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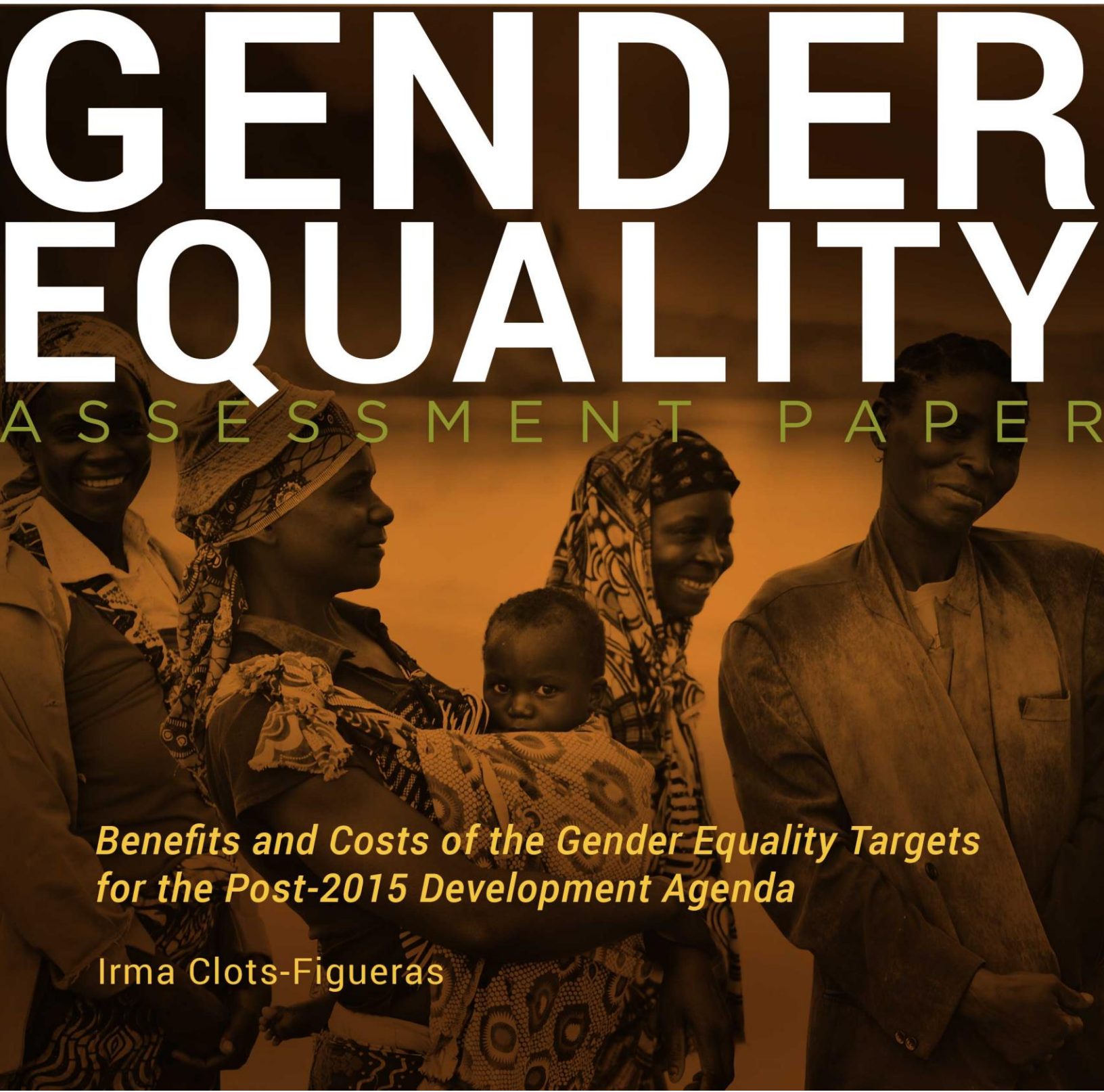
GENDER EQUALITY

ASSESSMENT PAPER



Benefits and Costs of the Gender Equality Targets for the Post-2015 Development Agenda

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POST-2015 CONSENSUS

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HIGHLIGHTS

Within Gender Equality, there are three issues that should be perceived as pre-conditions in order to achieve gender equality.

- Increase the number of years of education attained by women. Education for women has other benefits that should be computed when talking about benefit-cost-ratios (BCRs), such as the delay of early fertility and child marriage. Programs increasing the number of years of education and increasing the age at marriage can have a benefit-cost-ratio of 5.

- Ensure equal rights of women to own and inherit property, sign a contract, register a business and open a bank account. Even if a BCR cannot be provided, making sure women and men have the same rights in all countries is not very costly and can have very large benefits.

- Improve access to sexual and reproductive health for all women. Women should be able to decide whether and when to have children in order to fulfill their potential. According to Kohler and Behrman 2014, the BCR would be between 90 and 150.

There is another issue with a high BCR that would be crucial to achieving gender equality and would also help prevent issues such as child marriage and violence against women.

- Improve women's access to economic opportunities. Programs improving income-generating activities for women have a BCR of 7.

There is an issue for which a BCR cannot be provided but that just requires a change in the countries' electoral laws and can potentially have very large benefits:

- Increase women's political representation. Making sure women have political representation can have very large benefits in countries in which women are underrepresented in policy making. Quotas should be encouraged.

Finally, there are two issues for which we do not have enough evidence coming from development programs specifically designed to tackle them to claim that they have sufficiently high BCRs. Programs targeted to these issues could potentially be very expensive, and we still do not know how successful they would be. Thus, given that these activities are widespread, it is impractical to reduce these behaviors to a target of zero.

- Reduce violence against girls and women. Programs designed to empower girls or to give them economic opportunities will probably reduce violence against women, but not all studies support this finding. More evidence is needed on the BCRs of

programs successful at reducing violence against women. However, a target of zero is impractical.

- Reduce child marriage. Programs aimed at increasing the number of years of education for girls will most probably reduce child marriage, given the fact that many girls drop out from school when they get married. The recommendation is to focus on those programs. But a target of zero is also impractical.

Introduction: The Current Situation and the Millennium Development Goals (MGD), What Has Been Achieved?

Women in the developing world are the ones that suffer the most from the poverty, low health, low education, unequal rights and violence. Some of the MGD were either directly targeted to women or had as a target the reduction of gender differences between women and men. However, even if remarkable progress has been made, there is still a long way to go. While there has been significant progress in access to water and primary education, there are still areas where improvements are needed such as access to work and decision-making, social norms, and maternal health. The U.N. High Level Panel (HLP) has issued the report "A New Global Partnership" that provides a list of illustrative goals and targets, including empowerment of girls and women and achievement of gender equality. This paper will review this goal and its targets, and provide recommendations for the post-2015 development agenda.

Education

The Third MDG was specially targeted to achieve gender equality and the empowerment of women. The main target of this goal was to eliminate gender disparity in primary and secondary education. The idea was to achieve equality in primary education by 2005 and in all levels of education by 2015. According to the 2013 Fact sheet of the United Nations in which the Third MDG is discussed, gender parity in primary education has mostly been achieved. The gender gaps in primary school attendance have been reduced, but access to secondary and university-level education still remains highly unequal. In addition, at the primary level, even if some progress has been achieved, some girls still face barriers towards access to schooling.

One measure that can be used in order to determine whether gender equality in enrollments has been achieved is the female to male ratio in enrollments. Figures 1, 2, and 3 plot the female to male ratio in enrollments (in %) corresponding to primary, secondary and tertiary education, respectively. The data are from the World Development Indicators 2014 (World Bank). Differences in enrollment in primary education have decreased in all regions, but Sub-Saharan Africa, the Middle East and North Africa are still lagging behind. The main reasons behind these differences are the incidence of poverty, living in rural areas and early marriage.[1] The picture for enrolment in secondary education is not that positive, differences have been reduced somewhat but at a lower speed, and here Sub-Saharan Africa and South Asia are regions that are falling behind. In regards to tertiary education the reduction in inequality has been very minor everywhere.

[1] UN (2013).

Figure 1: Female to Male ratio in Primary Education Enrollment. Source World Development Indicators 2014. World Bank

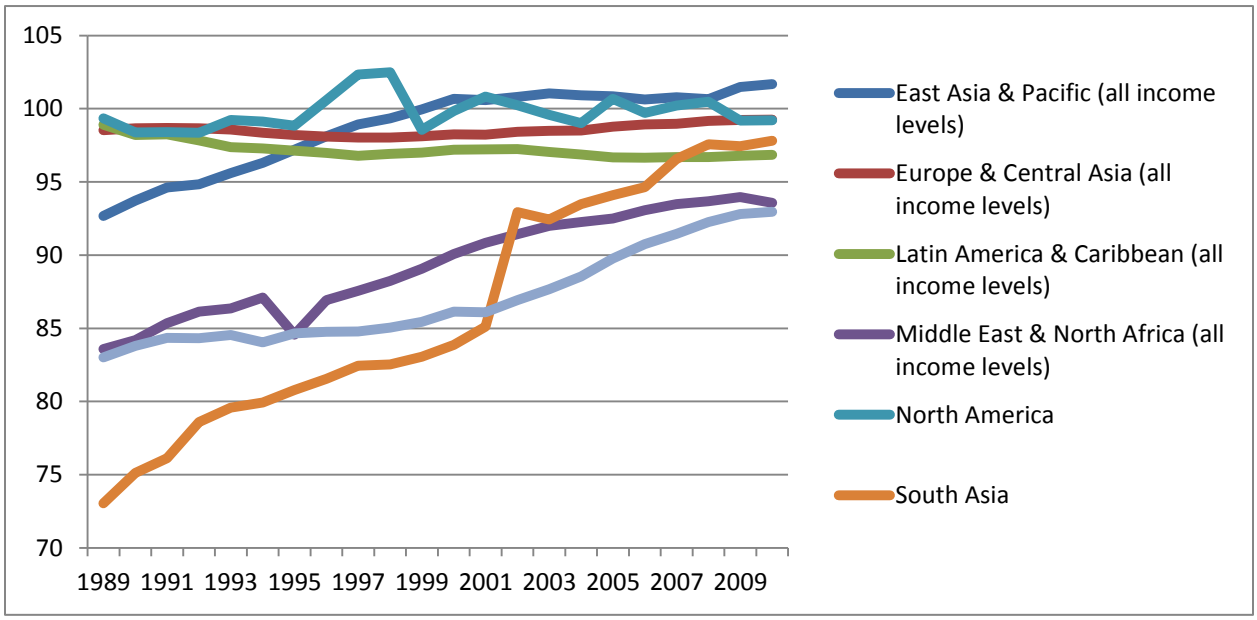


Figure 2: Female to Male ratio in Secondary Education Enrollment. Source World Development Indicators 2014. World Bank

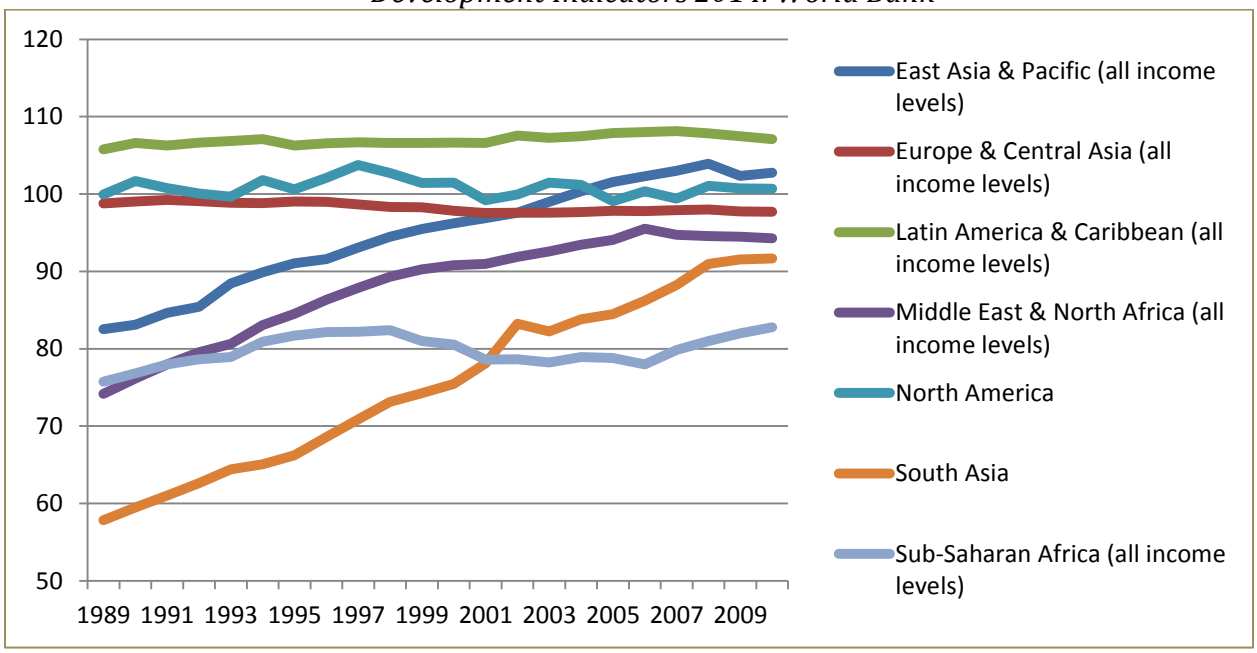
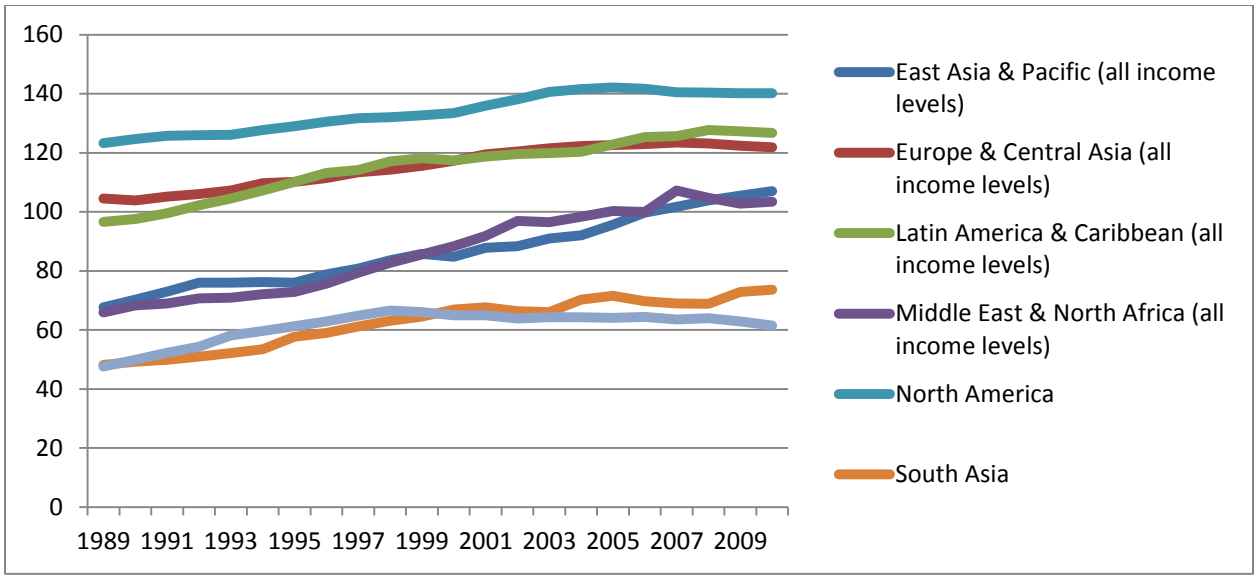


