THE ROLE OF EDUCATION ON ECONOMIC GROWTH AND SUSTAINABLE DEVELOPMENT

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ABSTRACT

This paper examines the role of education on both economic growth and sustainable development with particular reference to India. Throughout, the objective is to draw out the implications of the empirical results for education policy. The results suggest that female education is of particular importance in India. They also suggest that perhaps because of the externalities it generates, primary education is more important than might be deduced from its relatively low private rate of return.

Keywords: *Education, Economic Growth, Sustainable development.*

INTRODUCTION

The resurgence of interest in endogenous growth – the so called New Growth Theory (Barro(1991), Barro and Sala-i-Martin (1995),Lucas (1998) has given a huge impetus to the formal analysis of the potential role of education in economic growth. However it must be emphasised that economic growth and economic development are not the same thing. Economic growth is one component albeit a very important one in the process of economic development. This important distinction is best illustrated by the creation (and widespread use) of the Human Development Index by UNDP. This index has acquired the status of the industry standard when discussing non GDP contributions to economic development. In India, perhaps more than in many developing countries, the non GDP dimension is of huge importance. The sheer scale and diversity means that the development process has had perforce to deal with issues of inequality and exclusion on a multidimensional scale. Most developing countries have had to emphasise reduction of poverty, gender discrimination ,infant mortality, literacy, child labour, income inequality etc as part of their development agenda. In India there are additional factors which impinge on and intersect the development process- caste and "untouchability", religion, language, to name the most important.

I shall structure this brief survey to follow the three main strands outlined above. First I shall examine the returns to education in India , and then examine the role of education on both economic growth and economic development with particular reference to India. Throughout, my objective is draw out the implications of the empirical results for education policy.

EDUCATION IN INDIA

The returns were significantly different for casual workers and regular workers. The latter had the usual inverted U shaped curve with respect to education levels whilst for casual workers the returns were flat. There was also some evidence that for regular workers graduates were pulling away from primary educated in the period of the 1990s. The author suggests (without much evidence) that this might be because of trade liberalisation.

Worthwhile though such studies are, it must be borne in mind that the entire Human Capital approach is based on competitive access to credit markets in order to finance education. If education is rationed so that those from low income families are excluded from the education process, then the estimates of rate of return can at best be interpreted as conditional. In an important paper Tilak(2002) user NCAER data on Human Development in rural India to demonstrate that households expenditure at least on primary education is not restricted to the upper socio economic classes. There does not appear to be strong evidence of financial constraints rationing access to education. At least at the primary level, this lends support to the rates of return to primary education being a good first approximation. In another recent study, Duraisamy and Duraisamy(2005) using NSSO survey found wide variations in rates of return across the various states. Nonetheless the inverted U pattern was found with returns to primary education being low (2 to 10%) compared to those who have secondary education (12 to 24%). Not surprisingly the returns to primary education were greatest in the less developed states where poverty is more manifest. In a parallel study Duraisamy(2002) found that that the return to women exceeded that for women. However, Kingdon and Unni(2001) show that this finding that women have higher rates of return to education has to be set against the fact that women tend to have lower levels of education due to discriminatory intra-family behaviour. They show that the positive effect from higher rates of return is effectively cancelled out by womens lower years of schooling, leaving other forces to play an explanatory role in accounting for lower wages for women.

An important aspect of the role of education in development is the distinct possibility of "over-education". The studies cited above suggest that rates of return beyond secondary education are not very high. Why then is the post secondary educated sector exploding? Casual observation suggests very high levels of graduate unemployment and under-employment. This view is supported by Sharma et.al(2002) who note " the (relative) shrinking of the job market especially for educated workers" in recent years. This suggests a considerable amount of "disguised unemployment" amongst graduates which manifests itself as graduates doing jobs for which they are overqualified. Once again this could bias the rates of return to education as has been shown in the UK context by Chatterji et al (2003).

From a policy perspective, these rate of return studies do provide some useful information. The results highlight the need to consider education policy options that are contingent on current levels of development. One size fits all is not helpful. They also suggest that before policy is considered, the interaction between education and the labour market needs to be properly accounted for.

