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Essay (Second Session):

"Gender Inequality in Education: Impact on Income, Growth and Development"

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GENDER INEQUALITY IN EDUCATION: IMPACT ON INCOME, GROWTH AND DEVELOPMENT[♣]

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ABSTRACT

This Paper explains the causes of the Gender Inequality of education and analyze how the gender inequality in education impacts the economic growth & development, investment and population growth etc. The paper finds that the gender inequality in education is as an endogenous variable and show that it can be explained to a considerable extent by religious preference, regional factors, and civil freedom. For some of these variables, the direction of the effect depends on the particular measure of inequality. The fact that these variables systematically explain gender differentials in education and health suggests that low investment in women's human capital is not simply an efficient economic choice for developing countries.

KEY WORDS

Gender Inequality in Education, Growth, Investment, Development, Gender Inequality

I – INTRODUCTION

In the world in general and in the underdeveloped countries (UDCs) in particular, the women are inadequately served in terms of education, health, social status, opportunities and legal rights. In the poorest quartile of countries in 1990, only 5% of adult women had any secondary education, one-half of the level for men. In the richest quartile, on the other hand, 51% of adult women had at least some

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secondary education, 88% of the level for men (Dollar and Gatti, 1999). Other measures of gender inequality (like health or legal rights) also depict the similar situation.

This essay is mainly based upon two core papers; Dollar and Gatti (1999) and Klasen (1999) so, it may be considered as a summary of the both papers. The main objective of the essay is to explain the gender inequality in education and to answer the following questions;

Firstly, is lower investment in girls' education simply an efficient economic choice for developing countries? *Secondly,* does gender inequality reflect different social or cultural preferences about gender roles? *Thirdly,* is there any evidence of market failures that may lead to under-investment in girls, failures that may decline as countries develop? *Fourthly,* how does gender inequality in education play a role in economic growth? Investment? Population growth? And *Lastly,* What are possible theories that could explain these linkages? To answer these questions, as described earlier, we will depend largely on Dollar and Gatti (1999) and the Klasen (1999).

The essay is organized as follows. Section – II deals with the issue of efficient economic choice in the gender inequality in education. Section – III discusses the various social and cultural preferences responsible for the gender inequality in education. Section – IV describes the role of market failures in the under-investment in girls' education. Section – V analyze the relationship between the gender inequality in education and income. Section – VI deals with the relationships between economic development and gender inequality. Section – VII states different theories explaining the linkages between development and gender inequality. And the last section (VIII) concludes the essay.

II – GENDER INEQUALITY IN EDUCATION AND ECONOMIC EFFICIENCY

Is the gender inequality (in education) better economic choice from the economic efficiency point of view? To answer this question, first of all, we must look into the reasons of gender inequality in education.

CAUSES OF GENDER INEQUALITY IN EDUCATION

Gertler and Alderman (1989, as cited by Dollar and Gatti (1999)) point out the three major reasons for low investment in girls' education.

1 – Low Return from Girls' Schooling

The major reason for the low investment in girls' education is that the return from girls' schooling is considered to be lower than that for boys. This may only be possible if the labor of males and females are imperfect substitutes in some activities. In this case, the lower investment on girls' education than boys could be an efficient economic choice.

2 – No (or Low) Direct Benefit from Investing in Girls' Education

The social returns to educating boys and girls are the same, but that parents expect more direct benefit from investing in sons if, for example, sons typically provide for parents in their old age, while daughters tend to leave and become part of a different household economic unit (after their marriage). In this case, the wedge between private and social returns generates a market failure, and the private decision to invest in girls' schooling is likely to be inefficient.

3 – Social Preferences

Parents may simply have a preference (due to nay reason like traditions, culture or regional traditions etc.) for educating boys over girls. A low investment in girls' education would then reflect the underlying population preference.

IS LOWER INVESTMENT IN GIRLS' EDUCATION AN EFFICIENT ECONOMIC CHOICE? AN EMPIRICAL ANALYSIS

Schultz (1993, as cited by Dollar and Gatti (1999)) points out that the available evidence disproves the view that low investment in girls is economically efficient. In studies from a wide range of developing countries, it is almost never found that the return to girls' schooling is less than the return to boys' schooling (which would make less schooling for girls an efficient choice). To the contrary, there are quite a few middle-income countries in which the estimated return to girls' secondary schooling is far higher than the return for boys. In Thailand in 1980-81, for example, the female return was 20.1%, compared to 11.3% for boys. In Cote

d'Ivoire in 1985, the comparable figures were 28.7% and 17.0% (Schultz, 1993, p. 41). Not only are the returns for girls higher than for boys, but the absolute value of the return is striking: the return to girls' education was far above real interest rates in these countries.

