solution to resource mobilization of this type rests, not on more foreign aid or other temporary measures but in diversification of exports of such countries an increased access to the exports of these countries in the markets of the developed world. Thus, trade and not aid is the proper solution of external resource mobilization. .

18.6Glossary

- **Balance of Payments –** A summary statement of a nation's financial transaction with the outside world
- **Debt –** An obligation or liability arising from the borrowing of finance or the taking of goods or services 'on credit', i.e. against an obligation to pay later. Depending on the terms of the transaction, Interest is payable at specified periods on most forms of debt and the repayment on maturity date (or dates, if repayments is by installments) is also usually specified.
- **Foreign Aid –** The international transfer of public funds in the form of loans or grants either directly from one government to another or indirectly through the vehicle of a multilateral assistance agency like the World Bank.
- **Foreign Exchange –** Currency or interest bearing bonds of another country, for example holdings by UK nationals of US dollars, Euro-dollars, Deutsche marks, Swiss francs, or us government bonds.
- **National Income –** Total monetary value of all final goods and services produced in an economy over some period of time usually a year

18.7 Self-Assessment Test

(a) Try the following Objective type questions;
(i) For the economic development of the least developed countries, is (x) more aid, or (y) more trade a better solution?
(ii) In the national income accounts, the equation M - X = I - S holds good at the beginning of the accounting period. Is the statement (x) true, or (y) false
(iii). Can the foreign aid flows fill up the dual gaps under the dual gap model of foreign borrowings? (x) Yes, (y) No
(iv) Which of the following phenomenon signifies the debt crisis of the developing countries
(x) Their failure to get requisite foreign aid. (y) Their failure to service mounting past loans.
(v) The prevailing view is that foreign aid has helped the developing countries immensely. Is the statement (x) True, or (y) False? (Correct answers: (i)- y; (ii) y; (iii) -x; (iv) - y;(v)-y).

18.8 Suggested Readings

1. G.M. Meier, *Leading Issues in Economic Development;* (II ed.) 1970, Part-V, Section VA. 1 to V.A. 3. .
2. G.M. Meier, *Leading Issues in Economic Development*. (V ed.), 1990, chap. V, Sections V.A. 1, V.A. 3, and V.B. 1.
3. C.P. Kindleberger & B. Herric, *Economic Development*, 1977, Chap. 18.
4. A.P. Thirllwall, *Growth and Development*, 1986, Chap. 13.

5. Work Bank, *World Development Report*. 1991, pp. 123-127. .

18.9Terminal Questions

Question1 Comment on the statement: Foreign aid inflows appear in the national income accounts twice, first as the difference between investment and domestic savings, and again as an excess of imports over exports.

Question2 Write a critical note on foreign borrowings as a method of external resource mobilization for planned economic development.

LESSON 19

FOREIGN BORROWINGS VERSUS FOREIGN DIRECT INVESTMENT

Structure

19.0 Objectives

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

- State the background and the logic for opting foreign borrowings and foreign direct investment as a source of economic development
- Give meaning of the terms Foreign Borrowings and Foreign Direct Investment
- Elucidate the debate between Foreign borrowings and foreign direct investment
- Appreciate the need and importance of foreign direct investments in developing countries
- Explain the merits and drawbacks of foreign direct investments

19.1 Introduction

The present lesson Is the last one in this Unit. While dealing with the question of external resource mobilization for economic development, there has been a debate on the relative merits and effectiveness of foreign borrowings vis-a-vis reliance on foreign direct investment. The latter has in fact been the classical mode of acquiring foreign savings, when domestic savings prove to be inadequate to meet the investment requirements. After all, all countries of the world started from a low level of economic development. At that stage, because of general poverty, sufficient domestic savings could not be generated for initiating a vigorous process of economic development and for sustaining the same. So, all countries stood in need of foreign savings to fill the investment-domestic saving gap in their initial stages of development. .

In what follows, we shall briefly refer to foreign borrowings (since these were also discussed in the preceding lesson), then deal with foreign direct investment, its mechanism of operation in the developing- countries and its merits and drawbacks vis-a-vis those of foreign borrowings.

We shall start the discussion here, with a brief reference to foreign, borrowings and particularly focus on why there is a saving bank to the traditional source of foreign capital through foreign direct investment.

19.2 Foreign Borrowings

In the post-Second World War period, foreign borrowings by the developing countries assumed great importance. The rising tide of foreign borrowings was caused by factors operating both on the demand and the supply sides. Two factors primarily operated on the demand side: In the developing countries, as the period of colonialism came to an end and the process of planning started, a huge demand arose for foreign capital. This is the issue addressed by the dual-gap, analysis of the preceding lesson. There were wide investment-domestic saving and import-export gaps; so foreign savings and foreign capital were in great demand in the then underdeveloped world. However, the second factor operating on the demand side, created needs particularly for foreign borrowings (if outright grants or donations were not coming forth) as against for foreign private capital. In the post-Second World War years, the newly independent countries were afraid of inviting foreign private capital to make direct investments there countries like India harked back to their bitter, experiences with foreign private capital embodied in notorious organizations of the past like East India Company. They therefore preferred foreign borrowings. On the supply side, the factor that mainly operated was the economics of the cold war of this period. The world had been polarized into the capitalist west and the communist bloc. Each of them tried to woo the neutral underdeveloped countries by providing foreign aid to them.

The main sources of foreign loans were the government to government bilateral loans under what has come to be called official development aid (O.DA.) of loans from the World Bank Group, the regional development banks and the international commercial banks. The loans were hard or soft depending on the rate of interest that these carried and the period of the repayment we have noted in the preceding lesson that it is usually the hard loans and their mis-utilisation which caused the debt crisis in some of the developing countries in the last two decades.

In fact, the period roughly up to the mid-1970s had seen a great surge in foreign borrowings. But the drying up of the main sources of these borrowings, especially. The O.D.A, and, the soft loans from the International, Development Agency Of the World Bank, in the 1970s and 1980s, as well as the mounting debt burden on the developing world, turned the, tide against, foreign borrowings. Besides, the multilateral financial institutions - like the World Bank tended to impose stiff conditionality upon the borrowing countries. They were goaded to adopt the Structural Adjustment Programme of the Bank. Thus, once again several factors started 'operating on the supply and demand sides to turn the tide against foreign borrowings in the last about two decades:

According to the World Development Report 2000/2001, O.D.A. per capita declined from $13 in 1990 to '$9 in 1998. In the same period, while the external debt of low income countries increased by about 39%, foreign direct investment rose by as much as 385% This clearly, brings out the shift in the nature of the foreign 'currency inflows to the developing countries. These inflows are not diminishing in' size,' because the foreign exchange requirements of these countries are still very large. These countries need increasing amounts of foreign savings to 'augment the total savings available for 'long-term investment. Besides, these countries have to build up their

foreign exchange reserves; out of which repayment. obligations of past loans and the current balance of payments deficits are met. However, while the sources of foreign borrowings are drying up, or are becoming more costly (in terms of monetary and political costs), even the developing countries are getting more wary of external indebtedness.

In the past, the developing countries experience with foreign borrowings has not been very happy. The most obvious drawbacks of foreign borrowings have been the following (1) In the past, foreign aid has by and large failed to solve the development problems of these countries, but the debt burden has certainly created numerous problems for them (ii) The availability of foreign aid was usually based on political considerations. The borrowing countries were expected to toe the line of the donors. The latter even tried to influence the domestic policies of the former, (iii) more often than not the borrowing country had to make purchases with the loan in the creditor country. These were called tied loans, (iv) Foreign aid created such problems for the poorest of the developing countries as the debt crisis and even a debt trap. (In the latter case, more loans had to be borrowed to repay past loans), (v) Some of the foreign loans, especially those from the I.M.F. and the World Bank, were accompanied, by stiff conditionalties, which even compromised the sovereignty of the borrowing countries;, Finally, some of the loans, particularly those from the western commercial banks, were of a short- term nature and these could be withdrawn as soon as any, alarm bells rang in the borrowing countries. Such loans were of the nature of hot money, which flows out of the borrowing country at a very short notice. This has been put forward as one of the causes of the East Asian foreign exchange crisis of 1997-98.

It is factors like these, combined with some of the politico-economic changes which have occurred in the world in the last two decades, that foreign borrowings are .not being favored now as much as in the .1950-80 period. As against foreign borrowings, foreign direct investment is finding more favor with the governments, policy makers and planners in the developing countries. We shall now turn to 'a discussion 'of foreign direct investment as the emerging form of foreign exchange inflows into the developing countries.

Exercise 19.1

Question 1 Define foreign borrowings?

19.3 Foreign Direct Investment (F.D.I.)

FDI occur when' a 'company hold physical assets abroad Such companies are referred to as multinational corporations (MNCs) or trans-national corporations. As we already know from the case of the East India Company FDI has been a phenomenon long 'in existence. This form of capital inflow into the developing countries has its friends and foes. The former view is. That it is very beneficial to these countries because the MNCs are supposed to bring with them not only much needed foreign capital for investment but also latest technology, improved managerial practices and sometimes even potential markets for the goods that they produce in the developing countries. There are however, those who are bitter foes of MNCs and, therefore, of this form of foreign capital. We shall deal with this contrary view about FDI) later below.

In the pre-1914 period, FDI was the most dominant form of foreign capital inflow into the capital-starved countries of the world: Later especially in the Post- Second World War period, official foreign aid became dominant, relegating FDI to the background. Thus, in the mid 1960s while the annual average net FDI inflow into the developing countries was about $ 1.6 billion even the official development assistance from the OECD countries was as much as $ 21 billion But even at that time official foreign aid was being viewed as an interim arrangement and FDI was being looked forward to (by the western countries) as the more sustainable stream of capital flows into the developing countries in the coming years The revival of capitalism throughout the world in the last two decades of the twentieth century has again turned the tide in favor of FDI Thus between 1990 and 1998, while official development assistance into the low income countries as a percentage of their GNP halved, the FDI in the same period increased by as much as 385%.

Now the question arises is FDI a superior form of foreign capital needed by the developing countries vis-a-vis foreign aid available from foreign governments and the international and regional multilateral financial institutions? There are some merits, claimed for FD1 vis-a-vis foreign aid. One of the merits is quite obvious.FDI. does not lead to indebtedness of the developing countries as foreign aid does The former is not borrowing while the latter is. FDI is private capital 'which gets, invested willingly wherever there are investment opportunities Therefore, it Is claimed that for the developing countries the easy way out of indebtedness is to opt for FDI

Secondly, it seems that in-spite of huge inflows of foreign aid in the past five decades many Developing Countries remained mired in poverty and underdevelopment, perhaps because foreign aid was misutilised or simply wasted due to the inefficiencies inherent in the public spending and rampant corruption while foreign aid did not positively and unambiguously benefit all the developing countries, it did create a debt crisis for several of them FDI on the other hand is invested by the private companies, which in their own self-interest will see to it that the funds brought into the developing countries are efficiently utilized If the leaders of these countries have a clear vision of where FDI is most needed, they are incorruptible and cannot be easily bought over by the powerful MNCs, this form of foreign capital can be used for national development Without getting-indebted. Thirdly, unlike foreign borrowings, FDI brings along with capital, latest technology, improved managerial practices, and even potentially beneficial links for marketing the products-produced by the MNCs. Exports and local skill formation may also be facilitated by them Thus FDI is supposed to be bundle of benefits rather than-just the inflow of private capital.

Fourthly, FDI, being linked with huge MNCs, enables developing countries to get more closely integrated with the global economic system through capital and technology transfers, increased commodity trade flows, monetary transactions, adoption of standardized international practices of accounting, management, banking, and marketing etc. To the extent that such global integration brings gains of international division of labour, specialization etc. to,' the developing countries, FDI bestow more benefits on them than foreign borrowing.

Finally, GM. Meier notes that FDI is supposed to increase productivity through efficient use of capital, latest technology and improved management

practices. If the productivity increases are not wholly appropriated by the MNCs, then according to Meier, These benefits can accrue to (a) domestic labour in the form of higher real wages, (b) consumers by way of lower prices, and. (c) the government through higher tax revenue. Beyond this, and most importantly in many cases, there are likely to be (d) indirect gains through the realization of external economies. It will be seen that most of these gains do not necessarily accompany foreign borrowings.

However, as noted earlier-FDI through MNCs is as well viewed with great scepticism and hostility by many analysts. In fact, the role of MNCs, particularly in the developing countries, is an emotionally charged issue. The debate on this role has ideological overtones. Ironically, in India the leftists and the Swadeshi Jagran Manch of the BJP, though politically poles apart, are on the same side of the fence so far as their hostility towards MNCs is concerned. So what are the drawbacks of FDI as a method of external resource mobilization that are usually pointed out? These are enlisted below.

In the first place, Marxists neo-Marxists like Paul Baran and A.G Frank have labelled FDI through MNCs as exploitative, a neo-colonialist instrument, promoting permanent dependency of developing countries on the capitalist west, and this whole process is termed by them as "development of underdevelopment." This criticism is no doubt arises from ideological biases against the western countries, but there may also be a grain of truth in all this, since the MNCs, being huge economic giants, have been found to indulge in some unethical practices like evading local taxes, bribing politicians- and bureaucrats, suppressing. Competition with local companies, exploiting the local natural resources, and sometimes earning unjustifiably big profits.

Secondly, the technology transferred by the MNCs has attracted criticism. Sometimes the technology transferred by them is that which has already become obsolete in the country of their origin. They have also been accused of not devoting any meaningful amounts of resources to research and development (R &D) in the host countries with a view to develop appropriate technologies. The technology actually transferred may usually be in conflict with the local resource endowment.

Thirdly, if appropriate control is not exercised on the inflow of FDI, particularly with regard to the—nature of investment undertaken in the host country by the MNCs, a marked preference may be shown, as revealed by past experience, for industries like plantations, mining and other local resource-based investment, which on the one hand may contribute very little to over-all economic development, but on the other hand, may cost the host country heavily in. terms of exhaustible natural resources :exploited by them. The government of the host country needs to retain control over the pattern of investment made through FDI.

Finally, MNCs have been criticized for earning exorbitant profits on investments made in the developing countries. Besides profits, the-MNCS have also been observed to charge fees, royalties and commissions for rendering special services to their clients in the host countries. Thus, they have been accused of repatriating huge amounts earned by them to their countries of origin. This practice is termed by critics as exploitative. This view is, however, rebutted by others. For example, Swaminathan S. Aiyar, writing in The Sunday times of India of May 5, 2002, tried to find out how extortionate these corporations really are, from details about 500 biggest U.S.

corporations. He found that during 2001, the net profit of these giants was, on average, just 3.3 percent of their sales. No less than 98 of them suffered a .loss. Aiyar's conclusion is that global competition prevents them from cartalising and reaping monopoly profits.

Perhaps the period of exploitation and extortion is behind us now. This is because the developing countries are not only keeping a strict vigil over, the nature of investments made and the quantity and qualities of benefits passed on by MNCs to the local population, but also are using the mechanisms of incentive and disincentives for- the packages of FDI offered to them. The degree of global competition has also increased of late.

GM. Meier emphasizes that if FDI is made to flow into the infrastructural sector of the developing countries, - this will promote increased investment through domestic savings because of the considerable pecuniary external economies generated by the former. When a foreign firm makes an investment in a particular industry and provides the product cheaper than before, another industry that uses that product benefits from the lower price. The former may also create investment incentives through demand creation in the latter industries.

At the same time, Meier points out that if the government has to offer special concessions to attract FDI, then these concessions should be counted among the costs of foreign capital and thus be considered as a reduction in the net benefits to the host country. For maximizing these benefits from FDI it is being emphasized that some type of joint ventures with local entrepreneurs should be encouraged rather than allowing 100 percent equity ownership of the MNCs.

All in all, it seems that foreign borrowings have lost their attraction for the developing countries for ever, and time may not be far away when the MNCs themselves would have to operate under some sort of discipline imposed by international institutions. FDI seems to have supplanted foreign borrowings forever.

Exercise 19.2

Question 1 Define foreign direct investment?

Question 2 State the arguments favoring foreign direct investments in developing countries.

19.4 Summary and Conclusion

All countries of the world in their initial stages of development stood in need of foreign savings to augment their meager domestic savings and to import the needed capital goods for which sufficient foreign exchange was not available from the export earnings. The traditional mode of acquiring foreign savings has been private foreign investment which predominated in the pre-1914 period. Since then, and particularly in the post-Second World War period, foreign borrowings through bilateral aid and multilateral aid from the international and regional financial institutions dominated the foreign capital scene till recently. However, factors operating on the demand and supply sides have led to the decline in importance of foreign borrowings. These did not help solve the basic development problems of several developing economies and quite a few of them have been mired by a debt crisis and have

also fallen into a debt trap. Such factors have led to the decline of foreign borrowings as a method of external resource mobilization.

During the last about two decades, the traditional source of foreign capital, viz, foreign direct investment (FDI) has again come into its own. Foreign borrowings could not be sustained because the donors could not indefinitely maintain the supplies and the recipients could not go on borrowing if the investments did not pay their way. The winds of liberalization have also helped, the revival of FDI in a big way. There are merits and drawbacks in this source of external finance, but if properly directed by host countries into most productive channels, FDI could benefit consumers, workers, and the governments through taxation, of these countries. FDI could also stimulate domestic saving and investment through strong pecuniary external economies. FDI thus' seems to have replaced foreign borrowings forever,

19.5Glossary

- **Foreign Aid –** The international transfer of public funds in the form of loans or grants either directly from one government to another (bilateral assistance) or indirectly through the vehicle of a multilateral assistance like the World Bank.
- **Foreign Direct Investment (FDI) -** According to the International Monetary Fund, foreign direct investment, commonly known as FDI, "... refers to an investment made to acquire lasting or long-term interest in enterprises operating outside of the economy of the investor." The investment is direct because the investor, which could be a foreign person, company or group of entities, is seeking to control, manage, or have significant influence over the foreign enterprise. FDI is a major source of external finance which means that countries with limited amounts of capital can receive finance beyond national borders from wealthier countries.
- **Multi National Corporations (MNC) –** Multi National Corporations also known as Transitional Corporations, Multinational Enterprises, is that corporation whose sphere of activity is spread over more than one country. The United Nations defines MNCs as."Enterprises whose area of working – factories, mines, sales offices and the like are in two or more countries."
- **Official Development Assistance -** ODA means that the official departments or agencies of developed countries implements a kind of grant aid or loan aid to the developing countries, for the help of their economic development and improvement in people's living conditions, inclusive of over 25% grant element the main purpose of ODA is to make contribution for economic and social development of developing countries.

19.6Self Assessment Test

(a) Try the following objective type questions:

(i) Capital transfers, from-the funds-surplus to the funds-starved countries in the context 'of the latter's economic development, have taken place for a long time. Is the statement (x) true, or (y), false?

