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Education policies as an engine of growth

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Advanced Master in International and Development Economics

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EDUCATION POLICIES AS AN ENGINE OF GROWTH
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Tutor: Stéphanie Weynants

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1. Introduction

The role of human capital as a key determinant of economic growth is quite strong. In order to have quality human capital, educational systems of the countries are of utter importance. Even though education as such is unarguably important, direct relation between education and economic growth is not easily explainable. *“New research proves the long held expectation that human capital formation plays a significant role in a country’s economic development. Better education leads not only to higher individual income but is also a necessary (although not always sufficient) precondition for long-term economic growth”* (IIASA, 2008).

In this paper, it is going to be demonstrated through which channels education policies can impact economic growth of the country. While explaining four possible underlying mechanisms special attention is going to be put on the quality of education – measured by cognitive skills, not by quantitative measures used in older studies, such as school enrolment and attainment. Moreover, this paper will present the influence of education on the reduction of fertility rates of women and interconnectivity with economic growth, especially in the case of developing countries that are currently dealing with the Malthusian phase of economy characterized by high natural population growth. Policies that are aimed at reducing fertility rates possibly lead to the quality-quantity trade off, such that lower fertility or fewer children per family is associated with more years of schooling and higher investment per child. This trade-off is context specific and can have different applications and significance in developing and developed countries. Understanding of this trade off can help policy makers to create appropriate policies adjusted to the developing countries settings.

Moreover, it is going to be presented in what way cultural differences can influence fertility transition around the world. Cultural difference is going to be presented in a broad perspective, including influence of religion, industrialization and urbanization, different social and morally acceptable norms of behaviours as well as transgenerational transfer of culture in the immigration process.

Furthermore, this paper will address the role of women in the context of the economic growth. Ensuring women's participation in the process of economic growth is not only derived from the fact that women constitute fifty percent of the world's population, but also because increasing women's access to economic resources can benefit the entire household and community. This paper will precise the barriers that women are facing while wanting to be active participants of labour market, moreover it will suggest possible policies in order to improve the position of women in general and ensure gender equality while ensuring economic growth.

2. Interconnectivity between education and economic growth

Investment in education and developing skills of the future workers has been considered as a key stimulator of economic growth. Even though investing in human capital sounds like a key determinant in stimulating economic growth, there are not much empirical estimates that would confirm this fact. One of the essential problems is connected with the measurement of education levels and skills as a proxy of human capital in order to see the possible effect on economic growth. Furthermore, without clear results of the effect of investment in education and skills, choosing the right policy that would lead to economic progress can be quite a challenging task for policy makers.

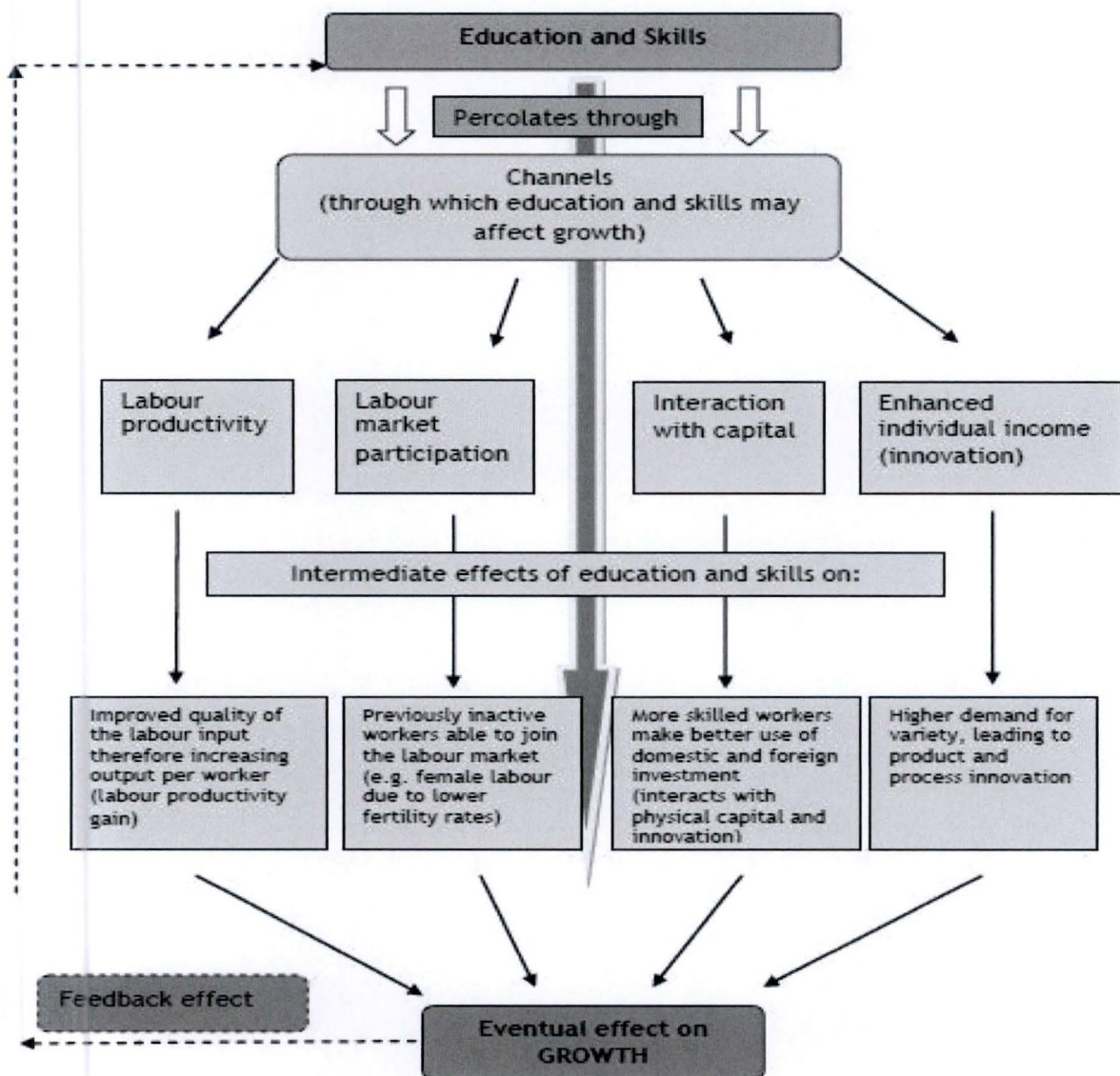
There are four possible mechanisms behind the influence of education on economic growth. As shown in *Figure1* education can stimulate growth through labour productivity, labour market participation, capital and individual income. Hawkes and Ugur (2012) describe first channel as an interaction between human capital and labour productivity. The positive relationship between education and earnings implies that educated workers have a higher marginal revenue product of labour as they are more productive. When aggregated at the macroeconomic level, it can be established that higher levels of education and skills are conducive to higher productivity and the latter is conducive to higher output in the economy.

Second possible mechanism, described by link between human capital and labour market participation was elaborate in studies of Glewwe (2002) and Klasen (2002). Higher investment in human capital can lead to higher chances to actually find a job when entering labour market that would lead to increase of the output and consequently economic growth. This link is likely to be especially important for females as a higher level of education may be associated with lower fertility rates that, in turn, may be conducive to higher levels of female participation in the labour market.

The third link connects human capital with domestic and foreign investment. It can be argued that a more skilled workforce is better able to make effective use of the capital stock due to domestic and foreign investment. This interaction with physical capital may have a potentially powerful effect on the rate of growth of the economy (Hawkes and Ugur, 2012).

The last channel describes the relation between the income effect of human capital that stimulates higher levels of product variety and product innovation. Bils and Klenow (2011) claim that higher income countries tend to produce a wider assortment of products.

Figure 1. Channels through which education influences economic growth



Source: Hawkes, D., Ugur, M. (2012): Evidence of the relationship between education, skills and economic growth in low-income countries, page 11.

2.1. The importance of developing cognitive skills

In the first part of this literature review, a special attention is going to be put on the linkage between education and economic growth. Education won't be expressed in terms of school attainment, but rather in terms of developing cognitive skills that can enable people to be more competitive on the international market and obtain higher paid jobs, while simultaneously increasing their living standard and stimulating economic growth.

"Clearly, the education growth relationship is not so simple that one can compute average years of education in a state and confidently predict growth" (Aghion et al., 2009). The impact of higher level of education on economic growth can be studied through different channels. Recent studies are putting cognitive skills under the spot light, claiming that the lack of direct positive effect of education on the economic growth can be due to the difference between the quality of educational systems around the world causing different levels of cognitive skills between pupils, and later between workers.

Lutz and Scherbov (2008) state that: *"It is commonly assumed that education has an important positive effect on economic growth, but to date the evidence for this assumption has been surprisingly weak. Evidence shows that, at the individual level, more years of schooling lead to higher income. But, at the macroeconomic level, empirical evidence relating changes in education measures to economic growth has so far been ambiguous"* (Aghion et al., 2009; Pegkas, 2014; Stevens and Weave, 2003; Pritchett, 2006). This lack of empirical evidence can lead scientist to explore a little deeper the problem of connecting the two. If it is widely known that education has positive impact on economic growth and represents a necessary precondition of having positive growth rates, why is there a lack of empirical evidence?

