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Mamoon, Dawood

Institute of Social Studies

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Mapping an outside the Box Approach towards Ensuring Economic Effectiveness of Higher Education Reforms in Pakistan

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DAWOOD MAMOON*
Institute of Social Studies(ISS)
PO Box 29776
2502 LT The Hague
Netherlands
Mamoon@iss.nl
Telephone # 31 70 4260460
Fax # 31 70 4260799

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1. Higher Education Reform: An Introduction

In September 2002, a Higher Education Commission (HEC) was established for the first time in Pakistan. The Commission has launched a research grant program under which research grants worth millions of rupees for R&D will be awarded to researchers working in various fields of Science and Technology. Furthermore, foreign Ph.D scholarship programs have been developed to enhance the research base in key social and economic areas in Pakistan.

For example under ‘Overseas Scholarship Scheme for PhD in Selected Fields’ the HEC is planning to send nearly 400 professionals to the leading universities of the world by 2008 to pursue for their doctorate. The process has already begun whereby nearly 100 highly competitive professionals from various disciplines have been selected to study in Germany, France, and Austria for this academic year. Similarly there are other schemes which specifically target the various key natural science disciplines i.e., Space Sciences, Biotechnology, Renewable Energy, Robotics and Mechatronics, Cyber Sciences, Environmental Sciences, and Laser & Fibre Optics etc.

* The Author is Doctoral Student and Royal Netherlands Fellow at Institute of Social Studies (ISS), the Netherlands. He has recently organised an international conference on Globalisation, Poverty and Inequality.

The HEC has also initiated five year 'Indigenous Ph.D Fellowship Program' whereby 5000 scholarships have been announced for domestic PhD students. 1000 scholarships have already been announced for this year. In order to provide an incentive of quality research in our universities, which is currently absent in this country, HEC has also announced 'Best University/Degree Awarding Institutions Teachers Award' whereby the outstanding faculty members are given \$ 2000 for their teaching or research endeavors.

Clearly such measures by HEC are unprecedented in the history of this country. The higher education budget has been increased to Rs 5 billion from a meager amount of Rs 800 million five years ago, an increase of nearly 400 percent. For 2004-05 the government plans to double this figure to an impressive amount of Rs 9.5 billion. Well, the government has rightly recognized the importance of higher education and its returns in terms of skilled human capital.

2. The Drawback and Consequences

Though, it can be safely suggested that the government policy apropos higher education will go a long way in transforming Pakistan into a progressive society, there is an inherent exogenous draw back in this reform process which might hamper the objectives of the overall economic development plan of the government. This draw back lies in the overall education policy which seems to be biased towards higher education. For example, according to a recent ADB report, within the education sector in FY 2003, expenditure on primary education increased only by 4.1 percent whereas the expenditure on general college, and university education increased by 51.2 percent. It is clear that the government is pursuing higher education at the cost of primary education which carry serious repercussions for the over all objectives of government apropos economic and social development.

But before I indulge into the consequences of this unequal education policy pursued by the government of Pakistan, I would like to point out that it is a common practice among developing countries to pursue higher education at the cost of primary or secondary education. One of the reasons for this biasness in education policies in

these developing countries towards higher education is the fact that elementary education has a very limited direct role in determining growth rates. According to Barro (1999) the rate of economic growth responds more to secondary or higher education levels rather than elementary schooling. This is true because processes/determinants (i.e, trade, foreign investment etc) of growth are deeply linked with higher education instead of primary education. For example, in developing countries international trade, which is one of the key determinants of growth, favors either highly qualified university graduates or those who have at least finished their high school. The sole reason that India and China have been the haven for international outsourcing and trade in contemporary times is because they have managed to accumulate relatively educated and skilled human capital by investing on higher education. It is expected that over the next five years, 3.3 million services and industry jobs and \$ 136 billion in wages will be outsourced only from United States, while most of them finding their way to the Indian or Chinese Shores. Only in India, on any given day in New Delhi, Bombay and Bangalore, the call goes for a new call center recruits who are sufficiently educated to communicate in English and have at least acquired a high school diploma. At least, as far as international trade is concerned, it is quite evident that the Southern countries which are benefiting today and which will benefit the most in near future are those who have transformed a portion of their labor force into relatively skilled intensive by investing generously on its higher education programs. Well, these countries are also the ones which have been the fastest growing economies of recent times.