GROWTH AND EDUCATION

The seminal paper by Lucas (1988, op.cit.) was central to understanding not only the relationship between education and growth but also why there might be a strong case for policy intervention to promote educational take up. Within the context of a "new growth" model, Lucas suggested that the productivity of any worker is higher when working in an environment peopled by other high productivity workers through a kind of learning by watching mechanism. It follows then that the growth path a region takes depends in part on the level of accumulated human capital at the start of the growth process. The Lucas model can also be used to justify educational subsidy because of the implicit positive externality arising from education. Cross country empirical studies most notably Barro (1991, op.cit) found that once other factors were controlled for, human capital did indeed have a positive influence on growth. Barro's analysis was focussed on the positive impact on growth of fairly basic education variables – namely primary and secondary schooling. Using a similar methodology, Chatterji (1998) extended this to include tertiary education and found a similar positive result. The results confirmed the importance of primary education with weaker evidence for secondary education and no

evidence that tertiary education has a beneficial impact on growth. The apparent irrelevance of tertiary education is of course entirely consistent with the graduate disguised unemployment hypothesis outlined above. But perhaps the most interesting finding of Self and Grabowski is the importance of female education (at all levels) in the growth process. This supports the results of Duraisamy (2002) that rates of return to education were higher for women.

It should be noted that the period of the study ends before the trade liberalisation reforms started. In other words, the data come from a closed economy. It has been suggested by Jain(2004) relying on the work of Bhalla at the World Bank that education has significant gains only in an open economy which is able to fully leverage additional knowledge. It is tentatively suggested that in the open era, that if India can raise the average level of schooling by two years, this will lead to a 0.15-0.2 percentage point permanent increase in GDP growth.

In another pre-liberalisation study, Ansari and Singh(1997) use annual time series from 1951 to 1987 to study the relationship between public spending on education and growth. They find no long run relationship between the two, consistent with "the closed economy fails to leverage new knowledge" hypothesis. However, they do find a direct causal link from public spending on education to private capital formation, and hence indirectly onto growth. Similarly, in a study of the Indian states from 1970-94, Nagaraj et.al(2000) do find strong evidence of the role of primary education in generating growth and in educational disparities across the states in sustaining inter state inequality.

SUSTAINABLE DEVELOPMENT AND EDUCATION

In the our country economic growth cannot be seen as synonymous with economic development. For all but the most ardent believers in "trickledown", economic growth will be seen at best as a necessary condition for economic development. It is certainly not sufficient. Once one considers the much broader perspectives of economic development, it becomes apparent that the role of education and education policy becomes (potentially at least) even greater.

In India the set of issues which might reasonably be encompassed within the umbrella of economic development might include inequality and exclusion of all types (whether based on income, gender, caste, religion or region), health, fertility and infant mortality and child labour. In the broadest terms, the empirical research by economists suggests that in India, a very important factor impinging on these issues is women's education. For example, Dreze and Murthi (2001), show that a major factor determining low fertility is high female education whilst general indicators of modernisation like urbanisation, poverty reduction, and male literacy have no such impact. The picture with respect to caste issues is less promising. Despite considerable government investment into the education of the "backward castes", there is little evidence of economic benefit to these castes, partly because of the inability of the education to deliver superior jobs. This leads naturally to a "discouraged worker" effect and withdrawal of funds for educational purposes by such castes. In an important study, Jeffrey et al (2004) conclude that "Without a substantial redistribution in material assets within society, development initiatives focused on formal education are likely to be only partially successful in raising social standing and economic position of subordinate groups".

CONCLUSION

The consensus of the empirical literature appears to be that rates of return are indeed (inverted) U shaped being largest for secondary education. However, all rates of return to education are higher in those areas where development is low. One apparently contradictory finding is that rates of return to primary education are quite low, but nonetheless in growth regressions, it is the primary

education variable that has the largest positive impact. This is suggestive of the possibility that primary education does have the Lucas type externality. The measured private rates of return are lower than the social rate of return. If this conjecture is correct – and it is testable using inter-state data – this has profound implications for public policy. There appears to be no similar effect for women where the higher private rates of return appear to already show up in higher growth rates from educating women. The risks of further expansion of higher education are also documented. Similarly, the policy of investing in educating "backward castes" without compensatory changes in labour market policy have been shown to be potentially counterproductive. Despite the fact that from a narrow income perspective for women, there appears to be no wedge between private and social economic returns for women, the developmental returns from enhancing female education appear to be large.

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