Aghion et al. (2009) propose several reasons: a state's education investments are not random, states that are richer have better institutional setting, hence they can increase their educational spending more easily, furthermore researchers often use rough proxies for educational investment such as average years of educational attainment in a state, that can lead to wrong conclusions because it equalizes one additional year of primary school as adding another year of doctoral program (Ph. D.) and these two have completely different

mechanism behind their influence on economic growth. One possible explanation can be found in a different quality of educational systems around the world, especially in the developing countries, that leads to various levels of skills and competencies within the workers.

“Developing countries have made considerable progress in closing the gap with developed countries in terms of school attainment, but recent researches have underscored the importance of cognitive skills for economic growth. This result shifts attention to issues of school quality, and there developing countries have been much less successful in closing the gaps with developed countries. Without improving school quality, developing countries will find it difficult to improve their long run economic performance (Hanushek, 2013).” Latest studies show a huge deficit in skills when comparing developing to developed countries, much more than by analysing only school enrolment and attainment. The question of quality of educational system is much harder to answer because it requires deep structural changes and changes of human capital policies. If the focus is put on quality of education and cognitive skills that can be competitive in terms of international skill levels, the problem becomes more complex. Policy makers in this case cannot just enlarge the number of schools, and expand access to more pupils; they should change the way the educational system function in particular country, remove the bottlenecks and rebuilt it in a way that pupils and future workers become skilled after finishing certain level of schooling.

One of the potential reasons why this problem was not properly analysed before can be the found in the lack of data that could have been used as a measure of skills for workers. In recent years this problem has been solved by two types of assessments, first the International Association for the Evaluation of Educational Achievement has produced the TIMSS assessments and the Organisation for Economic Cooperation and Development has produced the PISA assessments. These tests are of huge importance because they provide an international data base on skills for developing countries and can be used as a guideline for skill differentials among them.

Recent studies (Hanushek, 2013; Sahlgren Heller, 2014) reveal that education quantity has either no or insignificant impact on the economic growth once education quality is taken into consideration. Hanushek (2013) pinpoints that cognitive skills of the population, rather

than just school attainment, are powerfully related to the individual earnings, to the distribution of income and most importantly to the economic growth.

But this shift in focus from school quantity to school quality is not sufficient to answer the most significant question, what type of educational policy should countries use. The author concludes that both basic and advanced skills are valuable and needed in the case of developing countries, even though the importance of highly skilled is even more underlined in developing countries. These results are a bit surprising because developing countries have a scope for technological imitation, and the advanced countries are the one innovating. Even though from the perspective of catching up developed countries, the ones¹ with the higher amount of highly skilled human capital showed accelerated process of economic convergence. Ciccone and Papaioannou (2009) confirmed the importance of skills in their analysis claiming that countries that are using more skilled labour force in skill-intensive industries experienced faster growth in 1980's and 1990's. This is indirectly explaining that highly skilled workers more easily and quickly adopt new technologies and new processes of production that leads to higher economic growth.

Hanushek and Woessmann (2012) state that by allowing for differences in performance among students, with different quality but probably the same quantity of schooling they open a space for investigating the importance of different policies to affect the quality of schools, pinpointing that institutional structure of school system are one of the possible ways to direct policy makers. Furthermore, one can conclude that school policies that are aiming to increase cognitive abilities of pupils and workers later on can be used as an important tool to stimulate economic growth and close the gap between developing and advanced countries.

¹ Such as East Asian countries: Taiwan, Singapore and Korea that have a large share of high skilled workers, started from relatively low levels and showed astounding increases in growth rates.

3. Linkage between level of education and fertility rate

Decline of the fertility rates is associated with the rapid economic growth. There are plenty of successful stories following that development path; more recent examples include China and India that experienced large and aggressive reduction in fertility rates before experiencing quite astonishing increase in economic growth rates. Unfortunately in many developing countries high fertility rates still remain an important problem that needs to be resolved. *“The high fertility countries are concentrated in Africa, where 39 out of the 55 countries on the continent have high fertility, but also exist in Asia (9 countries), Oceania (6 countries) and Latin America (4 countries). Almost two third of these high fertility countries are classified by the United Nations as least developed, and 38 out of the total of 48 countries that are classified as least developed have high fertility (Kohler, 2012).”*

Economic theory suggests that education levels and fertility rates are negatively correlated, meaning that women while obtaining higher level of education have lower fertility rates. Interestingly, even though highly educated women at first intend to have more children, they ultimately decide to have less (Heiland, Prskawetz & Sanderson, 2008). This fact opens up a space for economic policies that should be focused on increasing educational levels of women, especially in developing countries by removing institutional and cultural barriers to women’s schooling.

Since the availability of the data for a large amount of countries increased in the last decades, economists and demographers no longer regard the impact of the education on fertility as an automatic process, but it has to be regarded in the specific context of each country regarding its level of development, position of women in the society and social organization (Martin and Juarez, 1995)

Martin and Juarez (1995) explained that education can influence women’s fertility decisions through its three dimensions: firstly, education as a “source” of knowledge, secondly education as a “vehicle” of socioeconomic advancement and thirdly education as a “transformer” of attitudes. These three aspects have important role in women’s reproductive decisions. First aspect is quite intuitive, meaning that access to more information, higher literacy rates, broader general knowledge gives woman clearer picture

about fertility choices and alternative lifestyles and affects their choices as a consequence. Second aspect can also give more explanations of the negative correlation between education and fertility. The socioeconomic relations are particularly complicated in Latin American countries but in the developing countries in general. Due to the wide gap between rich and poor, access to higher education levels are closely related to the social origin of a woman. As a result, women tend to have smaller families in order to enable higher level of education to their descendants and achieving higher living standards. Third aspect is associated with the shift from traditional believes (i.e. that the number of children is decided by the God or fate) to believer relying more on science and technology. Consequently, schooling in general, even though it can differ in terms of quality and duration will influence women during their lifetime. They concluded that better educated women share the small family norm; they have broader knowledge, higher socioeconomic status and less fatalistic attitudes towards reproduction than do less educated women.

There are two broad groups of theories that are explaining negative co-movement between education and fertility rates: *economic* and *gender* theories. First group of theory, economic theories, relies on the direct and indirect opportunity costs of having children (Becker, 1981). This theory explains that while woman are achieving higher level of education and are participating more in the labour market, they are starting to be less dependent inside the institution of marriage and consequently the opportunity cost of having children increases, because women tend to stay at home or they decrease their working hours. Das Gupta et al. (2011) claim that educating populations create many positive externalities associated with lower fertility, such as increased wages, improved child health and schooling, increased female labour force participation and lower fertility especially by raising the age of first birth.

The second group of theories, gender theories, identify gender systems and gender inequality as the main sources of fertility differentials across countries (Testa, 2014). In that regard, low fertility rate may be the result of a gap between high levels of gender equity in individual-oriented institutions and sustained gender inequity in family-oriented social institutions (McDonald, 2000). This theory suggest that higher levels of fertility are recorded in the societies where woman have less power in making decisions about their fertility, in traditional societies dominated by the role of men in families as feeder, whereas countries with family “revolutions” record lower rates of fertility.

Family “revolutions” are in accordance with ideation² approach that indicates that women develop different *ideas* about the family size due to the influence of the school, education, society, community and global networks of communication. This approach is confirming the positive influence of education, of availability of new information and broadening perspective that lead to decline in fertility rates, not only because woman shift from traditional patriarch family dominated by men decisions, but also due to the greater access to new information about prenatal care and health in general, they are more confident that their child will survive and finally decide to have fewer children.

McCrary and Royer (2006) confirmed relation between education, fertility and infant health claiming that education raises a woman’s permanent income through earnings, tilting her optimal fertility choices toward fewer children of higher quality. Under the assumption of positive assortative matching, women’s education is causally connected with her mate’s education so the effect of education on household income is amplified through a multiplier effect and of course education can improve an individual’s knowledge of, and ability to process information regarding fertility options and healthy pregnancy behaviours, resulting in better health care for child and the mother and more resources allocated in less children.

The link between higher level of education and lower fertility among woman is quite strong, and it can be showed by using the total fertility rate indicator (TFR) in population. “*TFR is the number of children a woman can expect to have over her lifetime given current rates of age-specific fertility* (Pradhan, 2015)”