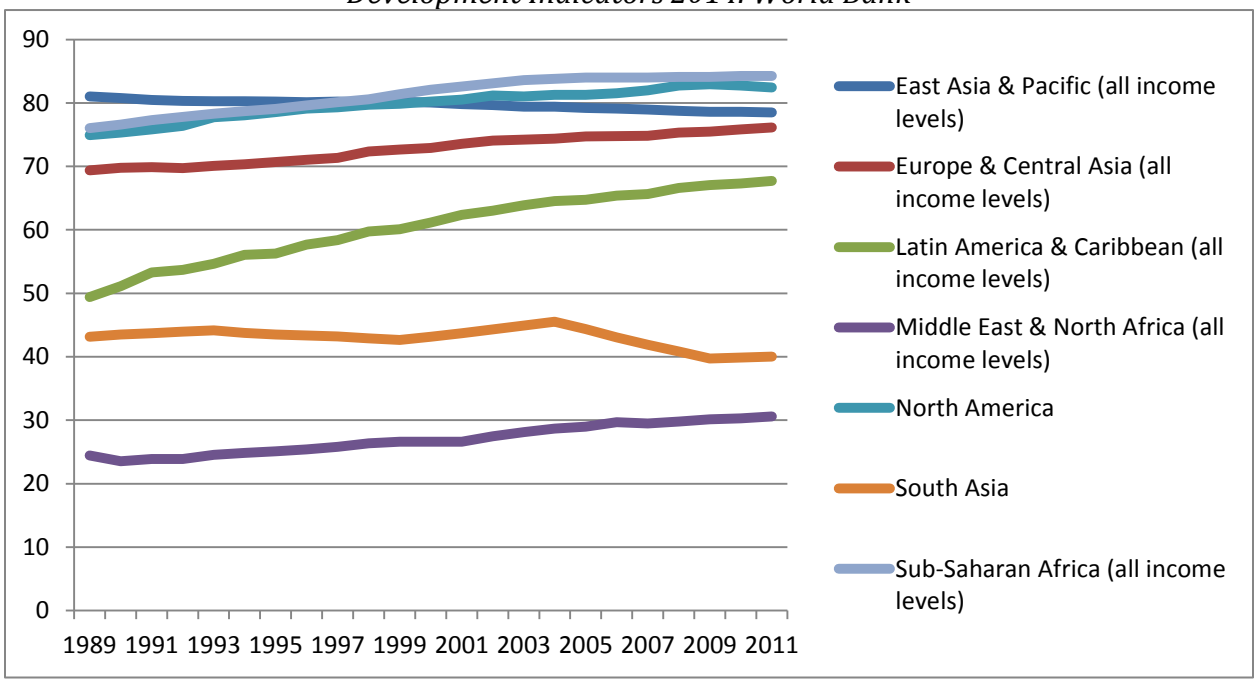
Figure 3: Female to Male ratio in Tertiary Education Enrollment. Source World Development Indicators 2014. World Bank.



Employment

Even if the other MDGs did not directly refer to women and reducing differences between women and men as their main objective, they still make reference to some issues that are particularly relevant to women. The First goal includes the target of achieving full and productive employment and decent work for all, including women and young people. According to UN estimates, due to the global financial crisis both male and female labor force participation rates have decreased slightly between 2000 and 2012 (73.8 to 72.7 and 48.6 to 47.9, respectively). Figure 4 shows the female to male labor force participation rates by region between 1989 and 2011. From the graph, it looks like the gender disparity has not decreased much, and disparities are still large in South Asia, the Middle East and North Africa.

Figure 4: Ratio of female to male labor force participation rate (ILO). Source World Development Indicators 2014. World Bank

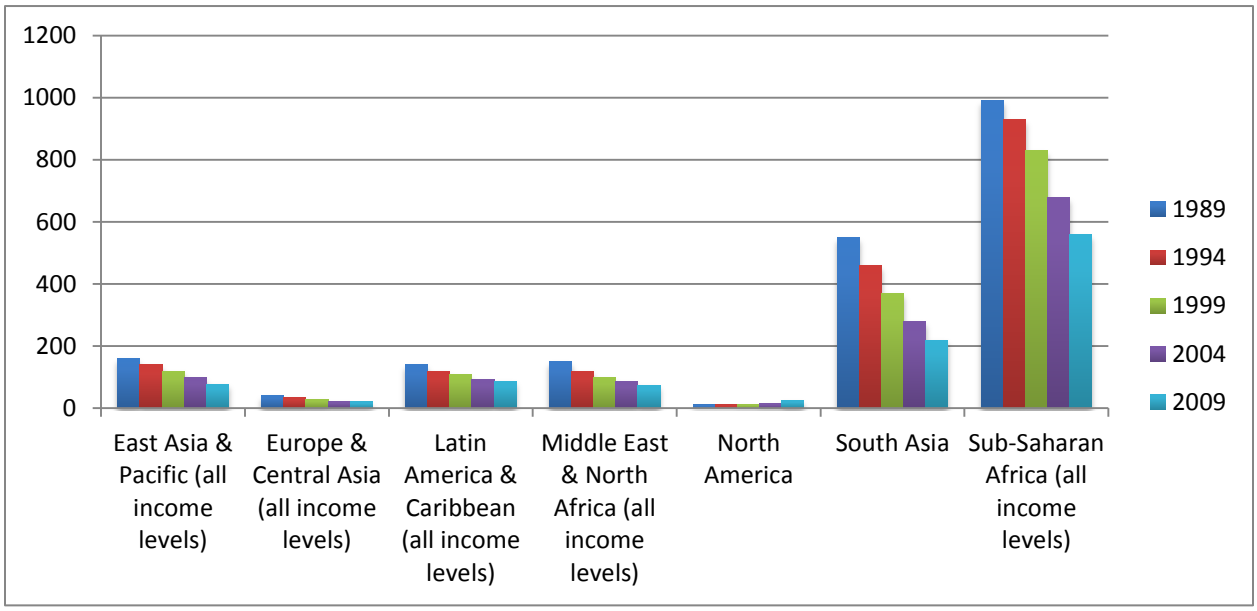


Something that should also be taken into consideration is the fact that women are more likely to be in less-secure and lower-paid employment than men. In fact, women are paid less for the same work in all regions of the world and have lower access to social benefits.

Maternal Health

The Fifth goal claims that maternal mortality rates should be reduced by three-quarters between 1990 and 2015 and that there should be universal access to reproductive health care for all women by 2015. According to the UN, access to prenatal care in developing countries has increased, but not access to contraceptives. Maternal mortality has decreased in South-Asia and Sub-Saharan Africa, but is still extremely high, see Figure 5. Births in unsafe locations, the practice of unsafe abortions and poor prenatal and postnatal care are still the reasons behind the estimated 287,000 maternal deaths that occurred worldwide in 2010.

Figure 5: Maternal mortality rates (per 100000 live births). Source World Development Indicators 2014. World Bank



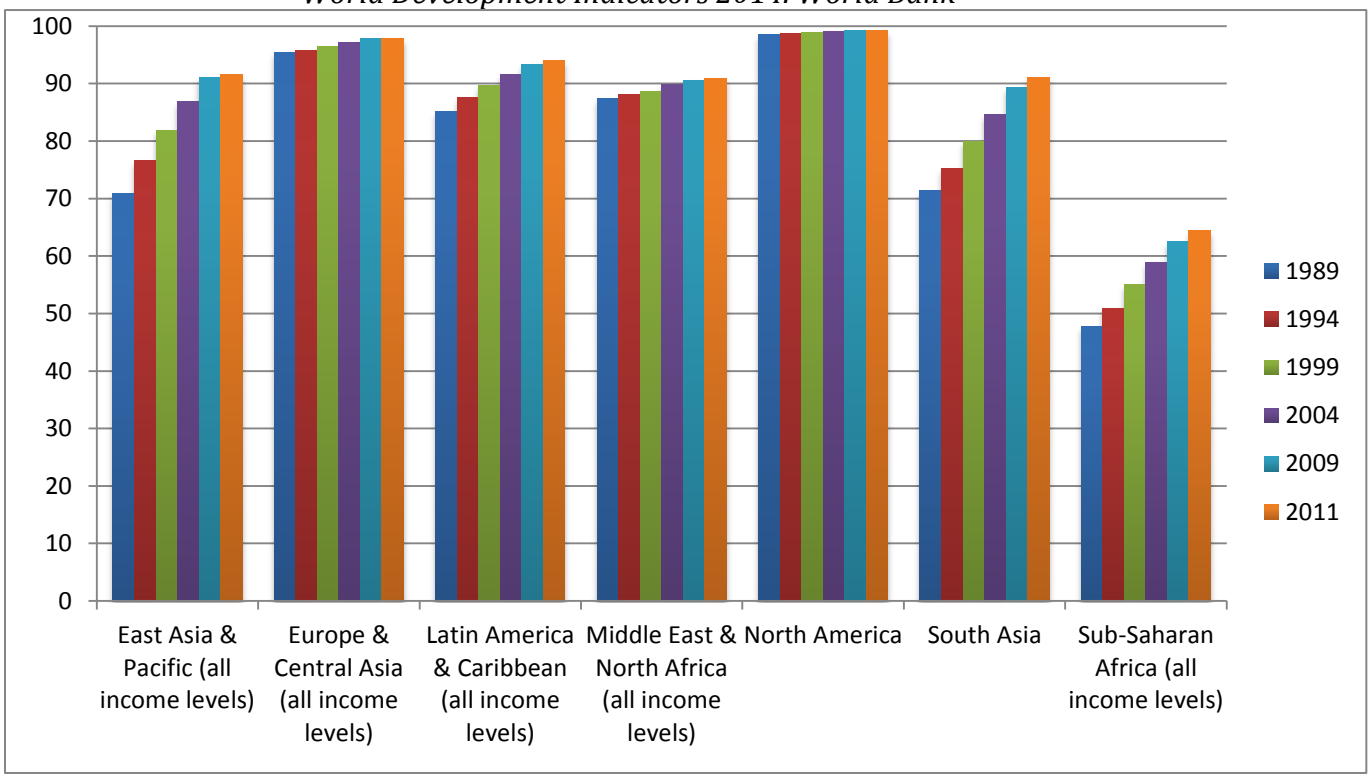
Water and Sanitation

Finally, the Sixth goal has as a target to halve, by 2015, the proportion of people in the World without access to safe water and sanitation. Given that women in the developing world are those who suffer the most from the burden of having to carry water from the source to their homes, increasing access to improved water sources would positively impact the lives of millions of women. Figure 6 shows how the proportion of the population with improved access to water has increased. But note that in Sub-Saharan Africa there is still more than 30% of the population who do not have access to safe water.

The Post-2015 Goals

The Third MDG was very appropriate, given that education can have effects on health, child care, labor force participation, and it can even prevent early marriage and maybe even reduce violence against women. But for the post-2015 targets more dimensions of gender equality should be considered. The U.N. High Level Panel (HPL) has issued the report "A New Global Partnership" that provides a list of illustrative goals and targets, including empowerment of girls and women and achievement of gender equality. This includes preventing and eliminating of all forms of violence against girls and women, ending child marriage, ensuring that women have equal access to property, signing contracts and owning bank accounts, as well as ending all discrimination against women in political, public and economic life.

Figure 6: Percentage of the population with access to an improved water source. Source World Development Indicators 2014. World Bank



In what follows these four objectives will be discussed, providing information on what we know of policies and programs that could potentially help attain them. And when sufficient information is available, this paper discusses the cost-effectiveness and the BCRs of these policies and programs. Given the impact that the Post-2015 Goals will have on the allocation of aid to developing countries, from an economical point of view, focus should be on those goals that we know can be attained in a cost-effective manner, for which we know that an improvement can be obtained. Development economists have conducted a growing number of studies analyzing the effect of policies aiming to increase women's empowerment, but discussing them all is outside the scope of this study. This paper will focus on some recent and representative studies that share a common characteristic, which is that either a randomized controlled trial is conducted, or that serious attempts are made to estimate the causal effect of a program. In other words, the effect of a program should not be contaminated by the effect of omitted variables that could affect both the likelihood that the program is implemented and the effect on the variables of interest. The issue of omitted variables is very important because if the estimates were affected by omitted variables, the effects thus estimated would be biased and would not provide information on the real effect of the policy. Without accurate estimates of the causal effects of programs and policies policy-makers could focus on policies that do not have the intended effects. Thus omitted variables could lead to the expenditure of valuable and scarce resources on totally ineffective policies.

