The Impact of Gender Inequality on Economic Growth in Developed Countries

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ABSTRACT

Gender inequality is surveyed at two levels. This essay argues about countries with high income that have gender equality in Education as well as Health, however gender inequality in Political Empowerment and Economic Participation has been remained. Generally, gender equality in Health & Education increases Human Capital, Health level and totally welfare. Therefore, societies would tend automatically to settle gender equality in Health & Education, but in short run, gender equality in Political Empowerment and Economic Participation has negative effect on Economic Growth because the stack of Social Capital among females is not sufficient, while this kind of Capital would rise by the passage of time through increasing the Experience. On the other hand, in long run, the stack of Human Capital among females would remain intact, hence has more powerful compared with males. Therefore in long run, it will necessarily have Positive effect on Economic Growth. The relation between Economic Growth and gender equality in Political Empowerment and Economic Participation can be represented by Convex Parabola. The estimation (By method of Panel data - Pooled EGLS (Cross-section weights)) in the series of rich countries between 2006 to 2012 shows that the factor of Experience, which is considered as Index of Social Capital among females, has negative effect on Economic Growth, conversely Human Capital of females has positive effect on Economic Growth. Therefore, it can be argued that, these countries are at the decreasing side of Parabola.

INTRODUCTION

Economists believe that Fixed Capital, Human Capital and Labor Force are the most important factors which can affect Economic Growth. Therefore Economic Growth is linked with gender inequality through above mentioned factors. 

The majority of relevant literatures have considered the relation between Economic Growth and gender inequality in Education, Health, Employment and Payment. For instance, some theories have illustrated the negative impact of gender inequality on Economic Growth [1]. On the other hand, some practical studies find positive influence of gender inequality in Education on Economic Growth [2].

Other surveys, conducted on Gender inequality in Employment and Payment, yield contradictory results [3,4].

Nowadays in developed countries, new aspects of discrimination have emerged. In fact, Gender inequality in Education and Health has been superseded by gender inequality in Political Empowerment and Economic Participation (Modern discrimination).

The importance of Human Capital has led to new notion to the quality of Labor Force but this factor merely cannot explain the impact of inequality in Political Empowerment and Economic Participation on Economic Growth, whereas insufficient Experience is the main reason of inequality which is also a common factor between Human Capital and Social Capital. Education, Health and Experience are three main elements of Human Capital that boost the productivity of labors [5].

This paper studies gender inequality and its effect on Economic Growth among developed countries (which exclude gender inequality in terms of Education and Health).

Some theories encounter uncertainty in case of gender inequality and hence check whether it has effect on Economic Growth, because irrespective of morality, if Economic Growth is to be taken into consideration, the following items can be discussed:

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1. The employment of female labors instead of male labors cannot lead to a major alteration in Economic Growth dramatically by virtue of the mechanical function, lying in this level of work and moreover the obedience of the work force from the prescription, thus the gap between the stacks of Human Capital in this level cannot result in the increase in Economic Growth.

2. Lower payment of females can promote exports and increase Economic Growth.

3. By decreasing the infant mortality in countries below the poverty line (after gender equality in Education and Health), the population would surge therefore has negative effect on Economic Growth.

   Hence, based in the three hypothesis, can we deduce that there is positive relation between Economic Growth and gender inequality?

   On the other hand, in some developed countries by declining the discrimination in Education and Health, Economic Growth is on the increase, despite the fact that practical studies without powerful theoretical support may lose credibility. As it seems, we encounter with conflict issue, however some indispensible variables are not considered in above mentioned cases which can obtain congruent results. Furthermore, time as an important variable has pivotal function in this issue because two main factors (Social Capital & Human Capital) which affect on Economic Growth are reliant on this variable.

   Gender equality has two stages which can lead to higher Economic Growth, in the first place, equality in Health, Payment and Employment can pave the way to achieve next stage (gender equality in Political Empowerment and Economic Participation), though in short run, results might be different. Thus in long run, achieving higher Economic Growth by gender equality in Political Empowerment and Economic Participation is expected. (Noting that unfortunately there are not considerable number of countries, experienced this stage) The relation and specific coefficient between gender gap and Economic Growth would estimate By method of Panel data - Pooled EGLS (Cross-section weights) in the series of rich countries between 2006 to 2012.