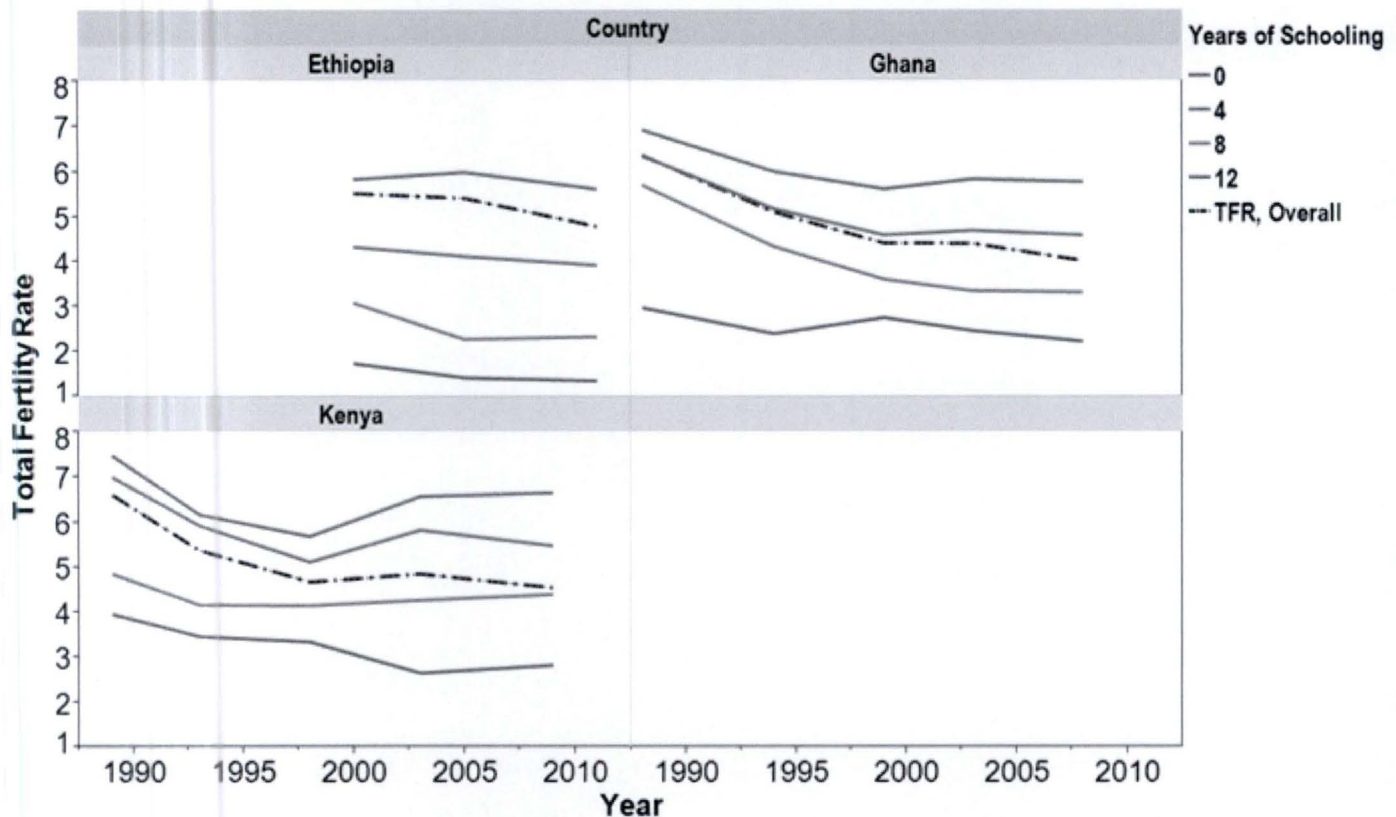
The *Figure2* will show negative correlation between female education and fertility rates, using TFR as a measure of fertility, in developing countries: Ethiopia, Ghana and Kenya. Looking at the figure, one can immediately observe striking differences between fertility rates that are diminishing significantly by additional years of schooling.

Woman with no education have extremely high levels of fertility, on average seven children per woman and the trend is not drastically declining with years, even in 2008 average fertility rate in analysed countries is six children per woman. On the other hand, finishing primary and secondary school that makes 12 years of total of education makes a drastical

² Ideation-formation of ideas and concepts.

difference in terms of fertility rates. The graph clearly shows that fertility rate of woman in Ghana and Kenya varies between two and three children in 2008, and 1.3 in the case of Ethiopia.

Figure 2. Relationship between Female Education and Fertility: Ethiopia, Ghana and Kenya



Source: Data from Demographic and Health Surveys in Ethiopia, Ghana and Kenya [1988-2011], retrieved from: <http://blogs.worldbank.org/health/female-education-and-childbearing-closer-look-data>

With regard to causality issues there is a plethora of studies, especially in the case of sub-Saharan Africa that provided empirical evidence in favour of this problematic. Education reform in Kenya, for example, showed that by increasing the length of primary school by one year pupils showed better educational attainment and delayed marriage and fertility (Chicoine, 2011). The other study used method of randomized control trial. The authors found out that by reducing the cost of school uniforms in Kenya, they managed not only decrease dropout rates but also reduce childbearing and teenage marriage (Duflo et al., 2006). Third study showed that in case of Nigeria one additional year of female education declined fertility rate by 0.26 births (Osili and Long, 2008).

Pradhan (2015) showed in a study made in Ethiopia that an additional year of schooling in this country would lead to a 7% decline in the probability of teenage birth and a 6% decrease in the probability of marriage. If one takes into account eight years of schooling the results are quite impressive.

Regarding study (Martin and Juarez, 1995) in case of Latin American countries³ data showed very similar results as in the case of African countries. Poorly educated women have fertility levels that vary between six and seven children, and higher educated woman have fertility rate from two to three children, in line with the fertility rates in developing countries.

However, it is necessary to observe that TFR can also be influenced by other factors, not only education level, such as better nutrition and health care, decreased child mortality, more job opportunities and better access to labour market, more control in family planning that can also contribute to decreasing fertility rate.

3.1. The influence of education through reduction in fertility rates on economic growth

The question how the population growth affects economic growth interested economists a long time. Starting from Malthus (1798) who stated that population increases exponentially while food production grows at an arithmetic rate which will inevitably lead to catastrophe in terms of massive famine and death, but it can be prevented by birth control.

Luckily Malthus's pessimistic predictions didn't come true due to improvements of agricultural production and industrial revolution that happened in Britain in that time and ensured enough food for population to survive. This lead to tremendously important conclusion that increasing growth of population can be sustainable if technological progress is high enough, so it can follow the latter and make population growth sustainable.

The relevance of Malthusian economy derives from the fact that developing countries are currently in that phase of development (like European countries were before industrial revolution); they are facing a population boom thanks to large decrease of child mortality

³ The authors analysed nine following countries: *Bolivia, Brazil, Colombia, Dominican Republic, Ecuador, El Salvador, Guatemala, Mexico and Peru.*

due to health care and nutrition improvements. But not like in Europe, these countries are not facing technological progress that will be sufficient to follow the boom. Hence, it can and it is leading to the immense increase of poverty and famine with the deteriorating trend.

Two models from 20th century also stated that rapid increase in population growth can serve as constrain in income per capita growth. First model, Harrod-Domar model (Harrod, 1939, Domar 1948) showed that population growth have a negative effect on savings and a positive effect on income per capita, when there are no diminishing returns to capital. In a second model, Sollow (1956, 1957) starting from different assumptions that capital and labour had diminishing returns; proved that exogenous increase of population growth rate would lead to increase of labour supply that would surpass the increase of capital formation, and finally would cause lower income per capita if capital and labour have no diminishing returns.

Rapid increase of natural population growth can have devastating consequences (Paul Kennedy, 1993) for several reasons: one of the most important issues regarding population growth (even if we neglect poverty at this point) is unsustainable consumption trend, especially in developed countries.

The problems arrive from two sides, firstly rich consume too much and the poor proliferate and tend to increase their consumption as well, but the respond of economic optimists showed that humans have unlimited potential in resource production, and that the increased consumption can be fulfilled by artificial, not only natural resources. But the real concern comes from rural – urban migration of poor people that tend to gravitate towards big cities, but in case of developing countries regarding economic pessimists those cities become centres of poverty and social collapse, not the centres of culture and wealth, and it can happen because densely populated areas, especially the poor ones are more vulnerable to the outbreak of riots, revolutions and wars.

The main challenge that developing countries are facing is how to initiate take-off where economy will shift from the Malthusian era obtaining high increase of living standard to modern era that is characterized by balanced growth and positive growth rates of gdp per

capita. The necessary, though not sufficient precondition is demographic transition that helped European countries to transform into modern growth economies. Developing countries should follow that path, firstly by educating their population, especially women in order to decrease fertility rates and artificially stimulate lower population growth.

Even though the question of interrelation between fertility, or more generally between population growth and economic growth is of high importance and has been studied for more than two centuries, theoretically it is quite intuitive, but empirically it is quite challenging to prove it. The theoretical framework is clear, by reducing the size of the population the Gross Domestic Product (GDP) will be divided by less people and it should lead to higher living standards (measured in GDP per capita) for the rest of the population. One of the most popular macroeconomic analyses providing evidence for negative co-movement between population growth and economic growth is made by Acemoglu and Johnson (2007). The authors used worldwide health improvement during the international epidemiological transition to instrument for country-specific reductions in mortality, and they concluded that higher population growth significantly negatively affects GDP per capita in the long run (they took a time horizon of several decades); even though the authors got strong empirical results, to state that this is happening through a channel of decline in fertility rates is still quite abstract.

Regarding Ashraf, Weil and Wilde (2012) this has to do with the fact that population growth changes endogenously as a country develops, also factors that affect population i.e. institutions and culture, can have a direct effect on economic growth and are poorly observed. Finally, the time that is needed in order to see the effect of reduction in fertility rates on economic growth can be quite long. And the task to disentangle the direct effects of population growth and other factors can be quite challenging.

There are two broad studies that synthesize modern thinking about the effect, in terms of various channels, of fertility rates on development in developing countries. These are the National Academy of Sciences (NAS 1971) and the National Research Council (NRC 1986). The first study NAS (1971) gives a deeper review of the possible channels that can influence economic outcomes in the country, i.e. deficiency of resources, attenuation of the capital

due to increase in labour force, urbanization and decline in the saving rate thanks to increased weight of population that is dependant. In this paper the authors strongly underline the role of human capital and the significance of dedicating larger amount of national income into education, especially when the fertility rates increase in the country. The problematic of the survey consists of their inability to forecast long-term effects, and the authors are aware of this disadvantage and are using a time horizon of twenty to thirty years. In this short-term horizon the dominant effect of changes in fertility rates is the change in the number of dependent children. The main conclusion of the study is the important decline of population growth causing significantly higher per capita income. The decline in fertility rates must in conclusion be a priority of the economic policies of the poor countries. They are quite precise in their instructions for achieving economic growth and development, stating that countries with large population growth should decrease their growth to 15 per 1,000 at the highest in the next twenty years.