(ii) Is the statement, that foreign borrowings are going out of fashion because the sources of funds have dried up, (x) wholly, or (y) only partially true? , .
(iii) The currently developed countries never stood in need of foreign capital. is the statement (x) true, or (y) false.
(iv) Which of the following institutions is associated with the provision of foreign direct investment?
(x) Coca Cola Ltd. (y) International Development Agency
(v) Out of the following two types of foreign capital, which one is associated with the debt crisis of developing countries:
(x) Aid provided by the -U.S. Government (y) Investment made by a MNC
(Correct answers (i) - (x); (ii) - (y); (iii) - (y); (iv) - (x) ; (v) - (x),)

19.7 Suggested Readings

1. GM. Meier (ed.), *Leading Issues in 'Economic Development* (V ed.), 1990, chap. V Selections V.A. I and V.C. 1.
2. C.P. Kindlerger and B. Herricik, *'Economic Development,* 1977.,-Chap. 19.
3. Finn Tarp' (Ed;), *Foreign Aid and Development: Lessons Learnt and Directions for the Future,* 2000.'
4. R. Lensink and W. Howard, "*Does the. Revival of International Private Capital Flows 'Mean the End of Aid?*" World Development, No. 26,1998.

19.8 Terminal Questions

Question 1. What have been the major causes of the decline of foreign aid as a source of foreign capital in the developing countries in recent years? Which forms of foreign aid would be still welcomed?
Question 2. Critically examine the relative merits and drawbacks of foreign direct investment as a method of external resource mobilization in developing countries.

LESSON 20

INDIA'S FIVE YEAR PLANS: THE MACRO PHASE

Structure

20.0 Objectives

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

- Delineate the major long term and short term objective of Indian Planning.
- Explain the strategies of planning
- Assess the extent to which planning has succeeded in achieving the desired objectives
- Identify the failures of Indian Planning
- Know about the Targets and strategy of the $11^{th}$and 12^{th} five year plan.

20.1 Introduction

With this lesson, we start discussion of topics in Unit V of this course. The Unit contains pertaining to India's Five Year Plans, as also the economic policy debates that have been raging in the aftermath of the adoption of the policy of liberalization. These topics shall be dealt with in five lessons that are to follow. In the present lesson, we shall: discuss the objectives of planning in India, the planning strategies and the achievements -and features of economic planning in the country. In lesson 21, the topic shall be saving investment ratios, trends in them and problems of resource mobilization. In lesson 22, we shall deal with question of decentralized planning and people's participation in the planning process of the county. In lesson 23, we shall start

discussion of various debates that have arisen in the wake of adoption of policy of liberalization in the country, and the first of these to be focused on in this lesson shall relate to the policies of downsizing the government and its disinvestment policy. In the .last lesson, the topic of discussion shall be then .government's recent policies relating to the. MNCs and the debate on MNCs versus Swadeshi movement having followed that policy. In the last lesson, we shall dwell on the benefits and pitfalls of globalization and international finance for our country.

So the present lesson deals with the macro phase -of planning in India. Here, we shall take a look at the short and long term broad objectives of India's Five Year Plans. Then we shall review the main strategies that were adopted to achieve those objectives.. Finally, we shall critically evaluate the achievements Of these Plans and notice why in certain cases the objectives could not be fully achieved. So we shall examine some of the factors that might have acted as constraints on the planning process in this country.

20.2 Plan Objectives and their Realization

We shall consider presently the chief objectives of economic planning in India and their realization. It would be assumed during the discussion that you are familiar with such features of India's Five Year Plans as the period covered by each plan, the aggregate outlay planned and realized, as also the shift in emphasis from one plan to the other. Those of you who do not possess even a minimum knowledge of Indian economic planning would be well advised to do so before reading this and the next three lessons.

Our Five Year Plan have been based upon certain explicitly-stated objectives; some of which have appeared in plan after plan while others governed only a given plan. In order to evaluate plan performance in terms of objectives we shall distinguish between the tong and short term objectives and then consider the extent to' which these were fulfilled.

20.2.1 Long-term Objectives

Although the, five year time horizon 'of each-plan suggests that Indian p1annig is of a short-term nature, yet the Five-Year Plans had been conceived of as different. stages of Prospective Planning Nearly all the Indian Plans have carried out exercise of long-term projections of growth rates of savings, investment and income Thus there have been long-term objectives which were sought to be achieved through these perspective plans. If we go back to the First Five Year Plan we find that the long term objective laid down by the Planning Commission was to double the per capita income in one generation (25 to 30 years). Some important variables and parameters for this period were estimated. The base year (1950-51) national income was estimated at Rs. 9000 crores, the population growth rate which was assumed to remain constant for the coming decades, at 1.25%, the ICOR for First Plan at 3:1, the saving investment rate at 5% of the national income for the base year but investment ratio was expected to rise to 6.75 during the First Plan, gradually to be' raised to 15.20% by 1967-68 and maintained at that level for another ten years. On the basis of the figures, the 1950-51 national, income was to double by 1971-72 (21 years) and per capita income by 1977-78 (27 years).

The Second Plan document revised some of these estimates, thus raising the population growth rate marginally, lowering the ICOR for the Second Plan, 'and the investment-income ratio was to be raised to only 17% by 1975-76. However; by assuming. lower càpita1 output ratio'-it was estimated that the long term, objective of doubling the national and per capita incomes would be realised earlier, that' is in 1967-68:and' 1973-74 respectively.,

By the end of the Second Plan it came 'to be realised that the outlook for the future was not all too rosy. Besides, certain harsher realities, like the higher actual population growth rate, and a lower savings ratio than earlier estimated, had started dawning upon our planners. Thus, in the Third Plan the above mentioned long-term objective was almost given up and it was merely stated that the value at the end-of the Second Plan national output was to be raised by about 60% by 1975-76.

The Fourth Plan was cast into a 12 year perspective plan. During this period the national income was to grow, at a compound rate of 6% p.a., the growth rate of population was to drop from 2.5% to 1.7%p.a.by 1980- 81 and consequently the per capita income was to grow at an annual rate of 3.5% as against only 1.2% between 1950-51 and 1968-69. All this was estimated to call for an increase in the investment-income ratio from 11.3% in 1968-69 to 17.18% by 1980-81. It was also stipulated that the country must dispense with the net foreign aid by that time.

The Fifth Plan (1974-79) proposed to achieve two main objectives, that is, removal of poverty and attainment of self-reliance through promotion of higher rate of growth, better distribution of income and a very significant step up in the domestic rate of saving. The Sixth Plan (1980-85) aimed at a direct attack on the problem of poverty by creating conditions of an expanding economy. The Seventh Plan emphasised to move faster towards the objective of self-sustaining growth with social justice.

The planning process remained disrupted during the 1989-91 period because of frequent changes in the government at the Centre. The Eighth Plan.(1992-97) got delayed by about a couple of years. But a more significant change occurred in the form of adoption of the policy of liberalisation in 1991. This changed the very character of planning in India for ever. The role of the public sector got watered down and along with that. planning in the future was to be merely of an indicative nature,

Due to this qualitative change in the process of planning in India in the 1990s, the Eighth Plan (1992-97) and the Ninth Plan (1997-2002) desisted from adopting any long-term objectives, except those relating to the reduction of the population growth rate and the proportion of population below the poverty line in the foreseeable future.

Taking the first long-term objective of Indian planning, that is, to double the per capita output by a certain target year, we find that the goal had been eluding, the planners more and more. The base year (1950-51) per capita real income had increased by barely 28% in 1972-73. The objective of doubling the base year per capita income could be achieved only by 1990-91, i.e. nearly two decades later than originally planned.

About the second long term objective adopted in Fourth Plan of attaining self-reliance by the beginning. of. the Sixth Plan, it can be safely said that self-reliance has. never been achieved in India, in any sense of this term.

20.2.2 Short Term Objectives

You will notice that each successive Five Year' Plan of India has been launched with certain explicitly stated goals in view, which it was intended 'to attain, within the time horizon of a given Plan We shall attempt to briefly analyse such objectives and comment upon the degree of success achieved in attaining them.

(i) Growth Objectives

One of the basic objectives of economic planning in our country has been to increase national and per capita incomes As a direct consequence of economic planning, India's national income and per capita income rose though not as rapidly as planned. This is shown in the Table below

Table- I

Plan-wise Growth rate of National Income

Planned and Realized (% per annum)

Plan	Planned	Realized
First	2.1	3.6
Second	4.5	3.9
Third	5.6	2.3
Fourth	5.7	3.3
Fifth	4.4	5.0
Sixth	5.2	5.2
Seventh	5.0	5.6
Eighth	5.6	6.8
Ninth	6.5	5.4
Tenth	8.0	7.4
Eleventh	8.10	7.9.
Twelfth	8.2	

It would be noted in the above Table that in the second, third and fourth Plan the growth targets could not be attained, It was mainly in the later Plans of the'1980s and 1990s that GDP growth targets were realized. In the recent Eleventh Plan the actual growth rate has been pulled down below the target growth rate.

Over-all, during the planning period, the growth rate of national product, especially till the end of the 1970s, had been anything but satisfactory. The trend growth rate of this period, about 3.5 percent per annum invited decision from analysts. It was thus referred to as Hindu growth rate. However, since the beginning of the 1980s the growth rate picked up and during the 1990 in 6 out of 10 'years, the growth 'rate was in fact 6% or 'more. However, it is clear that during the heyday of planning,. growth rate of the economy was much below what the planners, had expected it to be.

(ii) Egalitarian Objective

Growth with social justice has been the accepted goal of Indian planning. Everybody is familiar with the slogan of socialist pattern of society in this country. In effect, the five year plans aimed at reduction of poverty and socio-economic inequalities. In order to achieve this objective the planning process had been acknowledged to be the most potent instrument available. The policy measures particularly aimed at the achievement of this objective in

the Plans included increasing the size of the public sector, provision of basic necessaries of life like food, work, opportunity for education and reasonable conditions of health and sanitation, curbing concentration of economic power and monopoly, change in the social structure (like the abolition of untouchability and caste system, social security measures and institutional reforms like land reforms, Panchayati Raj and community development. It was expected that in conduction with other measures such as legal reforms and fiscal devices, the above mentioned instruments of policy would bring about a desirable distribution of income, wealth and opportunity.

It has been argued from time to time that there is a conflict between the growth and egalitarian objectives of economic planning. The Model that analyses such a conflict is based on the argument that if income gets redistributed in favour of the poor sections of society, savings and investment would be discouraged, thus slowing down the growth rate, Such an argument has been implicitly assumed without fully establishing that the conflict is the real and not just an apparent one. Besides, such a model also assumes that we have laissez-faire system where the govt. is not prepared' to undertake measures to resolve the conflict.

A paper (published in Economic Survey of Asia and the Far East; 1971) based on the work of Bent Hansen, Went into the question of a possible conflict between growth and social justice in detail. The conclusion drawn was that although such conflicts may sometimes arise yet with suitable policy instruments the twin objectives of economic planning could not only be made compatible with each other but, that one could be made complementary to the other Gunnar Myrdal Challenge of World Poverty had also subscribed to this view.

Now, how far has the egalitarian objective been Achieved in India during the Five Year Plans? It is rather doubtful that during the last five decades of planned economic development, redistribution of income in favour of the less privileged classes has taken place,

Whether Indian plans contributed to the Achievement of this objective, while laying down quantitative targets to reduce poverty, can be judged from (i) the proportion of population below the poverty line at different points of time and (ii) other indices of distribution of income, consumption and wealth. So far as the proportion of population suffering from absolute poverty is concerned, more than half the population of the country remained below the poverty line till the end of the Fifth Plan. It is only after that, that this proportion started declining. In fact a stronger economic growth and poverty reduction have been broadly interlinked in the country. The period of the so called Hindu growth rate of around 3.5% per annum failed to experience a fall in, poverty. The 1980s and 1990s saw a significant decline in poverty in the country, but this too has been a period of less rigorous planning and trend .towards liberalization. So far, as socio-economic inequalities are concerned, economic planning seems to have done little to iron them out. This is clear from the 'failure to implement land reforms as intended earlier, so it that hardly any redistribution of land in favour of small and marginal farmers has taken place. In the cities, the growth of slums on the one hand, and clearly visible rise in conspicuous consumption among the richer classes on the other, shows that planning has failed to reduce inequalities. If anything, these might have aggravated during the planning period. How can one speak of egalitarian

development in a country, where even at the dawn of the, new century, 60% of families do not have electricity and 40% of Indians do not have access to safe drinking water at home.

(iii) Employment Objective

In a country characterized by large scale open and disguised unemployment; an economic plan would not be worth the paper on which it is written if it does not propose to deal with this pressing problem. One of the objectives of India's Five Year Plans has in fact been to eradicate unemployment by a certain amount. In the, First Plan it was stated that employment, being a function of investment, would rise as the latter picks up. In the Second Plan this objective became more specific-- to provide employment to the number equal to the few entrants to the labour force and to relieve under employment in the agricultural sector. The proposed policy instruments were the diversification of the industrial structure, adoption of a suitable location policy, measures to develop cottage and small scale industries, providing training, facilities and to promote geographical and occupational mobility of labour etc.

In the Third Plan it was estimated that the number of new entrants to the labour force would be about 17 million, but the Plan proposed to create only 14 million new jobs. The Plan proposed a new employment -oriented programme--the rural works programme--which aimed at providing employment to about one lakh persons for 100 days in a year and the number would be increased to 25 lakhs subsequently.

The Fourth Plan estimated that the new entry to the labour force would be of the order of about 23 million, but the Plan proposed to create additional employment only to about 19 million people. A crash programme of rural works was launched during the Plan with a view to create employment opportunities in the rural areas.

Every subsequent plan laid down such employment objectives in clear and in quantitative terms. For example, the Eighth Plan. (.1992-97) laid down the target of achieving "near full employment level by the turn of the century." The Ninth plan laid down the, objective of general employment giving priority to agriculture and 'rural development. The Tenth Five year plan proposed to provide an additional 5 crore employment to the people. The Eleventh Five Year Plan aimed creating 70 million new employment opportunities.

Now let us look at the actual realization of this objective. For the First Plan, the estimates of employment opportunities created are not available. The Second Plan created additional employment for about 80 lakh persons. The backlog of unemployment at the beginning of the Third Plan was put at 90 lakhs. During the Third Plan about 1.7 millions entered the labour force, while the Plan just about fulfilled the target of employing about 14 million persons, thus leaving a backlog of employment of 90 lakhs to 1 crore.

Perhaps while sensing that the employment situation was worsening instead of improving, the Fourth Plan remained silent on the backlog of unemployment at the beginning of the Plan. Significantly, unlike the earlier three Plans, this plan did not include employment- generation as one of its main objectives. Bhagwati Committee on unemployment, however, later estimated that in 1974, the number of unemployed persons would be about 168 million. Eighth Plan ended with 153 lakh people still on the unemployed

list. The .projection for 2008-09 for the number of unemployed persons is, 4.63 crore of the total labour force.

Thus, it is clear that despite economic planning extending over a period of more than two decades the employment situation remained as serious as before.

To deal with the grim unemployment situation in the country, special programmes of employment-generation have been adopted. At the end of the Ninth Plan (2002), these employment generation schemes had cumulated into the following ones: Jawahar Gram Samridhi Yojana Swarnjayanti Gram Swarozgar Yojana; Employment Assurance Scheme; Sampoorna Grameen RozgarYojana; National Social Assistance Programme; Pradhan Mantri Gramodya Yojana; and Swarna Jayanti Shahri Rozgar Yojana. Some of these schemes have been in operation since the fifth and the sixth plans, thus bearing different names.

What has been the impact of the overall economic growth and these employment generation programmes adopted under planning For making Inter-temporal comparisons there is available the Bhagwati Committee on unemployment estimates concept of usual principal status which covers all those-persons who are suffering' from chronic unemployment (i.e. they have been looking for work for a major part of the year). According to the Ninth Plan (see Plan document, volume .1, Table 4.9, p. 191) such unemployment 67 lakh persons in 1978, 70 lakh persons during the Eighth Plan (1992-97) and was expected to remain, at the same level fill the end of the Ninth Plan (1997-2002). These figures suggest that planning has failed to take the country anywhere near a full employment situation In the initial years of the 21' century (partly falling under the Ninth -Plan and partly under the Tenth Plan), The unemployment situation was expected to become still more grave 'due to it least three factors. Firstly, the growth of the labour force is expected to peak to a rate of 2.51 per cent per cent per annum because of the high rate of population growth in the 1970s sad 1980s. Secondly,' the public sector, a major creator of employment in earlier years, showed a negative growth of employment in the 1994-2000 periods. Thirdly, the elasticity of employment, to GDP (i.e. the growth of employment in response to a given growth of GDP) has been declining over the period 1972 to 2002 in fact, the relatively higher rate of GDP growth over the 1990s has been referred to as "jobless growth". All this paints a dark picture of employment generation under planning in India, and can be counted among its failures.

The Eleventh Plan provides an opportunity to focus on and diagnose the reason responsible for the past failings observed in the employment situation and to reverse at least some of the adverse employment outcomes associated with the pattern of growth in the recent past .Focusing on the most recent period (1999-2000 to 2004-05), there appears to be an acceleration in employment growth. However, looking at longer trends, this acceleration in employment growth disappears and in any case, the rate of unemployment has increased throughout. The major challenges of employment in the eleventh plan were (i) How to insure faster growth in employment than in labour force so as to reduce unemployment? (ii) How to insure faster growth in the organized sector than the unorganized sector so as to increase the

share of organized sector employment? (iii) How to ensure growth in formal employment in the organized sector and not just the informal employment?

Exercise 20.1

Question 1 List the long term and short term objectives of Indian Planning?

20.3 Strategies of Planning

When we talk of strategy we have a problem before us and we have to decide how to attack the problem. The manner in which the problem is sought to be attacked is the strategy. In economic planning the most common problem to be solved is that of accelerating the economic growth rate and removing poverty. The way in which we attempt to do it is the planning strategy.

Even during our discussion in the earliest lessons dealing with Indian planning we have been discussing the strategy of our planning especially when We talked of the development models under laying Indian Plans. 'Presently, we shall 'specially deal with the question of how we have tried to go about the business of 'raising the level of economic performance of the economy and what has been the rationale behind it.

We shall discus the strategy of Indian Planning under three main heads: (a)The size of plans and the manner of resource mobilization; (b) the pattern of investment allocation; and (c) the type of economic organization for making .investment 'decisions. We shall deal with each of them briefly below

20.3.1 The Size of, Plans and the manner of resource mobilization

The first Plan was hurriedly drawn up collection of projects many of them already under execution. The size of the Plan was, therefore, essentially modest and no controversies arose. It was during the Second plan (and since then) that the question of size of Plans became polemical. The basic question was whether the strategy should be to plan 'big' or 'small'. Two schools of thought emerged at that time, one advocating large size of each plan and the other small and modest plan. The former was represented by late P.C. Mahalanobis and Pitamber Pant of the Planning Commission along with foreign experts like I.M.D, Little and Thomas Balogh. The latter consisted mainly of the Ministry of Finance. The actual size of the Plan turned out to be a compromise between the two although the scales remained lifted somewhat in favour of the 'big planners'. The tussle between the two persisted even later as revealed by the resignation of B.S. Minhas from the Planning Commission on the question of the size of the Fifth Plan.

The 'small planners' argued that if the size of a Plan was bigger than the real resources: available, the effort to live beyond one's-means would simply result in pushing up the prices. The opposite camp argued that our country being one of the poorest in the world (in terms of real per capita income)., there was no alternative but to push up the rate of investment for which resources would somehow have to be mobilized.