Given the large inequalities between men and women in developing countries, the studies discussed in this paper will be mostly based in low income countries. The use of papers involving randomized experiments or the use of papers analyzing the causal effect of different programs, usually in the context of micro-level studies, thus allow us to know exactly what works in that context and what does not work -- but there are some disadvantages. The main disadvantage is the lack of generalizability: it would be useful to know the effects of those programs in other contexts in order to analyze their effectiveness, but the scaling up of most programs has not yet been done. And this means that the BCR of a program can be different in different areas and different contexts. Another problem could be the existence of general equilibrium or macro effects that are not accounted for in these studies. The use of BCRs can be helpful to decide which program should be implemented, but BCRs are more useful when the beneficiaries of a particular program can be clearly identified. Most of the programs discussed in this study can have externalities, that is, can affect other individuals that were not supposed to be affected by the policy and this makes the identification of BCRs more difficult. If the externalities are positive, in the sense that the programs have positive effects (not reflected in prices) on other individuals, the BCRs obtained will be a lower bound. However, the opposite will be true if the externalities are negative. If the programs can have effects on issues that cannot be quantified given the lack of prices, then the computed benefits of the programs will also be inaccurate. Another potential drawback of the use of BCRs when talking about women's and children's human rights is the ethical implications of quantifying issues such as women's lives or wellbeing. When a BCR is provided, the data on the costs of each program is taken from the information provided in the original research papers. However, the costs of the same program in other areas can be expected to be different.

For some of the goals there is very limited evidence on the causal effect of programs and what would help attain them, or even if there is evidence, the benefits and costs of these programs have not been provided. Some of these goals would imply changes in laws that would not be very costly to implement, such as increasing female political participation or ensuring that women and men have the same rights to hold property, open a bank account or register a business. These economical goals are recommended. Other goals are also important but maybe uneconomical, such as a reduction in violence against women. We still do not know the benefits and costs of attaining them, and they would involve improvements in law enforcement that may not be cost effective. A recommendation of this paper is to invest in programs improving women's education and economic opportunities, given that this will also be a way to reduce child marriage. Another goal is to ensure women's access to sexual and reproductive healthcare, raised by the Gender Equality after 2015 paper

The outline of the paper is as follows: section 2 states the goals proposed by the U.N. HLP and when possible, the BCR of the programs that can tackle them will be provided; section 3 makes policy recommendations and concludes.

Proposed Goals: An Evaluation Analyzing the Costs and Benefits (when available) Of Different Policies to Attain Them

Reduce Violence Against Girls and Women

Violence against women of all ages is widespread and persistent. Incidents of rape, domestic violence, violence outside the household and "honor" killings have been reported in many countries and cultures and seem to happen to women of all ages, irrespective of their socio-economic status. Further, sex-selective abortions are a form of violence against women that have increased in some countries. Women are also likely to suffer more from violence in conflict and crisis situations.

Obtaining data for violence against women is difficult due to reporting bias and due to the fact that in order for violent incidents to be reported a minimum degree of female empowerment is needed, which means that we could observe increases in violence that are only due to an increase in the likelihood to report these incidents.

There is also very little evidence on how to reduce violence against women, and even if some programs reduce it and the evaluation of the financial costs of these programs is easy to do, it is difficult to estimate their benefits, especially because violence against women not only affects their health and maybe the duration of their lives but also has severe psychological costs that can affect their education and economic activities, and this is something we may not be able to quantify in the context of developing countries. For example, the World Health Organization (2013) lists three different consequences of domestic violence against women. The first is physical injury or trauma, which can lead to long-term consequences such as disability or death. The second one is psychological trauma or stress, which can lead to mental health problems, substance abuse, and thus health risks and adverse maternal outcomes. Finally, the third is fear and control: women who have been abused may be less likely to seek healthcare. They have lost autonomy and this will also affect their sexual and reproductive healthcare and their life expectancy.

Table 1 shows that domestic violence is very important in all regions in the world but especially high in Africa, the Eastern Mediterranean and South-East Asia. Sexual violence inflicted by non-partners, which is also very prevalent in times of conflict, is very high in Africa and the Americas. Numbers for the high income countries seem inflated, but women in these countries may be more likely to report violent incidents than those in low income countries, where they may not expect institutions to react to them and where violence could even be more "socially acceptable". Thus, due to reporting bias, data from different countries may not be directly comparable.

Table 1: Violence against women

	Partner physical and sexual violence					***Non-partner sexual violence***			
	mean	***CI***				***mean***	***CI***		
Africa	*36.6*	*32.7*	*to*	*40.5*		*11.9*	*8.5*	*to*	*15.3*
Americas	*29.8*	*25.8*	*to*	*33.9*		*10.7*	*7*	*to*	*14.4*
Eastern Mediterranean	*37*	*30.9*	*to*	*43.1*					
Europe	*25.4*	*20.9*	*to*	*30*		*5.2*	*0.8*	*to*	*9.7*
South-EastAsia	*37.7*	*32.8*	*to*	*42.6*		*4.9*	*0.9*	*to*	*8.9*
Western pacific	*24.6*	*20.1*	*to*	*29*		*6.8*	*1.6*	*to*	*12*
High income	*23.2*	*20.2*	*to*	*26.2*		*12.6*	*8.9*	*to*	*16.2*

Source: WHO. Lifetime prevalence of violence with confidence intervals are provided

Despite the very high lifetime prevalence of violence against women there are very few programs that have as a main goal the reduction of violence against women, and overall there are very few studies providing evidence on the causal effects of development programs, which are often targeted to other issues such as women's education and labor force participation.

For example, Bandiera et al. (2014) -- rather than directly addressing the issue of violence against women -- show how a life skills and vocational training program in Uganda that took place in after-school clubs decreased the proportion of girls who reported having had sexual relationships without their consent. This program also had other effects, such as an increase in the likelihood that those girls engaged in income generating activities, raised their monthly consumption expenditures, decreased teen pregnancy and early marriage, and also changed their preferences regarding their preferred age of marriage and childbearing.

The main aim of the program was not the reduction of violence. Instead, the program targeted adolescent girls in Uganda and gave them both vocational skills to enable them to start small income-generating activities and life skills to build knowledge around issues such as sex, reproduction and marriage. In other words, the program aimed to "empower girls"; and the reduction of violence is just one dimension of empowerment. The program was conducted in development clubs and lasted for two years. At the baseline, in control communities 14% of the girls reported having had sex unwillingly in the previous year, which is a very high number. After the program this number was 6.1 absolute percentage points lower in treated communities, which corresponds to a 44% relative reduction in the incidence of these events. According to the cost data provided by the authors, the cost of avoiding one of these events is $829.7 - $839.6, computed with a 3% or 5% discount rate, respectively[2], see Table 2.

2 Throughout the paper 3% will be considered the "low" discount rate and 5% the "high" discount rate. In order to compute the cost of avoiding one event I use the coefficient of the effect of the program to compute how many girls need to be treated on average to reduce violence by one incident and then I multiply this by the cost of treating one girl.

Table 2: Violence against women, cost-effectiveness estimates.

		Low discount rate (3%)	***High discount rate (5%)***	***Low discount rate (3%)***	***High discount rate (5%)***
Paper	***Effect***	***Cost of reducing one violent event during the previous year (2014 US$)***	***Cost of reducing one violent event during the previous year (2014 US$)***	***Cost of treating one girl (2014 US$)***	***Cost of treating one girl (2014 US$)***
Bandiera et al (2014)	*ITT: 6.1 percentage points reduction*	*829.7*	*839.6*	*50.59044*	*51.1974*

The total cost of the programs is computed despite the fact that disentangling which part of the program is the most relevant to reduce violence would be impossible. The authors do not compute the benefits of lowering these incidents due to the fact that they are to a large extent psychological and hence very difficult to monetize. And given that the costs include components of the program that were not directly targeted to reduce sexual violence, this would mean that the estimates provided here are upper bounds of the costs of reducing sexual violence.

The benefits of reducing sexual violence are many -- both physical and psychological -- but there are studies that suggest that having sex against one's will decreases lifetime income (MacMillan 2000), due to the fact that victims of sexual violence often have to quit education or their jobs. According to the National Alliance to End Sexual Violence, rape is one of the crimes most costly to its victims, and it is estimated that in the US a rape costs the victim $151,423[3] (DeLisi, 2010). Scaling this number using the Uganda vs US GDP per capita would mean a cost of $1709.02 (2014 USD). Unfortunately, no similar estimates exist for a developing country, which means that the estimation of a Benefit-Cost Ratio focusing on the prevention of sexual violence part of the program would give a Benefit-Cost Ratio of approximately 2 (1709/840) but this would simply be a guess, given that we are comparing two very different countries[4].

[3] This includes the victim's cost, the justice cost and the ofender productivity cost due to the time spent in jail.
[4] It is not clear whether scaling up using differences in GDP per capita would be appropriate, due to the differences between these countries.

The authors of the paper conclude that women's economic and social empowerment can be attained by combining the provision of vocational and life skills even in situations in which social norms are very difficult to change. They report yearly benefits of $32.8 (2008 USD) and yearly costs of $21.8 and $17.9. However, they only use information on household expenditures to compute the benefits. The reduction of sexual violence is not included in the computation, but it would increase the benefits of the program and hence the BCR. In any case, given that these types of programs also have numerous other benefits; their scaling up should definitely be considered.

Intimate partner violence is also a big problem in developing countries, and sometimes is related to the contagion of diseases such as HIV. Paul et al. (2006) show how a combined microfinance and training intervention could lead to reductions in levels of intimate-partner violence in South Africa. Results of the study show how the incidence of intimate partner violence -- sexual or physical -- decreased by 55%. The authors do not provide data that would allow the computation of the cost of decreasing the incidence of intimate partner violence by one unit, which is ultimately what would be of interest. However, this study provides additional evidence that programs which increase women's opportunities to earn an income can reduce the incidence of violence against women.

The problem when talking about violence is that to have reliable data violence has to be reported, and maybe greater empowerment of women will lead to more reporting, which will appear in the data as a higher incidence of violence, when the incidence of violence could have decreased at the same time that the probability of reporting could have increased. Iyer et al. (2012) show how an increase of female political representation in local governments in India caused a large increase in documented crimes against women. Their results suggest that this is due to higher reporting rather than to the higher incidence of crime. Thus, given the lack of evidence on the effects of programs to reduce violence against women and given the high prevalence of violence against women almost everywhere in the world, any such goal to reduce violence against women cannot have a zero target. And since funds for developing countries are limited, and other policies are effective, programs to reduce crimes against women should not be expressly included in the list of Post-2015 Goals.

Policies aiming to empower women, either economically, politically, or providing life skills can reduce the incidence of crime against women or, even if they only increase the likelihood that crimes are reported, make these types of crimes more salient and institutions more likely to take steps towards prevention. Therefore, the policy recommended to reduce crimes against women would be to focus more on programs that provide empowerment, education, and economic opportunities for women.

However, note that there are studies, such as Luke and Munshi (2011), which report an increase in female violence following an increase in female income, so improving women's access to income-generating activities may not be the solution in all contexts. Some programs providing informational campaigns have been successful in reducing violence against women, or attitudes towards violence, such as the SASA! program in Uganda and

the Soul City program in South Africa, see World Bank (2014) and Fearon and Hoeffler (2014), but BCRs have not been provided for them.

Reduce Child Marriage

Child marriage is defined as marriage before the age of 18 and tends to affect girls disproportionately, who tend to marry older men. This is usually associated with a loss of autonomy and it is a global issue that affects many cultures, religions and ethnicities. In addition, it can be considered a form of violence against women if it takes place without the girls' consent. It can have serious consequences for the girls affected because they are more likely to finish their education too early and to end up in poverty. And given that early childbearing can be dangerous for a young mother, they are also at an increased risk of maternal mortality. Early female marriage can also be associated with poorer outcomes for their children. Article 16 of the Universal Declaration of Human Rights states that, "Marriage shall be entered into only with the free and full consent of the intending spouses". In addition the United Nations' 1962 Convention asks member states to establish a minimum age of marriage of more than 15 years. Later, the suggested minimum age for marriage became 18 years.[5] Early marriages can affect girls' emotional, physical and mental development, not only due to early childbirth that often takes place when growth and development have not yet been completed, but also due to the fact that early marriage is a barrier to education, as well as because the wife's bargaining power and position in the household can be affected by the age gap between the husband and the wife.[6]

Field and Ambrus (2008) find that in Bangladesh each additional year that marriage is delayed increases years of schooling by 0.22 and literacy by 5.6 percent. They also find that delayed marriage is associated with an increase in the use of preventive health services.

Very few programs have been designed with the main objective of eliminating child marriage; some exceptions are the Berhan Hewan program in Ethiopia, the Maharashtra Life Skills Program in India, the Tostan program in Senegal and the Integrated Action on Poverty and Early Marriage (IAPE) program in Yemen. The problem is that these programs were not randomized and the estimation of the causal effect of those programs on child marriage is very difficult. Many other programs include the elimination of early marriages as a subsidiary goal, or it simply appears as the byproduct of another program, mostly as a byproduct of programs that aim to increase the amount of years of education completed by girls.

In this section, four programs will be discussed: one in India, one in Uganda, one in Kenya and one in Malawi. The evidence obtained from these programs suggests that the way to reduce child marriage is by extending education, either by providing labor market opportunities that can change perceived returns to education or by providing educational subsidies. Recall that the successful empowerment and information program in Uganda

[5] 1979 Convention on the "Elimination of all Forms of Discrimination Against Women" and the 1990 "African Charter on the Rights and Welfare of the Child".
[6] See Jensen and Thornton (2003).

discussed in the previous section also managed to achieve a large decrease in child marriage.