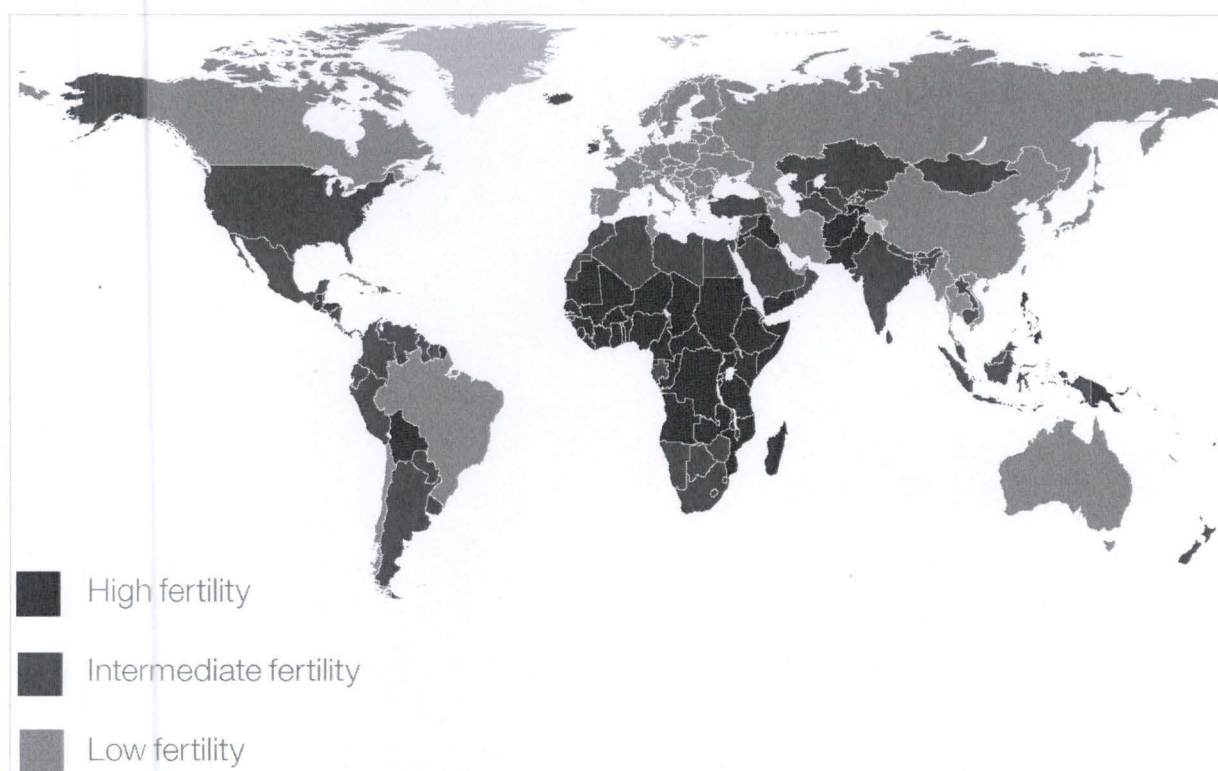
The second paper NCR (1986) discusses the fact that there is still a lack of scientific evidence of the direct connection between fertility reduction and economic development and growth. Even though the linkage is still inconclusive, links are clearer at the individual/household level than on the regional/national level. They highlight the fact that influence of rapid population growth is context specific and it varies remarkably depending on economic, cultural, institutional and demographic differences among less-developed countries. The authors are saying that population growth doesn't have to be the main cause of problems in LDCs, but it certainly has a deteriorating and multiplicative effect on the existing problems in the countries, such as problems regarding distribution inequality. They are concluding that reduction of population growth is not a magical cure for developing countries but it cannot be disregarded and it can certainly contribute to find a solution. In their micro approach they are focusing more on the reasons on which couples base their fertility choices, in terms of health and economic success of their children and they don't see a specific role that government can have in that regard.

This paper has been used by 'revisionist' that were stating that population is a neutral phenomenon in the process of economic development, saying that policy should be more

focused on putting other things as a priority, for example economic reforms, free markets, democracy etc.

In recent studies, there has been a turnover in economic thought stressing out again the significance of fertility reduction and slowdown of the population growth on economic development and growth. Kohler (2012) states that concerns about continued population growth in some of the least developed countries are reasonably founded.

Figure3. Countries corresponding to their fertility rates



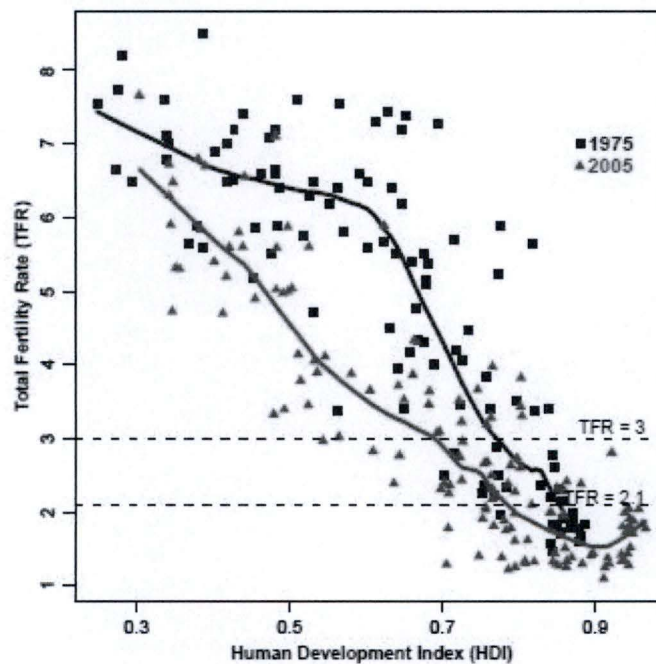
Note: Low fertility countries: net reproduction rate (NRR measured in daughters born per woman) less than 1; intermediate fertility countries: NRR between 1 and 1.5; high fertility countries: NRR above 1.5 (Kohler, 2012)
Source: Global Agenda Council on Population Growth (2012), based on UN Population Division (2010c)

Kohler (2012) is answering the following question in his study: *“Is there a window of opportunity in the next decades in which declines in population growth rates as a result of reduced fertility could provide a “demographic dividend” that would facilitate the social and economic development in some of the world’s most underdeveloped countries?”* Looking in the Figure3 it is quite clear that there may be negative relation between high fertility rates and economic development.

By analysing policy of family planning by which he wants to reduce fertility rates especially in the case of sub-Saharan countries, the author discovers that as a result, females are likely to be highly educated, general health of women would improve, female earnings and labour force participation would increase; child human capital and child health would also improve affecting and stimulating economic growth.

Based on the current literature the author suggest that reduction in population growth rates by 1 percentage point in current high fertility countries may result in increases of the growth rate of per capita GDP by approximately 1 percentage point.

Figure4. Relationship between Human Development Index and Total Fertility Rate



Source: Kohler, H.P. (2012): Copenhagen Consensus 2012: Challenge Paper on Population Growth.

Figure4 clearly shows negative co-movement between the levels of Total Fertility Rate (TFR) and Human Development Index (HDI) between the countries comparing the year 1975 and the year 2005. The comparison is possible due to the author's recalculation. Possibility of the reverse correlation – mirrored J shaped curve - can occur in the year 2005, but only in developed countries. This suggest that once low-fertility developed country reaches very high level of HDI, there may seem a levelling off of fertility or even a partial reversal of earlier fertility declines to very low levels. The possible explanation can be increased

investment in children and child quality which would lead to higher education and strengthening of human capital that can contribute to increasing productivity, while simultaneously stimulating economic growth.

Another recent study made by Das Gupta, Bongaarts and Cleland (2011) states that there is a broad agreement that policy and institutional settings are key drivers in shaping the prospects of economic growth; population size and structure have a secondary role. Even at the household level, lower fertility has been associated with better health and schooling outcomes and lower poverty.

Ashraf, Weil and Wilde (2013) made a significant progress in assessing how fertility impacts economic outcomes by simulating a model where they did not focus only on overall effect in fertility change, but they also addressed two main effect and four different channels through which fertility impacts the economy. First effect they study is so called *Malthus effect* – it is the most basic effect of population on per capita output, through congestion of fixed inputs (e.g. land), second effect they call *Solow effect* – describing capital shallowing coming from increase of labour force.

The authors define four more channels that run through the age structure of the population. Firstly, *dependency effect* – coming from decline in fertility rates in high fertility countries lead to a higher ratio of working-age adults to dependents, secondly, *life-cycle saving effect* happens when a concentration of working population causes higher savings leading to higher capital accumulation and increase in output. Third one called *Experience effect* – can be achieved when decline in population growth shifts the age distribution of working population up to higher ages, which can increase productivity, especially in developing countries and the fourth *Life-cycle labour supply effect* develops as a consequence of experience effect, causing higher overall labour participation leading to increase in per capita income.

Additionally, the authors explained the connection between fertility and child bearing; in terms of *childcare* and *child-quality effects*. Decline of fertility rates leads to more free time of the parents to enrol in productive labour and an increase in investment per child that is

often associated with fertility reductions. Last effect is called *Boserup effect* – it comes from increase of population size that causes direct increase of productivity by allowing economies of scales or it may trigger technological or institutional changes that increase living standard measured by per capita income. The authors concluded that in the long run, four dominant effects are: dependency, schooling (child-quality), and Solow and Malthus effect.