On the basis of the above empirical results, it is evident that the lower investment in girls' education is NOT an efficient economic choice. So, under gender inequality, the UDCs are not effectively utilizing almost one-half of their human capital.

III – THE SOCIAL AND CULTURAL PREFERENCES ABOUT GENDER ROLE

Almost in every society the social, religious, regional and the cultural factor play a vital role in the formation of the behavior and attitudes of the people.

Hence, the gender inequality can be explained by the differences in cultures, religious preference, regional factors and underlying characteristics of societies such as civil freedom.

The fact that gender inequality to a considerable extent can be explained by civil freedom, social & cultural values, regional variables, and religious factors of a society. In an optimizing growth model, any religious, social and cultural preference not to educate girls is a distortion that can hinder the economic growth.

Dollar and Gatti (1999) finds that the high female attainment is associated with the Protestant religions and with good civil liberties, while low achievement is weakly associated with the Muslim and Hindu religions. (The religious variables indicate the share of the population that follows a particular religion.) There are also large positive coefficients on the Shinto variable (virtually an indicator for Japan) and the indicator variable for Latin America. The Latin American variable is the only regional indicator that is significant. Thus it confirms that the gender inequality reflect some different social, cultural or regional preferences about gender roles.

IV – MARKET FAILURES AND UNDER-INVESTMENT IN GIRLS EDUCATION

According to Dollar and Datti (1999) it is difficult to tell from the microeconomic evidence if under-investment in girls results from market failure or if it reflects the preferences of those who control resources and make decisions. It may be that the return to educating girls is high, but that the adults who make decisions value gender inequality and are willing to pay a price for it. In addressing this issue, cross-country analysis can be useful. If gender differentials in education and health can to some extent be systematically explained by variables such as religious preference, then it is unlikely that low investment in girls simply reflects market failure.

DEVELOPMENT AND MARKET FAILURES

The fact that increases in income lead to lower gender inequality suggests that there may be market failures that hinder investment in girls in developing countries and that these are typically overcome as development proceeds. As the regression results show that as the national income of a country increases, gender inequalities decline. The Dollar and Gatti (1999) argue that this finding implies that there are market failures that decline as countries develop. For instance, the choice on whether to educate the boy child or the girl child, the social return to education may be the same for both sexes. However the private return (to parents) is higher for the boy child since he will remain in the family unit and support his parents in their old age while it is lower for the girl child because she will get married and join another household unit. Thus as national income increase resulting in an improvement in the pension markets, parents depend less of financial support from their boy children in their old age and hence the market failure of educating boys rather than girls is reduced. This is one type of market failure that will decline with economic growth.

V – GENDER INEQUALITY IN EDUCATION AND INCOME

The Dollar and Datti (1999) suggest that in the secondary female attainment regression, per capita income enters convexly, and strongly. So, the shape of this relationship is quite interesting. It basically indicates that, as income increases up

to a level of about $2,000 per capita (PPP adjusted), there is no tendency for female educational achievement to catch up with the superior male achievement. After that level of income, on the other hand, there is a strong tendency to catch up. This convex relationship comes through clearly if you break the data set in half based on per capita income. For the poorer half of the observations, there is no relationship between female attainment and income, after controlling for male attainment. For the richer half, there is a strong, positive relationship.

Thus on the basis of the empirical analysis, there is strong and consistent evidence that increases in per capita income lead to improvements in different measures of gender equality.

VI – GENDER INEQUALITY IN EDUCATION, GROWTH AND ECONOMIC DEVELOPMENT

A large number of the studies including Klasen (1999), Dollar and Datti (1999) and King and Mason (2001) confirm that the gender inequality impedes the economic growth. Gender inequality in education has a direct impact on economic growth through lowering the average quality of human capital. In addition, economic growth is indirectly affected through the impact of gender inequality on investment and population growth. Gender inequality in education has a significant negative impact on economic growth and appears to be an important factor contributing to Africa's and South Asia's poor growth performance over the past 30 years. In addition to increasing growth, greater gender equality in education promotes other important development goals, including lower fertility and lower child mortality.

