Poverty and Intergenerational Constant Level of Capital

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ABSTRACT

Despite a range of orthodox programs, papers and articles, in a couple of decades, that contributes towards ameliorating poverty, the official number of poor people's decreasing, but at a very slow rate. This is a conceptual paper and targets those poor's who are self-employed but somehow, they are not able to save. Moreover, this paper exposes two of the hidden fractures in an economy which are always wanders around poverty, and does not allow saving rates to grow, known as Inter-generational constant level of capital and Marginal propensity to consume after marriage. By modelling the process of poverty reduction, it is quite clear that if we break the barrier of constant capital then endogenously the whole process spurts savings rate that can be beneficial in escaping from the trap of poverty.

Keywords: Poverty; Inter-generational constant level of capital; Growth.
JEL Codes: I32, I38

INTRODUCTION:

The concept of poverty trap is defined as a self-reinforcing mechanism that causes poverty to persist (Stachurski and Azariadis 2005). In economic literature, the issue of poverty has been discussed several times, the most notable contributors are Ragnar Nurkse and Amartya Sen.

As per Amartya Sen 'the poor' are those people whose consumption standards fall short of the norms, or whose incomes lie below that line. It is said that one percent increase in Gross Domestic Product (GDP) might bring a prosperous society that includes reduction in poverty rate. But one of the most important question is how to achieve that type of growth that reduces poverty from its root? Old methods of reduction of poverty is just like plucking spikes from Gum Arabic tree.

Traditional theory (based on minimum subsistence level, wealth disparity, initial capital level, credit and so on) lead us to the part of way to an explanation. But I think some hidden fractures still wandering around poverty and need to be explored. One of them is Intergenerational constant level of capital. Now, what is Intergenerational constant level of capital? It is the amount of capital that becomes steady between generations. For example, Mr X was a rickshaw puller in the year 2000 till 2016-2017 now after seventeen years his son was doing the same job and producing same level of output. As the level of capital is constant, there is no change in the level of productivity between generations, and this process is just like planarian regeneration. Moreover, their consumption starts growing as the family size increases after marriage. And this process hinders the savings among poor peoples.

The Problem of Poverty:

Ragnar Nurkse developed the model of vicious circle of poverty which is responsible for the backwardness of underdeveloped countries (UDC). He argues that low real income results in a meagre savings which in turn reflects low level of investment. Low level of investment creates deficiency of capital which leads to low productivity and this process again results in low income. Here, the circle perpetuates the low level of development. It has been fully recognized that the antidote of poverty is formation of new capital among poor

peoples. When individual's income is subject to large shocks like illness, unemployment, price rise and so on then government policies act as positive reinforcement. But what about when there is no unemployment, constant prices, birth rates are higher than death rates and no illness. So, at that time government policy act as neutral reinforcement for poor because government policies can't control savings of poor peoples nor they can control their income as they are not a part of any tax system. The only thing the government can do is nurturing the capital through which they are earning their livelihood.

Further low rate of savings might not always be a result of low income and off course sometimes it could be a result of increase in family size. Increases in family size endogenously exerts pressure on savings rate which stop capital formation, which in turn reflects constant level of productivity by the head of family which results in child labourers to support rising consumption.

LITERATURE REVIEW:

Nicholas Kaldor (1963) in his paper reveals that capital output ratio remains constant over the long period. Sarah Rogers (2014), founds that despite a range of government policies and economic growth, china still faces entrenched poverty and rising inequalities. Sean Higgins and Nora Lustig (2016) in their paper compare poverty before taxes and transfers ("pre-fisc") to poverty after taxes and transfers ("post-fisc") to see the effect of taxes and transfer on poor and finds that progressive tax and transfer and poverty-reducing systems can make some poor poorer. Amit throat, Reeve Vanneman, Sonalde Desai, and Amaresh Dubey (2017) reveals that despite aggressive policies by the Government of India and substantial improvements in incomes among all Indians, poverty continues to be concentrated among most traditionally disadvantaged groups. S. Bhide and A.K Mehta, (2008) finds that growth alone may not be adequate to achieve poverty reduction. Other factors like physical assets, village infrastructure and urban linkage play a significant role in reducing poverty.
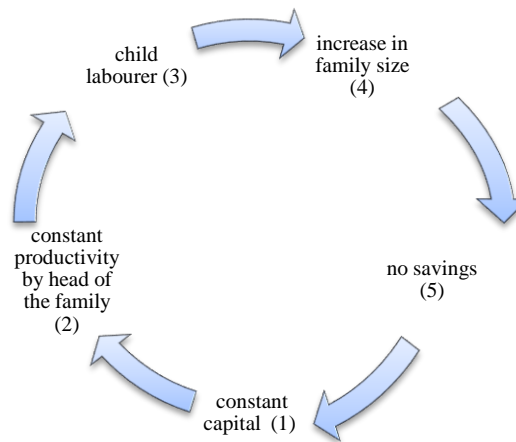

Fig 1: Vicious Circle of Poverty

MODEL:

Individual's growth is positive when his investment exceeds the amount necessary to replace depreciated capital plus rising consumption, thereby allowing the next year cycle to recur on a larger scale and expands. Otherwise individual's growth become stable or even shrinks.