3.2. Investment in children and quantity-quality trade-off

The concept of quantity-quality trade-off is introduced in the economic analysis by Gary Becker. Becker and Lewis (1973) stated that the quantity-quality trade-off was motivated by the increase in income and as a consequence resulted in endogenous shift from quantity to quality. Basically, they assumed that the income elasticity with the respect to quality is higher than the income elasticity with respect to child quantity. Straightforwardly, it is easy to assume that exogenous increase in family size in Becker-Lewis-type setup should reduce child quality since the increase in quantity increase the shadow price of quality (Angrist, Lavy and Schlosser, 2006). Similar study of Rosenzweig and Wolpin (1980) using data from developing countries, in this case India, confirmed that exogenous increase in fertility rates decreases child quality, and they suggest that decrease in family size would increase schooling levels of Indian children.

Depending on the institutional settings in the country, the connection can be quite different. In developed countries where education is free and available to everyone, quantity-quality trade-off won't of course be significant. Recent studies made in Norway and Israel using twin births to address the variations in family size didn't find significant and strong impact of family size on education (Black, Devereux, and Salvanes, 2005; Angrist, Lavy, and Schlosser, 2010).

In developing countries, institutional setting is completely different, there is certainly less amount of accessible high quality public schools and child labour is still present, in that context even primary school can represent immense burden for entire family, causing the link to more likely be significant. De la Croix and Doepke (2004) made a quantity-quality fertility model where one can choose between private and public school, and they proved

that when the schooling is provided for free, fertility do not increase, so the negative effect of having more children, affecting the level of education per child is not internalized. This can be found as an explanation why the growth rate of per capita income is higher when there is private education system.

Study of Haoming L. (2015) shows that policies that are aimed at reducing fertility will likely increase parent's education spending per child, particularly in developing countries that need to curb rapid population growth rates. The problem is the following, even if theory suggests that policies that encourage couples to have fewer children could stimulate parental investment in children's health and education, empirical evidences show small impact.

The importance of education has been underlined by De la Croix and Doepke (2002), the authors were analysing different channels connecting fertility-education-growth relationship. They put an emphasis on differential fertility and the accumulation of human capital. In their model families with less human capital decide to have more children and invest less in education. In countries where income inequality is high, these large fertility differentials can be one of the sources of lower economic growth coming from slower growth of human capital, because poor families that invest less in education have more descendants that will form future human capital. The most important conclusion of their paper comes from policy implications, the authors are proposing that broadening access to education would be a more effective policy than redistributive one in order to stimulate growth and decrease inequality.

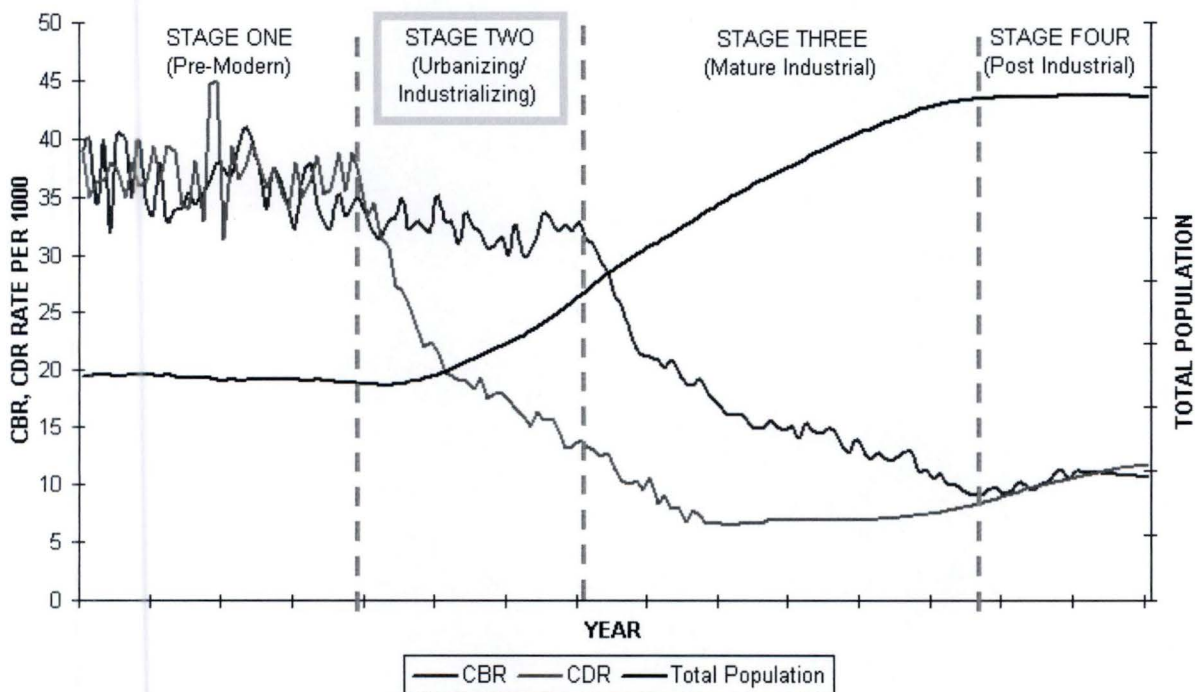
While the quantity-quality trade-off is less clear-cut in more recent theoretical discussions than in the original Becker framework, the traditional view has nevertheless helped to provide an intellectual foundation for policies that attempt to reduce family size in LDCs (Angrist et al., 2006).

3.3. The impact of cultural differences on the fertility rates

Since demographic transition is one of the necessary preconditions for economic growth, the logical question one could ask is why this fertility transition happened in a different time in the different countries or regions of the World. First, it occurred in Europe and its colonies (during the 19th and beginning of the 20th century), later on it occurred in majority of Asian and Latin American countries, approximately one century later. The latest countries that are going through or they just recently went through the demographic transition are sub-Saharan African countries and the Arab Middle Eastern countries.

There are several theories explaining fertility transition, but in this chapter the focus is going to be put on cultural impact in a broader perspective, including not only cultural differences between countries and regions but also religion influences and influence of industrialization and urbanization.

Figure 5. The Demographic Transition model



Source: Montgomery, K. The Demographic Transition, retrieved from: <http://pages.uwc.edu/keith.montgomery/Demotrans/demtran.htm>

As shown in the Figure 5 the second phase of demographic transition, regarding the classic demographic transition theory, is characterised by the development of industry and

urbanization process. During this stage crude birth rate is still pretty high but is showing indications of impairment. Population growth is quite high due to the drastical decrease of crude death rate thanks to better nutrition and public health. In the case of advanced economies, when they were in the second phase, decrease of mortality rate was mainly caused by higher literacy rate among women and public health education.

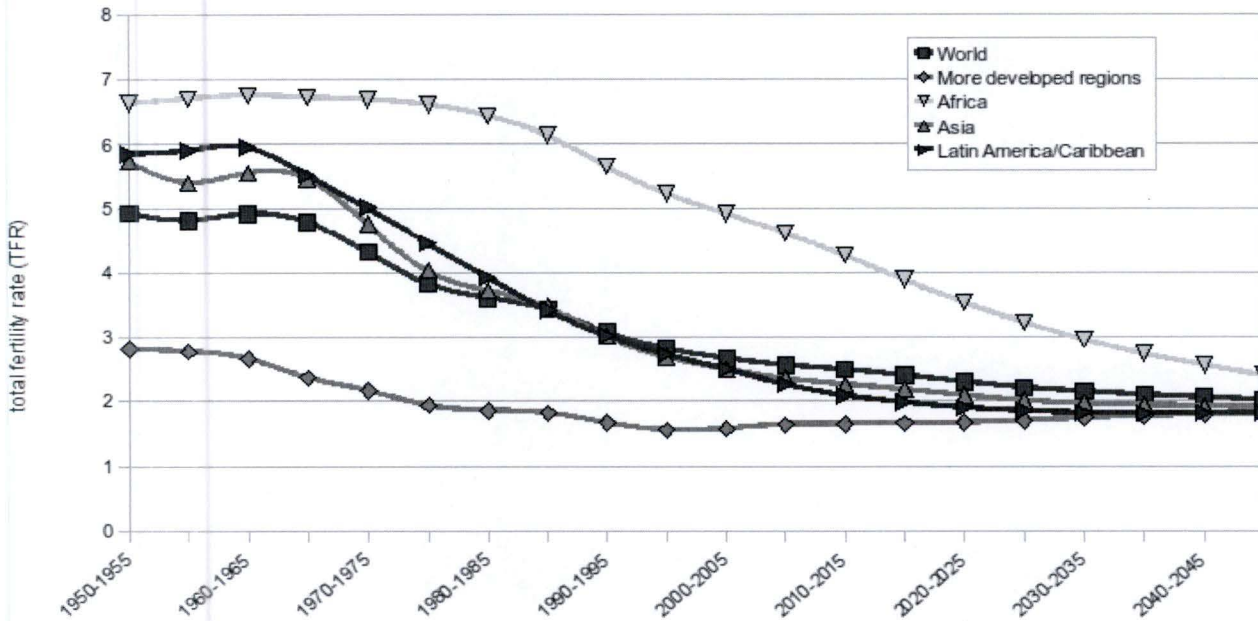
Urbanization and industrialization create a way of life in which rearing more than a few children is expensive enough to discourage most parents of having large families. At the centennial level, classic transition theory is more or less successful because the first set of transitions occurred in the West approximately 100 years before it occurred in Asia and Latin America fits fairly well with the history of urbanization, industrialization and mortality decline in those regions but strong evidence of fertility decline are lacking (Mason, 1997).