In the case of earlier Plans actual plan size had been influenced more by the 'big planners.' There surely was a tendency to-increase the size of each Plan beyond the resource availability. For mobilizing resources, recourse had usually to be made to seeking more foreign aid and deficit financing. Under earlier Plans, 'big planning' resulted in more and more

foreign indebtedness and huge increases in money supply due to deficit financing. So this component of planning strategy proved to be quite costly.

As a result of this drawback of planning strategy, it was noted that 'during the 1980s, although the growth rate accelerated and significant decline in poverty was also achieved, yet in terms of the fiscal deficit, which burgeoned to unsustainable-heights towards end of the decade, and the near debt crisis situation arose. Both these were weaknesses of the planning strategy of the earlier period. The 1990s saw the rise of liberalization and a corresponding decline in the process of planning itself. In the Eighth and Ninth Plans the strategy of 'big planning' has been abandoned and in these Plans the share of the public sector in total investment has been on the decline. The private sector investment has of necessity to depend on real Savings available in the country, or through private channels from abroad.

20.3.2 Pattern of investment Allocation

This forms the core of planning strategy. Indian Plans came to have a definite pattern of investment allocation after the Second Five Year Plan. This part of the planning strategy owed much to the Mahalanobis Planning model which, as we noted in an earlier lesson, stressed, the importance of consciously altering the investment pattern in favour of the heavy industry sector. The rationale behind such .a strategy had been that as more iron and steel machinery, machine tools and chemicals were produced (most of which are not consumable goods) the saving investment ratio would automatically go up These would then help raise the production potential of the consumers goods industries. But that would follow the prior development of the capital goods sector.

Such a pattern .of investment, undoubtedly inspired by such a strategy adopted in the then USSR, was justified on these grounds: First, a. predominantly agricultural country has to industrialize fast for which a firm foundation has to be laid through setting up heavy goods industries.

Secondly, the process of transformation of the economy makes a heavy demand on the foreign exchange resources of the 'country since capital equipment and intermediate goods are required in the newly emerging sectors of the economy, most of which would naturally not be indigenously available. All the needed foreign exchange may not be available either out of the current export earnings of the country or in the form of foreign assistance.

Thirdly, the strategy to accord a high priority to the heavy industry sector was justified on the ground that if a technologically backward country like India has to be shaken off its slumber, introduction of new technology on a wide front may be necessary.

In reality it was found that the development of heavy industry necessarily pushed up the demand for imports— machinery for the production of other machinery, components, spare parts, raw materials and technical know-how. So the emergence of frequent foreign exchange rises was the natural consequence of such a strategy.

There were other deficiencies in such an approach, some of which we had the occasion to discuss while appraising the Mahalanobis model earlier. The heavy industry strategy had been at the cost, of agricultural development and the development of consumer goods industries. It would have been all right if heavy industry had catered to the requirements of agriculture. That this

- did not happen was clear from the shortage of fertilizers and tractors etc. arising at that time. Lastly, it was argued that the strategy proved antithetical to. the achievement of a reasonable growth of employment in the country. This we have already noted earlier above. This component of planning strategy started being changed after the Fifth Plan. In the sixth Plan more allocations were made to agriculture 'power and infrastructure sectors. This redirection of sectoral allocation was strengthened even more in the seventh and the eighth Plans. In the Ninth Plan, besides agriculture and rural development, energy and infrastructure, nearly 21% outlay has been allocated to the social sectors.

20.3.3 Type of Economic Organization, for making Investment Decisions

Having dealt with the strategy with regard to the size of the Plan and the pattern of investment allocation, a further question would be whether the public or the private sector has to take the major economic decisions, or both of them, and if so in what proportion. After the adoption of the industrial policy in 1956 the second and the subsequent Plans gave the public sector a place of pride. The share of this sector in the total investment rose from 46% in the First Plan to 58% in the Fifth Plan, the latter being the highest during the entire planning period. During, those initial years of planning, the strategy of direct investment by the public sector was not seriously challenged. That was due primarily to the weaknesses of the private sector to undertake planned investments on a large scale. The more serious students of process of planned economic development even in the developed countries realized the necessity of a strategy where public sector had to play the leading role. J.K. Galbraith observed that, ".....in many parts of the world, including India, there is in fact no real alternative to public enterprise."

The legitimacy of public enterprises playing the leading role at that time resided in the fact that in a country like ours, private sector was slow to grow, could have a preference for some types of investment but not for other, socially desirable ones, was not the fit organization for bringing about structural changes of the type and at the speed socially desirable, and there was the fear that its very growth may generate forces inimical to the stated objectives of a society (such as the reduction of income inequalities).

Later on it turned out that all was not well with the public sector in India The inefficiency of the sector, the lack of a coherent price policy, centralization of power, frequent labour troubles, losses amounting to hundreds of crores of rupees, became well-known features of the public sector.

However the problems of resource mobilization after the Fifth Plan and the adoption of the policy of liberalization after 1991 led to a reversal of this strategy. The relative role of the public sector in total investment had started declining even before 1991. Thus public sector's share of'58% in total investment in the Fifth Plan fell to 48% in the Seventh Plan. It further declined to 45% in the Eighth and the Ninth P1an the latest strategy sis that the state would create the necessary economic and social infrastructure to enable the unhindered operation of the private sector. This marks a sharp break with the past strategy of public sector occupying the "commanding heights of the economy" in the matter of planned investment as well.

Exercise 20.2

Question 1 what are the different strategies adopted by Indian planning?

20.4Achievements of Indian Planning

After the adoption of economic reforms in the 1990s, there has been an unfortunate tendency in this country of ascribing all ills of Indian economy to planned economic development There is no doubt that India's Five Year Plans did not deliver all that was promised in them, and as noted above growth rates very generally low, poverty did not vanish, the gap between the rich and poor went on increasing, there were news of suicides of farmers, and unemployment refuses even now to be cured. Despite all that economic planning changed India's economic landscape a great deal. The major achievements of Indian planning are as under.

(i) In the half century before economic planning started Indian economy was stagnating with no rise in per capita income during this period Therefore Indian economy was a stagnant economy prior to economic planning during the British rule the national income was growing at the rate of 0.5 percent per annum. But during the period of five year plans national income has been growing at the rate of 4.4 per cent per annum at 1993-94 constant prices. In the Eleventh Plan the growth rate was fixed at 8 percent while in the Twelfth Plan the growth rate is fixed from 8.2 percent. No doubt we could not achieve the targeted growth rate of 8 percent fixed in Eleventh Plan but still in the years 2005-06 and 2006-07 the growth rate (at 1999-2000 prices) was 5.9 per cent and 7.4 per cent respectively. Due to the global economic slowdown in the year 2008-09, the growth rate of national income was reduced to 6.7 percent; but it increased to 8.4 percent in 2010-11. In 2012-13, the growth rate in national income once again came down to 5 percent. In 2013-14 the growth rate of national income was 6.4 percent. This is an. achievement of Indian planning.

(ii) Six decades, of planning has undoubtedly transformed country from that of 'have not' to that surplus. There was, a time when food was rationed and, grains were' imported. But now the country has achieved tremendous progress in the production of milk, pulses, oil seeds and vegetable production .The production of food grains has increased three fold in 1951-52, the production of food grains was 550 lakh tones. In 2007-08, increased to 2,6831akh tones but decreased slightly in 2011-12 to 2,574 lakh tones.

(iii) Plans have succeeded a lot in industrial sector also Basic industries like iron and steel, machinery chemical fertilizers etc have been developed considerably. There has been diversification and modernization of industries. Public sector has expanded. Country has become self sufficient in the matter of consumer goods industry. As a result of planning, substantial development has taken place in industrial field. The growth rate of industrial production from 2002-03 to 2007-08, it was 8.3 per cent. In 2011-12, industrial production growth rate came down to 3.5 percent, due to the global economic slowdown. In the year 2012-13, growth rate in industrial production was 3.1 percent. Whereas in the first four decades of Indian Planning so much growth did not take place in the industrial production. Now days, industries contribute a major share in the total exports of the country.

(iv) During the planning period, basic infrastructure such as means of transport, and communication, irrigation. Facilities, and power generation capacity has developed significantly. In. this period total length of railway, lines increased to 63,223 Kms. Shipping capacity increased from 3.9 lakh

GRT (l950-5l) to77 lakh (GRT in 2006-07. Area under, irrigation increased from 26 lakh hectors to 547 lakh hectares. Power generation capacity in 1950-51 was 2500 Megawatt which .increased to 1,53,800 Megawatt in 2007-08. During the Eleventh Five Year Plan, nearly 55,000 MW of new generation capacity was created

(v) During the Planning period social services like health, medical, family planning, education etc., have also developed appreciably. Each state has been given a central university. Death rate has come down to 7.1 per thousand in 2011 as against 40.8 per thousand in 1951. Average expectancy of life has gone up to 66.1 years in 2011 as against 32 years in 1960. Number of school going children has increased many fold .The number of collegiate has also increased many times more as compared to 1951.Number of professionals colleges, universities, colleges has also increased many times.

(vi) The structural and institutional changes in the economy during the period of planning indicate clearly that there has been modernization of the economy. Some of the major structural changes are definite change in the composition of national income with increasing contribution of service sector and industrial sector, adopting modern technology and new techniques of production in agricultural sector, Institutional change have also played significant role in the period of planning. Institutional changes include expansion of public sector and of late, trend towards liberalization, privatization and globalization (LPG), more scope of expansion of small and medium sized industries launching of Micro Finance, support price system etc.

(vii) Planning has succeeded in respect of its objective of self reliance. Since the 'beginning of fourth plan, the percentage contribution of foreign aid to the financing of the plans has been on the decline. Percentage of growth rate of import has gone down. Thirdly exports have also increased tremendously. The growth rate of exports has increased from 2.2 per cent in the second plan to 13.4 percent in 2007-08. Export growth in dollar terms was negative at -4.9 per cent in 2012-13 (April-January), compared to 21.3 per cent growth in 2011-12 (full year). In rupee terms, it was positive at 9.1 per cent, though here too, there was a deceleration from the 28.3 per cent in 2011-12 (full year).

In short, during all these years of planning, India has undoubtedly made rapid economic strides. Country has succeeded in laying the foundation of growth of industries power multipurpose project and agricultural production. It has become easier to raise an edifice of prosperity and comfort on this foundation for the poor masses.

Exercise 20.3

Question1 List down the achievements of Indian Planning?

20.5Failures of Planning

Main objectives of the Indian Planning are to raise the standard of living of the people, to achieve self sufficiency in' agriculture and industrial production, to remove inequalities of wealth and income to establish socialistic-democracy in the country, Study of achievements of plans so far,

reveals that the plans have failed to attain their objectives Indian Planning has failed in respect of following:

(i) All Five Year Plans aim at raising the standard of living of the people. What to say of increase in the standard of living, even the bare necessities of life of the people are not satisfied. Still 20 percent of the population is below poverty line. The position is horrible with regard to housing.

(ii) Stability in price has been the consistent objective of each Five Year Plan. But almost in each plan, prices have been rising considerably. In 2005-06 prices increased by 4.65 per cent and it was above 6 per cent up to March 2007. In the first quarter of 2009, a strange thing is that inflation rate has, gone, down nearly 2 percent .In the year 2012-13, rate of price rise was 7.34 percent but the prices of essential commodities have gone down insignificantly.

(iii) During the planning period, unemployment instead of declining has been rising. In the year 2004-05 the number of unemployed persons 'were about 131 lakh and projection for 2009-10 is 47.6 crore of the total labour force, Employment opportunities increase at the rate of around about 2.3 per cent on an average but the supply of labour force increased at rate of 2.5 per cent. It accounts increase in unemployment.

(iv) Development of infrastructure like electricity, roads, transport, education etc. remained inadequate during the period of planning. Consequently, productive sectors of the economy like agriculture, industry, trade etc. failed to achieve their set objectives, for example, due to shortage of power, industrial production fell short of the target.

(v) Main objective of each Five Year Plan has been the equality in the distribution of wealth and income. However, during the period of planning, this has been one of the objectives that has suffered the most The gap between the rich and the poor instead of decreasing 'has been increasing. According to one estimate 3 per cent households own about 50 –percent of the cultivated land and the slogan of socialistic pattern of society served only as a mere rhetoric..

(vi) A team of U.N.O. observed that the main shortcoming of Indian Plans lay in its implementation. Plans are well thought but their targets remain unachieved on account of incompetent administration, dishonesty, vested interests, tapism etc.

(vii) Even after Eleventh Five Year Plans and Two Years of Twelfth Five Year Plan economic base has not been acquired sufficient strength. Agriculture still today continues to be a gamble in monsoon. Gulf war in 1991 shook Indian economy badly.

Exercise 20.4

Question 1. What are the failures of Indian Planning?

20.6 Constraints of Indian Planning

From the above discussion it is clear that the failures of Indian planning have been galore. What we are concerned with in this section is to answer the question: Why did these failures occur despite huge financial and physical, resources having been devoted to economic planning during the last eleven

five year plans?' So, what have been the constraints of Indian planning? Very briefly stated, these are as below.

To start with, we borrowed the planning modal from a command economy (the. erstwhile USSR) where state controlled all the means of production. India was constrained by a mixed economy, where the private-sector could be prevented from doing certain things through state power but could not coaxed into fulfilling investment or production targets.

Secondly, in a bid to "attain the commanding heights of the economy" the public sector was made to undertake activities in all the sectors of the economy, except agriculture. In comparison, its entrepreneurial, managerial and financial resources were limited. Stretching itself too much created problems. Inefficiency, in terms of poor quality of products and services, high cost of production, wastage and rigidities of the system finally discredited the public sector and has led in the last decade or so to the retreat of the sector from several activities.

Thirdly, there have been serious budgetary problems so far as resource mobilisation for planned development is concerned. Except during a couple of plans,the surplus from current revenues for capital formation has been negative. The overall profitability of public sector enterprises has too been very low. Thus, public savings have been insignificant or even negative. The government has depended on public borrowings and foreign aid for financing the plans. Both of these sources .have created budgetary or balance of payments problems. Thus, resource constraint can be considered as' one of the road blocks of successful development planning in India.

Fourthly, the regulatory mechanism in the form of legislative measures to regulate economic activity in reality is a negative character. These regulatory measures came in handy to the bureaucracy to harass people to adopt dilatory tactics and for taking bribes. The permit inspector .Raj turned out to be the ugly face of the Indian state. According to Kirit S. Parikh Planning created a plethora of controls, procedures, permits and bureaucratic restrictions. These created such a maze that the net effect of these policies was not at all obvious

Lastly, the personal ideologies and predilections of the national leaders and planners created internal conflicts in the planning process which could not be resolved and, therefore, adversely affected the results of the planning effort. For instance, Jawahar Lal Nehru had identified economic development with industrialization which led to the relative neglect of agriculture. The ruling theory of planning of the time propagated by W.A. Lewis and Ragnar Nurkse, was that a delicate balance had to be maintained between the agricultural and industrial sectors, otherwise problems would arise. Similarly, Mahalanobis had a personal preference for heavy industry vis-a-vis consumer goods Industries. This strategy of planning also created problems like shortage of wage: goods and consequent inflationary pressures and the balance of payments crisis there are also other examples of such personal preferences which led to internal conflicts in the development process and sub.-optimal results of planning.

Exercise 20.5

Question 1 Discuss about the constraints in Indian Planning?

20.7 Twelfth Five Year Plan (2012-17)

The Indian economy on the eve of the Twelfth Plan is characterised by strong macro fundamentals and good performance over the Eleventh Plan period, though clouded by some slowdown in growth in the current year with continuing concern about inflation and a sudden increase in uncertainty about the global economy. The objective of the Eleventh Plan was faster and inclusive growth and the initiatives taken in the Eleventh Plan period have resulted in substantial progress towards both objectives. Inevitably, there are some weaknesses that need to be addressed and new challenges that need to be faced. Some of the challenges themselves emanate from the economy's transition to a higher and more inclusive growth path, the structural changes that come with it and the expectations it generates. There are external challenges also arising from the fact that the global economic environment is much less favorable than it was at the start of the Eleventh Plan. These challenges call for renewed efforts on multiple fronts, learning from the experience gained, and keeping in mind global developments.
(planning commission.nic*)*

The Draft Approach to the 12th Five Year Plan (2012-2017) has been approved by the National Development Council. The theme of the Approach Paper is **"Faster, Sustainable and More Inclusive Growth".** The Approach Paper in broader sense laid down the major targets of the Twelfth Plan, the key challenges in meeting them and the broad approach to be followed to achieve the stated objectives. It proposes a growth target of 8 percent. However in view of the uncertainties in the global economy, and challenges in the domestic economy, achieving the growth rate of 9 percent may not be feasible unless difficult decisions are taken. And this uncertainty was also discussed in the process. The document has projected the aggregate Plan resources at Rs37.16 lakh crore during the five year period starting 2012-13.

The growth target was earlier projected high but now Planning Commission feels 8% target is more feasible, and revised the estimate for the second time after slashing it down to 8.2% just three months back from 9%. So in a new trend moving away from previous practice of presenting single growth projection, the Planning Commission has come out with three different economic scenarios for 12th Five-Year Plan. According to planning commission these scenarios will be a function of economic decisions and "policy logjam", and in worse scenario the GDP growth could slow down to 5-5.5 per cent.

In a good move the document proposes to bring down poverty by 10 percentage points by the end of the 12th Plan and generate five crore new jobs in non-farm sector. For Infrastructure sector document talks about the positive efforts which should be made to increase investment in this sector to 9 per cent of the GDP by the end of the Plan period.

20.7.1Objectives of Twelfth Plan

(1)Economic Growth

- To achieve Real GDP Growth Rate of 8.2 per cent per annum
- To achieve Agriculture Growth Rate of 4.0 per cent per annum

- To accelerate Manufacturing Growth Rate of 10.0 per cent.
- Every State must have a higher average growth rate in the XII Plan than that achieved in the Eleventh Plan

- To achieve service sector growth rate of 9.1 percent

(2) Poverty and Employment

- Head-count ratio of consumption poverty to be reduced by 10 percentage points over the preceding estimates by the end of XII Plan.
- Generate 50 million new work opportunities in the non-farm sector
- Provide skill certification to equivalent numbers during the XII Plan

(3)Education

- Mean Years of Schooling to increase to seven years by the end of XII Plan.

- Enhance access to higher education by creating two million additional seats for each age cohort aligned to the skill needs of the economy.

- Eliminate gender and social gap in school enrolment (that is, between girls and boys, and between SCs, STs, Muslims and the rest of the population) by the end of XII Plan

(4)Health

- Reduce Infant Mortality Rate(IMR) to 25 and Maternal Mortality Pate (MMR) to 1 per 1000 live births,
- Improve Child Sex Ratio (0-6 years) to 950 by the end of the XII Plan.

- Reduce Total Fertility Rate to 2.1 by the end of XII Plan.

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- Reduce under-nutrition among children aged 0-3 years to half of the NFHS-3 levels by the end of XII Plan.

(5)Infrastructure, Including Rural Infrastructure

- Increase investment in infrastructure as a percentage of GDP to 9 per cent by the end of XII Plan.

- Increase the Gross Irrigated Area from 90 million hectare to 103 million hectare by the end of XII Plan.

- Provide electricity to all villages and reduce AT&C losses to 20 per cent by the end of XII Plan.

- Connect all villages with all-weather roads by the end of XII Plan.

- Upgrade national and state highways to the minimum two-lane standard by the end of XII Plan.

