EFFECT OF GENDER INEQUALITY IN EDUCATION AND EMPLOYMENT ON ECONOMIC GROWTH: NEW EVIDENCE FOR A PANEL DYNAMIQUE [*]

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ABSTRACT
The debate on the effect of gender inequality on growth was highly ambiguous. Some studies have shown a positive association between the two, while the other is presented perfectly opposite view. Using the most recent data and investigating an extended time period (1995– 2012), we update the results of previous studies on education gaps on growth and extend the analysis to employment gaps using panel data. We find that gender gaps in education and employment considerably reduce economic growth.

Keywords: Gender Inequality; Gender Inequality in Education; Gender Inequality in Employment; Economic Growth; Panel Data.

INTRODUCTION
Gender equality is a mandatory target, which is globally referred or referred all over the world and supported among the Millennium Development Goals (MDGs), it was included in the Report on World Development and the World Economic Forum among others. Moreover most policymakers and stakeholders recognize that women can hinder productivity and economic growth.

There are many reasons to be concerned about the existing gender inequalities in their nivaeu tert dimension as education, health and employment levels. Over the last twenty years, inequality between men and women was publicized in all countries of the world and especially in developing countries. The World Bank in 2002, women who are less educated, receive health care worse than male. Amartya Sen in a popular series of documents, concluded that because of these inequalities, there were 100 million "missing women" worldwide (Sen, 1992). Although some programs have been launched to try to solve these problems, Klasen and Wink (2002) with recent data suggested that the number of missing women has only increased in the last decade. Many international organizations have taken notice of these inequalities. A part of the Millennium Goals of the United Nations Development to target gender inequalities in particular: "Eliminate gender disparity in

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primary and secondary education in 2005, and at all levels of 2015." (United Nations, 2006). Obviously, this situation has become a source of concern for policy makers for reasons of equity relative deprivation in a group of people around the world certainly justified attention on its own. There are two different views on education: a perspective view education as the development of human capital for economic growth, and the other seen as a mechanism for social equality. However, in many developing countries and some developed countries (including the US), a persistent problem of unequal access to quality education still exist. This disparity appears generally into two categories based on gender and socioeconomic status.

LITERATURE REVIEW

The relationship between gender inequality and economic growth has been the subject of considerable academic research over the past few decades (Morrison et alii ; Amin et alii, 2015). Macroeconomic Studies on the link between gender inequalities and development have increased since the early nineties, -when income data have finally been available for many developed and developing countries. Education plays a key role in the processes of economic and social development of all countries. In fact, it helps to reduce poverty and improve the quality of social life. It is a basic ingredient in the improvement of health conditions strategies. It also helps to reduce social disparities, cultural and ethnic between people of the same country.

From an economic point of view, the level of education and its distribution within the population plays a crucial role in the prospects of income distribution and hence economic growth. Indeed, an increased level of education of a person skills held by the workforce, which improves labor productivity and therefore economic growth (Barro and Lee, 1993, 1997; Barro and Sala-i-Martin, 1995; Aghion and Howitt, 1998). Although most, if not all, countries in the world were aware of the fundamental role of education can have in the economic and social development process, many of these countries are far from achieving mass education.

In most societies, education is widely regarded as one of the fundamental instruments for the creation of equal opportunities. Women's contribution to economic growth can be accumulated by physical capital and human capital, their participation in the paid labor force and increased savings. In the theoretical literature of endogenous growth, human capital is recognized as an important source of economic growth. Schultz (1961), Human Capital, defined as "direct expenditure on education, training, health and internal migration" was recognized as a source of economic growth. Dollar and Gatti (1999) examined the relationship between economic growth and gender inequality. Their results have shown that gender inequality is higher in poor and developing countries that the developed countries. Furthermore, the inequality of the sexes in terms (women's right for education) also contributes to the low economic growth and income. A number of theoretical and empirical studies are finding that gender inequality in education reduces economic growth. The main arguments of the literature were examined in detail in the work of Klasen (1999, 2002, and 2006).

In this sense, there is a theoretical support in the view that the concept of the gender gap in education and employment are likely to reduce economic performance. At the empirical level, there is now a considerable literature to show that gender gaps in education reduce economic growth. Hill (1993) and Knowles, Lorgelly and Owen (2002) use a Solow model. Dollar and Gatti (1999), Forbes (2000) Yamarik and Ghosh (2003), Appiah and McMahon (2002) and Klasen (2002) studied the impact of gender differences on economic growth, and found that the gender gaps in education have a negative impact on economic growth. Kalsen (1999) used cross-sectional data and panels to examine the effect of gender

inequality in education on economic growth. The results suggested that there is a direct and negative impact on economic growth and development. This major impact is achieved through the reduction in the quality of human capital. On the other hand, economic growth is indirectly affected by the impact of gender inequality on investment and growth of the population.