1. Literature Review:

   1.1. Gender Inequality & Economic Growth:

      Dollar & Gatti [6] - Gender inequality decreases the average of Human Capital, because talented females would be superseded by unqualified males which can lead to inefficient economy.

      Galor & Weil [7] - Thirwall - Increasing the level of female Education, declines fertility levels and child mortality levels which have a positive effect on Economic Growth.

      Mark Blackden et al [8] - Gender inequality in Employment can lead qualified females to quit the Labor Market, therefore the level of labor force performance decreases and Economic Growth would decline.

      Blecker & Seguino [9] - Increasing the gender gap in Payment would improve Exports which can boost Economic Growth.

      AnandSwamy, Omar Azfar, Stephen Knack and Young Lee [10] - Females with power are more reputable than males; in addition men are more nepotistic than women. Therefore economic performance by women would improve.

   1.2. Human Capital & Economic Growth:


      Romer [12] - Education can boost the ability of innovation which can help to improve knowledge and modern technologies. This factor can influence the process of production and growth (Endogenous Growth theories).

      Destrie Experience constitutes a part of acquisition process. Experimental learning can increase productivity through trial and error. On the other hand, inexperienced workers can increase their capability by imitating subtle workers without any expenditure.

      Psacharopoulos and Patrinos [13] - Education will rise efficiency and payments so that each year of education can increase payments almost 10% also Health can be assumed as a complementary factor.

      Nafukho & Brooks [14]- Initial definition of Human Capital theory measure workers’ knowledge in terms of school education, but association between efficiency and the stages of education has led to new vision. In fact, more education beside experience would improve productivity.

   1.3. Social Capital & Economic Growth:

      Coleman, J. [15] - In Social Capital, social relationships have predictable capacity which can produce worth. Social Capital disseminates knowledge and information among labors also this kind of capital can be used to achieve impossible aims.

      Ostrom, [16] - Trust as well as widespread civic engagement are two significant indexes of Social Capital, therefore higher levels of growth can be achieved by these factors. On the other hand, higher efficiency is postulated by facilitating collaboration among various workers.
Francis Fukuyama, [17] - The high level of trust in a society can lead to efficient economy, because trust decreases (or even omits) the cost of bargaining as well as the expenditure of supervision.

2. Gender inequality in Modern Society:

2-1. The kind of gender inequality:

The World Economic Forum has declared that there are four various levels of gender inequality: Economic Participation and Opportunity, Educational Attainment, Health and Survival and Political Empowerment. Whilst Education and Health inequality in many modern societies is at the minimum level, hence these two factors may lose their importance, though inequality in Economic Participation and Political Empowerment will remain.

It has been claimed that gender inequality reduces the average amount of human capital which can harm economic performance because restricting qualified females can have a detrimental effect on the pool of talent. This theory can be revised in modern society by illustrating an example, if labor force divides into three parts:

1. Workers (physical workers),
2. Staffs (under supervision),
3. Entrepreneur & Managers (all individuals which can make decision)

In the cases 1 and 2, prescription can vividly show the path, thus the gap between Human Capital of females and males cannot cause a major change in economical efficiency dramatically. Conversely, in the case 3, the economical efficiency is profoundly influenced by Human Capital because the members of this group determine the trend of economy through making decision, therefore gender gap in this level can harm the economy of modern societies.

2-2. The reasons of gender inequality:

Women have a sheer volume of Human Capital which consider as a suitable potential for increasing Economic Growth but women do not have enough experience in the field of Economic Participation and Political Empowerment, therefore in the lack of experience and practical information, females cannot trust environmental factors, all of which force women to take illogical decision which to some extent might be radical. Totally, inadequacy in the amount of female Social Capital can result in inconformity among males, hence gender gap at the certain level will remain.

Obviously the differences between women and men are not deniable, furthermore there are various literature show that females are less prone to corruption in the position of authority, thus increasing the stack of Social Capital is hindered by these differences.

2-3. The decrease of gender inequality:

The decrease of gender inequality in modern societies is argued in long run Economic Growth, however it is expected to have short run negative effect on Economic Growth.

Generally, two factors can decrease gender gap:

1. Time: Experience depends largely on time which can increase Social Capital, plus it is highly accepted that authority would challenge the new kind of Social Capital which is in contrast with their profits.
2. NGOs: Increasing pressure from NGOs can facilitate the entry of females in the position of authority, so that it could increase Social Capital.