Let us start with the basic equation of income, savings and consumption, it is the core of all growth models,

$$Y_{(t)} = S_{(t)} + C_{(t)}, \qquad 1$$

this equation tells us that individuals' income (Y) is divided between saving(S) and consumption(C),
now the other side of coin says that, the saving part of income is invested,
so,

$$Y_{(t)} = C_{(t)} + I_{(t)}, \qquad 2$$

where,

$$S_{(t)} = I_{(t)}$$

Let λ be increase in consumption as family size starts increasing,

$$C_{(t+1)} = (1+\lambda)C_{(t)} + C_{(t)} \qquad 3$$

$$\{C_{(t+1)} - C_{(t)}\}/C_{(t)} = (1 + \lambda) \qquad\qquad 4$$
$$\alpha = 1 + \lambda \qquad\qquad 5$$

where α is consumption growth

Now investment augments capital stock either by government or individuals, and 'э' is fraction of depreciated capital,

$$K_{(t+1)} = (1 - э)K_{(t)} + I_{(t)} \qquad\qquad 6$$

where K is capital,

We can also write this equation as

$$K_{(t+1)} = (1 - э)K_{(t)} + S_{(t)} \qquad\qquad 7$$

This above equation tells us that increase in saving can lead to increase in capital stock but one thing to add up in this equation is the pressure of increase in expenditure that continuously decreasing savings,

$$K_{(t+1)} = (1 - э)K_{(t)} + S_{(t)} - (1 + \lambda), \qquad\qquad 8$$

now we are going to enter two important concepts, one is rate of savings 's' i.e. $S_{(t)}/Y_{(t)}$ and second one is capital output ratio 'Ǿ' which gives us how much capital is required to produce one unit of output i.e. $K_{(t)}/Y_{(t)}$.

now we can write equation 8 as,

$$ǾY_{(t+1)} = (1 - э)ǾY_{(t)} + sY_{(T)} - (1 + \lambda) \qquad\qquad 9$$

so,

$$\{Y_{(t+1)} - Y_{(t)}\}/Y_{(t)} = s/Ǿ - э - (1 + \lambda) \qquad\qquad 10$$
$$s/Ǿ = p + э + \lambda + 1 \qquad\qquad 11$$

or

$$s/Ǿ = β + э + (1 + \lambda), \qquad\qquad 12$$

where 's' is saving rate of individual,

where 'β' is productivity growth,

'$(1 + \lambda)$' is increase in consumption growth.

'Ǿ' is capital output ratio, it means that capital requirement for producing one unit of output,

'э' is rate of depreciation,

It has been seen that capital output ratio for most of the poor families is constant. Rising consumption and a minor rate of depreciation exerts pressure on the left-hand side of model. Three cases can be derived from equation 12,

1. If $s/Ǿ$ is equal to $β + э + (1 + \lambda)$ than it is to be assumed that a family growth is stable.
2. If $s/Ǿ$ is more than $β + э + (1 + \lambda)$ than it is to be assumed that a family growth is rising.
3. If $s/Ǿ$ is less than $β + э + (1 + \lambda)$ than it is to be assumed that a family growth is decreasing.

The productivity $β$ is a function of capital output ratio because in the early stage of poverty we have constant or decreasing rate of savings as family size starts increasing. The only way out of poverty trap is government investment in capital through which individuals are earning their livelihood.

ESCAPE FROM POVERTY CIRCLE:

Evsey D Domar (1946) argue that capital accumulation can be used to enhance labour productivity even without technological progress. In equation 12 it was shown that in the initial phase, the only possible solution is lowering down capital output ratio because government can't control savings of poor peoples, the only thing the government can do is nurturing the capital through which they are earning their livelihood. Now the question arises what about rate of savings? The best possible answer to this question is lowering down capital output ratio that supports productivity, but not completely, this model completes when this whole process endogenously starts supporting rate of savings and this can further boost productivity and decreases the pressure of increase in consumption and became the part of great escape from poverty circle.

This paper attempted to analyse the problem of poverty, intergenerational constant level of capital and what government can do to remove poverty from its root. The modelling of poverty reduction was carried out on a very abstract and simple level and reveals that the only best possible solution left with government is nurturing the capital through which poor peoples are earning their income because there are some peoples who want to spend their life by doing work and do not want to take poverty and unemployment benefits. Poverty research has a long

and distinguished history. Now it is right time to move further by investigating the root cause of poverty and to prescribe correct measure to remove it.

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