The main reason why this particular stage is important in the context of this paper is due to the fact that majority of the third world countries are currently passing through this phase that is also changing their age structure of the population, such that it becomes increasingly youthful.

Lesthaeghe and Wilson (1986) have elaborated classic transition theory by adding the influence of social attitudes about economic well-being and religious beliefs. An alteration in values toward individualism and self-fulfilment occurred while the process of secularization was developing around Europe, as a consequence it caused fertility decline in the case of European countries. The European experience showed that the moral acceptability of fertility control was embedded in a broader ideological development, because Catholic and Protestant areas differently marked secularization, it was stronger in the latter while socialism ideas and social reforms were growing simultaneously.

The lack of classic demographic transition approach can be observed from two perspectives, in some developing countries such as Bangladesh (Mason, 1997) fertility decline happened without a change in traditional values, and in other the urbanisation/industrialisation phase did not contribute significantly to fertility decline because countries such as Haiti (Zavala de Cosio, 1996) experienced transition while being agrarian and underdeveloped.

Figure 6. Total Fertility Rate



Source: United Nations World Population Prospects, 2008.

While looking at the drastical differences between different regions, presented by the *Figure 6* it is quite transparent that African countries still have much higher fertility rates in comparison with Asian and Latin American countries that converged to more developed regions in terms of total fertility rates.

In order to explain differences between regions Mason (1997) represented three archetypal cases: Western Europe, East Asia, and sub-Saharan Africa to illustrate how particular social conditions may interact in determining whether or when fertility transitions occur.

In addition to differing levels of desired family size, the extent of gender stratification in these three archetypal cases differed historically. In particular, although women in western Europe were hardly the equals of men, the European family system differentiated between the sexes less strongly than did the patrilineal joint or stem family systems of East Asia. For example, females in western Europe were never subjected to socially debilitating practices such as seclusion or foot binding. Thus, although the parents in East Asia reach their point of intolerance for surviving sons at a far lower level than do parents in the lineage organized societies of sub-Saharan Africa, the strong preference for sons created by East Asian family

systems may have retarded the onset of fertility transitions in that region when compared with western Europe.

Table1. Illustration of interactive approach to understanding fertility transitions

Example	Pretransitional Conditions			Factors likely to Induce Onset of Fertility Transition
	Acceptable Number Surviving Children	Gender Stratification	Postnatal Controls	
Western Europe	Small	Weak	Migration service	Mortality decline, closing off opportunities for migration and service.
East Asia	Moderate	Strong	Migration infanticide adoption child marriage	Mortality decline, exposure to Western lifestyles via mass media, industrialization and rise of mass education (especially for females), creation of family planning programs.
Sub-Saharan Africa	Large	Variable	Fostering adoption migration	Mortality decline, erosion of traditional kin obligations, creation of family planning programs.

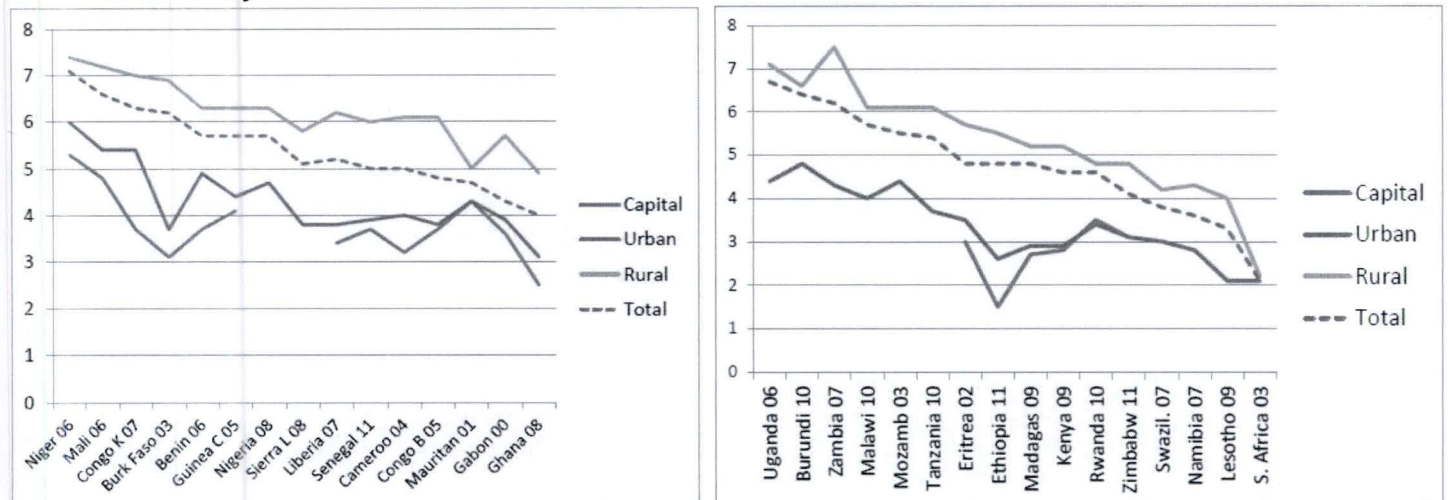
Source: Mason, K.O. (1997): Explaining Fertility Transitions, page 451.

Mason (1997) also pinpoints a much broader range of morally acceptable forms of postnatal family limitation available to couples in East Asia than in Western Europe. For example, in parts of East Asia, traditional values permitted practices such as "returning" children at birth (i.e., killing them), selling them to families in need of a child, or marrying them off in early childhood (Hanley 1979; Skinner 1997; Wolf 1978), practices that if they occurred in the West were nonetheless morally questionable (Langer 1972).

This, along with the later industrial development of East Asia than of Western Europe, meant that post-natal forms of family limitation were closed off to parents much more slowly in East Asia than in the West. Mortality also declined later in East Asia. Thus, the interaction between preexisting family conditions and values, and the later occurrence of economic development and mortality decline, delayed the onset of fertility transitions in East Asia.

In the light of new available data about African countries from Demographic and Health Surveys it became possible to study in more details the difference between rural and urban fertility rates.

Figure 7. Urban and rural total fertility rates a) West and Central Africa and b) East and Southern Africa



Source: Latest DHS survey in the 21st Century, Lesthaeghe, R. (2014): The Fertility Transition in Sub-Saharan Africa into the 21st Century, page 4-5.

The difference between rural areas and urban areas in the case of African countries varies from 1 to 2 children in favour of rural areas, but the difference is even higher between capital cities and rural areas where difference increases to 2 to 3 children.

The rural-urban gap only diminishes to less than two children in half a dozen Eastern and Southern African countries, who mostly have the lowest overall TFRs of the continent. Hence, the rural-urban gap remains wide and the national levels stay high until contraceptive demand and supply are reaching the rural areas as well. This has definitely not occurred in a sufficient way so far, and the reduction of fertility in rural areas needs to be considered as a top priority (Lesthaeghe, 2014).

The differences in fertility rates can also appear as a result of cultural differences with respect to gender roles and fertility norms. Cultural effects can be identified using “epidemiological approach”⁴ which relates fertility or labour market outcomes of immigrants or their descendants to the corresponding outcome measures in the countries of origin or

⁴ epidemiological approach - adopts an explicitly game theoretic approach to analyze the interplay between individual behavior and population dynamics.

countries of ancestry. Stichnoth and Yeter (2013) found that the influence of country of origin fertility rates is strongest for the immigrant generation itself, that is, for women who were born and socialised in the country of origin. The effect persists into the second generation but becomes smaller. This suggests that parents vertically transmit the culture of their country of origin, but that horizontal and indirect influences in the host country play a role as well. One of the key findings of the survey refers to the fact that cultural influence is strongest for women with low levels of education and, especially in the second generation, the influence almost entirely disappears for women with tertiary education.

These results suggest that cultural or country-of-origin influences should be taken into account in the evaluation of the effectiveness of policy measures aiming at the increase of fertility rates, or when comparing specific policy measures across countries. In the short run, monetary incentives and institutional settings alone may not induce a shift in fertility behaviour to the expected extent or not as quickly as hoped for.

When explaining the possible causes that triggered fertility transitions around the World, it is naïve to assume that there is only one identical reason causing fertility transition in different countries and regions of the World. This assumption can be challenged by finding only one exception, and there are many, as noted earlier. The fertility transition can be triggered by combinations of causes such as increased health and nutrition, higher level of education for men and women, family planning policies, better access to information about contraceptive methods, to name a few. The influence of the culture should not be ignored because there are evidences, as stated before, that shift from control through powerful institutions such as state or church towards more individual and self-centred approach contribute to fertility decline, as well as cultural impacts from country of origin transferred to the next generations in the case of immigration and rural and urban lifestyle.

4. Women's role in economic development and growth in developing countries

"To educate girls is to reduce poverty." Former UN Secretary-General Kofi Annan

When analysing economic development and economic growth, the role of women, especially in developing countries has to be observed in more details. Poor people, particularly women and young people are often marginalised in labour market that provides fewer opportunities for these groups. According to Morton et al. (2013), women are more economically excluded than men, even though there are strong evidences that higher labour participation of women on the job market benefits not only to women as such, but also to families, businesses and communities. Worldwide trends in female labour participation has stagnated over past 30 years, and even dropped on the global level from 57 to 55 percent.

