Economic Development by Lewis Model

***Dr. Devendra Dixit**
****Mr.Anil Kumar Srivastava**

*Associate Professor, IIMT Eng.College, Greater Noida UP
**Assistant professor, IIMT Eng.College, Greater Noida UP

Abstract

Economic development with unlimited supplies of labour which envisages the capital accumulation in modern industrial sector so as to draw labour from the subsistence's an agriculture sector. Existence of surplus labour in economy the main component of which is the enormous disguised unemployment in agriculture. On other hands agriculture report the substance or traditional sector using non-productible land on self-employment basis and producing mainly for self consumption with inferior technology of production and containing surplus labour in the form of disguised unemployment.

Keywords: Economic, supplies, non-producible, self consumption, productivity, marginal productivity average productivity.

Introduction

Lewis' Model of Development with Surplus Labor

In the labor surplus models of Lewis and fri-ranis, the wage rate in the modern industrial sector is determined by the average productivity to which is added a margin (Lewis fixes this margin at 30%) which is required for furnishing an incentive for laborers to transfer themselves from the countryside to the urban industries as well as for meeting the higher cost of urban living. In this setting, the model shows how the expansion in the industrial investment and production or , in other words, capital accumulation outside agriculture will generate sufficient employment opportunities so as to observe all the surplus labor from agriculture and else where .

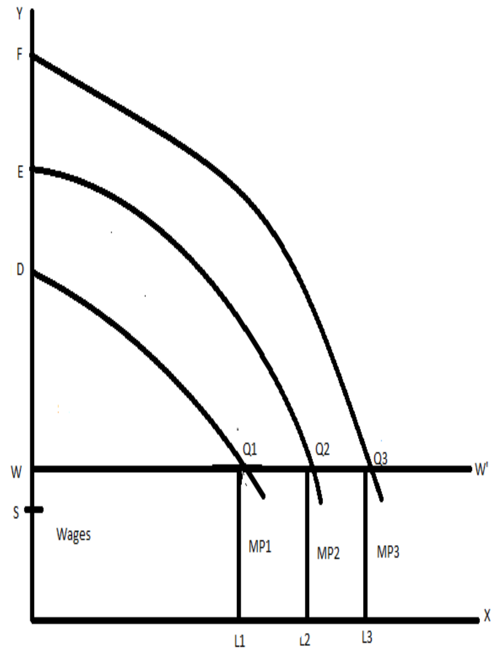

Fig.1. Capital Expansion and Growth in Labour Employment

Where OS represents the real wages which a worker would be getting in the subsistence sector, i.e., OS is the average product per worker in the subsistencesector .OW is the wage ratefixed in the modern sector which is greater than OS by 30 %. So long as surplus labor exist in the economy any amount of labor will be available to the modern sector at the given wage rate OW, which will remain constant. With a given initial amount of industrial capital, the demand for labor is given by the marginal productivity curve MP1. On the basis of the principle of profit maximization, at the wage rate OW, the modern sector will employ OL1 labor at which marginal product of labor equals the given wage rate OW. With this the total share of labouri.e total wages in the modern sector will be OWQ1L1 and WQ1D will be the capitalist surplus.

Now, Lewis assumes that all wages are consumed and all profits saved and invested. When the capitalists will reinvest their profits for setting up new factories or expanding the old ones, the stock of capital assets in the modern sector will increase. As a result of increase in the stock of industrial capital, the demand for labor or marginal productivity curve of labourwillshift outwards, for instance, from MP1 to MP2 in our diagram. With MP2 as the new demand curve for labor and wage rate remaining constant at OW, OL2 amount of labor will be employed in the modern sector. In this equilibrium situation profit to surplus accruing to the capitalist class will be equal to WQ2E which is larger than the previous WQ1D.

The share of profit and therefore rate of saving and investment will rise continuously in the modern sector and capital will continue to be expanded until all the surplus labor has been absorbed. Rising share of profits serves as an inventive to reinvest them in building industrial capacity as well as a source of savings to finance it.