- Complete Eastern and Western Dedicated Freight Corridors by the end of XII Plan.

- Increase rural tele-density to 70 per cent by the end of XII Plan.

- Ensure 50 per cent of rural population has access to 55 LPCD piped drinking water supply and 50 percent of gram panchayats achieve the Nirmal Gram Status by the end of XII Plan

(6)Environment and Sustainability

- Increase green cover (as measured by satellite imagery) by 1 million hectare every year during the XII Plan.

- Add 30000 MW of renewable energy capacity in the XII Plan.

- Reduce emission intensity of GDP in line with the target of 20 per cent to 25 per cent reduction by 2020 over 2005 levels.

(7)Service Delivery

- Provide access to banking services to 90 per cent Indian households by the end of XII Plan

- Major subsidies and welfare related beneficiary payments to be shifted to a direct cash transfer by the end of the XII Plan, using the Aadhar platform with linked bank accounts.

20.7.2Strategy of Twelfth Plan

The strategy of Twelfth Plan lays stress on 'Faster , Sustainable and more Inclusive Growth'. It aims at achieving faster growth which can be maintained in the long run and including more people in the growth process. Strategy of this plan aims at achieving growth which meets the objectives of inclusiveness and sustainability.

The main elements if the strategies of twelfth plan are as follows.

(1) Faster Growth: Faster growth has to be an indispensable part of the strategy since it is only in a fast growing economy that one can expect to raise the incomes of the masses and ensure improvements in living standards.

(2) Inclusive and Sustainable growth: The benefits of growth should reach to all sections of the population. For this government should

adopt policies that will ensure that the growth is broad based and benefiting all parts of the country, especially the rural areas.

(3) Focus on Agriculture: The plan lays special focus on the development of the agriculture sector Rashtriya Krishi Vikas Yojana (RKVY) started in 11th plan will be further strengthened so as to bring second green revolution in the nation. Special focus would be made to increase agriculture productivity.

(4) Focus on manufacturing sector: The plan lays emphasis on faster growth of the manufacturing sector. Fast growth in manufacturing sector will help to achieve faster. Sustainable and inclusive growth in the economy. In this plan, National investment Manufacturing Zones (NIMZs) will be promoted under National Manufacturing Policy 2011.

(5) Boosting Exports: To curtail the current account deficit exports will be encouraged by setting up more Special Economic Zones (SEZs) Agri-Export Zones and NIZMs .

(6) Encouraging private sector participants: The plan aims to create a favourable environment in which private sector can flourish. Public Private Partnership (PPP) projects will be encouraged.

(7) Skill Development: The plan lays special focus on skill development of youth for reaping benefits of demographic dividend. To increase their employment skills, special efforts will be made to promote technical, professional and higher education.

(8) Strengthening Infrastructure: Special thrust will be laid on development of infrastructure. The plan focuses on the development of roads, power generation , development of air ports, sea ports, irrigation facilities, etc.

(9) Other Elements:

(i) To encourage Research and Development facilities for technological upgradation.

(ii) To protect environment by increasing forest and tree cover and by reducing emission of harmful gases and fumes.

(iii) To promote regional equality by developing all states and giving special significance to the development of backward states.

Exercise 20.6

Question 1 List the Objectives of Twelfth Five Year Plan?

20.8 Summary and Conclusion

In this Lesson we dealt with topics like the objectives and strategies of Indian planning and its achievements and constraints. Among the objectives we analyzed the broad long and short-term objectives and assessed. The extent to which these could be achieved Then we critically examined the strategies of planning which broadly fall under the categories of determining the size of Indian plans, the broad contours ,of the heavy industry strategy flowing from the Mahalanobis model, and finally the bias of planning strategy-in favour of a dominant role of the public sector.

The achievements feature and constraints of Indian planning were discussed in some detail. We noted that despite some well-trumpeted failures, Indian planning has several significant achievements to its credit In any appraisal of Indian planning these achievements should not be, ignored,

especially now, when the country is moving away from the process of planned development. So far as the well-known, failures of planning in this country are concerned, these were the results of several constraints under which the broad planning framework had to operate. Some of these constraints were inherent in the' Indian situation like the existence of a huge capitalistic sector and the personal preferences of its leaders and planners; while some other, constraints accumulated, like the regulatory framework, as the situation evolved over the years.

20.9Glossary

- **Inclusive Growth -** Inclusive growth is a concept which advances equitable opportunities for economic participants during the process of economic growth with benefits incurred by every section of society. Inclusive growth basically means, “broad based growth, shared growth, and pro-poor growth”. It decreases the rapid growth rate of poverty in a country and increases the involvement of people into the growth process of the country.
- **Economic Planning -** Economic Planning refers to a process wherein a central planning authority ,keeping in view the resources of the country makes an attempt to regulate economic factors with a view to achieve pre-determined objectives within a specified period of time.
- **Objectives of planning –** increase in national income and per capita income, reduction in inequality of income, economic stability, economic development, optimum utilization of available resources, increase in investment. Increase in employment opportunities, development of infrastructure, and modernasitation of various economic sectors, price stability and reduction in regional inequalities.
- **Failures of Planning-** No substantial increase in standard of living, increase in unemployment, Less growth of agriculture sector, rise in prices, inequality in distribution of income and wealth, shortfall in target realization, slow growth of capital formation, unbalanced growth of different regions, poor development of infrastructure, lop sided industrial growth, inefficient administration.
- **Achievement of Planning-**Increase in national income, increase in per capita income, increase in the rate of capital formation, institutional reforms in agriculture, development of industries, increase in employment, development of social services, modernization of the economy, export promotion and import substitution, increase in Research and Development, structural and institutional changes, balanced economic growth.

20.10Self Assessment Test

(a) Try the following objective type questions

(i) The "Hindu growth rate" is 'a term used regarding growth rate of Indian economy to highlight satisfactory achievement in this regard is the statement (x) true, or (y) false?

(11) Was the heavy industry strategy, flowing from the Mahalanobis model, (x) persisted within several five year plans, or (y) ceased to be followed after the second plan?

(iii) Which of the following is associated with a resounding success of Indian planning.:
(x) The HYV seeds or (y) The public sector's attainment of "commanding heights" of Indian economy
(iv) The experiment of trying economic planning within the framework of a mixed economy was a serious bottleneck of Indian planning. Is the' statement (x) true, or (y).false.
(Correct answers: (i) (y).; (ii) - (x) (iii) -(x).; (iv) - (x) . ..

20.11Suggested Readings

I Planning Commission GO I, *Five year Plan documents*
2. K.N. Kabra, *Development Planning in India,* 1997, chap.' 5 and 9.
3. M. Chatopadhyay et al (ed.), *Planning and Economic Policy in India-Evaluation and-Lessons for the Future,* 1996 .
4.C. Rangarajan*, Indian Economy Essays on Money and Finance* 1999, óhap. 23. .
5. Jean Dreze zpdAmarty Sc*, Indian Development,* 1999, chap. I
6. Ruddar Dutt and K.P.M. Sundararn, *Indian Economy* (latest edition), chapter on Review of 50 years of Planning

20.12 Terminal Questions

Question1 Appraise the success of Indian planning in the context of reduction of poverty and unemployment.
Question 2 Highlight those aspects of planning- strategy followed under India's five year plans which generated internal contradictions and conflicts.
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LESSON 21

SAVING-INVESTMENT RATES: TRENDS AND PROBLEMS

Structure

21.0 Objectives

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

- Understand the importance of savings and investments in economic development.
- Explain the trends in saving- investment over the planning period.
- Discuss the problems of generating savings and promoting investment.

21.1 Introduction

In some of the earlier Lessons, it must have been clear to you that saving and investment rates as percentages of national income) occupy an important position among the factors gathering the rate of the growth of national income. Therefore, in the present Lesson, we shall discuss the importance of these rates in economic development especially under planning, the trends in them over time and the problems of raising the rate of domestic saving and bridging the saving-investment gap that have been encountered in India during the planning period.

India started her development planning from a situation where her saving-income ratio(i.e. the ratio of aggregate savings to national income) was a low as 5.5% This is the barest minimum for an underdeveloped country, as W.Arthur Lewis(in the Theory of Economic Growth) has shown, if the standards of living are not to be allowed to fall. This can be demonstrated with a little arithmetic. In 1951 when the First Plan was launched the population growth rate was estimated at 1.3% per annum. That means, if the standards of living were not deteriorate, the national income should have grown at least at that (1.3%) rate. For national income to at that rate, investment needed would be 3.9% of the national income. (ICOR was assumed to be 3:1) or 5.2 % of the national income (if ICOR was 4:1).This is according to the Harrod - Domar growth equation, given in an earlier lesson.

It is thus obvious that if the standards of living were to be raised in the country, the ratio of savings (and investment) to national income would have to be raised. Later, when the population growth rate also started rising, the need to raise that ratio became still more imperative.

It may be recalled that perspective planning exercise contained in the First and Second Plans which aimed at doubling the national and per capita incomes by stipulated target years, was based on that assumption of raising

the ratio of savings and investment to national income to fairly high levels. That the developed economies had attained such high levels of saving-income ratio after a protracted period of intensive development, shows that for an economy like ours a comparable attainment within a relatively short time period would be a pretty difficult task. In order to evaluate our performance in this connection, let us find out what were the saving-investment rates planned in different Five Year Plans and how the economy actually fared in this respect.

21.2Saving Investment Rates Trends

In the Table Below data relating to saving investment rates-planned and actual are shown.

Table 21.1
Domestic Saving-Investment Rates Under Plans (% GDP)

Plan	Domestic Saving Rate		Investment Rate	
	Planned	Actual	Planned	Actual
First	6.75	7.0	-	7.3
Second	9.7	8.9	10.7	12.0
Third	11.5	11.1	14.4	13.4
Fourth	13.2	12.2	14.5	13.7
Fifth	21.2	16.0	22.8	15.4
Sixth	24.5	19.6	25.0	18.7
Seventh	24.5	20.4	25.9	22.7
Eighth	21.6	23.8	23.2	24.9
Ninth	-	23.6	-	24.3
Tenth	-	29.9	-	32.1
Eleventh	34.8	34.0	36.7	36.4
Twelfth	36.2		38.7	-

When planning process started in India, there was the preponderant view among economists and planners that saving-investment rates were the chief determinants of economic growth. You are already familiar with the theories of economic development of W.A Lewis, Rangar Nurkse and W.W Rostow, who were among the leading development economists of the 1950s and 1960s they made growth of national income strongly dependent on capital formation. Even earlier, the growth models, put forward to explain economic growth of the developed countries had made savings and investments as the crucial variables in the growth process.

These views could not but strongly influence the thinking of planners of that period. Indian planning commission to seem to have become a diehard votary of this school, of thought. Therefore, all five year plans made projections of saving and investment rates and made conscious efforts

through planned resources mobilization and investment planning to achieve them.

Now, look at the figures in the above table. It be seen that during the First plan, the saving investment rates were really typical of an economy having stagnated for centuries. Anybody influenced by the Harrod-Domar ,model or the views of the above mentioned development economists would argue that India's saving-investment rates were at critical minimum level during the initial plan. The Indian Planners, therefore made an effort to raise these rates over these subsequent plans, as is clear from the table. They seem to have succeeded in that Endeavour to a great extent.

Figures in the table, however, unambiguously bring out the truth of the strategy planning discussed in the preceding lesson, where it was pointed out that the critics of this strategy would accuse these big planners of projecting resources which in reality do not exist. The result is there for anyone to see. The planned domestic saving rate was always higher than the realized rate, except in the First and Eight Plans. The actual investment rate which was influenced by foreign aid as well too was below the planned rate in most of the five year plans. It is however, interesting to notice in the table that the real economy does not work as waywardly as do the planners and policy makers. If you look at figures of planned saving and investment rates these have in some plans suddenly jumped up and in others suddenly dropped. This shows that Indian planning process in a poor light. But so far as actually realized rates are concerned (which are the average annual rates for each land and thus conceal the year-to-year fluctuations) these have risen consistently over the planning period.

It is thus seen that there has been a consistently rising trend in the saving and investments rates in the country, as far as the average rates for each successive plans are concerned. However the actual annual rates have naturally fluctuated because their determinants like national income and policy variables in the case of savings and investment climate and interest rates in the case of investment do not remain stable from year to year.

Now let us look at the saving-investment rates as actually realized from year to year over the period 1950-51 to 2011-12. We shall discuss the long-term trend in these rates, without any reference to the 5 year plans. We are not reproducing the whole series of data here. You may look up for this the latest Economic Survey of Government of India. Our present discussion is based on Economic Survey 2004-2002, 2006-2007.2013-14 Let us take gross domestic saving (GDS) rate first. GDS as a % of GDP in the base year (1950-51) was just 8.9. Since then it has shown an upward trend, through rising sometimes and dipping at other times. We shall note some of the peaks attained by the GDS rate which roughly bring out its rising trend.

The GDS rate of 8.9% of the base year rose to its next significant peak of 12.6% in 1995-56 and then the other peaks followed: 14.0% in 1965-66, 16.8% in 1973-74, 19.4% in 1976-77, 21.5% two years later in 1978-79 and then had to wait for 17 years to attain its final peak of 25.1% in 1995-96, which so far has not been exceeded. It is thus clear that GDS rate have been rising over this period, though one does not fall then up to 1978-79 the growth rate of the GSD was faster, but since then it has slowed down. In fact, lately in the final years of the 1990s, there has been a continuous increase in GDS as a ratio of GDP after 2001-02 and quick estimates for 2006-07 puts it at 32.4

as per the new series with base year 1999-2000.It increased to 34.0 in 2010-11 but slightly declined to30.8 in 2011-12.

The total GDS consists of three components, viz household savings private corporate savings and public savings, these being contributed by individuals and households, private sector companies, and the government and its enterprises, respectively. The shares of these components have varied from time to time; through the household sector has been always the major contributor to total GDS. In the first decade, 1950-51 to 1960-61, the shares of the household, private corporate and public sectors were 71%, 11% and 18%, respectively. In the 1970-71 to 1980-81 decade, the shares had changed somewhat to 70%, 9% and 21% respectively. It would be noted that while the household sector had broadly maintained its share, that of the private corporate sector had declined while the public sector share had risen.

This marks a significant change in the contribution of these sectors, with the household and private corporate sector having increased their shares, but the public sector having now become an insignificant contributor to the overall GDS. Not only that, the public savings had become negative, meaning hereby that now the public sector's consumption expenditure in being partly met out of borrowings. This unfortunate development is of great import in that it clearly brings out the government's inability not to separate funds for the development requirements of the country because of its growing extravagance and waste of public funds on unproductive expenditure items.

Next, let us turn our attention to the trends in investment rate (rate of investment as a percentage of GDP). For this again, we make use of figures given in Economic Survey 2001-2002.and 2011-12 Before looking at these data, it should be noted that in most year, the rate of investment is higher than the rate of domestic saving because some investment is also financed out of foreign savings (coming into the country in the form of foreign aid or other form like FDI or NRI remittances)

Now, taking the figures we notice that in the base year, 1950-51, the rate of investment (or gross capital formation) was merely 8.7%. This quickly rose to the next peak of 15.0% in 1956-57. The subsequent successive peaks were: 16.9% in 1966-67, 17.4% in 1973-74, 21.6% in 1978-79, 23.8% in 1998-99, 26.95 in 1995-96 and finally to 35.0% in 2011-12

As between the public and the private sectors, the former accounted for 32.2% of total capital formation in the base years, 1950-51 Subsequently planning and government's anxiety to accord the public sector commanding heights of Indian economy" resulted in rise in public sector's share in the total capital formation. Its share rose to a high of 47% in the years 1975-80. Since then, however, the share of the private sector has been rising and correspondingly that of public sector has been declining. In the year 2000-01, the shares of public and private sector were 31% and 69% respectively. Since 2004-05, the year when the overall investment rate in the economy first exceeded 30per cent, the share of public investment in total investment (excluding valuables) has remained fairly stable at around 24 per cent for all the years, except in 2008-09 and 2009-10 when it was 27.6 per cent and 26.5 per cent respectively. The increase in these years could be attributed to the fiscal stimulus provided by the government in order to overcome the slowdown in the economy in 2008-09 following the global slowdown. In tandem with the rise in the rate of gross domestic savings after 2001-02, there

was a step up in the rate of gross domestic capital formation from 28% of GDP to 31.5% during 2003-04 and 2004-05. During 2006-07 and 2011-12 it stood at 35.9% and 35.0 % of the GDP at current market price. In the year 2006-07, the saving investment gap was -1.1%. This gap was +4.5% for private sector and -4.5% for public sector. In 2011-12 the saving investment was -4.2%

We started discussion of saving-investment rates with the observation that in the 1950s and the 1960s the prevailing development theory put too much faith on these rates as the main determinants of the growth rate of the economy. The later thinking on the subject has revised this notion, and now capital formation is seen as an important component of the development process but not a leading one. Even the Indian development experience would bear out his later version of the link between capital formation and economic development. It is seen that when between 1951 and 1970 the saving and investment rates rose quite rapidly, the growth rate of GDP did not accelerate correspondingly. Later, in the 1990'swhen the saving investment rates have nearly stagnated, the growth rate of GDP has risen appreciably. Therefore, it is now felt that undue emphasis put on saving investment rates, without worrying about measures to improve productivity of capital proved a bane of economic policy framework in India.

Exercise 21.1

Questions 1What have been the trends in savings and investment over the years?

21.3 Problem of Generating saving Promoting Investment

Although we have played down the importance of saving and investment in the development process a little yet economic development will remain constrained. If enough saving for capital formation is not available. In fact to put the importance of saving-investment rates in perspective, let us recall the Harrod-Domar growth equation, which runs as

$$\frac{S}{G=K}$$

Where g= growth rate on GNP, s= saving rate and k= capital output ratio. The growth models, like the Harrod-Domar model, put too much emphasis on s but assumed the value of k to be given.

The current view, including in India, is that effort may be made to raise the savings ratio so that more capital formation can take place. But in a developing country, efforts also need to be made to reduce the value of the denominator in the above equation. What does it imply? This denominator, 'k', is the capital-output ratio, which shows how much investments need to be made to increase output by one unit. If for producing one unit of output less capital could be employed, or in other words, if with given capital more output could be produced, it would be a welcome development for the country. This would in fact mean that the productivity of the capital and vice versa. If in foregoing Harrod-Domar equation the value of's' remains constant but that of k falls

So in a developing economy, raising the saving-investment rates may be important to accelerate the growth rate of the economy, but measures

should also be taken to improve the productivity of capital which can be done in various ways, like improving skills of workers, using better technology, adopting better managerial practices, making a fuller use of production capacity, introducing better organizational formats, and so on and so forth. India, liberalization policy has been adopted in the recent past, with the broad objective of improving efficiency, which includes all the above measures of increasing productivity and much more. So now, while efforts may continue to increase the saving-investment ratios, measures are also being adopted to improve efficiency. That may explain why in the 1990s, while the average saving investment rates did not rise much, the growth rate, in most years of the decade, was really impressive. The explanation may have lain in the productivity gains achieved through internal and external liberalization of economy.