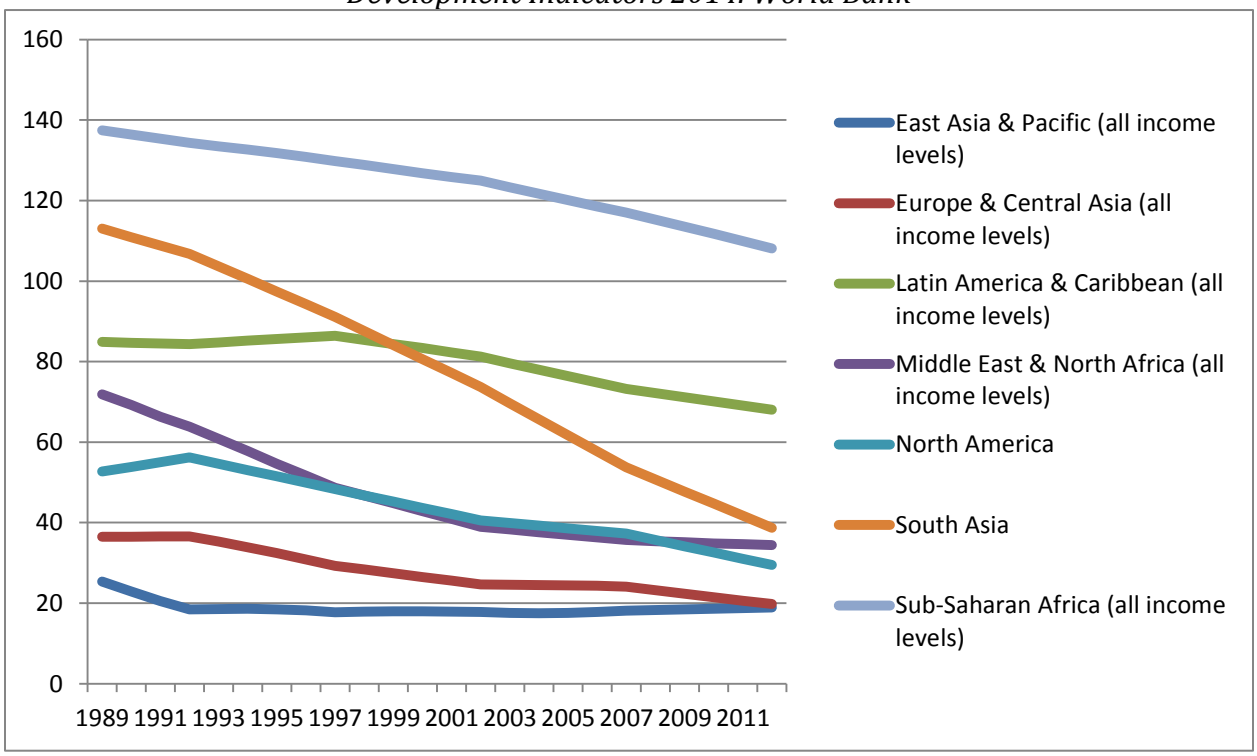
Table 3 shows the percentage of adolescent girls aged 15-19 married or in a consensual union in each one of these countries for the last two years for which the United Nations World Marriage data 2012 provided information. The percentage of married adolescents is large in all countries but has decreased in recent years, except for the case of India. One of the consequences of early marriage is early childbearing. Figure 7 shows the adolescent fertility rate by region and year. The fertility rate has decreased in all regions but it is still disproportionately high in Sub-Saharan Africa.

Table 3: Percentage of 15-19 year old girls married or in a consensual union by country and year.

Country	***Year***	***Percentage of 15-19 year old girls currently married or in consensual union***
India	*2001*	*24.50%*
	2006	*27.10%*
Kenya	*2003*	*17.90%*
	2008	*12.10%*
Uganda	*2002*	*28%*
	2011	*20%*
Malawi	*2004*	*32.90%*
	2010	*23.40%*

Source: United Nations, Department of Economic and Social Affairs, Population Division (2013). World Marriage Data 2012 (POP/DB/Marr/Rev2012).

Figure 7: Adolescent fertility rate (births per 1,000 women ages 15-19). Source World Development Indicators 2014. World Bank



In a randomized controlled trial conducted in rural India, Jensen (2012) examined the effect of an exogenous policy change in labor market opportunities for women. Some randomly selected villages received recruiters for the business process outsourcing industry (BPO), while the control villages did not receive them. This industry creates very well-paid job opportunities, particularly for women. The intervention provided both awareness and access to these jobs and caused increases in both women's employment and schooling. In addition, women from treatment villages aged 15 - 21 were 5-6 absolute percentage points less likely to get married or to have given birth over the three year period of the intervention. Each recruiter got paid $12 per individual treated. Note the program did not create new jobs. The experiment simply made it easier for some women to get the jobs, and the opportunity costs from forgone employment, if any, caused by this program cannot be measured. But this study shows that economic development can not only give employment opportunities to women, but also give them incentives to study and this will lead to an increase in the age of marriage. In order to compute the costs of delaying marriage by one year, it will be assumed that the $12 per girl will be divided equally among every year of the 3 years of the intervention, given that all villages received additional visits in years 1 and 2. It will be also assumed that these are 2006 USD. The effect of the program on the probability of being married in year 2 is a reduction of 5.1 absolute percentage points. Table 4 provides the calculation of the cost of delaying marriage by 3 years, which is

between $253-$239 USD, depending on the discount factor used to compute the costs at the end of the program[7].

Duflo et al. (2012) examined the effect of educational subsidies and HIV prevention education on girls' marriage in a randomized experiment. The education subsidy provided free school uniforms for the last 3 years of primary school and the HIV prevention program focused on abstinence until marriage. The data allows them to estimate the short, medium and long-term impacts of both programs. They find that after three years girls who received only the education subsidy were 2.6 absolute percentage points (20% relative risk reduction) less likely to be married. After 5 years they were 2.9 absolute percentage points less likely to be married and after 7 years they were 3.9 absolute percentage points less likely to be married. The effects of the HIV education program or both programs at the same time were not statistically significant[8]. Uniforms in Kenya cost $6 (1.6% per capita GDP in 2003), if the students received the subsidy for 3 years (3 new uniforms in total since the children outgrow their old uniforms) that would mean that the cost of avoiding one early marriage during the first 3 years would be between $884 - $902.06 USD in 2014 with low and high discount rates, respectively.[9] [10]

The program implemented in Uganda and analyzed by Bandiera et al. (2014), discussed in the previous section, also caused a decrease in early marriage and cohabitation. The program provided both vocational training and sex, reproductive and marital information and caused a 6.9 percentage points absolute reduction in the probability of being married or cohabiting two years later which amounts to a 58% relative decrease. Given the average costs of the program and the effect of the program, two years for which the marriage is delayed would cost $733 - $742 in 2014 USD.

Early marriage can be reduced if girls stay longer in school. In Malawi, Baird et al. (2014) show how unconditional cash transfers were more effective than conditional cash transfers in reducing marriage rates due to their effect on girls that had dropped out from school. The program was designed to benefit girls aged between 13 and 22 who had never been married and had two different interventions, unconditional transfers and transfers conditional on school attendance. Treated girls' parents received monthly payments of $4, $6, $8, or $10 each. The girls received $1, $2, $3, $4 or $5 dollars monthly. After one year of the intervention the effect of the program on the probability of being married was a decrease of 2.6 absolute percentage points. After the two years of intervention the treatment group which received unconditional transfers was 44% less likely to be married than the girls in the control group who did not receive the program, this is a 7.9 absolute

[7] The costs of treating one girl are of $4 a year, during 3 years, discounted with the 3% and 5% discount factors. With a 5.1 pp reduction in the probability of being married at 18, 18 girls need to be treated in order to reduce the number of marriages by one unit, this is used in order to compute the cost of delaying the marriage.
[8] The HIV education program is focused on abstinence. These results show that abstinence programs may not be successful.
[9] Note that a 2.6 percentage point reduction means that around 38 girls should be treated to avoid one early marriage during those 3 years. The cost of this is the cost of three uniforms for 38 girls, discounted.
[10] The long-term effect of the program is not considered in this study in order to make results more comparable to those from the other programs, in which long-term surveys were not conducted. Note also that if the average girl affected by the program was 13, after 7 years she would be 20, and a marriage at that age would not be considered "child marriage".

percentage point decrease. Conditional cash transfers did not have a significant impact on the probability of being married. The average cost of the program was $10 per month during 10 months, which amounts to the average yearly transfer that each household was receiving. Given the magnitude of the effects after two years of the program, the cost of increasing the age at marriage by two years is $2775 - $2802 in 2014 USD, computed with low and high discount rates, respectively. However, the program was designed as well to increase enrollment and test scores, which were the main aim of the program. In summary, given that in most countries girls are either married or go to school, but they never do both activities at the same time, all programs which aim to increase girls' education and in particular, those programs that aim to reduce girls' dropouts are going to be successful in increasing the age at marriage.

The three programs described above have very different costs, and out of the three, the one providing job opportunities in India seems to be the most cost effective if what we care about is only the increase in age at marriage. The benefits of decreasing the age at marriage include an increase in years of education and literacy, but also a change in the quality of the partner they will eventually marry, their bargaining power within the household, an improvement in health due to delayed child-birth and a better use of the available health services. All this is very difficult to monetize, and the benefits of each program include achieving objectives other than increasing the age of marriage, so they may not be directly comparable, but it is clear that these programs may well be cost-effective and increasing education or economic opportunities for women is a good way of reducing the age of marriage. The drawback of these programs is that they rarely provide evidence on the long-term effects.

Duflo et al. (2012) find an increase in the age of marriage even 7 years after the program was implemented; and they report a decrease in the probability of being married after 7 years of 4 absolute percentage points, which is only significant at the 10% level but points to potentially very high benefits of these type of programs (the uniforms were only provided for three years, so a long-term effect does not necessarily imply increased cost).

One of the main problems associated with early marriage is early fertility. Chaaban and Cunningham (2011) provide estimates of the costs of early fertility (adolescent pregnancy) by measuring the opportunity costs of lost productivity. Thus the costs are the forgone lifetime earnings due to an early pregnancy. First, they take into account the fact that adolescent mothers will have less years of schooling and they assume that the wage gap for early mothers is constant over time but assume that there is a "motherhood tax" of 5% with 1 child and 10% with two. Given the lack of data on female wages according to the number of children they have, the difference between the average female wage and the average early mother's wage proxies for the cost of early childbearing[11]. These estimates can be used to compute part of the benefits of delaying marriage, even if the costs of early marriage have many more components. It will be assumed that the probability of

[11] Selection into being an active participant in the labor market, as opposed to voluntarily choosing not to search for a job, should also be considered, since there might be "selection bias" which makes participants different from non-participants in the labor market. But this topic is outside the scope of this paper.

pregnancy after the first year of marriage will be 90%, for simplicity. Table 4 shows the yearly benefits of avoiding pregnancy, computed using the data in Chaaban and Cunningham (2011) for each of the four countries, and the BCR for each policy, computed accordingly[12]. As explained before, these estimates overestimate the cost of the programs and underestimate the benefits of delaying marriage. Even if Jensen (2012) has a very large BCR, the policy was not designed to be replicated in other settings, given that it was just a change in the allocation of BPO recruitment services, and this type of firm may not operate in other countries and regions. This means that its BCR should not be considered ”generalizable”.

[12] The BCR is the ratio of the discounted forgone income during x years and the costs of avoiding marriage during x years. The value of x varies depending on the study.

Table 4: Reducing early marriage

		Low discount rate (3%)	High discount rate (5%)		Low discount rate (3%)	High discount rate (5%)		Low discount rate (3%)	High discount rate (5%)
Paper	**Effect**	**Cost delaying marriage by X years (2014 US$)**	**Cost of delaying marriage by X year (2014 US$)**	**X**	**Cost of treating one girl (2014 US$)**	**Cost of treating one girl (2014 US$)**	**Yearly benefits of avoiding pregnancy (forgone anual income)**	**BCR**	**BCR**
Jensen (2012)	*5.1 percentage points*	*253.99*	*259.05*	*3 years*	*13.97*	*14.24*	*2091.44*	*22.9063692*	*22.906536*
Duflo et al (2012)	*2.6 percentage points*	*884.44*	*902.06*	*3 years*	*22.99*	*23.45*	*916.24*	*2.88182985*	*2.88185036*
Bandiera et al (2014)	*6.9 percentage points*	*733.05*	*741.85*	*2 years*	*50.59*	*51.19*	*699.92*	*1.74442922*	*1.74071901*
Baird et al (2014)	*7.9 percentage points*	*2775.13*	*2802.48*	*2 years*	*219.24*	*221.4*	*564.72*	*0.37178202*	*0.37178085*

Note these programs pursue different objectives, such as increasing economic opportunities for women, and increasing girls' education, and they did not have as a main objective an increase in the age of marriage. Given that in developing countries the low demand for women's education may be linked to the lack of economic opportunities, results from Jensen (2012) are very encouraging since they show that providing economic opportunities will increase the incentives to stay in education and thus reduce the incentives to get married.

Given that we do not know the causal effects of policies directly targeted to reduce child marriage, and given that delaying adolescent and child marriage is almost always associated with staying in school longer, reducing early marriage, which cannot be a zero target, should not be expressly included in the Post-2015 agenda. Instead, what should definitely be included as goals are improving economic opportunities for women and increasing the number of years of education attained by girls. Improving women's access to income-generating opportunities will both encourage them to stay longer in school and in the labor force, while educational policies will most probably encourage women to stay longer in school[13]. All this is going to be translated into an increase in age at marriage. In other words, development expenditures devoted to achieving a decrease in the rates of child marriage could be less effective than development expenditures devoted to increasing women's education and income-generating opportunities, which will probably change the girls' incentives to marry early but also parental incentives to marry their daughters.

Note that a consistent finding of Labor Economics is that level of education is often the best predictor income. Therefore, the goals of increasing the income of women and the education of women are closely intertwined. In addition, more economic opportunities for women and more education have been shown to be correlated with lower levels of fertility.

Ensure Equal Rights of Women to Own and Inherit Property, Sign a Contract, Register a Business and Open a Bank Account

Women should have equal access to assets than men, be able to manage these assets and their own income, and thus be able to open a business or to sign a contract. The ability to manage their own income and assets empowers women both inside and outside the household and can have impacts on how expenses are allocated within the household, and how decisions regarding the education and health investments on their children are taken.

Women and men in the developed world have the same legal rights to own property, to sign contracts, to open bank accounts, etc. However, this is not the case in the developing world, in which women still have fewer rights than men. More data is needed on the amount of assets controlled by women and men in developing countries, given that current household surveys do not ask about who is the owner of each one of the household assets. Thus, we have to rely on other sources of information.

[13] See Jensen(2012) and Duflo et al (2012).

Table5: Women's Rights by Country's Income.

	US	***High income***	***Upper-Middle income***	***Lower-Middle income***	***Low income***
Women's accessto land	*1*	*0.92*	*0.83*	*0.79*	*0.3*
Women's access to bank loans	*1*	*0.98*	*0.92*	*0.85*	*0.55*
Women's access to property	*1*	*0.98*	*0.93*	*0.89*	*0.52*

Source: Doepke et al (2014). OECD Gender, Institutions and Development Database

Table 5 shows data on women's ownership rights, for land, bank loans and property. 1 denotes full access and 0 denotes impossible access. The differences are striking, while in high income countries or the US women almost get full access to land, bank loans and property, in low income countries the numbers are much lower, thus there is scope for policy changes and for governments in low income countries to ensure that women have the same rights (de jure and de facto), to hold property.