3. The Effect of gender inequality on Economic Growth in modern society:

A powerful management which can play pivotal function in economy and politics should encompass outstanding talents as well as social experience. The lack of social experience among women has led to low efficiency.

Women have the sheer volume of Human Capital which can be used to increase Economic Growth, but it is of great importance to spend a period of time along with men for acquiring enough experience. Hence, decreasing the gender gap should happen gradually, otherwise by superseding experienced men by women, Economic Growth will be highly decreased. Whilst in long run by increasing female Social capital, Economic Growth would have favorable condition.

4. The graph of gender equality and Economic Growth in modern society:

In order to draw the graph, a function has three variables (Gross Domestic Product (GDP), Time (t) and Capital (c)) in addition, the constancy of other condition should be assumed:

\[
GDP = f(C, t) \tag{1}
\]

Capital (c) is divided into Social Capital (SC) and Human Capital (HC) for women (w) and men (m) also the constancy of Physical Capital is considered:

\[
C = SC + HC 
\]

\[
SC = a SC_w + (n-a) SC_m \tag{2}
\]

\[
HC = b HC_w + (b-n) HC_m \tag{3}
\]
The number of economic and political participation is limited and specified \((n)\) so that each a man can simply be replaced by a woman and vice versa. Therefore after the entry of a woman, it is expected to decline the total of Social capital:

\[
\text{SC}' < \text{SC} \tag{5}
\]

\(\text{SC}'\) shows the total of Social Capital after the entry of women. On the other hand, the total of Human Capital would not change significantly after the entry of women because the difference of Human capital between males and females is derived from statistical population, thus females Human capital would be preferred after increasing the member of females as authority, which highly depends on Time.

\[
\text{HC}_w = \text{HC}_m \tag{6}
\]

\(\text{HC}_w\) which can be a proper proxy of Economic Growth, would be plummeted in short run. Conversely, in long run it is projected that Economic Growth increase because of \(\text{SC}' = \text{SC}\) and \(\text{HC}' > \text{HC}\)

\[
\text{HC}' = \text{HC} \tag{7}
\]

\[
\text{Ln}(\text{GDP}) \text{ which can be a proper proxy of Economic Growth, would be plummeted in short run. Conversely, in long run it is projected that Economic Growth increase because of } \text{SC}' = \text{SC}\text{ and } \text{HC}' > \text{HC} \tag{8}
\]

5. Model:

From the view of Mincer, the difference of individuals' income depends on work experience and official educational years, which has been shown by income function.

He shows income function as a semi-logarithm regression so that the dependent variable is income, while the educational years, the years of experience and square of the years of experience are independent variables:

\[
\ln E_i = b_0 + b_1 S_i + b_2 T_i + b_3 T_i^2 + u_i \tag{10}
\]

In this equation \(E_i\), \(S_i\), \(T_i\) denote income, the educational years and the years of experience after education ((Age) - (the years of education) - 6) respectively. In this paper 6 should be replaced by 3 because statistical society is females with tertiary education who work along with education simultaneously.

In this paper, the macro value of these variables is taken into consideration for surveying their effect on Economic Growth. The relative constancy of Capital and Labor Force in total income offers Cobb-Douglas Function [18].

\[
Y = A K^\alpha L^\beta (\text{expw}) + \phi Sw + \phi' \expwit + \phi'' \expwit^2 + \lambda T \tag{11}
\]

In this equation \(Y\), \(K\) and \(L\) denote, Gross Domestic Product, Physical Capital and Labor Force respectively. The average years of female labor force education with tertiary education (Sw) is a proxy of Human Capital, In addition the average years of experience of Female Labor force with tertiary education is a proxy of Social Capital (expw ) and Time which is another important factor (T).

The following logarithmic equation shows the production of specific country \((i)\) at specific time \((t)\)

\[
y_{it} = a + \alpha k_{it} + \beta l_{it} + \phi Sw_{it} + \phi' \expwit_{it} + \phi'' \expwit^2_{it} + \lambda T_{it} \tag{12}
\]

\(y_{it}\), \(k_{it}\), \(l_{it}\) in this equation shows the logarithm of \(Y\), \(K\) and \(L\) respectively.