All this does not minimize the importance of rising saving investment rates. Let us not forget that some of the fastest growing economies in the contemporary world are in Asia. And their saving-investment ratios are very high. Take four of these economies in Asia, viz. China, South Korea, Japan and Singapore. In 1999, their domestic saving rates were: 42%, 34%, 30% and 52% respectively. In comparison, India's domestic saving rate in 1999-2000 was only 23.2%. The key to achieving a high rate of economic growth, keeping in view the experience of the above mentioned Asian countries, is to attain a relatively high investment rate as well as to improve the productivity of capital (or showing general economic efficiency). As already indicated above during the 1990s, India's rate of economic growth rose to fairly high levels, in spite of near stagnation in saving investment rates. The former is therefore, attributed to some improvement in productivity in these years. Had these improvements been accompanied by some rise in saving-investment rates were relatively more in the period before 1979-80 that has been the case since then. So why, there has been relative stagnation in saving-investment rates in India in the last two decades of the 20th century.

In the first place, problems have arisen in some components of gross domestic saving (GDS) in this period, So far as the main component of GDS, viz household savings is concerned, it has continued rising even though there has been fluctuations) during the last two decades. So far as private corporate sector savings are concerned, till about the beginning of the 1990s, their share in GDS has been rather negligible. It is indeed the public savings whose share started declining after the early 1980s, the decline precipitated in the late 1980s and about a decade later,1998-99, public savings became negative, thus pulling down the overall GDS. Earlier in the 1975-80 period, public saving had in fact accounted for between 20-25% of GDS, So later, it is the public savings which have been the villain of the piece, not letting GDS rise much even when the other two components were showing a rising trend.

Secondly, although the household savings component has shown a consistently rising trend, yet it is argued that after liberalization made in appearance in India sometime in the mid-1970s, and got accelerated in the 1980s and particularly after 1991, consumerism has received an inevitable boost in the country. Market economy inexorably release forces of consumerism through, for example, high velocity of advertisements, income growth mainly restricted to the middle classes, strengthening of the process of conspicuous consumption encouragement of creation of debate facilities for

purchase of consumer durables by the banks and the sellers of these goods, and so on so forth. It is felt that if consumerism has not been encouraged; more savings would have been generated within the household sector.

Thirdly, it is being felt that the generation of black money or unaccounted money has been on the rise in the recent decades. Although efforts are made from time to time to present estimate of the size of the black economy or parallel economy in the country, yet the nature of this problem is such that no reliable estimates can be made. However, from the frequent scams that come to light, the criminalization of politics, the extravagance of the electoral process, the overall corruption whose pinch is felt by every Indian citizen in his/her daily life, it is no exaggeration to say that size of parallel economy is rising. As more black money gets generated less of it goes into the legally held savings. After all the sources of the two is the same, viz. Income. So more of the income take the form of unaccounted money, the less will remain for channelling into legal form of saving's. This could also explain why in the last two decades the growth rate of GDS has slowed down.

Fourthly, there has also been a policy muddle with regard to the budgetary concession available to the savers and investors. Frequent changes are observed in these concessions and, therefore, there has been a lack of consistency in this regard. Especially long-term savings and fixed investment, where funds are sunk for a long period and adversely affected if there is a lack of certainty with regard to the government policy impinging on them. This is especially so under a liberalized regime where government incentive and disincentive have a direct bearing on private saving and investment.

Finally, in recent years, foreign saving had failed to pick up and make up for any sluggishness domestic saving. Due to the unprecedented rise of India's foreign indebtedness in the 1980s (foreign outstanding debt rose by 149% in just the 1985-90 periods), the inflow of foreign aid has shrunk in the subsequent years. FDI was supposed to make up for the fall in the foreign aid, which too has not happened as much as expected. The policy with regard to encouraging FDI has been greatly liberalized since 1991, but due to various hurdles, including administrative and bureaucratic controls (the legacy of the inspector Raj era) which refuse to go away despite liberalization, the FDI has not materialized as such as anticipated. This is adversely affected the growth rate of investment. Take the example of power sector in particular and the infrastructure ion general where huge investment opportunities exist, yet hardly FDI has actually flowed. It is clear from the foregoing that due to the sluggishness in the growth rate of domestic saving and investment, our rate of economic, development has not been as impressive in the 1980s and 1990s as that of countries like china and other countries of the Far East.

Exercise 21.2

Question 1 what have been the reasons responsible for languish in saving and investment over the years

21.4 Summary and Conclusion

Saving and investment rates have been traditionally considered the chief determinants of economic growth. This is the impression that one gets even from the growth models, like the Harrod-Domar model, put forth to explain the sources of economic growth in the developed countries. The leading development economists of the early post- Second World War period also highlighted the role of this rate in the economic development of the underdeveloped countries. The Indian planners followed their lead in this respect efforts at planned resource mobilization and investment planning under India's 5 year plans aim to raise saving investment rates.

These rates did rise during the planning period. However, undermost plans, the actual saving-investment rates fell short of the planned rates.

The over-all trend in saving-investment rates, in the post 1950 period has been an award one , though some sluggishness in their growth rate has been observed during the last two decades. The expected link between rise in the saving-investment rates and the rate of growth of the GNP has not been confirmed in India. In fact the earlier period of a relatively faster growth of the former has been associated with slow "Hindu growth rate" of GNP. Later; when the saving-investment rate somewhat stagnated, the GNP growth rate accelerated. The letter phenomena is sought to be explained in terms of attainment of greater economic efficiency and consequent improvement in productivity of capital. The failure of the growth of saving investment rate at a faster rate in the last about two decades can be explained in term of several factors such as decline and finally turning negative of the public savings components of gross domestic saving, rise of consumerism, increase in generation of black money, and policy muddle in this regard.

21.5 Glossary

- **Savings –** The portion of disposable income not spent on consumption by households plus profits retained by firms. Savings are normally assumed to be positively related to the level of income (personal or national)
- **Investment –** The part of National income or national expenditure devoted to the production of capital goods over a period of time .Gross investment is the total expenditure on new capital goods, and net investment is the additional capital goods produced in excess of those that wear out and need to be replaced.
- **Economic Development –** the process of improving the standard of living and well being of the population of developing countries by raising per capita income. This is usually achieved by an increase in industrialization relative to reliance on the agricultural sector.
- **Economic Efficiency –** In production, utilizing factors of production in the least- cost combinations; in consumption, allocating expenditure to maximize consumer satisfaction

21.6Self Assessment Test

Try the following objective type questions:-

(i)Did the theories of economic growth and development of the post – Second World War period consider saving and investment as (x) one of

the factors of economic development or, (y) the crucial factor of development?
(ii) One of the failure of Indian's five year plans has been the lack of realization of the planned saving- investments rates in most plans. Is this statement (x) true, or (y) false?
(iii) Has the performance of Indian economy in generating domestic savings rates been comparable to that of Far East Asian countries in recent years ? (x) Yes, (y) No.
(iv) Has the actual investment saving rate of the Ninth Plan been (x) higher, or (y) lower, than that under the Eighth Plan?
(v) Which of the following phenomenon can be associated with the relative stagnation of domestic saving rates in the last two decades?
(x) The advertisement of an automobile company that car loans are available at zero rate of interest.
(y) The adoption of new economic policy in India.
(Correct answers: (i)-y; (ii)-x; (iii)-y; (iv)-y ;(v)-x)

21.7 Suggested Readings

1. Planning Commission, G.O.I., *Five Year Plan* documents.
2 Ruddar Dutt and K.P.M.Sundharam, *Indian Economy,* (latest issue), Chapters on "Financial Resources and the Plans", and " The Problem of Capital Formation"
3. Govt of India, *Economic Survey* (latest).
4. Uma Kapila, *Understanding the Problems of Indian Economy, 2001*, Chap.4.

21.8 Terminal Questions

Question 1Discuss the main achievements and failures of the policy of accelerating growth of domestic saving and investment rates under India's Five Year Plans.
Question 2 Substantiate the view that in the last two decades domestic saving- investment rates in India stagnated relatively to the preceding period. How can this relative stagnation be explained?

LESSON 22

DECENTRALISED PLANNING AND PEOPLE'S PARTICIPATION

Structure

22.0 Objectives

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

- Discuss the need and forms of Decentralized Planning
- Elucidate the policy with regard to decentralized planning and enlistment of people's cooperation and participation.
- Evaluate the actual progress made in this direction

22.1 Introduction

In India economic planning under the five years plans started within the framework of a system of centralized decision-making, where the Planning Commission at the top of planning hierarchy took all the major decisions like the objectives of planning its strategy, investment allocation, resource mobilization, and so on. The planning apparatus at the state-level did have a say in deciding which state project, should be included in a particular plan, but the final decision in this regard too rested with the Planning Commission. The political and administrative institutions at the district or lower levels had very little say in matter, if at all. This is called the top-down approach to economic planning.

The main reason for adoption of such an approach to planning initially was the inspiration that India derived from the erstwhile Soviet Russia in the matter of planning. However, the contradiction lay in the matter that while the U.S.S.R was authoritarian regime, India had adopted the democratic form of governance. As is by now clear to you from a couple of preceding lessons, this model of planned development did not yield the expected results, whether it was a rapid growth of national output, or swift reduction of poverty and unemployment. Perhaps, lack of requisite enlistment of people's co-operation at the grass-roots level through decentralized planning, has been a major factor for the relative failure of this model of economic planning.

22.2 Need for and Forms of Decentralized Planning

The top-down approach to planning, implicit in a planning model of the erstwhile Soviet Russia type, has been a failure everywhere from the standpoint of the currently prevailing notion of development. Now economists like Amartya Sen talk of “shared economic growth” or “participatory growth” (See Jean Dreze and Amartya Sen, Hunger and Public Action, 1989, chap 10) Analogously, UNDP, the chief protagonist of the concept of human development puts forwards a people centered approach to development “with concerns for human empowerment, participation, gender equality, equitable growth, poverty reduction and long term sustainability”. In these notions of development, the emphasis is on participation, equity and equality. In other words, the emphasis is on broad-based development. Development can be broad-based only if all people benefit from it and participate in it. Participation is ensured through people sharing in decision-making implementation of those decisions and benefiting from them as producers, workers and consumers. If only the upper layer of society participates in the development process it can be considered as spurious and not genuine development.

The acceptance of these new notions of development calls for decentralized decision-making and what is called micro-level planning. Such planning should be undertaken by the grassroots level organizations like the village Panchayats and urban local bodies in India. The need for decentralized planning arose because, broadly speaking, it would ensure participatory and equitable development according to the genuine needs of the people. In a big country with huge cultural diversity like India, the top-down approach to planning cannot satisfy the aspirations of people of different regions and cultural identities. Each of these groups should have the opportunity to plan development according to their separate felt needs, aspirations, local environment and resources. People will have the satisfaction of exploiting local resources. People will have the satisfaction of exploiting local resource benefit. They may well be expected to take care of local physical environment like forests, water sources, stone quarries etc. So that they and their children will continue benefits from them. Decentralized planning is more flexible in that changes, whenever warranted, can be expeditiously effected. Then, this type of planning is genuinely participatory; it truly empowers the people, and is based on a system of self-government.

Now, what are the forms of micro-level, or decentralized planning? It must be understood that such planning may be a component of formal system of economic planning like the five years. Alternatively, it can be informal in the sense that the local community may come together to solve some problem that the community has come to face which the state or national governments have failed to address. In the former case, when a formal five year plans are to be formulated at the national level, the process of plan-making may start from” the grass-roots level. In India, each Panchayat or a group of them and urban local bodies may draw up their own plans, send them up to the state government where these may be suitably vetted and pruned before being sent up for inclusion in the national plan. This form of decentralized planning is less likely to succeed, judging by the past experience of the state-level bureaucracy not letting the grass-roots level people’s organizations to function independently. However, decentralized planning can be expected to be more successful under an informal system where, expect for making external resources, like funds, available to them, the grass-roots level community

organizations are left free to solve their local problems This type of decentralized planning can be further sub-divided into the following two categories.

(i) Resource / Problem / target-group-based Planning: - In this case, the local community may think of drawing up a plan to exploit a local resource, like a mine, for the benefit of the local community. Alternatively there may be recurring problem like droughts floods water shortage or crop disease to deal with which a plan may be formulated by the local community. In this category, the focus of the plan can also be a target group, like the local youth, women or the poor and for dealing with their special problems the community may draw up a plan.

(ii) Comprehension Area Development Programme: - This type of decentralized planning can be practiced where no system of planning has been in existence. The local community may decide to initiate the process of development for their area in consonance with their requirement and resource available. Comprehensive plan may be drawn up for this purpose. Local resources inventory may be prepared, man-power planning or budgeting may be done, institutional arrangements may be thought out and suitable targets for generating employment, initiating production etc may be laid down. Social sector development in respect of education and health may be planned. All these may be done through utilization of local resources but at the same time keeping in view the needs of environmental preservation etc.

Exercise 22.1

Question 1 Define Decentralized Planning?

Question 2 Explicate the need of Decentralized Planning.

22.3 Decentralized Planning and People's Participation: policy and practice under India's plans

If you read India 1st plan document you would be convinced that decentralized planning and people's participation in development planning would be the core of plan formulation and implementation in our country. Following is a sample of several statements occurring in that document: "The political executive has to assess what the people desires, what is the essential need are, and how they may be met. "

"There is need in the village for an organization representing the community as a whole which can assume responsibility and provide the leadership for the developing the resources of the village. These role can b e fulfilled by the village Panchayat"

"For securing local participation and co-operation In individual programs and for strengthening the structure of democratic government, it is essential that programs for local development should be conceived of as joint enterprises to be carried out in close co-operation by the agencies of the state government and the representative of the people elected to local self-governing institutions.'

"Public co-operation and public opinion constitute the Principal force and sensation behind planning."

The foregoing is just a sample of statement contained in the chapter of the 1st five year plan entitled, “administration and public co-operation." If the guidelines provided were followed and the need and importance of decentralized planning and public co-operation in planning expressed in this plan were realized in letter and spirit in the subsequent plans, the result of planning in this country would have been very much different.

From the second plan onwards “village-panchayat” and titles like these were accorded less and less space in the plan documents, covering just a page or two. There were two main reasons for this. First, as the planning process proceeded in the country, the bureaucracy became more and more powerful, with the people at the grass- roots level being pushed to the background. Secondly, the Panchayati raj institutions and other local bodies’ became weaker and less effective with passage of time, till; the constitution 73Td amendment has tried to re correct these institutions in the recent past. However, nursing back the Panchayat raj institution and other local bodies too would good health is proving to be a tough nut to crack as the recent experience in different states goes to show, Despite constitutional provinces these grass-roots level instructions are not been given requisite resources, autonomy and power for them to be effective instruments of local planning and development. The state level politician and bureaucracy are reluctant to part with their powers and pass them on the grass-roots level organization.

However, plan after plan, seeking people’s co-operations in planning and strengthening the panchayti raj institutions for this purpose became a platitude to be repeated as a slogan, but scarcely with any strong political commitment to it. Thus even the 9th plan (1997-2002) included “promoting and developing people’s participatory institutions like panchayti raj institutions, co-operations and self-help groups” as one of the objective of the plan.

Before we turn to the final evaluation of the policies which regard to decentralize planning and people’s participation under different plans, it would be useful to remind our self another institutional arrangement which was sought to be created in this regards in the early 1950’s at the start of planning process. An institution called community development (C.D) programs was created by the planners in 1952 (A.C.D). Project was intended to be an “agency through which the five-year plan seek to be initiated process of transformation of the social and economic life of the villages’ each such project was to cover 300 villages and would be further sub-divided into three development blocks, and each block being further subdivided into group of five villages each. All rural work in each of these five villages was to be carried out through a village-level were or a gram sewak. The C.D program was aimed at achieving its objective of social and economic transformation of village through and integrated development program. Significantly the first plan document stated that, “The participation of the people is of the very essence of the programme”

Later, after all the villages of the country was covered under the programme, one never heard any mention of the C.D program, the chief village level functionary, the gram sewak and the people’s participation in the implementation of the programme. This programme too seems to have fallen a prey to the rapacity of the bureaucracy which unfortunately took pains to see that economic planning did not became people’s movement. As the very name implies community developments programme was conceived as an

institutionalized, cooperation effort between the people, for whom the program was meant, and the government.

Exercise 22.2

Question1 Discuss the policy regarding decentralized planning under five years plans in India

22.4 Decentralized Planning and People's Participation in Planning: an Evaluation

It may not be an exaggeration to say that the government in India failed to evolve a mechanism of associating people at the grass-roots level with the process of planning and as a result of bureaucratized system got progressively distanced from the general populace. That ultimately led to the public sector in particular and economic planning in general getting this credited in the eyes of the common man. We find today the public sector to be receding from different sector and industries and their no popular resentment against privatization, accept from the vested interest. Had people in general benefited from the working of public sector and government investment, There would have been a mass movement against liberalization and privatization. But the growing distance between the planners and the people insured that the adoption of the new economic policy was viewed by the later possibly if not enthusiastically. Whatever mechanism was created or had pre-existed for the decentralized planning and eliciting people's co-operation got gradually weakended. The planning commission in 7th plan document had itself admitted that, "The community development programme had provided an elaborate delivery mechanism in the form of development. Blocks and the village level extension agency. However, over the year this mechanism had suffered considerable erosion and gradual disintegration. Similarly all through Panchayat raj institutions, in one form of another exist in most states they have for a variety of reason not been actively and effectively involve in implementation of the rural development program except in the few states…In terms of instruments of planning community development and panchayti raj institution have been reduced to an extremely peripheral status".

This is a candid admission of the failure of the government involve grass-roots level institutions with the planning process. And if these institutions didn't get involved in the process people's participation was that obviously missing. Now, the question is: why did it happen despite the good intension of the planner's initially in this regard, as the quotation from the first plan document given earlier above head shown? Some of the factor responsible for the failure of the government to evolve any meaningful and effective mechanism, of involving people at the grass-root level with the economic planning is discussed below

In the first place, Bureaucratization of India, as planning process has been perhaps greatest ban of development planning in the country. The bureaucracy was allowed to take over both the formulization and implementation of five year plan at all levels. The bureaucracy intruded in to the system and got firmly entrenched in its own interest; it made the bureaucrat more and more power full. They were handling billions of rupees and the rural resources purchased with these funds under plan allocation. As

the power of bureaucracy increased, it did harm to the planning process in several way. The people at the grass-roots level got alienated, corruption increased and the delivery of benefits to the people became more and more in efficient.

Secondly, there has been perhaps singular lack of political will in the country for the empowerment of the people at the grass-roots level. Such empowerment is greatly needed if people were to be genuinely associated with the formulization and implementation of programs for their own developments. Even after the passage of the constitutional; 73rd amendment aimed at giving greater powers in respect of panchayti raj institutions and the holding of Panchayat election in the majority of states, the political elite at the top has been found to be lacking in will to part which their power transfers necessary funds to the local bodies to make self-government possible and effective

Thirdly, adoption top-down model of the plan development the creation of the plethora of rules and regulations to control and direct the private sector in the first three decades of planning, killed much of the initiative at the local level. There was a tendency to look towards the government for almost everything. All these compounded to historical legacies in India one is the persistence of the feudal-mindset of people at large. They still think in terms of social, political and economy hierarchy equality has been alien to this mindset. The Indian constitution start with the word " we, the people of India,' where there is no room for any hierarchy, .but in reality rules and rules seem to remain separate identities for the common man that is why bureaucracy was able to entrench itself so easily as the real rules in this country. Secondly, the persistence of the colonial mind set within the ruling class has never allowed them to think of people as their real masters in free India. Thus, in the mind of our political leaders and administrators the division of society into "us " and "they" always exist in such a situation, how can the rulers part with some of their powers in order in power the people at the grass-roots ?