Klasen (1999)'s analysis show a strong association between gender inequality in both (secondary) education level and growth, and economic growth, unaffected by controls for potential endogeneities, and possibly caused by distortion effects on the quality of human capital related to gender inequality. The use of this human capital is of course conditional on gender biases in (formal) employment, (and other potential productive use of this human capital). There are strong linkages between (bias in) female formal employment and economic growth, although the direction of causality is unclear and may be simultaneous.

Klasen (1999) argues that causality runs from gender inequality in education to economic growth and not vice versa or simultaneous, on the basis of the results of panel regressions (similar to the cross country regressions), and the prediction of female-male ratio of growth in average education based on government spending on education, and changes in fertility rates between 1960 and 1990.

He defends that policies promoting gender equity in education and employment would represent one of the few "win-win" strategies, since they would further economic prosperity and efficiency, promote other critical human development goals like lower mortality and fertility, and would be intrinsically valuable as well.

GENDER INEQUALITY AND DEVELOPMENT LINKAGE VIA POPULATION

Since female education levels are related with under-five child mortality rate, gender inequality in education is linked to economic growth via health of the population. Female education level is also linked with fertility and thus with population growth, and this linkage is reinforced through the linkage with under five (child) mortality, which by itself is linked to fertility too. Population growth has a negative linkage with economic growth, although growth of labour force can be positively linked to economic growth.

GENDER INEQUALITY AND DEVELOPMENT LINKAGE VIA INVESTMENT

The linkage with investment seems to be mainly via the quality of human capital, increasing the rate of return to physical investment and thus investments themselves. As intra household influences on education are linked both to sibling influences and the educational level of the mother, this provides another indirect linkage (external effect) with possible longer term influence on human capital and thus economic growth.

VII – THEORIES EXPLAINING THE LINKAGES BETWEEN THE GENDER INEQUALITY AND DEVELOPMENT

Roemer (1986), Lucas (1988), and Barro and Sala-i- Martin (1995) have emphasized the possibility of endogenous growth where economic growth is not constrained by diminishing returns to capital. These models have also emphasized the importance of human capital accumulation for economic growth.

Solow (1956) is based on a neo-classical production function (with diminishing returns to each input) and exogenous savings and population growth, suggested convergence of per capita incomes, conditional on exogenous savings and population growth rates.

Lagerlöf (1999) examines the impact of gender inequality in education on fertility and economic growth. Using an overlapping generation framework, the paper argues that initial gender inequality in education can lead to a self-perpetuating equilibrium of continued gender inequality in education, with the consequences of high fertility and low economic growth. In this model, gender inequality in education may generate a poverty trap which would justify public action to escape this low-level equilibrium with self-perpetuating gender gaps in education.

VIII – CONCLUSION

The whole discussion concludes that the gender inequality is as an endogenous variable and show that it can be explained to a considerable extent by religious preference, regional factors, and civil freedom. For some of these variables, the direction of the effect depends on the particular measure of inequality. The fact that these variables systematically explain gender differentials in education and health suggests that low investment in women's human capital is not simply an efficient economic choice for developing countries.

A second main finding is that gender inequality in education is bad for economic growth. In the more developed half of our data set, a robust result is that there is a significant positive coefficient on female secondary attainment and an insignificant negative one on male attainment. The result holds up when we instrument for education with the religion variables and civil liberties.

The result suggests that an exogenous increase in girls' access to education creates a better environment for economic growth and that the result is particularly strong for middle income countries. Thus, societies that have a preference for not investing in girls have to pay a price for it in terms of slower growth and reduced income.

A third result is that there is strong and consistent evidence that increases in per capita income lead to improvements in different measures of gender equality. The implication of this finding is not that growth is all that is needed to eliminate gender inequality. However, it is important to know that the country-wide policies that support rapid growth are also indirectly contributing to gender equality.

In fact, it appears that promoting gender equity in education and employment may be one of those few policies that have been termed 'win-win' strategies. It would further economic prosperity and efficiency, promote other critical human development goals such as lower mortality and fertility, and it would be intrinsically valuable as well.

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