The disparities between the sexes in terms of opportunities and the participation of women in economic activities have become important issues for the developing world and for African countries in particular. This is partly because of the potential negative effects that can result from the exclusion of women in employment in both sustainable growth and poverty reduction. It is therefore recognized that gender equality and the empowerment of women is one of the main United Nations program attributes of the Millennium Development Goals (MDGs). This is also why gender equality is on the agenda of public policy almost all countries of the world today. Thus, gender equality in employment is currently the biggest development challenges facing countries worldwide, including countries in Africa.

DATA AND RESULTS

The purpose of our work is to empirically verify the effect of gender inequality on economic growth in the case of magrebes the country during the 1995-2012 period. Country selection was carried out based on the reliability and availability of data on the various variables used in the study. The variable is represented explained the growth rate of GDP per capita GDP in logarithms. The explanatory variables considered are: the investment rate as a percentage of GDP in logarithm (LINV), the growth rate of the population in logarithm (PWPA) and the gender inequality indicator. Consider the World Economic Forum indicator (IIG). We retain the following specification as dynamic panel model:

$$LGDP_{it} = C + \beta_1 LGDP_{it-1} + \beta_2 LLFG_{it} + \beta_3 LINV_{it} + \beta_4 IIG_{it} + \varepsilon_{it} \qquad (1)$$

It is well-known that the GMM method provides consistent and efficient estimates in the presence of arbitrary heteroskedasticity. Moreover, most of the diagnostic tests discussed in this study can be cast in a GMM framework. sargan's test was used to test the over identifying restrictions in order to provide some evidence of the instruments' validity. The instruments' validity is tested using sargan test which cannot reject the null hypothesis of over identifying restrictions. That is, the null hypothesis that the instruments are appropriate cannot be rejected. The Durbin–Wu–sargan test was used to test the endogeneity. The null hypothesis was rejected, suggesting that the ordinary least squares estimates might be biased and inconsistent and hence the OLS was not an appropriate estimation technique. The GMM estimation with panel data proves advantageous to the OLS approach in a number of ways. First, the data of the series section and pooled time allow us to estimate the gender del'inégalité relations and economic growth over a long period of time many countries. Second, any country-specific effect can be controlled by using an appropriate GMM procedure. And finally, our panel estimation procedure can control for potential endogeneity that may emerge from explanatory variables.

TABLE 1
Results of Panel Dynamique: GMM

Variables	Ceof.	Str. ERR	p-value
LDGP1	0.938	0.019	0.000*
LPOP	0.030	0.013	0.024*
LINV	0.057	0.321	0.074*
IIG	-0.186	0.084	0.029*

Variables	Ceof.	Str. ERR	p-value
C	0.556	0.243	0.024*
AR Test (Order 1)	-5.31		0.000
Sargan Statistics	59.38		0.997

Notes. *** 1% significance, ** significance 5%, * 10% significance. All variables are in natural logarithm, except the IIG variable. The dependent variable is the growth of real per capita GDP (Growth). The Sargan test is the statistical validity of the test instruments for GMM estimation: the null hypothesis is the validity of lagged variables in levels and differences as instruments.

The estimation results obtained shows that the GDP1is variable correlated positively and significantly with the dependent variable. In other words, the rate of growth of real GDP in the year (t) depends on a positive and significant of the year (t-1). This result largely emphasized by the previous work of Mankiw, Romer and Weil (1992).

The high value of the coefficient on the growth rate of the population LFG is a positive and meaningful way on the growth rate of GDP per capita. This shows the effect of the importance of population growth models. Therefore we can say that the population can stimulate, increase and improve the growth of GDP. This result is consistent with what he found in various studies such as Bloom and Williamson (1998), and Klasen (1999, 2002, and 2006).

The rate of investment (INV) has a positive and significant effect on economic growth. This returns the importance of investment in economic growth. These results confirm that it is found in other studies and in all the views of the World Bank, 2001.

Finally for gender inequality (IIG) index, the results of our estimation confirm our assumptions that we have shown in our theoretical and empirical review of gender, regarding the effect of inequality on economic growth. Indeed, the relative coefficient of gender inequality (IIG) is -0.186, which indicates a negative and significant relationship on the growth rate of GDP per capita. Thus the issue Gender never becomes topical and sometimes referred to as an important factor of economic growth.

CONCLUSIONS

This study aims to study the impact between gender inequality and economic growth in Tunisia during the period 1995-2012. The issue of gender inequality has been much debate in academic and policy-makers. Although it has grown in importance as a concern for intrinsic reasons still applying equality as a macroeconomic variable was adopted recently by economists. In this empirical study we note the effects of a slowdown in gender inequality on economic growth for the countries of Magrebes. Thus, the issue of gender inequality should be addressed not only because of its intrinsic value, but also because of its instrumental value for economic growth. In almost all areas of the lives of women are behind the men. They have less access to educational opportunities, health and employment. They enjoy very limited property rights. Who has to play an active role in economic and development activities. This has made the issue of gender inequality is the very complex nature. It is deeply rooted in history, culture and traditions of a society. Thus, a comprehensive approach is needed to solve this problem

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