So it is no surprise that in order to be competitive in a race to the top, developing countries generally have a tendency to invest in higher education at the cost of primary education to achieve greater growth. Recently, Pakistan has also fallen for this trap as its current education policy is skewed towards higher education, whereas primary education is being overlooked. Though, in coming years Pakistan will definitely reap the fruits of its higher education focus and compete with other developing countries in international markets for its cheap and skilled human capital, it should also get ready for increased distortions in domestic labor markets as the relative wages of unskilled labor would decline amid increased international trade. This apparent pro growth higher education policy of Pakistan at the cost of primary

education may very well be good for income generation but it definitely excludes the poor and unskilled and will subsequently lead to increased wage and income inequalities in the country. The cases in point are again China and India who have also pursued a higher education at the cost of primary education and have suffered from increasing inequality because large portions of the population are left out because they were illiterate and unskilled. The recent rejection of ‘India Shining’ slogan of BJP by the majority of electorate in this year’s Indian elections is a clear evidence towards this anomaly created by a skewed education policy.

3. The Solution

In order to show how inequalities increase with education inequality Gregorio and Lee (1999) worked with a traditional model of human capital where the level of earnings (Y) is accrued by an individual with S years of schooling:

$$\log Y_s = \log Y_o + \sum_{j=1}^s \log(1 + r_j) + u \dots\dots\dots(1)$$

where r_j is the rate of return to the j th year of schooling. The function can be approximated by:

$$\log Y_s = \log Y_o + rS + u \dots\dots\dots(2)$$

Whereas the distribution of earnings can be written as:

$$Var(\log Y_s) = Var(rS) = \bar{r}^2 Var(S) + \bar{S}^2 Var(r) + 2\bar{r}\bar{S}Cov(r, S) \dots\dots\dots(3)$$

A sharp rise in educational inequalities $Var(S)$ would unambiguously lead to higher wage inequality in equation (3) if other variables are held constant. On the same account, rise in wage inequality is a clear outcome if $Var(r)$ is high. Here we know that returns to higher education are greater than returns to primary education in developing countries because of excess demand of skilled labor as rapid technology diffusion amid trade liberalization takes place and skilled labor supply lags behind.

However, equation (3) also suggests that under the assumption of other things as constant, if the covariance between the return to education and the level of education

is negative, an increase in schooling can reduce wage inequality. Well there is some empirical evidence that there is a negative relationship between the return to education and average years of schooling (Teulings and Van Rens, 2002). The negative value of $Cov(r, S)$ suggest that as the relative supply of high skilled workers go up and that of unskilled workers go down, the relative wages of skilled labor decreases. Though $Cov(r, S)$ gives some useful information apropos wage inequality, the information can very well be misleading because movements in relative wages are as much a function of 'skilled labor demand' as it is of skilled labor supply. For example, through trade liberalization, there is a constant transfer of technology in developing countries which increase the demand for skilled labor as learning by doing takes place. If this increased demand for skilled labor is more than its supply, there is a good possibility that wages of skilled labor rise instead of plummeting. And if the wages of unskilled labor fail to rise simultaneously because unskilled labor are in excess supply in developing countries, the wage inequality will very well increase and the negative relationship between level of schooling and returns to education $Cov(r, S)$ might not hold at all. This fact is recognized by Dur and Tuelings(2002) when they admitted that in the Tinbergen's (1975) famous race between technology (skilled labor demand) and education (skilled labor supply), technology has been a clear winner of recent times.

In short the key to equality of relative wages in developing countries do not lie as much in $Cov(r, S)$ but in the value of $Var(S)$. Our discussion suggests that the inequalities, which we witness today in developing countries, have two important determinants. First there are significant inequalities in educational attainments. Second, the processes of international trade transform these education inequalities into wage inequalities by favoring the skilled labor.

Well to this effect, in order to solve for inequality in developing countries, the respective governments need to increase the mean level of human capital through a balanced education policy whereby primary education is given as much importance as higher education. An equitable education policy will not only decrease $Var(S)$, it will also lead to a negative value of $Cov(r, S)$ as the overall supply of low skilled and uneducated workers go down and supply of educated work force increases. Dur and

Tuelings (2002) have called for subsidies to all levels of education as they argue that the mean level of education gives rise to general equilibrium effects that reduce wage inequality.

4. Conclusions

The paper suggests that current higher education policy of government of Pakistan is being pursued at the cost of primary education. The paper points out that the higher education bias is common among developing countries because growth and processes of growth are more responsive to higher education than primary or secondary education. Such unequal education policies are the main reason as to why inequalities are increasing in one of the fastest growing economies of the world namely India and China.

Pakistan in an effort to copy the likes of China and India is also falling into the same trap, as it is clear from the higher education focus of Pakistan's education policy. Though the investments in higher education should be appreciated by all means, our overall education policy needs to have an indigenous dimension to it. Well this indigenous and Pakistan specific dimension can be brought in quite conveniently if Pakistan pursues a balanced education policy whereby primary education is given as much importance as higher education. Such a balanced education policy would supplement the economic policies to ensure that Pakistan is following a complete pro-poor growth strategy whereby on the one hand growth would trickle down to alleviate poverty and on the other hand resources would be distributed on more equitable basis among the population.

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