Fourthly, there has been general erosion in the quality of democracy in the country. The V.I.P-ism is a phenomenon which has been on the rise in independent India. This special class of V.I.Ps is much broader than the ruling class and includes the cronies of the politicians and bureaucrats, their relations and their sycophants public services are.

Delivered to them on priority basis. This V.I.P orientation of our administration too has divided the society into classes, with the masses looking at the system with a sense of unease and helplessness. This is a case of dis-empowerment of the poor and the helpless. In such a scenario of socio-political schism, it is futile to talk of ordinary people's empowerment and their participation in economic planning which has delivered benefits of them.

Finally, the initial politico-administrative structure, like the Community Development Programme, was the products of the thinking of a small class of highly motivated, democratic and nationalist leaders of the 1940s and 1950s. These structures never arose out of the popular thinking. Nor were these given much chance to grow and proliferate as movement of national reconstruction. So, because of these having remained limited to the thinking of a small class of people, these eventually died a natural death. On the other hand, panchayats have been an ancient institution in India. Yet during the British period and even earlier these ceased to function in most parts of the

country. In post independence India, the political class as whole has never been seriously committed to the resurrection of these ancient institutions. Had a genuine effort been made for the revival of the panchayats and necessary funds and powers given to them India would have become a genuine democracy, self-governance would have become a reality and economic planning would have benefited the widely dispersed masses of the country.

Exercise 22.3

Question1 Appraise the advancement made in India with regard to decentralized planning.

22.5 Summary and conclusion

Decentralized planning and people's participation in planning effort are these days supposed to constitute the mechanism of ensuring genuine, broad-based development. In India, the First plan gave the impression that in the ensuing planning process, effort would be made to associate people at the grass-roots with the formulation and implementation of the development programmes meant for them. In that plan, an effort was also made to create a politico-administrative structure viz. Community Development Programme to initiate a process of social and economic transformation of rural areas. The C.D programme or the panchayats. Both institutions were allowed to remain dormant or to get phased out. However, as a matter of routine slogan raising, the planning Commission included "promoting and developing peoples participatory institutions like Panchayati Raj Institutions, co-operative and self-help groups" as one of the objectives of planning.

In reality, however, the general masses got increasingly alienated from the process of planning for a variety of reasons, including progressive bureaucratization of the machinery, increasing V.I.P. Orientation of the administration and the cornering of benefits of planning by the political and administrative elite, the lack of political will to make a genuine effort of reviving grass-roots level institutions and so on and so forth.

22.6 Glossary

- **Decentralized Planning-** In decentralized planning the entire work of planning ,e.g. Formulation, adoption, execution, supervision and control is entrusted to regional bodies and local enterprises this type of planning is based on dispersal of functions and can be described as planning from below at the grass root level.
- **Centralized Planning -** In centralized planning the entire work of planning, e.g. Formulation, adoption, execution, supervision and control is entrusted to one central planning authority. Centralized planning may be described as planning from above.

- **Resource Mobilization –** Resource mobilization means expansion of relations with the resource providers, and the skills, knowledge and capacity for proper use of resources. Not only the use of money it denotes the process that achieves the mission of the Organization through the mobilization of knowledge for human use of skills, equipment, services etc. Also includes seeking new sources of

resource mobilization as well as correct and maximum use of the available resources.

- **Privatization –** Privatization means allowing the private sector to set up more and more of such industries as were previously reserved for public sector. Under it, existing enterprises of the public sector are either wholly or partially sold to private sector.

22.7 Self Assessment Test

Try the following types of questions:-

(i) Broad based development promoted through decentralized planning is synonymous with one of the following. Which one is it?

(x) Participatory development

(y) Regionally balanced development

(ii) Which out of the following statements about the Community Development Programme in India is correct??

(x) Included in the First Plan, but actually implemented during the second plan

(y) Both launched and implemented during the First Plan

(iii) Out of the two approaches to development planning (x) top-down approach, and (y) bottom –up approach, which one is decentralized planning identical with?

(iv)After the adoption of the policy of liberalization in India in 1991 the five year plans have stopped emphasizing the need for enlisting the co-operation of people in the planning effort of the government. Is the statement (x) true, or (y) false??

(v) Have the Panchayati Raj institutions, even after revival in the recent past, failed to be used as instruments of decentralized planning? (x) Yes. (y) No.

(Correct answers :(i) –x; (ii)-y; (iii)-y; (iv)-y; (v)-x)

22.8 Suggested Readings

1. Planning Commision, G.O.I., *Five Year Plan,* documents, relevant chapters and sections.

2. Arvind Kumar (ed.) *Encyclopedia of decentralized Planning and Local Self-Goverance,*2001 (Anmol Books, W,Delhi) Vol.2,Chap, 17-31.

3. Sansar Singh Januja, *Panchayati Raj: Problems and Prospects,* 1998, Chap.3-6

22.9 Terminal Questions

Question 1 Discuss (i) the broad policy, and (ii) instruments in the First Five Year Plan with, regard to decentralized planning and people's participation in the planning process.

Question 2 Assess the progress made in India with regard to decentralized planning during the last four decades of planning.

LESSON 23

POLICY DEBATES IN THE POST-LIBERALISATION PERIOD-I

Structure

23.0 Objectives

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

- explain the policy debate promoting downsizing of the Public Sector
- state the arguments favoring Downsizing the Public Sector
- give arguments against Downsizing the Public Sector
- explain the policy adopted to promote disinvestment
- assess the progress of disinvestment

23.1. Introduction

In this and the next lesson, we shall deal with some of the policy debates which have raged in the post-liberalization period in India. These policy debates were to be expected since the country took a U-turn in its policy regime after 1991. The pre-liberalization period was characterized by the primacy of the public sector, a carefully raised edifice of regulatory measures aimed at control of the private sector, and a diligently crafted framework of economic planning. The new economic policy adopted in 1991 and the harbinger of internal and external liberalization sought to change all that Academicians, policy makers and even politicians have their own ideological preferences. Some lean towards the Marxian dogma of socialization of means of production and restraining the “rapacious” capitalist organizations. Others broadly follow the path laid down by classical and neo-classical economists, who believed in the efficacy of the market economy and the role of the “invisible hand” which is supposed to optimally operate the economic system. While the pre-liberalization period followed policies that were to the liking of former group, the post liberalization period marks a swing towards policies that latter seeks to follow. This ideological divide was bound to create controversies and lead to debates or main policy issues, viz. downsizing the public sector, and disinvestment, in the present Lesson. We shall notice how the proliferation of the public sector and its burgeoning inefficiencies in the pre-liberalization period got the ground has now come to

be called as the downsizing of the public sector units. All these are controversial issues and we shall deal with the debate here.

23.2. Downsizing the Public Sector—Pros and Cons

As is well known, the forty year period between 1951 and 1991 was marked by the growth of a huge public sector in India. In the pre-independence period, public sector hardly existed. In this period, public ownership of enterprises was limited primarily to the Indian Railways and. The posts and telegraph department and few minor factories manufacturing salt and quinine. There also existed a few ordnance factories. In post-independence period, the nationalist leaders were ideologically committed to the creation of dominant public sector. The major instrumentalities in the creation of the sector were the industrial policy of 1956, the nationalization of airways, and insurance in the mid-1950s, and the nationalization of major banks in 1969. In the states, the nationalization of road transportation and the power sector were major development in this regard. Once started in the 1950s, the proliferation of the public sector continued gathering momentum in the subsequent years. The number of central government enterprises rose from 5 in 1951 to 244 in 1990 while the total investment in them rose from just Rs.29 crores to Rs.99, 330 crores in this period. These enterprises were producing and supplying a wide variety of goods and services including power, steel, coal, fertilizers, chemicals and pharmaceutical, minerals metals, engineering goods, textiles, transportation equipment, financial services, consultancy services, transportation services, telecommunication services, and so on. In 1999 the entire public sector—the centre, states and local bodies—was employing 1.94 own workers, this being 69 percent of all workers employed in the organized sector of the country. The total sales turnover of the central government enterprises. Hardly any data are available in respect of the state government enterprises. Even the foregoing data give one the idea of the growth and size of the public sector in the country.

The controversy over the downsizing has two components, the broader and the narrower one. The broader question relates to the downsizing of the government itself. This broader question has arisen in the context of the fiscal deficit where it is felt that the number government offices, their employees, the and the perquisites enjoyed by these employees, the expenditures made by them on vehicles, telephones, stationary and other articles of public consumption, have grown beyond the paying capacity of nation. The public revenues are not enough to meet this consumption expenditure of the government. Hence the rise is fiscal deficit which has assumed unsustainable proportions. In the context of fiscal correction, downsizing the government itself has been contemplated.

Here, however, we are concerned with the narrower version of the question of downsizing this concern the twin questions of privatization of the public sector enterprises (P.S.Es), and divestment or disinvestment in them. What is the difference between the two? Both involve denationalization, one partial, the other whole. Privatization involves outright sale of P.S.Es to the private sector. On the other hand, disinvestment involves only a partial sale, i.e. the reduction of the equity holdings of the government in the P.S.E, the control and management of the enterprise still remains with the government. On the other hand, if the divestment in a P.S.E. is of a majority stake, i.e. of

more than 50% shareholding, the control and the management pass on to the private sector buyer of the stake. Thus, there is a qualitative difference between privatization and sale of majority stake on the hand and a token sale of small proportion(less than 50% of the shareholding of the government).

Here, we are concerned with a question of downsizing of the public sector. Since the question arose after the new economic policy of 1991, let us see first what policy changes have occurred since then. The industrial policy of 24 July,1991, aiming at promoting the growth of a more efficient and competitive industrial economy, narrowed down the area reserved for the public sector to only eight industry groups which involve strategic and security concerns. The recasting of the relative role of the public sector was to be a component of overall programmed of structural reforms. As part of the public sector reforms, it was observed that originally the public sector was convinced as holding the commanding heights of the economy and leading the technological advance. It was intended to generate investible surpluses and become an engine for self-reliant growth. Though the public sector did significantly contribute to diversification of Indian's industrial structure, yet internal resources, for further growth of the sector fell short of expectations and it became a constraint on further economic growth. The reforms, therefore, aimed at sustained improvement in profitability of the sector. This would also mean that budgetary support to the P.S.Es would be scaled down, they would be expected to access the capital market for funds, and they would be increasingly exposed to competition.

The debate on downsizing the public sector has primarily focused on the pros and cons of this policy. Let us discuss these in some detail below.

23.2.1Arguments favouring Downsizing of public sector

A major argument that favours downsizing the public sector is the very low rate of return that it has given on the huge investment that its owner, the government, has made in the P.S.Es. The data show that net profits as a percentage of capital employed in the central government P.S.Es in 1991-92, 1995-96 and 1999-2000 worked out to 2.0%, 5.5% and 4.8%, respectively. This is commercially a very low rate of return. Any entrepreneur would borrow funds at the market rate of interest, invest them, and at the end of the year, pay interest to his creditor and retain the rest as his net profits. The above rates of return would not only leave anything to the entrepreneur but he would have to pay up the interest from his own pocket. In the present case, the investment is made out of the taxes collected from the public, which today is no longer the case because nothing is left with the government out of normal revenues for investment. The government too borrows from the market for this purpose point if the rate of interest is say, 10% but P.S.Es earn only 5% on such investments, then the balance 5% as interest has to be paid out of further borrowing. The defenders of the public sectors would say that it serves some social purposes. These social, purposes, however are neither conceptually clear to anybody, nor are these quantifiable. Of course, P.S.Es has been extensively used by the politician and bureaucrats for their own purposes. They have been appointing their own cronies as P.S.E employees or even directors on their board of directors

Besides the foregoing arguments in favour of downsizing the public sectors, there are several allied arguments like the overstaffing and

overcapitalization of P.S.Es, their defective pricing policies, the monopolistic practices of some of them, and their general inefficiency.

A second argument is that in today's world, the government has no business to be in business. Direct public investments by the government were justified when the private sector could not rise huge. Amount of resources for industrialization and development of other usually, capital intensive sectors. That today is no longer the case. On the other hand, there are several other socially very significant activities, like education, health provision of safe drinking water, poverty eradication development of physical infrastructure, etc. In which UK country is lagging behind, in which the market system will not take care of but which certainly fail within the preview of public sector. So there is need for the government to reduce the presence in the P.S.Es and to correspondingly increase its presence in the socially relevant sectors of the economy

Thirdly, low profitability of the P.S.Es has been interpreted as an index of its low productivity. It is argued that in the contemporary globalised world such inefficiency cannot be allowed to persist. Once the import restriction on their product are withdrawn (which in any case are been withdrawn under the WTO protocol), foreign competition will automatically lead to the closure of the P.S.Es. Therefore, it is argued that since the shattered market in which these enterprises were accustom to function would no longer be there, these should handle over to the private sector which will take necessary measure to make them international competitive

Fourthly, the country has been in a budgetary mess for more than a decade now. Part of this mess is attributed to inefficiency and low profitability of P.S.Es. The investible funds which were provided to them through budgetary allocations did not yield a reasonably rate of return.

Therefore, while P.S.Es did not utilized huge budgetary resource, they contributed very little To The non-text revenue of the government, at the centre as well the state. Now when there are huge budgetary deficits, primarily on account recurrent borrowings of the governments, it is suggested that the public sectors should be downsized and the funds are raised through the sale of P.S.Es should be partially or wholly used to reduce the indebtedness of the government, which will help in reducing the fiscal, deficits as well.

Finally, it also argued that initially the public sectors was accorded primacy because the private sectors was too weak to shoulder the responsibility of industrialization of the country, however, the public sectors proliferated to banking, insurance, all modes of transportation, and even certain categories of internal and external trade. As against all these, the government obviously had limited entrepreneurial, managerial and even financial resources to undertake all the above- mentioned –activities efficiently. This expected result in huge losses and rampant inefficiencies. It is now realized that it was a mistake to spread the limited resources thinly over so many activities. That activity now needs to be rectified through a policy of downsizing the public sector.

23.2.2 Arguments against Downsizing Public sector

Now, let us take the arguments of those in the debate that there is in fact no need for a policy for privatization and disinvestment since, the public

sector has decidedly done a great job in the past and that selling the P.S.Es to the private sector would be a dishonorable as “selling family silver” by private individuals. The arguments in favor of retaining control and ownership of P.S.Es by the government are as below:-

First argument is that there was nothing inherently wrong with the government running P.S.Es. The problem in fact lay with our political and bureaucratic class who interfered in the day to day working of these enterprises, packed them with their own sycophants and relations and in fact extracted all sorts of personal benefits from them. This argument advocates grant of autonomy to the P.S.Es so that these are run by specialists and experts according to the original mandate given to them by the parliament.

They argue that selling the P.S.Es to the private sector, if the fault lies elsewhere, would be like throwing the baby away with the bath water.

Secondly, the opponents of privatization of P.S.Es and disinvestment in them point out that all the public sector units are not loss-making or inefficient. Those of them which are, may be put to sale, but it would-be irrational to sell the profit-making ones to the private sector. Thus, privatization as a policy measure, irrespective of the actual performance of the P.S.Es is opposed by those who argue on these lines.

Thirdly, it is also pointed out that since the beginning of the planning process in India, the five year plans have always had reduction of inequalities and control of private sector monopolies as one of their objective. Now, when the P.S.Es is sold to the private sector, economic inequalities and monopolies would be created or strengthened. It is argued that already there exist glaring inequalities as well as oligopolies in our economic system and the sale of P.S.Es would further increase these negative tendencies in the country.

Finally, it is argued that the nation had over the years meticulously worked towards the creation of a strong public sector. This sector, without doubt, contributed to nation-building in various ways. The nation has a strong emotional attachment to the P.S.Es. Some of them have even been conferred the title of navratnas. Now selling these national assets to the private parties would be like selling the family silver to which the family members remain emotionally attached. This argument would, therefore, be all for the retention of P.S.Es in the public sector as some sort of an ancestral properly.

Thus, there has been quite a good deal of controversy over the policy of downsizing the public sector because there are strong arguments both for and against the policy.

Exercise 23.1

Question 1 Why did the government adopt the policy of Downsizing the public sector?

23.3 Policy and Progress of Disinvestment

Now, the question is what is the nitty- gritty of policy towards P.S.Es under the liberalized regime and how does this policy view the question of privatization of and disinvestment in these enterprises? The industrial policy of 1991 pointed out that the public sector had spread to the non-infrastructure and non-core areas of the economy because of which the overall performance of the sector had resulted in low negative returns to public investment.

Therefore, the industrial policy contained the following provisions regarding the public sector:-

(i) Public-sector would be confined only to the strategic, hi-tech and essential infrastructure. There would, however, be no bar on the sector to enter any area of activity.

(ii) (ii) Chronically sick P.S.Es, which are beyond redemption, shall the closed down. The workers involved are such closures will be rehabilitated.

(iii) Wider public participation in the equity of P.S.Es will be considered through the offering of a part of government share holding to financial institutions, the general public and workers.

(iv) The policy thrust would be an improvement in the performance of P.S.Es by appointing professionals on their boards of directors, And through signing of Memoranda of Understanding (MOUs) with management, who would be given more, autonomy and would be held accountable to the owners of these enterprises.

One of the problems that seems to have dogged the public sector as a whole in the past was the treatment of this sector as a repository of employment generation, particularly for the favorites and relations of central ministers, Map's and bureaucrats. Over-manning of the public sector, led to a drastic fall in labor productivity within the sector. This factor also caused a serious damage to the work culture, leading to a poor delivery of public services to the general public. Therefore, the government has been offering, in the last more than a decade, all kind of voluntary retirement schemes lathe surplus employees. This, in fact is an important dimension of downsizing the broad public sector.

To make the policy of disinvestment operational as well as imparting to it an element of rationality, and acceptability by the general public, Disinvestment Commissions have been set up to examine cases of privatization and disinvestment which were referred to them by the government. The first such commission was set up in August, 1996. It was reconstituted in July 2001. By January, 2002, these Commissions had submitted 13 reports. The recommendations of these commissions normally, fall into three categories—outright sale of P.S.Es, strategic sale of PSEs equity in various proportions and advice not to sell some of them for the time being .

It was pointed out earlier that the industrial policy of 1991 has also advocated retention of some of the PSEs and granting them full autonomy in 1987-88 eleven PSEs were conferred to the title of "Navratnas" and were granted autonomy in major decision-making.

The main elements of the disinvestment policy, as mentioned in the government's Economic survey 2001-2002 are as below:-

(i)To bring down government equity in all non strategic P.S.Es to 26% or lower, if necessary.

(ii) To restructure and revive potentially viable P.S.Es.

(iii)To close down P.S.Es which cannot be revived?

(iv)To fully protect the interests of the worker.

Now what has been the progress of actual disinvestment over the last one decade the figures given in the Economic survey, 2001-2002 clearly bring out the fact that actual progress has fallen far short of the Annual targets laid down in this respect. Between 1991 and 2001, while the annual disinvestment targets added up to Rs 66.300 crores, the actual disinvestment targets brought in for the government only 30.7% of this amount. It is interesting to notice that, according to the World Bank figures for 1997, all the developing countries raised $66.6 billion through privatization in that year. China in that year raised $ 9.1 billion through disinvestment, while India could manage only $ 1billion.