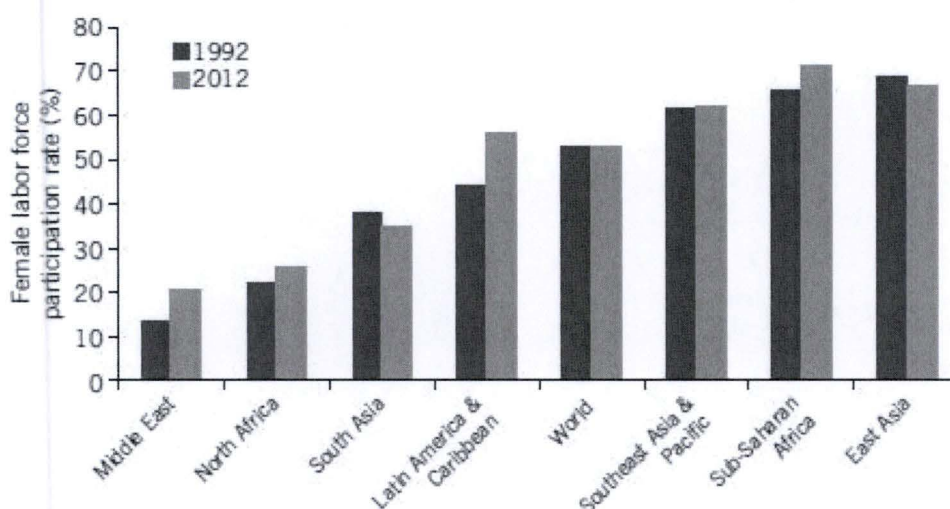
Addressing this problematic is from high importance from several reasons: firstly, women labour force participation is one of the key drivers of economic growth, that logically indicates that as higher the participation the more likely will the country obtain sustainable economic growth. Secondly, when economic shocks hit the households it highly influences female's labour participation. Indeed female's labour participation is a type of coping mechanism to the shocks because it is often expected from women to engage in informal sector to earn money in order to smooth consumption. Thirdly, not only quantitative availability of the jobs is relevant, but also the quality of jobs that are offered to women: women tend to be paid less and are more engaged in low-productivity jobs than men.

The analysis of women labour supply can be made from two perspectives: it can be a driver of economic growth and it can result as an outcome of economic development. On the one side the higher the women labour participation rate, the higher the production factor of labour and economies can grow faster. On the other side with regard to economic development, the position of women improves in terms of capabilities and education possibilities and the chances to participate in labour market increases.

Women's labour participation (ages 15-64) worldwide has stagnated in the last twenty years, decreasing from 57 to 55 percent on the global level. Participation tends to be quite low,

especially in the Middle East and in North Africa where participation is only 25 percent (Gender at Work, 2013). The participation of women varies more than participation of men in both developing and emerging economies. *Figure 8* clearly shows that the lowest female labour participation is present in the region of Middle East, North Africa and South Asia and in these regions where more conservative social attitudes towards women in the work place dominates.

Figure 8. Estimates of female labour participation rates by region from 1992 – 2012 (population ≥ 25 years)



Source: Verick, S. (2014) Female labour force participation IZA World of labour, page 4.

Verick (2014) shows that the key factors influencing women participation in labour markets are: the level of economic development, the educational attainment, the social dimensions (marriage, fertility, women’s role outside the household), the access to credit, the household and spouse characteristic and the institutional setting.

There are several empirical studies (Narayan et al., 1999; Mason et al., 2001; World Development Report 2000/2001: Attacking Poverty) showing the importance of woman’s position in the labour market in terms of economic development; showing that societies that tend to discriminate by gender had experienced lower rates of economic growth and lower poverty reduction in comparison with more equal societies.

World Bank (2003) uses an example of African countries and East Asia claiming if the countries of South Asia, Sub-Saharan Africa and the Middle East and North Africa had closed the gender gap in schooling between 1960 and 1992 as quickly as East Asia did, their income per capita could have grown by an additional 0.5-0.9 percentage point per year. In Africa, this would have meant close to a doubling of per capita income growth.

Bradshaw et al. (2013) pinpoint that including woman in the labour market is as an important variable of economic growth and development. Indeed women are identified as reliable, productive and a cheap labour force that made them the preferred work force in textile and electronic transnational corporations. Women are perceived as “good with the money”, not only in terms of taking care of the entire household and children, effectively redistributing goods and services inside the household which made them a good target for resources aimed to reduce poverty (e.g. cash transfer programs) but also in repaying loans that made them a good target for microfinance programs.

4.1. Constraints for woman in labour market participation

Even though employment increased on the global level, in the last years, there has been a bulk of new employment in informal sector, especially in developing and transitioning countries. Furthermore, these jobs give additional income to the workers, but they are not ensuring work benefits, such as social protection and are not covered by labour legislation. The access to the labour market and to decent jobs remains particularly limited for women. *“Women are disproportionately represented in informal work and concentrated among lower-quality jobs within self-employment (ILO, 2007a).”*

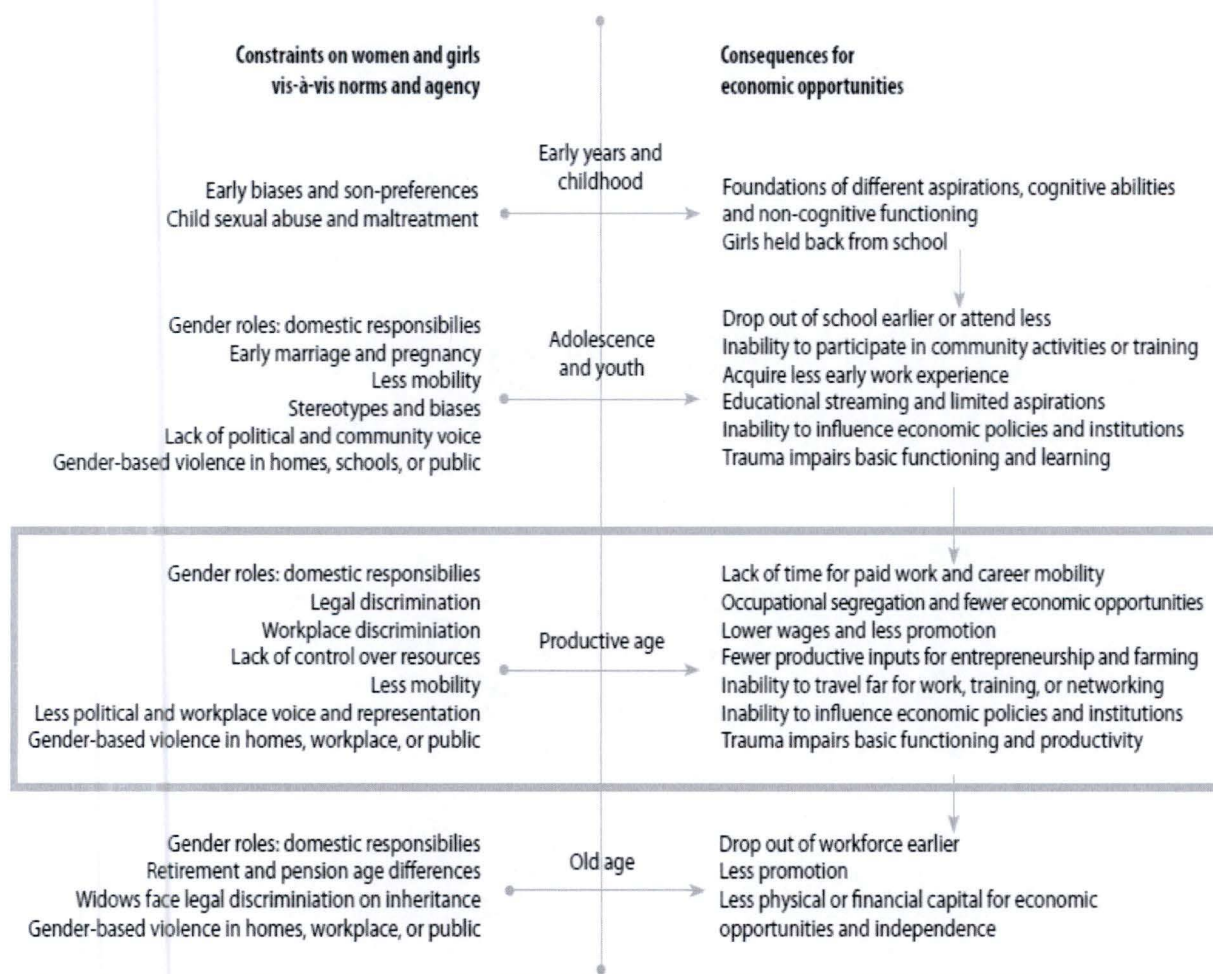
Gender gaps that exist in the world of work are as extensive as they are multidimensional. The existence of these gaps indicates that there are some gender specific constraints during the lifecycle of women.

In order to advance gender equality, woman autonomy has to be reinforced from both economic and political perspective. If a country wants to overcome gender inequality depending on local specificities it has to develop appropriate policy that can be used to overcome multiple barriers that woman are confronted with.