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\]

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6. Data & Estimate procedure:

Table 1: The sources of ILO & WDI are utilized, moreover as for the values of T as a variable, the figures 1 to 7 are considered respectively from 2006 to 2012.

In this paper, some countries with high income have been selected because of gender equality in Health and Education. These countries are Iceland, Finland, Norway, Sweden, Ireland, Germany, Denmark, Switzerland, Belgium and Netherlands.

Table 2: Initially, the stationary of variables should be considered. E-views as a powerful software shows that according to Levin, Lin & Chu Unit Root Test, all of variables are I(0).

The estimated procedure is Panel data - Pooled EGLS (Cross-section weights). Female Experience is a proxy of Social Capital which according to the above mentioned assumptions, in the course of time it would have different effect on Economic Growth. On the other hand, the average years of female labor force education with tertiary education is a proxy of Human Capital which have diverse effects in various countries.

Table 3: Apart from the variable of T, other independent variables at the level of 5% are acceptable, but T is necessary in model because it has led to perfect Durbin-Watson stat (about 2). The increase of experience as a proxy of female Social Capital, can lead to the decrease of Economic Growth. Conversely, the increase of female Human Capital, may also lead to the increase of Economic Growth. Physical Capital and Labor force have positive effect on Economic Growth in these countries.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>K1</td>
<td>0.109083</td>
<td>0.015410</td>
<td>6.684047</td>
<td>0.0000</td>
</tr>
<tr>
<td>L1</td>
<td>0.810584</td>
<td>0.022261</td>
<td>36.41254</td>
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<td>EXP2W?</td>
<td>0.005101</td>
<td>0.004104</td>
<td>-1.243024</td>
<td>0.2198</td>
</tr>
<tr>
<td>S.IL--S.W.ISL</td>
<td>8.694604</td>
<td>0.304750</td>
<td>28.53028</td>
<td>0.0000</td>
</tr>
<tr>
<td>S.FIN--S.W.FIN</td>
<td>8.706466</td>
<td>0.326349</td>
<td>26.67842</td>
<td>0.0000</td>
</tr>
<tr>
<td>S.NOR--S.W.NOR</td>
<td>8.827369</td>
<td>0.327369</td>
<td>26.96459</td>
<td>0.0000</td>
</tr>
<tr>
<td>S.SWE--S.W.SWE</td>
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<td>0.329864</td>
<td>26.47903</td>
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<tr>
<td>S.BEL--S.W.BEL</td>
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<td>0.335215</td>
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<td>0.0000</td>
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<tr>
<td>S.DEU--S.W.DEU</td>
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<td>0.355353</td>
<td>24.73169</td>
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<td>S.DNK--S.W.DNK</td>
<td>8.751383</td>
<td>0.326570</td>
<td>26.79789</td>
<td>0.0000</td>
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<tr>
<td>S.CHE--S.W.CHE</td>
<td>8.729863</td>
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<td>25.70782</td>
<td>0.0000</td>
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<tr>
<td>S.NLD--S.W.NLD</td>
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<td>0.330040</td>
<td>26.47784</td>
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<td>EXPW?--2006</td>
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<tr>
<td>EXPW?--2007</td>
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<tr>
<td>EXPW?--2008</td>
<td>-3.802709</td>
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<tr>
<td>EXPW?--2009</td>
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<td>EXPW?--2010</td>
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<td>EXPW?--2011</td>
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</tr>
</tbody>
</table>

Conclusion:

Gender inequality has different levels possessing various kinds of effect on economy. In the majority of countries with high income, Gender equality in Education and Health is postulated because the increase of public health and Human Capital can boost welfare through Economic Growth. While gender equality in the level of political and economical participations, at least in short run would lead to the decrease of Economic Growth.

The stack of male experience is a factor which each society prefer male to female at the level of political and economical participations, therefore Social Capital is taken into consideration as an effective factor because
political and economical participants with high education and low experience at critical situation cannot make decision effectively. The Social Capital of females would be increased by a rise in the number of women among political and economical participations, hence in long run the human Capital of females as a distinctive factor, would have positive effect on Economic Growth. Economic Growth through gender equality in political and economical participations is a long run goal. Therefore, decreasing gender gap in short run can pave the way to achieve the goal.

REFERENCES