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Financing Higher Education: A Technical Analysis of the Subsidy Issue

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ABSTRACT *Any discussion on higher education evokes passionate debate as radically divergent views are presented on almost every facet of the issue. However, the issue of state subsidy in higher education always generates the biggest controversy. The demand for higher education by an individual depends upon a host of factors that includes the cultural background, traditions and values , family income, status and of course the sex of the potential recipient. However, the two principal factors that determine the demand are the private benefit of higher education and the direct and indirect cost of accessing it. With a substantial level of state subsidy in higher education, the direct private cost of education is significantly reduced making the benefit, net of cost appear to be significant. This leads to an enormous surge in the demand for higher education that has a number of adverse consequences for the economy. Hence, the proponents of the free market economy argue in favour of reversing the distortions created in the economy by extension of subsidy to higher education. However, supporters of subsidies point out the role of higher education in creating a more egalitarian society; economically, socially and politically. It is also argued that higher education, as other forms of education generate external economies, which enhance the welfare of the society besides benefiting the primary recipient.*

1. Introduction

As India enter the new world order dominated by the knowledge economies, it becomes imperative to review the existing education system, and more so the higher education structure to gain a perspective of the country's standing in the world. Any discussion on higher education evokes passionate debate as radically divergent views are presented on almost every facet of the issue. However, the issue of state subsidy in higher education always generates the biggest controversy.

This paper proposes to introduce the debate raging on the pros and cons of subsidy in higher education. It will examine at the rationale put forward by the pro-subsidy group and at the same time counter it with the arguments advanced by those who favour a reversal in subsidy. In the second section, the paper will examine the ability of the market mechanism to provide the efficient quantity of higher education. The concluding section will focus on the answering the question, whether the existing system of subsidy in higher education can be justified or not. Besides, it will examine the various efficiency issues and will seek to advance policy prescriptions to address them.

2. The Subsidy Debate

The demand for higher education by an individual depends upon a host of factors that includes the cultural background, traditions and values , family income, status and of course the sex of the potential recipient. However the two principal factors that determine the demand are

- The private benefit of higher education.
- Direct and indirect cost of higher education.

The private benefit of higher education stems from the fact that a greater educational attainment increases the expected future income of the recipient. In developing economies, more education significantly increases the possibility of acquiring a job in the modern sector that promises higher wages and social status. With a substantial level of state subsidy in higher education, the direct private cost of education is significantly reduced. Besides limited employment opportunities in a developing economy, means that the opportunity cost of an individual, in accessing higher education remains extremely low. Hence, the benefit of higher education net of cost appears to be significant as the cost component is highly understated. This leads to an enormous surge in the demand for higher education that has a number of consequences for the economy.

- Faced with an excess of applicants for a limited number of jobs, employers tends to adopt a weeding out process in terms of the level of educational attainments. Thus, the applicants with greater educational attainments are selected at the expense of those who had accessed lesser amount of education.
- However, there is negligible impact on the level of productivity as the skills required for those jobs where negative labour substitution had taken place, are significantly lower than what the new recruits possesses. In other words, the high-level manpower who has replaced those low skilled workers does not get an opportunity to utilize their knowledge and skills in their new jobs and hence fails to make any perceptible difference to the output and income generated.
- Under pressure from the educated, the state adopts a policy of aligning wage rate in the dominant government sector to the level of educational attainment of the existing high level employees instead of pegging it to the level of education and training required by the job. The fallout is an increase in the wage rate without a corresponding increase in the level of productivity.
- The phenomenon of negative labour substitution in the economy induces more and more individuals to pursue higher education, if only to stay competitive in the tight labour market. Immense political pressure is exerted on the state to provide subsidized education. The political compulsions of the democratic governments ensure that the state succumbs to that pressure.

Thus, we have a paradoxical situation where inadequate employment opportunities for highly educated labour results in even greater demand for subsidized higher education.

However, supporters of subsidies cite the contribution of higher education in the economic development that has taken place in most developing countries over the years. They point out the role of higher education in creating a more egalitarian society; economically, socially and also politically. It is argued that higher education, as other forms of education generate external economies (Ulbrich, 2003), which enhance the welfare of the society besides benefiting the primary recipient. The presence of positive externalities means that the quantity of higher education that the market

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provides will always be less then what would be the efficient level. This under-provision can only be corrected through a subsidy programme that ensures that the market determined optimal provision equals the efficient level of provision.