There is a positive correlation between women's rights and development, measured by the Gender Empowerment Measure (GEM) and GDP per capita; see Doepke et al. (2012). The GEM was created by the UNDP and is a mixture of women's rights and women's economic outcomes, but Doepke et al. (2012) also find that women's access to land is correlated with economic development. Other measures of women's rights such as equal custody of children and contraceptive prevalence are also positively correlated with economic development. Of course we are talking about correlations and not causation, in the sense that development itself could cause improvements in women's rights. But given that both explanations could be going on at the same time, understanding the best policies to improve women's rights is very important. In addition, there is evidence that women are more likely than men to direct their income towards children in the family and that women's incomes benefit girls in the household; see Lundberg, Pollak and Wales (1997), Thomas (1990) and Duflo (2003).

One way to give women control over their own economic resources and, in other words, one way to give them property rights and access to some banking services is microfinance. Microfinance programs are often targeted to women, and help them set up and run their own finances, which empowers them and gives them more bargaining power in the household. Karlan and Zinman (2011), however, show that in an experiment in the Philippines microfinance may not have been as beneficial as it was always thought, because entrepreneurs decreased their businesses instead of increasing them. In addition, their subjective wellbeing was reduced, and women did not benefit from the program more than men. If anything, the treatment effect for men and women was the same. More evidence is needed from other countries and other settings, but what is clear is that our knowledge about microfinance is still limited.

Women should also have the right to set up and to run their own enterprises, which would allow them to have their own economic resources. Evidence shows that investing in

women's enterprises may not be as lucrative as investing in men's enterprises, which is a problem if funding comes from profit-maximizing banks or financial companies. But note that women and men work in different sectors, and probably work in activities that have different productivities. De Mel et al. (2009) conducted a randomized experiment in which they gave grants to microenterprise owners and found that the grants generated large increases in profits for male owners but the same was not true for female owners. They also found that the gender gap was larger in female-dominated industries. Fafchamps et al (2014) gave cash and in-kind grants randomly to a set of female-owned microenterprises in urban Ghana and found no benefits for subsistence enterprises. For larger enterprises only in-kind grants had an effect, while the cash grants seemed to "disappear". The authors explain that these results can be explained because of self-control issues rather than external pressures.

One of the roots of the gender-gap in assets is the difference in inheritance rights, which is still prevalent in some countries. Deininger et al. (2013) examine the effect of amendments in inheritance legislation in two states of India on physical and human capital investments and find that the amendment significantly increased daughters' likelihood to inherit land and also increased daughters' educational attainment. Roy (2013) examines the effect on education of giving women inheritance rights. She takes advantage of the fact that different states in India implemented different amendments to the "Hindu Succession Act" at different points in time and finds that women who were in education when the reform was implemented in their state achieve on average 0.5 years of education more. The effect is only present for landowning Hindu families and the author shows that it could be due to the compensation that the daughters receive due to the fact that they were still disinherited by their fathers after the reform. Actually she finds almost no effect of the reform on the actual inheritance received by women. Field (2003) examines the effect of a land titling reform in Perú on fertility and finds a 22% decrease in fertility for households that receive title to property.

In order to improve women's ownership and control of assets, changes in laws, norms and sometimes even household decisions are needed. In addition, countries introducing changes in laws that give women better access to property rights should make sure that the law is applied properly. For example, in 2014, the Nigeria Supreme Court ruled that a customary law that prevented women from inheriting property was unconstitutional. In Uganda, the Constitution prohibits "laws, cultures, customs or traditions which are against the dignity, welfare or interest of women", World Bank (2014). However, BCRs of the policy changes discussed below are not available, so comparisons are impossible.

We cannot directly evaluate most of the policies that give women the same rights as men because they depend on each country's legislation, and even if some papers have taken advantage of these changes in legislation to try to evaluate the causal effect of these changes in laws on several development outcomes, clearly this cannot be done in every country and for every law, thus more evidence is needed. In addition, the costs of the policy changes cannot be evaluated because we don't know the counterfactual, and the benefits of the policy changes can include not only improvements in property rights but also changes in household decision-making, improvements in education, changes in bargaining power,

and psychological benefits such as feelings of security, etc. All these benefits are also very difficult to monetize. However, governments worldwide should make sure that women and men have the same rights to inherit property, be landowners, have their own businesses, and open bank accounts, as these should be viewed as basic human rights and crucial for women's empowerment in the household, in the labor market, and in the political arena.

Having the right to own and inherit property and businesses, and having the right to sign contracts and open bank accounts should be regarded as a pre-condition to achieve women's empowerment, get women out of poverty and allow them to pursue income generating activities. Even if we lack evidence on effective policies to achieve this, governments have a big role to play in ensuring that women and men have the same rights, thus this goal should definitely be included in the Post-2015 Agenda. The existence of laws granting the same rights to women and men do not guarantee that women take full advantage of these rights. For example due to social norms, the fact that those women and families who want gender equality can have access to a legal framework that allows them to do so is already a very important step, and the cost for development agencies to convince governments to take legislative steps in the direction to give women and men the same rights is probably not very high.

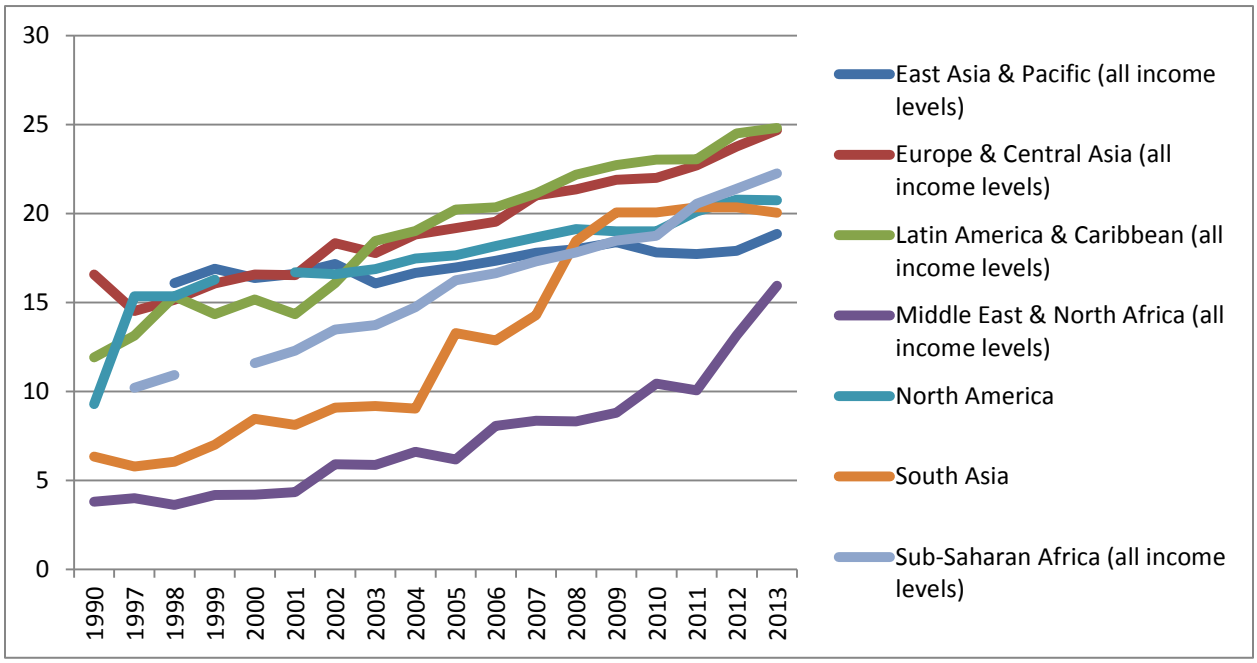
Eliminate Discrimination Against Women in Political, Economic and Public Life

This is a very broad goal that includes many issues, such as an improvement in female political representation, which can ensure a better representation of women's needs in not only politics but also in companies and in households, and equal access to employment and equal pay and working conditions for women, which has not yet been attained in any country in the world. The goal also includes equal access to education and good access to sexual and reproductive health. Given the large number of topics that could be included under this goal, and given the fact that this cannot be a zero target because aiming to achieve zero discrimination in these areas is unrealistic, the goal should be re-defined and focus given to smaller sub-goals. In what follows I will describe four of these sub-goals: increase women's political representation, improve economic opportunities for women, equal access to education, and sexual and reproductive health.

Increase Women's Political Representation

Women should have equal access to decision-making positions, either in the political arena, in companies or in civil society. Regarding the prevalence of women in politics, according to data from the World Development Indicators, women in 2013 occupied 22% of all parliamentary seats in the World, which is low compared to their proportion in the population, but a considerable increase from the 13% political representation they had in 1990. Most of this increase was due to the implementation of quotas for women in many governments. However, when quotas are not present, women are still severely under-represented. Figure 8 shows the percentage of women in national parliaments by region and year. Even if for all regions the percentage of women in national parliaments has increased, the percentage is still lower than 30% in all regions.

Figure 8: Percentage of women in national parliaments. Source World Development Indicators 2014. World Bank



Evaluating the costs and benefits of increasing female political representation is impossible to do. Politicians are subject to budget constraints that mostly prevent them from increasing expenditures in all expenditure categories simultaneously, which means that if they increase spending in education, they will have to decrease spending in something else. If female politicians implement different policies than men, this could be beneficial for some issues that may be preferred by women such as health and education but maybe not for some others. Different voters hold different preferences and male and female politicians hold different preferences that will translate into different policies if they are in power. It is difficult to say which preferences are going to translate into policies that are then going to be more effective for promotion of the welfare and the economic development of a country, but what is true is that the needs of around 50% of the population of a country should be represented by its policy-makers, and male politicians may not represent the needs of women because clearly female and male politicians make different policy decisions once in power. If they had the same preferences, we would not observe changes in policy decisions once women politicians come into power. Of course this assumes that female and male politicians have the same abilities on average, and electing female politicians is not going to be costly due to the fact that they are going to be systematically less experienced than male politicians[14].

The fact that it is impossible to give a benefit-cost ratio for increasing female political representation in a country does not mean that it should be disregarded as a goal for the

[14] Chattopadhyay and Duflo (2004) find that female politicians are less experienced than male politicians The ability of politicians is very difficult to measure, but from their study and from other studies such as Clots-Figueras (2011) it is clear that female politicians have an impact on policy-making, which suggest that their ability level is not lower than the ability of male politicians.

Post-2015 development agenda, given that it could be a very cheap and effective way to represent the needs of women, and improve their lives especially in developing countries. Countries with low female political representation could implement quotas for women in parliaments or could encourage political parties to field women candidates, which would simply involve a change in the electoral rules, but a change that could have far-reaching consequences. A change in electoral rules could be difficult to implement in some countries in which parliaments may not agree with the idea of quotas. However, given the recent success of quota implementation in some countries (see below) and recent evidence on the beneficial effects of having female politicians, it would be a great step towards achieving gender equality.

For developing countries, most of the evidence we have for the effect of quotas and female political representation is from India. The first study to analyze the effect of quotas in a developing country was the one by Chattopadhyay and Duflo (2004), in which they found that reservation of council seats for women increased the public goods more valued by women. In West Bengal, where women complained more about water and roads, reservations lead to more investments in roads and drinking water. In Rajasthan women also complained more than men about drinking water and reservations for women also resulted in more investments in this infrastructure. In a more recent paper Beaman et al. (2012) find that after two election cycles in which the village headship was reserved for a female politician in India, the gender gap for both parents' and girls' aspirations about education closed. In addition, the gender gap in educational attainment for adolescents disappeared, and girls spent less time doing household work. Given that labor market opportunities did not change, this evidence suggests the importance of female politicians as role models for girls, which can be very relevant in countries with low female education rates and very low participation of women in the labor force. Iyer et al. (2012) show how an increase of female political representation due to reservations in local governments in India caused a large increase in reported crimes against women, which is also a sign of empowerment. In addition, female political reservations also affect women's economic prospects. Ghani et al. (2014) find more women-owned informal sector establishments in states that had implemented reservations for women at the local level. Another recent example took place in Afghanistan, where they implemented a development program that mandated female political participation. Results show improvements in mobility and income generation by women, but not in entrenched beliefs such as the role of women in the society, see Beath et al. (2013).

Other studies investigate the role of women in state legislatures in India. Given that reservations are not yet in place in that level of government, the fact that some women are elected in close elections, i.e. by very few votes, is used in order to identify the causal effect of female politicians. One study concludes that raising the share of female politicians results in higher education but only in urban areas (Clots-Figueras, 2012). One additional female politician elected in a district in India increases the probability that an individual completes primary education in an urban area by around 6 percentage points. The other study finds improvements in a wider set of policy variables but shows that these improvements flow from women who hold seats reserved for the lower castes, that is, from "non-elite" women politicians (Clots-Figueras 2011). Female legislators in seats reserved

for lower castes and disadvantaged tribes invest more in health and early education and favor "women-friendly" laws, such as amendments to the Hindu Succession Act, which was designed to give women the same inheritance rights as men. They also favor redistributive policies, such as land reforms. In contrast, female legislators from higher castes do not have any impact on "women-friendly" laws, oppose land reforms, invest only in higher tiers of education and reduce social expenditures. However the study looks at data on expenditure and infrastructure aggregated to the state and year-level and it may be that the influence of higher caste women is apparent at a more disaggregated level in the allocation of resources towards their constituencies. Alternatively, the influence of female politicians may lie not in expenditure and infrastructure but in the effectiveness of provision arising, for example, from the conduct of information campaigns. Bhalotra and Clots-Figueras (2014) look at effectiveness of politicians at the local level focusing on public health provision as a domain in which gendered preferences may be exhibited and also a domain in which the beneficiaries are relatively poor. Results show that a one standard deviation increase in female political representation results in a 1.5 percentage point decrease in neonatal mortality.