Reinvestment of profits as the main source of capital formation

It is clear from the above analysis of Lewis model with unlimited supply of labor that profits constitute the main source of capital formation. The greater the share of profits in national income, the greater the rate of savings and capital accumulation. Thus with the expansion of the modern or capital's sector , the rate of saving and investment as % of national income will continuously rise . As a result, rate of capital accumulation will also increase relatively to national income. It is ofcourse assumed that all profits or a greater part of profits is saved and automatically invested.

"If unlimited supply of labor are available at constant real wage rate , and if any part of the profits is reinvested in productive capacity , profits will grow continuously relatively to the national income ".

A Critical Appraisal of Lewis Model

The basic premise of the model is that industrial growth can generate adequate employment opportunities so as to draw away all the surplus labor from agriculture in an over-populated developing country like India where population is currently increasing at the annual rate of around 2% from 1951 to 2001. This premise has been proved to be a myth in the light of generation of little employment opportunities in the organized industrial sector during over 55 years of economic development of India, Latin American and African countries.

For instance, in the 14 years (1991 to 2005) of industrial development in India during which fairly good rates of industrial production had been achieved. Thus, the generation of adequate employment opportunities and as a result the absorption of surplus labor from agriculture in the expanding industrial sector has not found as predicted by Lewis model.

In may be pointed out here that migration of some workers from the rural to the urban areas in India has occurred as shown by the slight increase in the degree of urbanisationnoticed in the various censuses but these immigrants to the urban areas have not been absorbed in the modern high productivity employment, as envisaged by Lewis and Fei-Ranis.

Lewis Model Neglects the Importance of Labor Absorption in Agriculture

A grave weakness of the models of Lewis and fei-ranis is that they have ignored the generation of productive employment in agriculture. No doubt, Lewis in his later writings and Fei-Ranis in their modified and extended version of Lewis model have envisaged an important role for agricultural development so as to sustain industrial growth and capital accumulation. But they visualize such an agriculture development strategy that will release labor force from agriculture rather than absorbing them in agriculture.

In this process each sector is called upon to perform a special role: productivity in the agriculture sector must rise sufficiently so that smaller fraction of the total population can support the entire economy with food and raw materials, thus enabling agricultural workers to be released; simultaneously, the industrial sector must expand sufficiently to provide employment opportunities for the released workers .....Labor reallocation must be rapid enough to swamp massive population increases if the economy's centre of gravity is to be shifted over time.

"Smaller fraction of the total population being employed in agriculture" is just not possible in labor-surplus developing countries like India. Indeed, a good amount of employment opportunities can be generated in agriculture itself by capital accumulation in agriculture, adopting proper agricultural technologies and making appropriate institutional reforms in the pattern of land ownership. "Most students of the problem of rising African urban unemployment agree that the solution to the problem lies in raising incomes and employment opportunities in agriculture so as to ensure new market equilibrium with more people productivity employed in agriculture".

Assumptions of Adequate labor-Absorptive Capacity of the Modern Industrial Sector

The growth of industrial employment (in absolute amount) will be greater than the growth in labor force (which in India at present is of the order of about 12 million people per year) because only then the organized industrial sector can absorb surplus labor from agriculture. The employment potential of industrial sector is so little that far from withdrawing labor currently employed in agriculture, it does not seem to be possible for organized industries and services, on the basis of existing capital-intensive technologies, even to absorb the new entrants to the labor force.

An important drawback of Lewis model is that it has neglected the importance of agricultural growth in sustaining capital formation in the modern industrial sector. When as a result of the expansion of capitalist modern sector, transfer of labor from agriculture to industry takes place, the demand of food grains will rise. With the rise in prices of food grains wages of industrial labor will increase. Rise in wages will lower the share of profits in the industrial product which in turn will slow down or even choke off the process of capital accumulation and economic development.