On the contrary, the proponents of the free market economy argue in favour of reversing the distortions created in the economy by extension of subsidy to higher education. They believe that subsidy drastically reduces private cost of higher education and makes the net benefit appear much higher than what it actually is (Todaro and Smith, 2003). This illusion of inflated returns to higher education results in a very high demand for it. Seen as a ticket to upward economic and social mobility, immense pressure is exerted on the political system to provide more and more subsidized education, resulting in a diversion of scarce resources from critical investments that would have generated more employment opportunities. With number of high-level jobs growing at a rate that is lower than the rate of educated outturns, more graduate and post-graduate outturns result only in a negative substitution of labour instead of a rise in productivity and social income. This has serious repercussions on growth and social stability.

3. Subsidy: Why and How much?

In this section, an attempt is made to technically illustrate the rationale of extension of subsidy to higher education. Also indicated is the extent of subsidy required to make available the most efficient level of provision of higher education.

Theoretically, economics is unanimous in its view that any economic process that generates externalities will exhibit inefficiency. The inefficiency will take the form of under-provision if the externality generated is positive and conversely in the case of generation of negative externalities there will be over-provision (Hyman, 2005).

In the provision of education, positive externalities are generated which benefits the society over and above the primary beneficiary. Under the circumstances, the quantity of education provided by the market would be less than what is demanded by the society, implying an instance of under-provision. In the following section, a diagrammatic illustration is provided to indicate the inefficiency that occurs and how that could be corrected through subsidy. Indicated in Figure-1 are Dm and S curves representing the market demand and supply of higher education. Education is assumed to be provided under constant cost, which accounts for the supply curve that is parallel to the horizontal axis.

The optimum market provision of higher education is determined at OQ1 at a cost of OF1 per unit. However the externalities generated by higher education is indicated by the marginal external benefit curve (MEB), which represents how much an additional unit of higher education benefits the society exclusive of the benefit to the direct recipient. The vertical summation of the Dp curve and the MEB curve generates the marginal social benefit curve (MSB), which indicates the total benefit of an additional unit of higher education to the society inclusive of the direct recipient.

Considering the MSB curve instead of Dp , to be the demand curve, the equilibrium output of higher education is established at OQE which is the efficient provision. As is evident, Q1QE, will be the extent of under-provision of higher education, if its supply is left to market forces.

Thus, the presence of externalities results in inefficiency in the working of the private competitive market resulting in

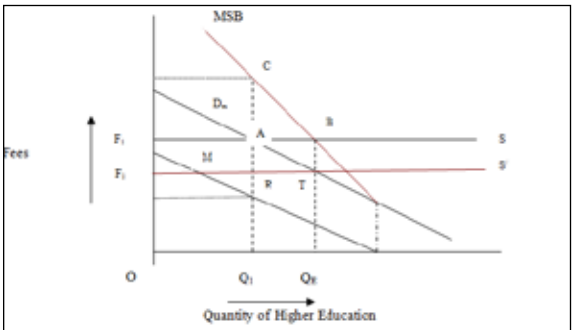

Figure-1: Provision of Efficient level of Higher Education
Source: Based on "Public Finance and the Price System." Browning E.D. and J.M. Browning (1994): Pearson Education, Singapore.

welfare cost amounting to CBA. A correction can be affected by extending a subsidy of F1F2 per unit to higher education so that the supply curve shifts down to S/. Here the optimum market provision of higher education equals the efficient level of provision at OQE.

As indicated above, the efficient provision of higher education could be made only if the subsidy extended is optimum. If the level of subsidy exceeds this critical level then there would arise a case of over-provision, which will hurt the economy more then the initial inefficiency resulting from the absence of subsidy.

4. Is subsidy the answer?

The rationale for extending subsidy in higher education is based on the assumption that positive externalities are generated in its provision. However, it is observed that the benefit to the individual recipient far outweighs what the society gains as externalities. If that is the case then it is only fair that the students, whose future lifetime earning is increased manifold due to the education acquired, should as well pay for the cost. The argument is reinforced when it is realized that subsidy reduces the cost of education only to the individual beneficiary and not to the society. The problem gets more complex when one considers the fact that the potential future income of all students will not rise equally. In such instances selective subsidy in the form of low interest student loans can be a viable solution. This is especially true in the case of students from very low-income families, who experience disadvantages in every aspect as he competes to access the relatively scarce and expensive higher education.

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