For Brazil, Brollo and Troiano (2014) use a regression discontinuity design and find that municipalities ruled by female mayors have better health outcomes, receive more federal discretionary transfers, and have lower corruption than those ruled by male mayors. In their study they find that the probability of observing a corruption episode in randomly audited villages is around 30% lower when there is a female mayor. In addition, Beaman et al. (2009) found that in India individuals in GPs (Gram Panchayats, rural local governments) reserved for women were less likely to have paid a bribe to obtain a BPL (Below the Poverty Line) card or a drinking water connection. Corruption is a measure of the quality of institutions and can affect growth by affecting the allocation of talent and investments, and the incentives of firms to function in an efficient way. The estimation of the causal effect of corruption on economic growth is very difficult, see Svensson (2005), but given that corruption is negatively correlated with GDP and can affect growth negatively, if female politicians can reduce the incidence of corruption, policies that encourage the participation of women in politics should definitely be considered for the Post-2015 Goals.

Many explanations have been proposed to explain the under-representation of women in politics, such as discrimination, lack of female role models, lower ambition, distaste for competition, family responsibilities, etc. Bhalotra et al. (2014) analyze the effect of a female victory in India on women candidacy and political participation and find that the probability of the female running again increases after a victory, however, there are no effects on women's turnout or political success.

Quotas for women in governments are a controversial measure but they could be an effective way to increase female political representation. Quotas are designed to compensate for the barriers that women face when entering in politics, but those who are against their implementation argue that they could have a negative effect on meritocracy, they could push more qualified candidates out of the election, and that in general they change the way that political parties and voters behave. However, Besley et al. (2013)

analyze the issue using data from Swedish municipalities, in which quotas require parties to alternate male and female names on the ballot. They find that the quota increased the competence of male politicians when it raised the share of female political representation the most. Quotas could also have negative effects, such as creating a backlash against female leaders (Gagliarducci and Paserman 2011) or strengthening taste-based discrimination (Boisjoly et al. 2006, Beaman et al. 2009). Moreover, it is unclear that affirmative action in general eliminates negative stereotypes (Coate and Loury 1993). The evidence on the success of quotas in increasing women's political representation is mixed in general (see Pande and Ford 2011 for a review, also see Eggers 2011, Campa 2012, Bagues and Esteve-Volart 2012) and has been debated in the case of India.[15] However, even if the causal mechanism is unclear, given the difficulties of encouraging female political participation and the huge potential benefits of female political participation, quotas should definitely be considered, and the issue of female political participation should definitely be included as a Post-2015 Goal.

Improve Women's Access to Economic Opportunities

Even if female labor force participation contributes to household income growth, it is estimated that half of the women in the labor force are in vulnerable employment, and most of them receive less pay than their male counterparts for the same work[16]. Given the importance of having access to a regular source of income for both female empowerment and poverty reduction, more focus should be given to policies that encourage women to undertake economic activities in societies in which the participation of women in the labor force is perceived as not culturally acceptable. Having improved access to economic opportunities can also change the position of women in the household. Economic opportunities can even affect the value that parents attach to having daughters since it can change the aspirations that parents have for their daughters, and this in turn can change the decisions they make about their daughters' health, nutrition, and education, dramatically changing women's livelihoods.

For example, Jensen (2012) conducts an experiment in which recruitment services are provided in a set of randomly selected rural villages in India. The recruitment services provided information on the job market opportunities and exogenously increased women's labor force opportunities. The program did not involve the creation of new jobs; it simply involved a change in the locations in which the recruitment services were provided, given that recruiters targeted areas where they did not usually recruit. Results show that women aged 15-21 in the villages where the services were offered were 4.6 absolute percentage points more likely to work in a Business Process Outsourcing (BPO) job than women in the control villages and 2.4 absolute percentage points more likely to work for a paid job outside their home. Women in treated villages were also more likely to show interest in

[15] Beaman et al. (2009) find that women are significantly more likely to stand for and win elected positions in village councils in West Bengal if the post of chief councilor was reserved for a woman in two consecutive preceding elections. There are no significant impacts after one election period, in fact voter evaluations of women leaders deteriorates after one term of exposure. Bhavnani (2009) finds increases in women's candidacies and winning chances in reserved constituencies in Mumbai after quotas are lifted. However, a subsequent study shows much weaker results, most likely because of the fact that women candidates were discouraged to contest in areas that were not subject to quotas (Sekhon and Titiunik, 2012).

[16] ILO (2012)

working during their lives, which shows a shift in aspirations. They were also more likely to enroll in after-school training courses. The author shows that the increase in labor market opportunities for women came with an increase in human capital investments for girls, given the increase in 6-17 year old girls' school enrollment in treatment villages and the increase in BMI[17]-z-score for age for girls aged between 5 and 15 years old. While Jensen's experiment is very useful to understand the causal effects of providing economic opportunities for women on several measures, it is not designed for a cost-benefit analysis.

In this section I will discuss two programs that have been implemented recently and aim to provide economic opportunities for women, together with their costs and benefits.

One successful randomized experiment looking at vocational training for girls is the one by Bandiera et al. (2014), also discussed previously in this paper. Girls in Uganda were offered both vocational training and information on marriage, sex and reproduction in after-school clubs. Relative to adolescent girls in control communities, those in treatment communities were 72% more likely to participate in income generating activities, mainly via self-employment. The authors conduct a cost-benefit analysis of the intervention using the costs of the program and computing the benefits of the program only taking into account the benefits computed as the increase in household expenditure per capita, due to the difficulty to monetize issues such as early marriage and the likelihood of having sexual relationships without consent. With their information on costs of $28.1 for the first year and $17.9 for the second, and with estimates for the second year benefit at $32.8 (it is assumed the first year benefits are zero), we can compute a BCR of 0.67-0.69, depending on the discount rate used; see the first line in Table 6. However, the program had other benefits, apart from the increase in self-employment activities, which have not been included by Bandiera (2014), yet they are clearly part of the total benefits of the program.

In the following we will try to estimate the net impact of as many of the other benefits as possible. If we consider as well the other benefits attached to the program, such as a the decrease in the probability that girls have sex against their will and the decrease in early marriage and pregnancy rates, the benefits are much larger. If the cost of a rape to the victim in the US is $151,423 (DeLisi 2010), scaling this number using the Uganda vs US GDP per capita in 2008 would mean a cost of $1580.04 in 2008 USD. This estimate is a very imprecise guess, because Uganda and the US are very different countries and some of the psychological costs of sexual violence have very long term effects and are very difficult - if not impossible - to monetize, but this is a number that could potentially be used in order to estimate the benefits of the program. Given that the program lead to a 6.1 absolute percentage points reduction in the incidence of unwanted sex, the benefits-per-girl due to these lower incidence would be $96.38 in 2008 USD. The program also reduced the incidence of early marriage and early fertility. As reported in section 2.2, the annual yearly benefits of avoiding pregnancy in Uganda would be $842.94 in 2008 USD, this is in terms of forgone annual earnings and does not take into account psychological costs, the costs of having lower bargaining power in the household or the costs of having a partner that they probably did not choose. Bandiera et al. (2014) find a reduction in early fertility of 2.7

[17] Body Mass Index.

absolute percentage points in treated communities when the survey was conducted in the second year. This means that the benefits per-girl would be around $22.76 in 2008 USD. Overall the program would have a BCR of 3.1-3.2, see Table 6. If parents change their expectations about the value of investments in girl's human capital after the program is implemented, the benefits would be much larger, but with the current data and the current studies we do not know whether this would happen.

Table 6: Economic opportunities for women

	Low discount rate						***High discount rate***					
	Cost	***Benefits***				***BCR***	***Cost***	***Benefits***				***BCR***
		HH exp.	***Sex. violence***	***Early fert.***	***Total***			***HH exp.***	***Sex. violence***	***Early fert.***	***Total***	
Bandiera et al(2014)	*48.843*	*32.800*	*96.382*	*22.760*	*151.942*	*3.111*	*47.400*	*32.800*	*96.382*	*22.760*	*151.942*	*3.206*
After 4 years	*56.816*	*95.562*	*280.806*	*66.311*	*442.678*	*7.791*	*59.384*	*93.789*	*275.596*	*65.080*	*369.384*	*6.220*
(constant benefits)												
After 4 years	*56.816*	*78.063*	*229.385*	*54.168*	*361.616*	*6.365*	*59.384*	*76.831*	*225.766*	*53.313*	*355.909*	*5.993*
(benefits fade 20% rate)												

Note: The costs and benefits refer to the ones of treating one girl and are measured in US Dollars of 2008

The program started in Bangladesh, and Bandiera et al. (2014) conducted the evaluation of this program for the case of Uganda. BRAC, which is the NGO which implemented the program, has also started similar programs in other countries such as Tanzania, South Sudan and Sierra Leone, but other NGOs are implementing it in other African countries. In Sub-Saharan Africa, 60% of the unemployed are between 15 - 24 years old. In addition 58% of young women in Sub-Saharan Africa are out of the labor force, mostly due to early marriage and childbearing. And this number is much higher for Uganda, where 86% of young women are out of the labor force. Figures 9 and 10 plot the labor force participation rate for young women and the adolescent fertility rate for each one of these countries between 2004 and 2012, except for South Sudan, for which there are no estimates for the labor force participation rate. Uganda displays consistently higher teenage fertility rates than the other countries, while the labor force participation rate for young women is lower than the one in Tanzania but higher than the ones in Bangladesh and Sierra Leone.

This suggests that the effects of the program could be larger for Uganda than for other regions which have higher female labor force participation rates and lower teenage fertility rates. The program should be evaluated in other regions, but most probably the BCRs in other countries will still be high enough, and most probably will be larger than 1.

Figure 9: Labor force participation rate for ages 15-24, female (%) (modeled ILO estimate). Source World Development Indicators 2014. World Bank.

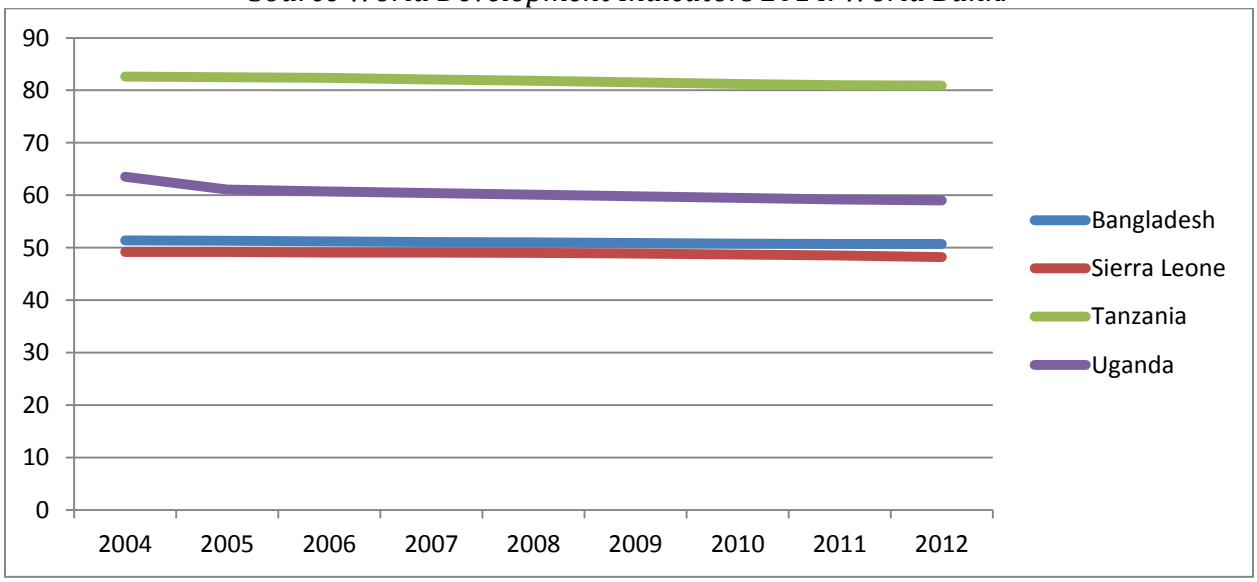
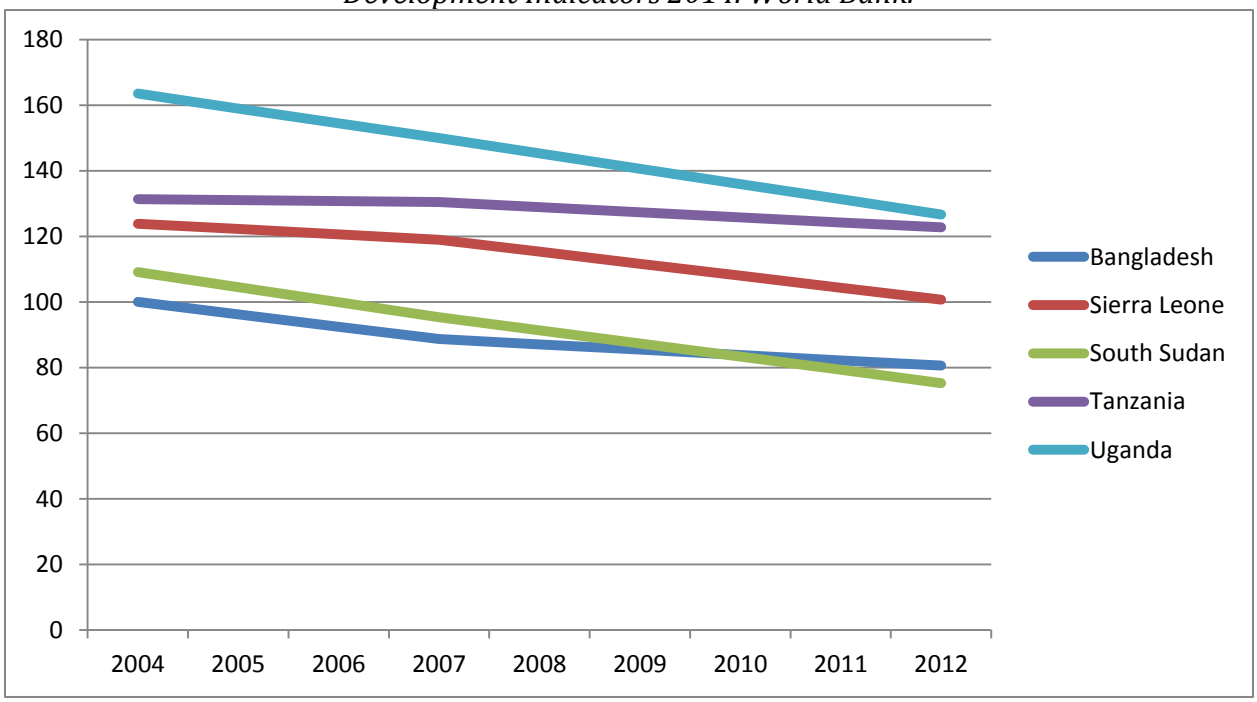


Figure 10:Adolescent fertility rate (births per 1,000 women ages 15-19). Source World Development Indicators 2014. World Bank.