The Assumption of Constant Real Wage Rate in the Modern Sector

The assumption of constant real wages to be paid by the urban industrial sector until the entire labor surplus in agriculture has been drawn away constant real wages to be paid by the urban industrial sector until the entire labor surplus in agriculture has been drawn away by the expanding industrial sector is quite unrealistic. The actual experience has revealed a striking feature that in the urban labor markets where trade unions play a crucial role in wage determination there has been a tendency for the urban wages to rise substantially over time , both in absolute term and relative to average real wages , even in the presence of rising levels of urban open unemployment . The rise in wages, as explained above, seriously impairs the development process of the modern sector in Lewis model.

It neglects the Labor-saving nature of technological process

A serious lacuna of the Lewis model from the view point of employment creation is its neglect of the labor-saving nature of the technological progress. It is assumed in the model, though implicitly, that rate of employment creation and therefore labor transfer from agriculture to the modern urban sector will be proportional to the rate of capital accumulation in the industrial sector. Accordingly, the greater the rate of growth of capital formation in the modern sector, the greater the creation of employment opportunities in it. But if capital accumulation is accomplished b labor saving technological change, i.e., if the profits made by the capitalists are reinvested in more mechanized labor-saving capital equipment rather than in existing types of capital, then employment in the industrial sector may not increase at all.

Profits made are reinvested in labor-saving capital equipment due to the technological change that has taken place. As a result of this, marginal productivity curve does not shift uniformly outward but crosses the original marginal productivity curve.

The employment ad incomes of labor class remain unchanged. Although GNP has increased, laboring class has not received any benefit from it. This experience shows that while industrial output has significantly increased, employment has lagged far behind.

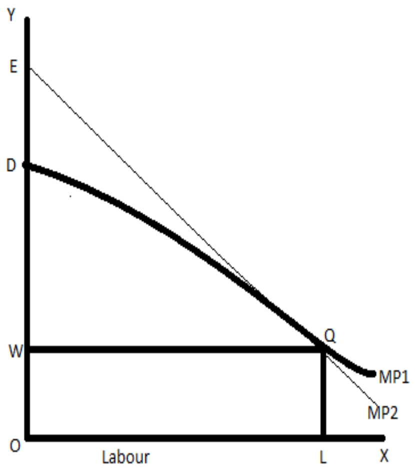

Fig.2.Capital Expansion with Labour-Saving Technological Change

Lewis Model Ignores the Problem of Aggregate Demand

A serious factor which can slow down or even halt the expansionary process in Lewis model is the problem of deficiency of aggregate demand. Lewis assumes, though implicitly, that no matter how much is produced by the capitalist or modern sector, it will find a market. Either the whole increment in output will be demanded by the people in the modern sector itself or it will be exported. But to think that entire expansion in output will be disposed of in this manner is not valid. This is because a good part of the demand for industrial products comes from the agricultural sector. If agricultural productivity and therefore incomes of the farming population do not increase, the problem of shortage of aggregate demand will emerge which will choke off the growth process in the capitalist industrial sector. However, once an allowance is made for the increase in agricultural productivity through a priority to agricultural development, the basic foundations of Lewis model crumble down. This is because a rise in agricultural productivity in Lewis model will mean a rise in wage rate in the modern capitalist sector. The rise in the wage rate will reduce the capitalist's profits which in turn will bring about a premature halting of the expansionary process.

Conclusion

Despite several limitations and drawbacks Lewis model retains a high degree of analytical value. It is clearly points out the role of capital accumulation in raising the level of output and employment in labor-surplus developing countries. The model makes a systematic and penetrating analysis of the growth problem of dual economies and brings out some of crucial importance of such factors as profits and wages rates in the modern sector for determining the rate of capital accumulation, economic growth and employment generation. It underlines the importance of inter sectorial relationship (i.e. the relationship between agriculture and the modern industrial sector) in the growth process of a dual economy.

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