

Leibenstein Critical Minimum Theory

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

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

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

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

"In order to achieve the transition from the state of backwardness to the more developed state, where we can expect steady secular growth, it is necessary, though not always sufficient condition, that at the same point or during the same period, the economy should receive a stimulus to growth that is necessary than a certain critical minimum size"-Leibenstein.

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

According to Leibenstein, "A sufficiently large minimum effort is necessary at the outset if the necessary minimum is to be achieved." It is necessary for the sustained economic growth of underdeveloped countries that a certain minimum sum of money is invested.

Shocks and Stimulants:

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

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

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

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

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

Growth Agents:

According to Leibenstein, if the income increasing forces expand at a higher rate than the income depressing forces, then the favorable conditions for economic development will be existing. In the process of development such conditions are created by the expansion of '**Growth Agents**'.

These growth agents comprise of entrepreneurs, investors, savers and the innovators. The growth contributing activities result in creation of entrepreneurship, the increase in stock of knowledge, the expansion of production skills of people and increase in the rate of savings and investment.

Incentives:

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

(i) Zero-sum Incentives.

(ii) Positive sum Incentives.

(i) Zero-sum Incentives:

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

(ii) Positive-sum Incentives:

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

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

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

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

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

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

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

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

(f) High capital-output ratio.

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

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

(i) An expansion of the growth agents;

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

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

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

(v) The expansion of secondary and tertiary sectors.

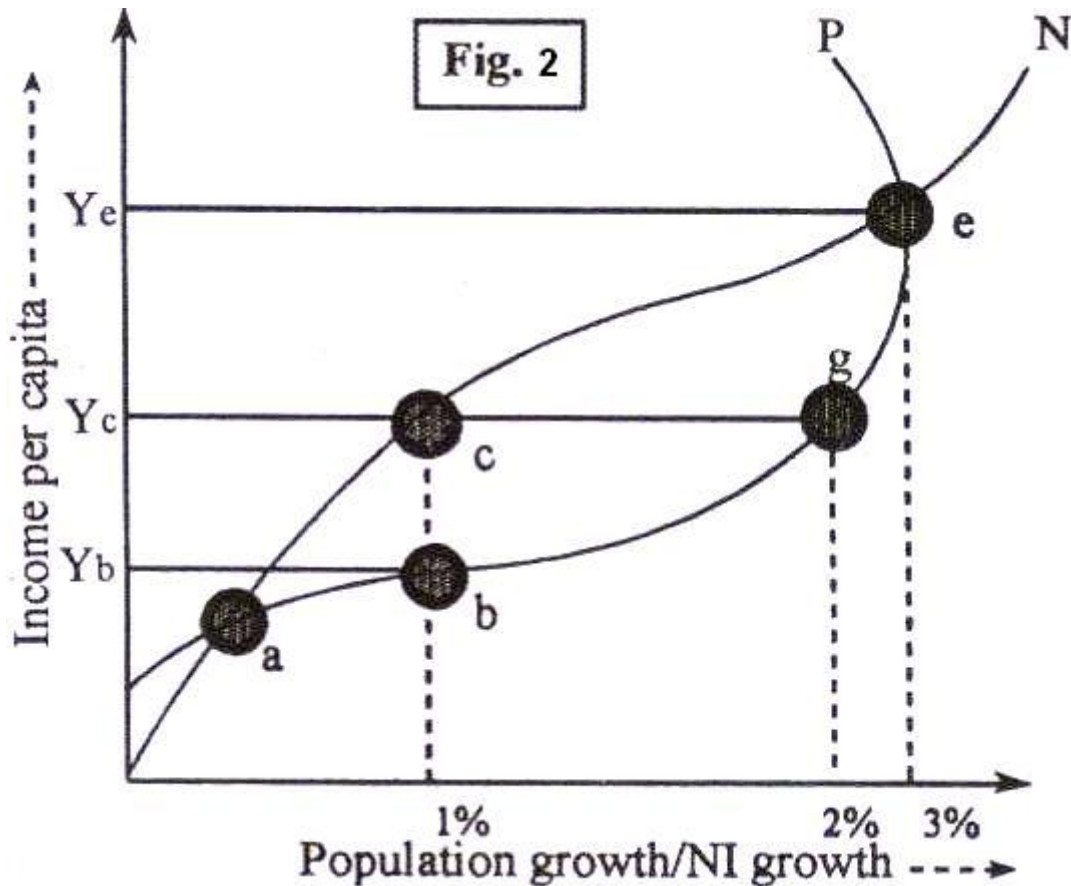
(viii) Solution of this problem for such a rise in the level of national income where stimulants are stronger than the shocks so that the growth in income becomes self-sustaining.

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

Population Growth and Per Capita Income:

Leibenstein's thesis is based upon this empirical evidence that the rate of population growth is a function of level of per capita income. At the subsistence level population growth declines. According to Leibenstein, at biological determined maximum growth rate of population, the equilibrium level of income, fertility mortality rates maximum consistent survival population.

If the per capita income is increased above the subsistence equilibrium position, the mortality rate falls without any drop in fertility rate. As a result, the population will grow. But it will happen only up to a point. Beyond that the increase in per capita income lowers the fertility rate and as development gains momentum the rate of population growth declines. According to Leibenstein, a biological determined maximum growth rate of population is in between 3% to 4%. Now we use Fig. 2 to demonstrate it.



Here the curve N represents that increase in per capita income which equalizes the increase in population to increase in national income while the curve P shows the growth rate of population at different levels of per capita. We start with point 'a' where the economy is in equilibrium at subsistence level. Here neither income nor population increases. If per capita is increased till Y_b , the population growth rate and increase in national income are of 1%. If the level of per capita income is Y_c , the growth of population is greater than growth rate of national income. $Y_{cg} > Y_{cc}$ or $2\% > 1\%$.

Therefore, the need is to increase per capita income in such a way that increase in national income is more than increase in population. Therefore, if per capita income increases more than Y_e , the population growth starts declining. At point e, the population growth rate is 3% per annum which is the maximum possible growth rate of population on biological grounds. Thus according to Leibenstein, the Y_e is the minimum critical level of per capita income which is necessary for economic growth.

Criticism/Demerits:

(i) **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.

(ii) Decline in Birth Rate and Per Capita Income: It has been assumed that whenever per capita income exceeds the critical minimum level the population goes on to decline. All is based upon the experience of the West. But as far as UDCs are concerned the population of UDCs decreases due to change in outlook of the people.

(iii) Role of State in Birth Control: No UDC can wait for this, that its per capita income could increase and then its birth rate would fall down automatically. Therefore, state will have to interfere with to check population growth. This was ignored by Leibenstein.

(iv) Complex Relationship Between Per Capita Income and Growth Rate: Prof. Myint says that there exists a complex relationship between per capita income, growth rate and national income. Leibenstein has over simplified such all, The relationship of per capita income with savings and investment is concerned with the distribution of income and effectiveness of financial institutions. Moreover, the capital-output ratio also does not remain same. It goes on to change along with changes in techniques of production.

(v) Closed Economy Model: Leibenstein theory does not show the effects of foreign capital on the income, savings and investment of UDCs.