With current data it is impossible to estimate precisely the long-term effects of the program on these girls, but they are likely to be positive, especially if they delay marriage until a much older age and this protects their health and allows them to accumulate human capital and conduct income-generating activities. If the average age of the girls in the program is 16, and girls aged 14-20 are those allowed to attend the after-school clubs in which the vocational and life-skills training are provided, we could expect girls to be in the program for an average of 4 years. If we assume that the fixed costs of the program, which are reported in the paper to be $14.9[18] the first year and $10.7 the second year, are only incurred the first two years, and in the third and fourth years the variable costs per affected girl are the same as the variable costs incurred in the second year, which are $7.12, the BCR after four years can be computed if some assumptions are made about the effects of the program. The second and third rows in Table 6 provide these estimates under two scenarios, one in which the effects of the program are constant over time and another one in which the effects of the program fade away at a 20% rate each year, which is probably more realistic if we consider that a large percentage of girls are likely to be married and maybe have a child by the age of 18. In all cases, both for the optimistic and pessimistic scenarios and with a high and low discount rate the BCR would be between 5.9 and 7.8. In order to compute the BCR for a longer time period it can be assumed that after the age of 20, when they can no longer attend the clubs, girls get married and have a child, stopping their income-generating activities. This would involve making assumptions about the likelihood that they are the receivers of sexual violence, and we do not have enough information about this number. If once they are married they are as likely to have sex

[18] 2008 US Dollars.

without consent as individuals in the control population, then the BCR after 4 years will coincide with the BCR of the program in the long run.

The study by Bandiera et al. (2014) shows that after-school clubs providing both vocational skills in which girls learn how to run a business and life skills in which girls learn about marriage, sex and children has large and positive effects on the probability that girls engage in self-employment, which translates into higher household expenditures, delayed marriage and childbearing and a decrease in the likelihood that girls have sex against their will.

Another program that was successful in improving income-generating activities or women is the one analyzed by Attanasio et al. (2011). It was a program for disadvantaged youth introduced in Colombia over 2001 - 2005. The program is called "Jóvenes en Acción" and provided three months of classroom training and 3 months of on-the-job training to young people aged 18 - 25. The program was not specifically targeted to benefit women but results from their study show that the program increased earnings and employment for women, while the effects for men were not significantly different from zero. Women who were offered training earned 19.6% more and had a 0.068 higher probability of being in paid employment compared with women who were offered no training. The individuals who were given access to the courses were randomly selected, thus the authors compared them to individuals that wanted to take the course but could not get access to it.

The authors find a gain of USD $211.16 for women per year, reflecting both the fact that their monthly earnings increased and their salaries also increased due to working in the formal sector. The costs of the program are USD $750 per person, plus USD $62 due to the loss of tenure caused by participating in the program. With this information, if we assume earnings are constant over time, both with a 3% and 5% discount rates the BCR of the program becomes larger than 1 if the women worked 4 years. The authors consider an alternative scenario in which earnings depreciate by 10%, in which case women would have to work for 5 years for the program to break even, assuming a high discount rate. In order to compute the benefits of the program, and given that the average age of women in the program is 22, the authors assume that the women will work for 40 years more. With constant earnings this amounts to a BCR of 6.19 and 4.68, with 3% and 5% discount rates, respectively. Assuming earnings depreciate at a 10% rate this amounts to a BCR of 2.05 - 1.8, with 3% and 5% discount rates, respectively. In order to compute these BCRs, the discounted benefits of the program for the following 40 years are divided by the discounted costs of the program, which are $812. With a 5% discount rate and constant earnings the benefits are $3805 and they decrease to $1478 if gains depreciate at a 10% rate annually. With a 3% discount rate these numbers would be $5027.34 and $1665.46, respectively.

Note that the article does not estimate the effect of the program on other outcomes such as marriage, fertility and women's empowerment. The average age of those affected by the program is higher than the average age of the girls affected by the program analyzed in Bandiera et al. (2014), but earning an income could affect the bargaining power of women

in the household, with possible positive benefits for themselves and for their children. All these potential benefits are not included in the BCRs computed above.

Even if these numbers are very encouraging, when thinking about scaling up this type of program note that in developed countries similar programs have been found to have very small effects, if any, and that Card et al. (2011) find that a similar program in the Dominican Republic had effects that were not statistically significant. Other non-randomized evaluations of programs in other Latin-American countries such as Argentina, Brazil, Chile, Colombia, the Dominican Republic, Panama, Perú and Uruguay gave similar results to those in Attanasio et al. (2011) presented above. However, without a randomized evaluation it is very difficult to provide evidence on the causal effect of a program.

Thus, the lack of information and vocational skills can be the key to understanding the low participation of women in income generating activities. It should be noted, however, that programs providing only business training may not be that effective, especially in situations in which women are likely to get married soon, which thus prevents them from participating in the labor market. Even if women have access to income-generating activities, they may not have sufficient knowledge or incentives to run them in an effective manner. A large fraction of the women who participate in income-generating activities in the developing countries are self-employed or micro-entrepreneurs, so understanding what drives women to become self-employed or micro-entrepreneurs and what can help them increase their profits is essential .

There are programs that provide business training for women, but they are not always successful. For example, Karlan and Valdivia (2011) analyze a program in which a microfinance company provided business training to a randomly selected sample of their female clients in Peru. The treated women received between 30 and 60 minutes of business training during their normal weekly or monthly meetings. They find almost no evidence of effects on business revenue, profits or employment. However, they find some effects on client retention. Field, Jayachandran and Pande (2010) conducted a randomized experiment in India in which they provided some training involving business skills and financial literacy to poor self-employed women. They find that training increases the likelihood that women report earning an income and talk about business with other family members, but the effect is only positive for upper caste women, not for Muslim and Scheduled (lower) Caste Women.

The large BCR provided by the program in Bandiera et al. (2014) and the existence of programs such as the one analyzed by Attanasio et al. (2011), which have been proven successful, suggest that the development community should invest in these type of programs, which can be very cost effective and can provide multiple benefits. Thus, improvement of economic opportunities for women should definitely be a goal for the Post-2015 agenda.

Increase the Number of Years of Education Attained by Women

Education is very important for girls and women, not only for the monetary returns and because knowledge empowers women, but also because women who receive more years of

schooling are likely to marry later, to have children later in life, to participate in income-generating activities, to make better decisions about their own health and their offspring's health and nutrition, and to have higher bargaining power in the household. Thus, equal access to education should be considered essential.

Gender gaps in primary education have narrowed dramatically but there are still disparities in primary education in some regions and gender differences prevail for secondary and university education. Education is one of the Post-2015 development targets, but it should be noted that education has large benefits for girls and women and a minimum level of education is a pre-condition to achieve equality in the labor force, in political participation, to eliminate early marriage and violence against women, and to ensure that women will fully take advantage of their assets and property rights.

When considering the decision of whether to target educational investments to girls, or simply to conduct non-targeted educational investments, note that returns to education for girls in low-income countries are higher than returns to education for boys (see Psacharopoulos and Patrinos 2002 and Schultz 2002). In addition, girls' education has positive externalities and other non-monetary benefits. For example, an increase in years of schooling also delays marriage and early fertility, which is the most important cost of early dropout for girls. There are other benefits that could also be included, such as the possibility that education improves health, reduces crime, affects attitudes towards democracy, etc. This means that educational policies that benefit women or which are targeted to increase women's education should definitely be a goal for the Post-2015 agenda.

Out of the articles discussed in Section 2.2, Duflo et al. (2012) show how an educational subsidy that provided primary school girls with free uniforms in grades 6, 7, and 8, when they were more susceptible to dropping out from school, delayed early marriage by 2.6 absolute percentage points after three years. In addition, girls who benefited from the intervention were 3.1 absolute percentage points less likely to have dropped out from school after three years.

Table 7: Education for women

			Low discount rate (3%)	*High discount rate (5%)*	*Low discount rate (3%)*	*High discount rate (5%)*	*Low discount rate (3%)*	*High discount rate (5%)*	*Low discount rate (3%)*	*High discount rate (5%)*
Paper	*Effect (marriage)*	*Effect (completing primary)*	*Cost of treating one girl (2014 US$)*	*Cost of treating one girl (2014 US$)*	*Benefits of more years edu (2014 US$)*	*Benefits of more years edu (2014 US$)*	*Benefits of later marriage (2014 US$)*	*Benefits of later marriage (2014 US$)*	*BCR*	*BCR*
Duflo et al (2012)	*2.6 percentage points after 3 years*	*3.1 percentage points after 3 years*	*22.99*	*23.45*	*52.43*	*40.18*	*66.3*	*67.6*	*5.16441931*	*4.59616205*

This paper follows Psacharaopoulos (2014) and assumes the return to an additional year of education to be 13.8%. And together with the average wage in Kenya in 2003 (325.01 US Dollars of 2014), this allows the computation of the benefits of the additional years of education for each girl, using 3% and 5% discount rates, and assuming that girls spend 40 years working for a constant wage. The costs are given by Duflo et al. (2012), and are computed in the same way as in section 1.2, assuming that girls get a new uniform every year. The resulting BCR is between 4.95 and 5.15. This takes into account both the benefits of the additional years of education, together with the benefits due to later marriage. Without taking into account the additional benefits due to later marriage the BCR would be smaller, note also that other benefits could be included, even if they are very difficult to monetize. Educational programs that retain girls in school, especially at the end of primary education, and programs that encourage them to continue with secondary education should definitely be encouraged, even if more research is needed in order to investigate what is the best way to encourage girls to complete secondary schooling.

Improve Access to Sexual and Reproductive Health for All Women

It is important to ensure access to healthcare for women, given that according to the UN only half of women in the developing world receive the amount of needed healthcare. The maternal mortality rate has decreased, but it remains unnecessarily high in many areas of the world, which points to lack of medical care before, during, and after delivery.

We still know very little about what are the most cost-effective policies that would manage to reduce maternal mortality. Mostly this is the case because randomized controlled trials are not always ethically acceptable when dealing with this type of issues and most of the evidence we have is descriptive. However, an improvement in health facilities and health attention, an increase in the number of antenatal visits attended by women and more resources being spent in increasing the likelihood that women give birth in proper facilities or with the presence of qualified professionals would most probably reduce the maternal mortality rate in most countries in which both health services and the uptake of these services are still deficient.

Access to contraceptives allows women to decide the moment to have children, which has important implications for their health, the amount of education attained and for their participation in the labor force. The study by Bandiera et al. (2014) found that the vocational training with life skills intervention in Uganda increased the control that girls have over their bodies. Early childbearing decreased by 26% and self-reported condom use increased by 28% relative to baseline levels.

Kohler and Behrman (2014) provide very high BCRs for achieving universal access to reproductive health services by 2030 and to reduce by 20% the maternal mortality rate. They find that the BCRs of implementing family planning programs that would reduce maternal and infant mortality would be of around 90-150, so this should definitely be included in the Post-2015 Goals.

It is difficult to think about women's empowerment when they cannot take decisions concerning their own fertility and if each pregnancy can put a woman's life at risk. Good maternal care should be provided to all women, together with access to contraception and safe abortion practices. The Post-2015 Development Targets will address the issue of maternal health and access to contraception, but a paper discussing the different targets that should be attained for female empowerment and equal rights for women and men should not conclude without stressing again its importance as a pre-condition to achieve of all the other targets discussed in this paper, in fact reproductive and maternal health should be one of the key issues.

Policy Recommendations and Conclusion

Women are around 50% of the population of the World, meaning that all development targets proposed for the Post-2015 Goals are going to affect their livelihoods and all the goals and targets should be informed by the fact that there may be gender differences in the way that individuals react to policies. This paper evaluates the Goals proposed by the U.N. HLP in the report "A New Global Partnership". Table 8 provides the summary of the recommendations, which will also be discussed in this section.

As a preliminary matter, note that there are three recommendations made for the Post-2015 Goals, but this paper has argued using BCRs that two issues are not expressly mentioned although they should be prominently featured there due to their importance. These issues are essential, should be regarded as pre-conditions, and if governments and development organizations invest in programs that have been shown to be effective to tackle these issues, then other goals such as the reduction in violence against women or the reduction in early marriage rates could also be attained as byproducts.

First is providing education for women, especially at the primary level, in the most deprived areas, in which equality in enrollment and completion rates have not yet been achieved. A discussion of all the programs that have been effective in increasing the number of years of education that girls attain or programs that increase their test scores is outside the scope of this study, which is mainly focused on the gender Goals that have been discussed for the Post-2015 agenda, but education is so important in empowering women, helping them achieve a source of income and take charge of their own health and their children's, etc., that it should be discussed by this paper.

Second is providing equal access to healthcare, and in particular to reproductive services, both as contraception and as maternal care. And these should also be regarded as a pre-condition for all the other targets to be achieved. Women need to be healthy in order to study and work, but they also need to be able to have some degree of control over their own fertility in order to decide when and whether to have children, to study or to be in the labor force.

Another pre-condition is to ensure equal right of women to own and inherit property, sign a contract, register a business and open a bank account. We have very little causal evidence of the effects of allowing women to inherit property, have businesses, sign contracts and

open bank accounts, given that randomized controlled trials to tackle these issues are very difficult to design and we need changes in government policies that allow us to estimate the effect of the policy change in a convincing way. That is, we would need changes to be implemented in different areas of a country in different points in time, or we would need to be able to compare two very similar countries, one where the change was implemented and another one in which it was not. These policy experiments are not always possible.

Even if we still do not have enough causal evidence, we cannot think about empowering women and giving them access to income generating opportunities, which in most cases are micro-enterprises, if they cannot have property rights over their own business and assets. The fact that women cannot inherit property means that they will not inherit family land or businesses. If women cannot sign contracts, register businesses, and open bank accounts, this means that there will be a male figure in control of their business, income and assets, which can weaken not only their incentives to invest in businesses, but also their bargaining power within the household.