Despite so much talk of privatization of P.S.Es, the number of central government P.S.Es had in fact risen from 237 in 1991-1992 to 241 in 1994-95. Since then, however, the number has been falling slowly so that in 1999-2000 it was 232. As on March 31, 2007 there were 244 central public sector enterprises there were altogether 248 CPSEs under the administrative control of various ministries/departments as on 31 March 2011(Department of Public Enterprises, 2012). Out of these, 220 were in operation and 28 were under construction but interestingly the capital employed in PSEs has been consistently rising over this period it rose from Rs 118000 crores in 1991-1992 to as much as Rs 303400 crores in 1999-2000 and 403706 crores in 2005-06 and Rs 421089 crores in 2006-07 and further to Rs 949499 crores in 2010-11this should give heart to die heart votaries of not selling the “family silver” at least for now.

In matter of getting rid of surplus labour in the PSEs through packages of voluntary retirement schemes the number of regular employees of these enterprises had fallen from 22.2 lakh in 1990-91 to 18.6 lakh in 1999-2000 and 16.14 lakh in 2006-2007.

Once the policy of privatization and disinvestment has been adopted, why has the progress been too tardy? There are several, by how well known, reasons for this. First there is lack of consensus among the political parties on the issues some politicians are opposed to privatization and disinvestment on ideological grounds there is also a general impassion among knowledgeable people that the ministers and the MPs enjoy all sought of benefits from the PSEs and therefore such people would not like the enterprises under the influence to go the private sector .Secondly there is also opposition to this policy because over the years the government has failed to evolve a satisfactory and transparent method of sale or equity of the PSEs. There are usually allegations of the process being rigged by one interested party or the other, and the public exchequer being thus defrauded of legitimate sales proceeds. Thirdly, the opposition if the workers and trade unions to the process of privatization and disinvestment has been a strong factor in the slow progress of this policy .Finally there has been a strong ideological divide on the entire process of liberalization during last more than a decade. The socialists and nationalists strongly oppose different elements of the new economic policy, and privatization and disinvestment components are no expectation in this respect. In fact this component ‘invited stronger opposition from them than the rest of them.’

Exercise 23.2
Question 1 Define Disinvestment
Question 2 What do you mean by privatization?

23.4 Summary and Conclusion

Downsizing the public sector or giving the sector a more limited role than before was a major policy departure under the industrial policy of 1991. The policy confined this role, to a few areas of strategic and security concerns to the country. This implied the adoption of a policy of privatization. This involves outright sale of the P.S.Es, or disinvestment which means dilution of equity participation by the government in existing P.S.Es. This issue naturally evoked a fierce debate on the pros and cons of the new policy, which implies status quo for some and change in the earlier policy for other. The change in earlier policy of according primacy to the public sector was justified on arguments like low rate of return on investments made in P.S.Es, advice to the government to get out of business and redirect effort at social development, emerging needs of improvement in productivity of the P.S.Es and the need to make them competitive in an open economy, the considerations of fiscal deficit, and so on. On the other hand, downsizing is opposed saying that efforts can be made to make P.S.Es more productive and profitable, not all of them are inefficient and loss-making, their privatization would encourage negative tendencies of inequalities and monopolistic exploitation and selling of PSEs would be like selling the family silver, with which people are emotionally attached.

Then we further discussed the policy governing downsizing, or the policy of privatization and disinvestment, and the progress made in this matter thus far. The industrial policy of 1991 had several provisions regarding the public sector, like confining it to a small segment of the industrial economy, closing down the chronically sick units, privatization and dilution of government equity, and making some of the more efficient ones more autonomous and accountable. Since then measures have also been adopted to get rid of surplus labor in P.S.Es through voluntary retirement schemes. The current policy is to dilute government equity in non-strategic P.S.Es to 26% or even lower.

The policy of downsizing of the public sector had yielded results much below targets. There are hurdles in the way of implementation of the policy for lack of political consensus, opposition from labor, and failure of the government to evolve a satisfactory and transparent method of sales.

23.5 Glossary

- **Liberalization –** Liberalization means to reduce unnecessary restrictions and controls on business units imposed by government. It implies the removal of restrictions like those of licensing in the national economy and reduction of trade barriers in the international economy.
- **Disinvestment –** Disinvestment is a term used in economics for the withdrawal of investments by financial institutions, which seals the fate of an urban area. It may also refer as the action of an organization or government selling or liquidating an asset or subsidiary, or the

withdrawal of capital from a country or corporation and sale of assets such as factories and equipment.

- **Downsizing- Downsizing** occurs when a company permanently reduces its workforce. Corporate downsizing is often the result of poor economic conditions and/or the company's need to cut jobs in order to lower costs or maintain profitability. Downsizing may occur when one company merges with another, a product or service is cut, or the economy falters it also occurs when employers want to "streamline" a company – this refers to corporate restructuring in order to increase profit and maximize efficiency .It results in layoffs that are often followed by other restructuring changes, such as branch closings, departmental consolidation, and other forms of cutting pay expenses. In some cases, employers are not fired, but instead become part-time or temporary workers (to trim costs).
- **Privatization -** privatization means allowing the private sector to set up more and more of such industries as were previously reserved for public sector. Under it, existing enterprises of the public sector are either wholly or partially sold to private sector

23.6 Self Assessment Test

Try the following objective type of questions:-

(i) Privatizations of public sector enterprises or disinvestment in them are identical concepts. Is the statement (x) true, or (y) false?

(ii) Compared to the year 1991-92, which one of the following statements for the year 1999-2000 correctly portrays the position of the central P.S.Es?

(x) Their number had fallen but capital employed in them had fallen.

(y) Both their number and capital employed in them had fallen

(iii) On which of the following grounds is the sale of P.S.Es being opposed?

(x)The net profit to capital employed ratio is high.

(y) It is dishonorable to sell family silver

(iv) Which of the following is the objective of signing MOUs by the government with their P.S.Es?

(x) To ensure productivity growth in them

(y) To ultimately sell them to private sector

(v) Is it true to say that downsizing the public sector is know a worldwide phenomenon?

(x) Yes, or (y) No

(Correct answers (i)-y; (ii)-x; (iii)-y; (iv)-x; (v)-x

23.7 Suggested Readings

1. Govt of India Economic Survey since 1991-92 relevant sections of the chapter *"Industrial Policy and Development".*

2. Ruddar Datt, articles in *The Indian Economic Journal, Jan- March, 1992 and Oct-Dec., 1996-97* issues.

3. B.M.Misra, " privatization of Public Enterprises in India- Some issues, *"The Indian economic Journal*, *Oct- Dec.*, 1993.

4. Harpal Singh and Rajiv Jain, *Manual of Disinvestment in Public Sector, Policy and Procedures*, (Vidhi Publishing, New Delhi), 2002

5. Ruddar Datt and K.P.M. Sundharam, *Indian Economy,* 2002, chap.10
6. Uma Kapila, *Understanding the Problems of Indian Economy,* 2001, chap, 22.

23.8 Terminal Question

Question1 What are factors that promoted the government to adopt the policy of downsizing the public sector? Which types of P.S.Es are open for sale??
Question2 Critically examine the process of privatization and disinvestment that had actually unfolded in India the post-1991 period.

LESSON 24

POLICY DEBATES IN THE POST-LIBERALISATION PERIOD-II

Structure

24.0 Objectives

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

- Explain the policy changes that have occurred in the country since post- 1991
- Explicate the Post-1991 policies governing the entry of MNC's
- Elucidate the debate between MNC's versus Swadeshi movement
- Discuss the policy framework about Globalisation and International Finance after 1991
- Assess the benefits and pitfalls of globalisation and international finance

24.1 Introduction

We finally come to the last lesson of this course, where we shall continue and conclude the discussion of further policy debates of the post-liberalisation period in India. In this lesson, we shall focus on two of the areas of contention in economic policies in India,viz. The MNC's versus Swadeshi movement and secondly, the benefits and pitfalls of globalisation and international finance for Indian economy. So far as the first policy issue is concerned, it has engaged people and political parties in fierce debate. In fact, this debate is a part of the larger issue debated by economists since the days of the classical economists and especially in the context of development of the underdeveloped economists in the post-second world war period. the issue has been post at the different points of time in the form of free trade versus protection, exports-led growth versus import-substitution strategy of industrialisation, and lately in the form of discussion of economic growth in an open as against a closed economy

A related question is the benefits and pitfalls of globalisation and international finance. The issue at the international level assumed importance in the wake of the adoption of the WTO protocol by different countries, as well as foreign currency crisis of the Hast East Asian countries in 1997-98. Of course, here in the lesson, we shall discuss these policy debates from India's

angle and particularly in the context of policy changes that we have occurred in the country in the post-1991 scenario.

24.2 Post-1991 Policies Governing Entry of MNC's

Before we discuss the policy changes that took place, through the instrumentality of the industrial policy, with regard to the entry of MNC's in particular and foreign direct capital in 1991, we may briefly refer to the government policy in this regard prior to that.

It is interesting to recall that after gaining independence from foreign rule in 1947, Indian leaders, policy makers, planners and intellectuals exhibited signs of extreme phobia of foreign private capital. That was perhaps natural in that situation, because of the bitter historical experience with the East India Company and the recent rather exploitative foreign rule and foreign commercial organisations. Besides, the country suffered from a sense of lack of security and experience, absence of a strong private sector and the fear of foreigner again gaining a foothold and subjugating the countries.

In the late 1940s and even later, India continued to have a large gap between domestic saving and potential for investments, which could be filled only with foreign savings. These could come only in the shape of foreign aid and foreign private capital. The former would not come. In adequate quantity and the latter's was looked upon with trepidation, as indicated above. Therefore, a guarded policy towards foreign private capital was announced in 1949 by the Prime Minister, in which it was promised that the government would not in any manner discriminate between foreign aid local companies, and in the event of former's nationalisation suitable compensation would be given. The industrial policy resolution of 1948 and 1956 and even later policies of 1977, remain somewhat ambivalent towards foreign private capital (i.e., the MNC's). A major step was taken to tame and keep under tight leash foreign private capital in 1968 when Foreign Exchange Regulation Act(FERA) was passed. Under the act, all foreign companies were required to dilute their owner ship to 74% and the Indian branches of foreign companies were to be converted as Indian companies with element of foreign equity ownership not exceeding 40%. This was referred to as the process of Indianising the MNCs. The Indian government's might vis-a-vis the MNCs was demonstrated during the brief rule of the Janta party in 1977-78, when to giant MNCs, the Coca Cola and IBM were ordered to leave the country.

This was-a period when well-known Indian(and some foreign) academicians like K.N. Raj, Dilip Swamy, Michael Kidron, S.K. Goyal and other were busy collecting evidence to prove that the MNCs were acting against the interest of the country. At the same time they were also showing that despite government's policy to rein in foreign private capital, its influence was spreading all the time. And all the governments (including the Janta Party paper tiger) were permitting foreign companies with more than 50% foreign equity in violation of the provisions of FERA. MNCs like Hindustan lever were producing soap and toiletries, and imperial tobacco company cigarettes which could well have been produced by Indian companies. Indian government was during this period pursuing a duplicitous policy of openly opposing MNCs, were permitting there entry through the back door in violation of the prevailing law.

It may be pointed out that all these while most East Asian Countries were inviting the MNCs with open arms to make investments their and introduce the latest technology in their economies. Even china started doing so as early as 1975. We were all this time trying to tie ourselves into knots of our own making some of these open economies, like South Korea today have their own MNCs. Let it be emphatically pointed out however that the MNCs are no angles, investing in the developing economies with any altruistic motives. To achieve their own ends they can cross any ethical limits. For instants Transparency International in its report in may 2002(reported in Economic times. MAY, 15, 2002) revealed at several MNCs had engaged in bribery and corruption. However, most corrupt were reported to be those from Asia. Still this report pointed out that the domestic companies fared even worse in bribery and corruption

Those countries (like the so-called Asian Tigers) which are totally focused on their development and were ruling elite by and large refuses to be bought over by the MNCs, have used the instrumentality of those foreign companies to build modern infrastructure, used their huge resources of capital and technology, and utilise their global marketing networks to export their goods to abroad. Indian business success stories abroad, including in the Silicon Valley, USA, point to the fact that if an open economy-model had been followed, we would already have several MNCs of our own by now. For this model to come into operation we have to wait till 1991.

In the industrial policy of 1991, it was realised that the role of the MNCs in two specific areas, viz. Indian companies 'foreign technology agreements with them and their investments in India, needed to deregulated to an extent, because government interference in these areas involved delays and hampered business decision-making in the import of technology by Indian firms in the case of foreign technology agreements with the MNCs a specific list of high technology s and high-investment priority industries(called Annexure-IH industries) was made, in respect of which Indian firms would receive automatic approval to make such agreements, subject to certain guidelines. At that time, these guidelines allowed royalty up to 5% of domestic sales and 8% of exports sale, along with lump sum technology payments of up to rupees one crore Beside there would be no bar on Indian companies to hire foreign technicians or testing indigenously developed technology abroad

In the case of foreign private investments to be made in India by the MNCs automatic permission was to be available of up to 51% of foreign equity participation. This facility too was to be available in the case of high priority industries referred to above. Foreign equity participation holding of up to 51% was also to be allowed in the case of international trading companies and hotels

Subsequently, a foreign Investment Promotion Board was also set up to process cases not covered by the above mentioned provision of automatic approvals. Since 1991, these provisions have been further liberalised so as to permit free flow of foreign technology and foreign capital into the country, For example, in 1997, the limit of 51% foreign equity participation to qualify for automatic approval has been raised to 74% and for NRI investments , it is now 100% foreign equity participation

The foreign direct investments(FDI) made by the MNCs in India have not been as encouraging as expected earlier, or has been the case in China

and some other developing Countries. For instance, FDI reaches a peak of $3.6 billion in 1997-98, but fell to $ 2.3 billion in 2000-01. After showing a downward trend for another two years since 2001-02, FDI (net) . Flows grew by 36 percent in 2004-05.. FDI inflows to India grew 17 per cent in 2013 to touch US$ 28 billion, according to a United Nations report. The Government of India's policy regime and a positive business environment have also played significant roles to ensure that foreign capital keep flowing into the country. The Centre has taken several initiatives in recent years. In 2013, the government relaxed FDI norms in several sectors, including defence, PSU oil refineries, telecom, power exchanges and stock exchanges, among others. In 2013, Tesco, the UK's largest retailer, Singapore Airlines and Etihad lined up to invest in the country as the government opened more sectors to foreign investments.

2000-2002 periods, several measures were taken to further liberalise provisions relating to FDI. For example, holding of 100% foreign equity(i.e. complete ownership of a company in India by a MNC) has been allowed in these cases: NON- banking Financial Companies(NBFCs). Operating subsidiaries which in bring in $50 million, companies engaged in B. To B e-commerce or oil-refining, activities in the Telecom sector, airports, courier services, development of integrated townships, hotels and tourism sector, drugs, and pharmaceuticals, Mass rapid Transport System. In some of these cases automatic approval route is permitted while in others prior approval of the government is needed .However, it shows that MNCs investments are being permitted in more and more sectors of the economy.

A few more facts about FDI also need to be noted here. Between 1991 and 2000, the FDI inflow in India was $23.6 billion, but total approvals in this period had been provided to the tune of $68.3 billion. Thus, the approval to inflow ratio has been only 34.6%.India has received total foreign investment of US$ 306.88 billion since 2000 – 94 per cent of that amount has come during the last nine years. During the first 10 months of FY 2013–14, the highest FDI was recorded in the services sector (US$ 1.80 billion), followed by the pharmaceuticals (US$ 1.26 billion), automobiles (US$ 1 billion) and construction development (US$ 966 million) sectors.

Mauritius led inflows into India with US$ 4.11 billion of FDI during April–January, 2013–14, followed by Singapore (US$ 3.67 billion), the UK (US$ 3.18 billion) and the Netherlands (US$ 1.7 billion). In the period 1999–2004, India received US$ 19.52 billion of foreign investment. In the period 2004–09, foreign investment in the country touched US$ 114.55 billion, further increasing to US$ 172.82 billion between 2009–September, 2013.

The top sectors of the economy where MNCs have made investments are fuels, telecommunications, electrical equipment, computer software and electronics, transportation industry, services sector, chemicals and metallurgical industry, food processing and hotels and tourism sector.

Having discussed the broad policy changes with regard to the MNCs in the country in the past decade or so, now let us discuss the main points of contention between the supporters of this policy and those who propagate the swadeshi ideology. It may be pointed out at the start that opposition to MNCs in India, which is primarily on ideological grounds has brought together for a change the leftists and the extreme rightists. The latter are represented by the Swadeshi Jagain Manch. The left intellectuals invoke ideas of neo-colonialism

and dependency to argue that the MNCs are the modern face of colonialism which want to keep the developing countries perpetually dependent on the west and thus continue their exploitation. The Swadeshi Jagran Manch on the other hand brings to the core nationalistic feelings as the basis of opposition to the MNCs. They argue that Indian pride is hurt when foreign companies are allowed to operate in this country. These countries also pollute and destroy the Indian culture.

Exercise 24.1

Question 1.What is meant by MNCs? Discuss the policies governing the entry of MNCs since 1991

24.3 MNCs versus Swadeshi Movement- The Debate

The Swadeshi versus Videshi debate is of course vitiated by sentimentalism political ideology and fear of foreign domination. However ,there are arguments in favour of as well as against permission to MNCs to operate in India let us consider these arguments below. We start with arguments in favour of FDI in general.

In the first place, the world over, including India and China ,FDI is welcome because in a closed economy , a big gap exists between domestic savings and potential investments opportunities. This gap can be filled by opening up the economy for investments by the MNCs, if for certain reasons, the other option of filling the gap through foreign loans is considered closed.FDI has been a traditional form of attracting foreign savings. Even the theory of FDI argues that it raises productivity and, therefore, income and output in the host country. 'If the investor does not appropriate all these gains through repatriation of profits, interest, fees ,royalty, etc .to his home country, the host country will stand to benefit from FDI .It is argued by this theory (please refer to chapter 19, section-3 earlier) that FDI benefits consumers through lower prices, workers through rise in real wages, and the government through increase in tax income. In India too, it is expected that some, if not all these benefits from investment made by MNC'\s are accruing.

Secondly it is emphasised by the government and other proponents of FDI in India that MNCs do not merely increase the supply of capital to the country, but these too bring in with them superior technology, improved managerial practises and skills, as also their world-wide marketing links which can be exploited by the country for accelerating export growth. Different countries of the world welcome MNCs precisely for these benefits. If we in India are not fully enjoying these benefits as pointed by the critics of MNCs in this country, then the legitimate question that can be raised in this context is what are the government, policy makers and planners doing if they are not constantly monitoring and evaluating benefits of FDI to the country? If we fail to exploit these potential benefits of FDI, then are we ourselves to blame or the MNCs

Thirdly a great benefit of FDI expected for the country when India was opened up for investments for MNCs in 1991 was that this type of inflow of foreign capital does not create a debt problem. In fact, during 1980s, India's foreign debt increased sharply. It rose from Rs 40311 crore in 1985-86 to Rs 100425 crore in 1990-91, i.e. by nearly 2.5 tomes in just five years .Further

indebtness would have certainly landed the country in a debt trap. Therefore, the government opted for a non-debt option of obtaining foreign capital.