Firstly women are discriminated in terms of the allocation of household resources. Since in some societies women are only valued as wives and mothers, families look at the investment in female children as a lost investment because they cannot directly benefit from it. Also 1 in 7 girls marry before the age of 18 in the developing world (UNFPA, 2012), so early and forced marriage is still a key issue in woman's enrolment in education and labour market participation.

Secondly, institutional setting in terms of protection of woman, especially justice system that in some countries still discriminates women in relation to the property, family and employment. Justice systems tend to be particularly unfavourable for indigenous women who are discriminated against and also face violence based on gender and race (UNPFII, 2013)

Figure 9. Constrains for women throughout their lifecycle



Source: Morton, M., Klugman, J., Hanmer, L., Singer, D. (2013): Gender at Work, World Bank Groups Gender and Development unit, A Companion to the World Development Report on Jobs, page 34.

Figure 9 covers main obstacles that women face throughout their lifecycle. The social norm that set different types of expectations for men and women, start to differentiate the role of women and men in the society from the early years and continue during the entire life. The combination of the influences of the social norms, agency⁵ and its effect on economic opportunities across the life cycle of women can show as a result the cumulative effects of numerous constraints that women face, especially in poverty. These constraints are context specific and can vary in form, number and severity across countries.

In the productive age women face many constraints regarding their access to labour market. Firstly, workplace norm favour men as an employee because they want someone who can commit full-time and often beyond traditional full-time schedule. Since social norms, especially in developing countries impose unpaid caring and domestic responsibilities on women, they tend to get discriminated a lot. Secondly, women in many countries don't have the same rights as men. Discrimination based on legal setting can limit women's economic opportunities by restricting their ability to access institutions, using or owning a property, getting a job or getting a loan. Thirdly, women mobility is restricted in many cases, when they are less mobile outside their homes, the chances that they are going to seek training or have easier access to labour market decreases. Limited mobility disables women on building social networks that are serving as an additional social protection mechanism in many developing countries and can increase women's chances of finding a job and having more economic opportunities. Fourth important constrain is linked with women power in policymaking, women are highly underrepresented, and they account for 23 percent of members of parliament worldwide. This is relevant for gender equality for at least two reasons: if women are put in decision making positions they can fight for gender equality and increase the likelihood to increase meaningful policies decisions, and secondly they can serve as a role models and leadership aspirations for future generations of women. Last significant obstacle and probably the most tragic one is violence against women that confronts women around the world. Gender-based violence includes psychological, physical, sexual and economic forms of violence and occurs not only in home, but also in school, at the workplace and in public spaces (Morton, 2013).

⁵ agency - the ability to make one's own choice and act upon it.

Even when women overcome the obstacles regarding entering labour market they face with gender wage gap. The latter can be a result of various factors, such as: women's persistent disadvantage in terms of education and skills, their lack of organized voice and bargaining power, gender-specific constraints on their mobility on labour market and their high involvement in temporary or part-time jobs (UN, 2009).

The situation becomes even more complex because working and non-working women are facing multiple disadvantages that are overlapping⁶, hence policy makers have to tackle this problem more carefully in order to minimize the gender gap and eliminate women's exclusion from the labour market. In order to create appropriate policy, policy makers have to consider both sides, supply and demand side dimensions. First they have to make educational system and training programs more accessible to women, as well as appropriate childcare, and on the other side provide more safeness and legal protection, more access to institutions and encourage private sector to create more job opportunities for women.

4.2. Policy implications and discussion

The main motivation of policy makers in developing countries to create the appropriate type of human capital policy derives from the possibility of stimulating sustainable level of economic growth that would increase the level of income of the population living in these countries, while simultaneously alleviate poverty.

Education system of a country can be used as a strong instrument of stimulating economic growth. As it has been showed in the studies of Hanushek (2012, 2013) the general focus on universal school attainment wasn't sufficient to obtain needed levels of economic growth in developing countries. In terms of policy decisions it appears easier to expand access than to improve quality. Growth analysis indicates that slowing the pace of the provision of schools to a rate that permits the development of quality of schools appears to be a good direction of possible human capital policy. Hanushek and Woessmann (2012) proved in their research

⁶ Overlapping disadvantages can stem from personal characteristics, including gender, age, poverty, sexual orientation, caste, race, ethnicity, nationality, disability, and life experiences (Morton et al.,2013).

that both providing broad basic education – education for all – and pushing significant numbers to very high achievement levels have economic payoffs for the country.

Educational policies should be created in a way that they create incentives for students to improve their performance. In order to do so, institutional setting as well as parents, teacher and students themselves have to be equally included in the process. One of the possible solutions is to create higher competitiveness between schools in developing countries and reward system for students and school personnel for high achievements.

Second channel analysed in this paper highlights the importance of fertility reduction on education and consequently on economic growth. Models of the fertility transition stress the movement of households along a quality-quantity frontier in which parents tend to invest more in terms of health and education as they reduce the number of children they are having. When thinking of policy applications one has to bear in mind that effect of quality-quantity trade off depends of the nature of financing education of children. If educational expenditure represents an enormous burden for the family, number of children will have a significant impact on quality and quality of education.

In order to achieve lower rates of fertility, policy makers can use family planning policies that have shown positive effects towards increasing female (mother's) education, improving women's general health and longer-term survival, increases in female labour force participation and earnings, increased child health and increased child human capital (Kohler, 2012).

Education has proven to be quite a significant tool to broaden economic development, especially education of women. Kabeer (2012) noted strong evidence that education, particularly post primary education, has a positive effect on women's labour force participation and, in many cases, on job opportunities. There is already a great deal of policy focus on education although some concerns about the quality of education need to go beyond primary education, furthermore the author states that women have fewer training opportunities than men and that the training they do acquire reinforces a gender stereotyped distribution of skills.

In order to ensure economic growth strategies must focus on gender responsive employment promotion, informed by the interdependency between economic and social development, and recognition that labour is “produced” by the mainly unpaid work of women. Such strategies would also require the recognition that, while both women and men engage in a range of productive activities to meet their needs and invest in the future, women’s participation in such productive activities is constrained by the unequal sharing of unpaid work, their limited opportunity to develop their “human capital” and unequal access to and control over resources. The interdependencies between economic and social policies, the formal and informal economy, and paid and unpaid work must be recognized and explicitly addressed (UN, 2009).

5. Conclusion

The aim of this paper was to explore the influence of educational policies on economic growth, through a focus on two channels: developing cognitive skills and decline in fertility rates.

First of all, there are four possible mechanism of the influence of education on economic growth. Education can stimulate growth through labour productivity, labour market participation, capital and individual income. First mechanism, describing interaction between human capital and labour productivity suggests that higher levels of education and more effective skills are leading to higher productivity while stimulating economic growth.

Since there is a lack of empirical evidence proving a positive impact of education on economic growth, the focus was shifted from educational attainment on to cognitive skills. The question of quality of educational system is much harder to answer because it requires deeper structural changes that have to be adapted to each developing country in particular. This opens a new perspective for policy makers directing them into changing the quality of schools while creating incentives for students and teaching personnel to improve their performance, possibly by creating more competitive environment and by developing a particular reward system.

Secondly, education can stimulate economic growth through the decline in the fertility rates. The available data showed that woman with no education have extremely high levels of fertility, but increase of education levels makes a dramatical difference. However, policy makers have to bear in mind that fertility rates are not only influenced by education, but also by other factors such as better nutrition and health care, decreased child mortality, more job opportunities and better access to labour market. Lower fertility rates have been associated with better health, schooling outcomes and alleviation of poverty. The reduction of population growth certainly isn't a panacea for developing countries, but it cannot be disregarded and it can contribute to stimulation of economic growth.

When explaining the possible causes that triggered fertility transitions around the World, It is naïve to assume that there is only one identical reason causing fertility transition in different countries and regions of the World. This assumption can be challenged by finding

only one exception, and there are many, as noted earlier. The fertility transition can be triggered by combinations of causes such as increased health and nutrition, higher level of education for men and women, family planning policies, better access to information about contraceptive methods, to name a few. The influence of the culture should not be ignored because there are evidences, as stated before, that shift from control through powerful institutions such as state or church towards more individual and self-centred approach contribute to fertility decline, as well as cultural impacts from country of origin transferred to the next generations in the case of immigration and rural and urban lifestyle.

In developing countries family planning policies can be used to increase child quality and investment in education and health of each child. The outcome of educational policies depends on institutional settings of the countries. In developing countries institutional settings are quite different than in the advanced countries, certainly in the amount of accessible high public schools and child labour that is still present, such that even primary school can represent immense burden for the entire family, so the quality-quantity trade-off will be more significant.

In order to have a broad perspective of the influence of the educational policies on the economic growth, the role of women is essential. Women are often marginalised in the labour market even though there are strong evidence showing that higher participation of women on the job markets benefits not only women, but also families, businesses and the entire communities. There are several empirical studies (Narayan et al., 1999; Mason et al., 2001; World Development Report 2000/2001: Attacking Poverty) showing the importance of woman's position in the labour market in terms of economic development; showing that societies that tend to discriminate by gender had experienced lower rates of economic growth and lower poverty reduction in comparison with more equal societies.

In accordance with achieving higher gender equality, women's autonomy has to be reinforced from both economic and political perspective. In order to create appropriate policy, policy makers have to consider supply and demand side dimensions. First they have to make educational system and training programs more accessible to women, as well as appropriate childcare, and on the other side provide more safeness and legal protection, more access to institutions and encourage private sector to create more job opportunities

for women, basically they have to work on eliminating all the obstacles that women are facing while wanting to enter the labour markets.

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