Fourthly, this country has huge reserves arrears of infrastructural development, if a modern economy is to be built. The Rakesh Mohan Committee (1996) had estimated that the total infrastructure investment requirements would be Rs 40,000 crores to Rs 45,000 crores during 1996-2001 and another Rs 75,000 crores in the next five years. Clearly, neither the government gas resources of this magnitude or the Indian private sector. The MNCs would have to be roped in for this purpose. However, in the power sector the experience in this regard has not been a happy one, partly because of our own follies like offering in the early 1990s an unsustainable assured return of 16 % on FDI in this sector, and the poor shape of our State Electricity Boards which would buy electricity from foreign companies, and partly because of an FDI failure in the form of now notorious case of Enron.

However, if our policy makers take a few favourable and nationally acceptable steps to woo the MNCs for this purpose, our infrastructural bottlenecks can be overcome. After all, our railways system, one of the biggest in the world, was built by private foreign, mostly British companies. Infrastructure is an area where the gap between the needed investment and what is forthcoming is the greatest. Therefore, FDI inflow into the sector would do a world of good to the economy of the country.

As mentioned earlier, there is a strong lobby which advocates Swadeshi against Videshi. In the pre-reforms periods, the economists with leftist learning's had brought out evidence against MNCs, through their researches, especially in three areas: The MNCs were bringing in very little foreign capital, and the income earned on their investment marked a net outflow of funds from the country; they brought in obsolete technology and thus swindled the country; and as against the provisions of FERA to Indianise their companies, very little in this area had actually been done. In the post – reform period, no such studies to validate the above arguments against MNCs seem to have been conducted. So far as the criticism of earning excessive returns on Indian investments is concerned, nothing is known over-all for the recent period , but it too is a fact that till the year 2002 , the two high profile soft drinks MNCs , viz. Coca Cola and Pepsico, had incurred losses on their Indian operations. The same has so far been the case with the MNCs selling automobiles in India. It is recognised that in order to check excessive incomes being earned on FDI and the possibility of their bringing in obsolete technology, it is necessary to globalise the economy to the extent that foreign and domestic competition will guard against these alleged malpractices of MNCs.

There is, however a category of substantitative arguments based on evidence against the working of MNCs in India. One of these is that in the manufacturing sector (manufacturing and promotion of sales being their preferred area of operation), The MNCs concentrate on goods for elitist consumption, like white goods, rather than those which are consumed by the masses. This tendency is natural on their part because the MNCs are strongly focused on profitability. Another criticism comes strongly from S.K.Goyal and his collaboration in research, who in a paper in 1997 showed that the export – orientation of 100 largest MNCs operating in India increased marginally from 8.07 percent of their sales to just 8.64 percent in the period 1991-92 to 1995-

96, while their import dependence nearly doubled in this period. This meant that they used more foreign exchange for imports than they earned it for the country.

Another and more serious criticism against the style of functioning of MNCs in this country is the trend, noticed in the last decade, of these foreign companies initially entering into joint partnership with Indian companies and as soon as their immediate purpose of settling down in the Indian market was served, they opted out of such ventures. Infact, the policy objective of the Indian government since the days of the FERA has been to use the MNC as an instrument of helping Indian enterprise, capital, management and the workers to gain from association with these companies. Even in the original industrial policy of 1991, equity participation of the MNCs was sought to be restricted to around 51% so that the Indian companies which entered into partnership with the former, would gain from it, even as minority partners. However, later, as the policy was relaxed in this respect and MNCs subsidiaries with full equity ownership were permitted, more and more of them have been opting out of joint ventures, or buying out the shareholdings of their Indian partners.

The fore-going arguments, even when having weight and substance, are criticism of the style of functioning of the MNCs in this country rather than being clear bases for participating autarky and its counterpart the encouragement of only indigenous business and enterprise. For successfully establishing a case for Swadeshi movement, it will have to be clearly argued how Indian capital and enterprise would be able to satisfy all the national needs of production on its own, how indigenous technology would be developed speedily and in all areas of production of goods and services, and how Indian business developed with strictly local resources would be able to compete in the international market, where competition is tough considering the huge resources at the command of foreign producers and suppliers (which are again the mighty MNCs). Thus the question is not merely of national sentiments. The Swadeshi movement versus MNCs involves hard-headed logic and facts of the situation in which the Indian economy has to operate. Then, there is the question whether we as a nation can close ourselves inside a cocoon while the winds of globalization are fiercely blowing all around us. So now let us take the inter-linked question of globalization and international finance and see what are the potential benefits and pitfalls of the same for our country.

24.4 Globalization and International Finance- the Policy of Framework after 1991

First, let us be clear about the concepts of globalisation and international finance. Globalisation refers to an international economic order in which national frontiers are opened up for free flow of trade capital and technology. The international institutions like the WTO, the World Bank, I.M.F. etc. are currently trying to set up such an international economic order. Globalisation is also referred to as external liberalization where the government of the country, under international-protocols, tries to permit free flow trade, capital and technology between its economy and the rest of the economies of this world.

International finance is the part of the process of globalisation. In fact, it is referred to as financial globalisation. There has been an explosive growth of international financial transactions. It is estimated that in 1995 the turnover in the global foreign exchange markets was as much as $ 1.2 trillion, a rise of nearly three times in just one decade. However, nearly 95% of it is confined to the currency markets of the developed countries. The figures of capital that is available for investment anywhere in the world are mind boggling. These funds are in the form of FDI which are of long-term nature, and portfolio investment, which are available as short term funds primarily meant for speculative investments in the share markets the world over. Then there are inter-batik loans, which are loans from the commercial banks of the developed countries to the commercial banks anywhere else in the world. So far as the FDI funds are concerned, these are more stable, but it as the funds flowing between countries in the foam of portfolio investment and interbank loans, which are of a less than one year maturity, that are highly volatile and take the form of hot money .More about it later.

India was earlier wary of opening up its frontiers to trade, finance and technology, except as much as was barely necessary or could not be helped. This is already clear from our discussion of pre-1991 policy with regard to the MNCs or FDI in section2 (a) of this lesson earlier. However the opening up of the economies of East Asian countries in the 1970s and that of even China in 1979 the pressure on India in this regard from the World Bank-IMIF combine throughout the 1980s, the discussion at the Uruguay Round which led to our joining the WTO in 1994, as well as our own economic woes of late 1980s and early 1990s finally led this country to open up its economy to freer flow of trade, finance and technology in its economic reforms of 1991.

The globalisation of Indian economy including its integration with the global financial system started taking place through changes in the industrial policy and trade policy in 1991. These changes were initiated with a view to “further integrating the Indian economy with that of the world”. Changes in the industrial policy with regard to the entry of MNCs and FDI-two significant developments in the process of globalisation and integration with global finance-have already been discussed in this lesson earlier. The major changes made in the trade policy were replacement of import licensing for a wide range of products with more liberal arrangements, strengthening export incentives, simplification of procedures for import of capital goods, shifting of a number of import items from the restricted list to the open general list (OGL), progressive reduction of items of imports canalized through government agencies, starting the process of reduction of import duties from a high level of 300% on more, so on. The trade policy of 1991 merely started the process of trade liberalization and since then these measures have been further deepened and widened.

For permitting freer flow of foreign private capital into the country, a liberalized FDI regime was started through the industrial policy of 1991, as indicated earlier in this lesson. Besides in January, 1993 as major step was taken to permit foreign institutional investors (FITs) to make purchases and sales of shares in Bombay Stock Exchange National Stock Exchange, subject to certain restrictions. This permitted the flow of portfolio investment, into the country for the first time, a measure which too helped in the process of financial globalisation of the country. This process of permitting freer flow of

FDI and portfolio investment into the country has been liberalised more and more since the early 1990s. Thus, the flow of foreign private investment has increased from just $ 103 million 1990-91 to $ 5117 million in 1999-2000 and further to 36860 in 2011-12 with an annual growth rate of 34 per cent.

24.5 Globalisation and International Finance Benefits and Pitfalls for India

On the relative merits and pitfalls of globalisation, including that of financial globalisation, there has again been a fierce controversy. The opponents of these processes point to the dangers that these pose for the economy of the country, while their supporters not only point out the benefits of these to the country but also argue in the contemporary world and the emerging international economic order it is impossible for the country not to be sucked in by the potent forces of globalisation. The latter point out that the progress being made by information technology, means of communication and transportation, not to mention the exigencies of politics of a unipolar world, make it this situation then, what are the benefits and pitfalls of these developments for our country. Let us briefly start with the benefits of globalisation including those of financial globalisation.

In the first place, globalisation seems to have changed for the better the profile of inflow of foreign capital and India's foreign indebtedness. Foreign capital flows in the year 2000-01 consisted of net private sector external commercial borrowings to net private sector external commercial borrowings to by foreigners amounting to $ 0.51 billion and net foreign aid totalling up to $ 0.43 billion. Thus borrowing on the government account which added to the public debt was an insignificant part of the total capital flows, partly borrowing and partly non-debt flows are now predominated. These flows, being commercial in nature are supposed to be utilized more prudently and for-promoting manufacture, business and trade of the country. These capital inflows have contributed to two more healthy developments for Indian economy. First, due to these flows, the foreign exchange reserves of the country have risen from $5.8 billion in 1990-91 to about $ 55 billion by (June) 2002. Of course, the remittances of Indians abroad too have contributed to building of these reserves. Secondly, the parameters of India's external debt also have improved, primarily due to the changes in the profile of foreign capital inflows. Thus, the external debt-GDP ratio declined from 28.7% in 1990-91 to 21% by the end of 2001, and in the same period the short term debt (which sometimes acts as hot money) to total debt ratio declined from 10.2% to just 2.8%.

Secondly, measures adopted to open up the economy through changes in trade policy have had a salutary effect on the balance of payments and the exchange rate system of country. In 1990s have seen the highest average rate of growth of exports of the country. During 1990-96 periods, the annual average of growth of exports was 25.3%. on the other hand, the import growth rate in this period was 23.4%. However, in the 1997-2001 period, the export growth rate decelerated to 13.6%. but overall, the current account deficit as a percentage of GDP has continuously declined from 2.5 in 1990-91 to 0.5 in 2000-2001. This partly has been due to dynamism in export performance and partly to huge buoyancy in inward remittances by Indians settled abroad. Since the country adopted the system of foreign exchange

rate determination through market forces in 1991, the inward remittances by out Diasporas through legal channels have led to a surge in private transfer receipts from $ 2.08 billion in 1990-91 to $ 12.87 billion in 2000-01. Correspondingly, the illegal channel of hawala transfers has shrunk considerably.

Thirdly, global competition is pressing hard on India manufacturing and some other services to improve their efficiency through quality improvement and cost reductions. This has to be done by them in the interest of their own survival. As they improve their efficiency and as competitive goods and services are becoming available from foreign firms in the market, Indian consumer is becoming the ultimate beneficiary of these changes.

It appears in fact that in wake of globalisation of Indian economy, Indian business have speedily adapted themselves to the new situation. The fears that after removal of tariff restrictions on imports, Indian markets would be swamped by foreign made goods, have not come true. These fears reached a high pitch when in the light of new WTO provisions the country had to remove all quantitative trade restrictions on 715 items from April 1, 2001. The government prepared a list of “sensitive” import items being dumped into the Indian market after April 1, 2001. However, the government did not notice “any usual surge in imports of these items” during the year 2001-02. Thus, the fears of globalisation in this respect are turning out to be ill-founded.

However, globalisation has certainly not proved to be an unmixed blessing for the country. There have been some damaging effects of the opening up of economy to external trade and finance. So let us note some of these pit falls of globalisation for the country’s economy. First of all, globalisation being a component of the liberalization process, is a pro-market reform. As such, it helps bring in very little succour, relief or benefits to the poorer sections of society. Majority of the better quality or cheap imports being brought into the country are luxury or semi skilled opportunities are certainly generating elite jobs for skilled workers, but perhaps very little for the unskilled labour. The high rates of GDP growth observed in the 1990s, according to researchers like Gaurav Datt of the “World Bank and S.P. Gupta of the planning commission, have resulted in very little trickle-down of benefits to the poor because the relative stagnation of the rural sector in this period.

Secondly, there are serious problems associated with the financial globalisation of the country. Some of these problems are: (i) Between 1991 and 2001, FDI which helps to increase the capital stock of the country was in excess of portfolio investment (which is in the nature of hot money and has a tendency to leave the country at the slightest pretext) only in four years, (ii) portfolio investment flows fluctuate violently from month-to month, (iii) Since the opening up of the country to these foreign investment flows, the risk of turbulence in the capital and foreign exchange markets has increased. The short term, hot money, component of these capital inflows has a tendency to flee any country even a slight panic grips the investors. (iv) The trends in the Indian stock market are now strongly dictated by what happens from day to day in foreign stock exchanges like the NASDAQ and Dow Jones.

Thirdly, globalization is now creating such dichotomies for this country as food-grains being exported out of the country while at the same time people are dying of hunger the poverty line suffering from malnutrition.

Fourthly, it has been observed that acquisitions and takeover of Indian companies by the MNCs have increased in recent years. The acquisitions have rung danger bells for those Indians companies which are financially weak.

Fifthly, under the new international economic order that emerging in the shape of arrangements like the WTO, India and other similarly placed countries are getting marginalized in their decision-making process. We are at receiving end so far as significant decisions affecting our economy like those relating to the new patents regime, foreign investments, intellectual property rights etc are concerned. We are now being required to even change in some of our laws so that these conform to the requirements of the WTO.

Finally, the free trade regime that is now being promoted under WTO is sometimes turned into a mockery when in trade for a issues of child labour, environmental concerns and labour laws etc. are raised in order to block exports out of countries like India. We naturally view the raising of such concerns by the developed countries as the new block those of our exports in which we have a definite comparative advantage.

It is thus clear from the foregoing that globalisation may have benefitted the country in several ways, but this process is also raising new concerns for the people and the policy makers of the country. Globalisation certainly has not been as unmixed blessing for this country.

Exercise 24.2

Question1 Write a note on Globalisation of Indian Economy.

24.6 Summary and Conclusion

The adoption of the policy of liberalization – both internal and external- in 1991 disturbed a hornet's nest in this country intellectually and emotionally a large section of people were wedded to the ideas of dominance of the public sector, strict control of the private sector, selective impart of goods from abroad shunning of foreign private capital and MNCs and a policy of economic self reliance. The U turn in policies impinging on all these aspects of our economic system naturally created a strong divide in support and oppositions to these polices .

Before 1991, the policy towards entry of MNCs was rather cautions. But international pressures and domestic compulsions created for adoption of a policy of liberalisation facilitating freer entry of MNCs and foreign private capital. Now arguments are put forward in favour such liberalization, like FDI augmenting domestic availability of capital , MNCs being instrumental in bringing in capital improved technology new managerial practices and creating potential for export promotion etc. But supporter of swadeshi in general and opponents of MN/Cs and foreign private capital in particular criticize the policy of liberalization some of the opposition is based on nationalist emotionalism and fear of the mighty MNCs. But there are some substantive arguments as was well against an unrestricted entry of MNCs and foreign private capital.

Similar controversy has followed the adoption of policy of external liberalization. As trade barriers are reduced or abolished, some people welcome globalization as being particularly beneficial to the consumers of the country as well as opening a cheap route to tapping foreign capital. An easier

balance of payments, position and falling external debt GDP ratio are indicted as major benefits accruing to India in the post-1991 period. However globalization in the sense of freer trade and easier flow of foreign capital, are also shown as having introduced new negative features into the Indian Economy .While globalization seems to have done little for the poorer section of the Indian society, the elitist consumers have certainly benefitted from it, thus exacerbating the social divide. Financial globalization has introduced vitality into the capital and foreign exchange markets of the country as well as subjected to the economy to the risk of turbulence of international finance and the panic reactions of the hot money. The new international economic order has marginalized countries like India in its decision making process. Thus MNC's and India's integration into the world economy are a fact of life today, but these phenomenon have proved to be mixed blessings to the country.

24.7 Glossary

- **Multi National Companies -**Multi National Corporations also known as Transitional Corporations, Multinational Enterprises, is that corporation whose sphere of activity is spread over more than one country. The United Nations defines MNCs as."Entreprises whose area of working – factories, mines, sales offices and the like are in two or more countries."
- **Globalisation-** Globalisation means linking the economy of a country with the economies of the other countries by means of free trade, free mobility of capital and labour , etc. It also means inviting multinational corporations to invest in India
- **Foreign Direct Investment-** According to the International Monetary Fund, foreign direct investment, commonly known as FDI, "... refers to an investment made to acquire lasting or long-term interest in enterprises operating outside of the economy of the investor." The investment is direct because the investor, which could be a foreign person, company or group of entities, is seeking to control, manage, or have significant influence over the foreign enterprise. FDI is a major source of external finance which means that countries with limited amounts of capital can receive finance beyond national borders from wealthier countries.
- **Foreign Aid -** The international transfer of public funds in the form of loans or grants either directly from one government to another or indirectly through the vehicle of a multilateral assistance agency like the World Bank.
- **Liberalisation-** Liberalisation means to reduce unnecessary restrictions and controls on business units imposed by government .It means procedural simplification, relaxing trade and industry from unnecessary bureaucratic hurdles.

24.8 Self Assessment Test

Try the following objective type questions:-

(i) Which of the following institutions has been used by the western countries as an instrument of globalisation in recent years?

(x)WTO (y) IMF

(ii) The Swadeshi movement is swayed more by nationalism than by the exploitative ways of the MNCs is the statement (x) true or (y) false
(iii)Globalisation is associated with one of the following .Which one is it?
(x) Growing U.S. aid to India.
(y) Growing portfolio investments in India
(iv) Is it true to say that in the post-1991 period, the proportion of short-term debt in India's outstanding foreign debt is rising? (x) Yes (y) No
(v) Globalisation is associated with having increased the social divide between the rich and the poor in India? Which of the following is indicative of such a process ?
(x) Phenomenal development of the information technology sector in recent years.
(y) Rising exports of food –grains from India.
(Correct Answers (i) –x; (ii)-x; (iii)-y; (iv)-y; (v)-x;

24.9 Suggested Readings

1. Uma Kapila, *Understanding the problems of Indian Economy,2001,Part-II,Chap*.29-30
2. T.J Byers, *The Indian Economy- Major Debates Since Independence*,1998. Particularly, Jayati Ghosh"Liberalisation Debates".
3. Ruddar Datt and K.P.M.Sundharam, *Indian Economy*, 2002 .Chap.44-45.
4. Amartya Sen."A World of Extreme –Ten Theses on Globalisation", *The Times Of India,* July 16,2001
5. U.N.D.P. *Human Development Report,* 1999.Chap-1 "Human Development in this age of Globalisation".
*6. www.ibef.org/economy/*foreign-direct-investment

24.10 Terminal Questions

Question 1 Distinguish between internal and external liberalisation. What policy changes were effected with regard to external liberalisation in India in 1991?
Question 2 What is meant by financial globalization? What are the pitfalls of financial globalisation for India in the wake of policies adopted in this regard in 1991?