Due to this lack evidence on the effects of providing women with property rights over their businesses and assets it is very difficult to provide BCRs or cost-effectiveness measures for the policies that increase women's rights. But this does not mean that this goal should not be included in the Post-2015 agenda as one of the most important ones.

We know very little about the effect of programs targeted to reduce violence against women and increase the age at marriage. So far very few development expenditures have been directed to these issues, and there are very few programs that have as a sole objective the reduction in violence against women and an increase of the age at which girls get married, which can also be interpreted as a form of violence if the marriage does not involve the girl's consent. The programs discussed in these study seem to effectively reduce sexual violence against women and to increase age at marriage but these are programs mainly targeted to increase education or women's empowerment in general. The Millennium Development Goals (MDG) did not include these two issues, even if they affect negatively the lives of millions of women and their offspring in the developing world. Including them in the Post-2015 Goals would be good to make these issues more salient and make sure that policymakers worldwide are aware of these issues and take them into account. However, given the limited evidence we have on the effectiveness of programs that are designed to tackle these problems, the suggestion of this paper is instead to invest more in issues such as education and female economic and political empowerment, which will probably lead to improvements both as a reduction in violence and as an increase in the age at which girls get married on average.

Women are underrepresented in political positions in all countries in the world, even if some countries have started introducing quotas in order to increase female political representation. Given the increasing evidence that women and men make different policy decisions, probably because they have different needs and interests, the gender goal should definitely mention this as one of the targets. Even if quotas can have drawbacks, the benefits could be larger than the costs for female empowerment and participation in public life.

Finally, development programs that encourage women to start income-generating activities seem to be very successful, not only in getting women in to paid employment in a very cost-effective manner, but also because they manage to reduce child marriages, change attitudes and expectations, and even to reduce domestic violence. The gender goal in the Post-2015 agenda should definitely mention the importance of ensuring that women have access to income-generating activities.

Table 9 provides a summary of the benefits, costs and the benefit-cost-ratio (BCR) of the most successful or representative program for each target analyzed in this paper. BCRs cannot always be provided due to lack of evidence on programs designed to increase women's political representation or women's rights, but this does not make them less important. Sometimes the lack of rights or opportunities is an issue that can create inefficiencies, even if we cannot compute them all. In addition, the BCRs derived from development programs cannot be generalized. For example, the fact that improving income-generating activities for women can have a BCR of almost 8 does not mean that the BCR of any program that aims to improve income-generating activities for women will have the same BCR. Only similar programs in similar areas can be expected to have similar effects. Thus, the scaling up and replication of successful programs is crucial. The BCRs provided in this study should only be used to indicate that there is scope to find programs and solutions that are successful in tackling a particular problem for which the benefits can be larger that the costs.

Table 8: Summary of Recommendations

TARGET	SUMMARY	Summary BCR	DISCUSSION	RECCOMENDATION
Increase the number of years of education attained by women	Discourage dropouts from primary education and encourage secondary education enrollment.	4.59-5.16	The BCR also includes benefits from delaying marriage and fertility, but there is evidence of successful educational programs delaying marriage and early fertility.	**Include as a pre-condition.**
Improve access to sexual and reproductive health for all women	Providing equal access to healthcare, and in particular to reproductive services, both as contraception and as maternal care	90-150 (from Kohler and Behrman 2014)	More studies needed .	**Include as a pre-condition.**
Ensure equal right of women to own and inherit property, sign a contract, register a business and open a bank account	Ensure equal right of women to own and inherit property, sign a contract, register a business and open a bank account	Potentially very high with low cost, only change in legislation needed.	More studies needed.	**Include as a pre-condition.**
Prevent and eliminate all forms of violence against girls and women	Reduce violence against women	Not enough evidence and potentially high costs. Cannot be a zero target.	Programs empowering women, increasing educational attainement and increasing the availability of income-generating opportunities for women could suceed in reducing violence against women but more evidence is needed.	**Do not include**

End child marriage	Reduce early marriage and teenage fertility rates	Not enough evidence from programs directly targeted to the issue. Cannot be a zero target.	Programs empowering women, increasing educational attainement and increasing the availability of income-generating opportunities for women will most likely suceed in delaying marriage and early fertility.	**Do not include**
Increase women's political representation	Encourage the implementation of quotas at all government levels	Potentially very high. Only changes in electoral laws are needed, so the cost is potentially low.	Evidence suggests that female politicians represent the needs and preferences of women.	**Include**
Improve women's access to economic opportunities	Encourage women to start income-generating activities through vocational training and informational campagins	6.2-7.8	Evidence of successful programs providing vocational training and information.	**Include**

Table 9: Summary of BCRs

		3% discount rate			5% discount rate		
TARGET	**Program**	**Benefit**	**Cost**	**BCR**	**Benefit**	**Cost**	**BCR**
Increase the number of years of education attained by women	**Program in Duflo et al 2012**	**118.6**	**23.0**	**5.2**	**107.6**	**23.5**	**4.6**
Improve access to sexual and reproductive health for all women	**Analysis in Kohler and Behrman 2014**	**324-540**	**3.6**	**90-150**			
Ensure equal right of women to own and inherit property, sign a contract, register a business and open a bank account	**No programs providing BCRs**						
Prevent and eliminate all forms of violence against girls and women	**No programs directly targeted to the issue providing BCRs**						
End child marriage	**No programs directly targeted to the issue providing BCRs**						
Increase women's political representation	**No programs providing BCRs**						
Improve women's access to economic opportunities	**Program in Bandiera et al 2014 (after 4 yrs)**	**442.7**	**56.8**	**7.8**	**369.4**	**59.4**	**6.2**

References

Attanasio, O., Kugler, A. and Meghir, C. (2011). "Subsidizing Vocational Training for Disadvantaged Youth in Colombia: Evidence from a Randomized Trial". American Economic Journal: Applied Economics 3(July 2011), 188-220.

Bagues, Manuel and Berta Esteve-Volart. 2012. "Are Women Pawns in the Political Game? Evidence from Elections to the Spanish Senate," Journal of Public Economics 96, pp. 387-399.

Baird, S., Craig McIntosh, and Berk Özler, 2011. Cash or Condition? Evidence from a Cash Transfer Experiment The Quarterly Journal of Economics (2011) 126 (4): 1709-1753

Bandiera, O., Buehren, N., Burgess, R., Goldstein, M., Gulesci, S., Rasul, I. and Sulaiman, M. 2014. "Women's Empowerment in Action: Evidence from a Randomized Control Trial in Africa". Mimeo.

Beaman, Lori, Raghabendra Chattopadhyay, Esther Duflo, Rohini Pande and Petia Topalova. 2009. "Powerful Women: Does Exposure Reduce Bias?" Quarterly Journal of Economics 124(4): 1497-1540.

Beaman, Lori, Esther Duflo, Rohini Pande, and Petia Topalova. 2012. "Female Leadership Raises Aspirations and Educational Attainment for Girls: A Policy Experiment in India." Science 355(2012): 582-586.

Beath, A., Fotin Christa and Ruben Enikopolov (2013). Empowering Women through Development Aid: Evidence from a Field Experiment in Afghanistan. American Political Science Review, 107, pp 540-557. doi:10.1017/S0003055413000270.

Besley, T, Folke, O., Persson, T., and Rickne, J. 2013. "Gender Quotas and the Crisis of the Mediocre Man: Theory and Evidence from Sweden". Mimeo.

Bhalotra, Sonia and Irma Clots-Figueras. Forthcoming. "Health and the Political Agency of Women." American Economic Journal: Economic Policy.

Bhalotra, Sonia, & Clots-Figueras, Irma & Iyer, Lakshmi, 2014. "Path-Breakers: How Does Women's Political Participation Respond to Electoral Success?" mimeo.

Bhavnani, Rikhil. 2009. "Do Electoral Quotas Work After They Are Withdrawn? Evidence from a Natural Experiment in India." American Political Science Review 103 (1):23-35.

Boisjoly, Johanne, Greg Duncan, Michael Kremer, Dan Levy and Jacque Eccles. 2006. Empathy or Antipathy? The Consequences of Racially and Socially Diverse Peers on Attitudes and Behaviors." American Economic Review, 96, 1890-1906.

Brollo, Fernanda and Troiano, Ugo, What Happens When a Woman Wins an Election? Evidence from Close Races in Brazil (March 28, 2014).

Campa, Pamela. 2012. "Gender Quotas, Female Politicians and Public Expenditures: Quasi-Experimental Evidence." Working Paper, Stockholm University.

Card, D., Ibarrán, P., Regalia, F., Rosas, D., Soares, Y. 2011. "The Labor Market Impacts of Youth Training in the Dominican Republic". Journal of Labor Economics, 29(2): 267-300.

Chaaban, J, and Cunningham, W. 2011. "Measuring the Economic Gain of Investing in Girls. The Girl Effect Divident". Policy research working paper 5753. The World Bank.

Raghabendra Chattopadhyay & Esther Duflo, 2004. "Women as Policy Makers: Evidence from a Randomized Policy Experiment in India," Econometrica, Econometric Society, vol. 72(5), pages 1409-1443, 09.

Clots-Figueras, Irma. 2011. “Women in Politics: Evidence from the Indian States.” Journal of Public Economics 95: 664-690.
Clots-Figueras, Irma. 2012. “Are Female Leaders Good for Education? Evidence from India.” American Economic Journal: Applied Economics 4(1), 212-44.
Coate, S. & Loury, G.C., 1993. Will Affirmative-Action Policies Eliminate Negative Stereotypes? The American Economic Review, pp.1220-40.
Delisi, M. (2010). Murder by numbers: Monetary costs imposed by a sample of homicide offenders. The Journal of Forensic Psychiatry & Psychology, 21, 501-513. doi:10.1080/14789940903564388
Dhaliwal, I, Duflo, E,. Glennester, R., Tulloch, C., 2012. “Comparative Cost-Effectiveness Analysis to Inform Policy in Developing Countries. A General Framework with Applications for Education”. Abdul Latif Jameel Poverty Action Lab (J-PAL), MIT.
Doepke, M., Tertilt, M., and Voena, A. 2012. “The Economics and Politics of Women’s Rights”. Annual Review of Economics. :6.1–6.34.
Duflo, Esther. 2003. “Grandmothers and Granddaughters: Old Age Pension and Intra-household Allocation in South Africa”. World Bank Economic Review, 17(1), 1-25.
Duflo, Esther. 2012. "Women Empowerment and Economic Development." Journal of Economic Literature, 50(4): 1051-79.
Duflo, E., Dupas, P. and Kremer, M. 2012. “Education, HIV, and Early Fertility. Experimental Evidence from Kenya”. Mimeo.
Eggers, Andrew. 2011. “Is Female Political Participation Self-Reinforcing? Evidence from French Municipal Politics.” Mimeograph.
Fafchamps, Marcel & McKenzie, David & Quinn, Simon & Woodruff, Christopher, 2014. "Microenterprise growth and the flypaper effect: Evidence from a randomized experiment in Ghana," Journal of Development Economics, Elsevier, vol. 106(C), pages 211-226.
Fearon, J. and Hoeffkle, A. 2014. “Beyond Civil War: The Costs of Interpersonal Violence and the Next Round of MDGs”. Paper prepared for the Copenhaguen Concensus.
Field E. 2003.Fertility responses to urban land titling programs: the roles of ownership security and the distribution of household asset. Unpublished manuscript, Harvard Univ.
Field, Erica, and Attila Ambrus. 2008. Early marriage, age of menarche, and female schooling attainment in Bangladesh. Journal of Political Economy 116(5): 881-930.
Field, Erica, Seema Jayachandran, and Rohini Pande. 2010. "Do Traditional Institutions Constrain Female Entrepreneurship? A Field Experiment on Business Training in India." American Economic Review, 100(2): 125-29.
Gagliarducci, Stefano and Daniele Paserman. 2012. “Gender Interactions within Hierarchies: Evidence from the Political Arena.” Review of Economic Studies 79(3): 1021-1052.
Ghani, Ejaz, William R. Kerr, and Stephen D. O'Connell. Journal of Development Economics 108 (May 2014): 138–153.
Goyal, A., Klaus Deininger, and Hari Nagarajan. "Women's Inheritance Rights and Intergenerational Transmission of Resources in India" Journal of Human Resources 48.1 (2013): 114-141.
International Labour Organization (2012). Global Employment Trends for Women.
Iyer, Lakshmi, Anandi Mani, Prachi Mishra, and Petia Topalova. 2012. "The Power of Political Voice: Women's Political Representation and Crime in India." American Economic Journal: Applied Economics, 4(4): 165-93.

Jensen, R., 2012. Do Labor Market Opportunities Affect Young Women's Work and Family Decisions? Experimental Evidence from India The Quarterly Journal of Economics first published online March 3, 2012.
Jensen, Robert and Thornton, Rebecca, 2003. "Early Female Marriage in the Developing World". Gender and Development, Vol 11, No 2, Marriage (Jul 2003). pp 9-19.
Karlan, D. And Valdivia, M. "Teaching Entrepreneurship: Impact Of Business Training on Microfinance Clients and Institutions" (May 2011) Review of Economics and Statistics, 93(2), pp. 510-527.
Karlan, D., and Zinman, J. 2011. "Microfinance in Theory and Practice. Using Randomized Credit Scoring for Impact Evaluation". Science, Vol 332, no 6035.
Kohler, H-P, and Behrman, J.R. 2014. Population Dynamics: Prioritizing the 2015 UN Development Agenda on Population Dynamics.
Knight, J. B., and R. H. Sabot (1990): Education, Productivity, and Inequality. Washington, DC: Oxford University Press
Luke, N., Kaivan Munshi 2011. "Women as agents of change: Female income and mobility in India", Journal of Development Economics, Volume 94, Issue 1, January 2011, Pages 1-17.
Lundberg, Shelly J., Robert A. Pollak, and Terence J. Wales. 1997. "Do Husbands and Wives Pool Their Resources? Evidence from the United Kingdom Child Benefit."Journal of Human Resources, 32(3), 1132-1151.
MacMillan, R. (2000). Adolescent victimization and income deficits in adulthood: Rethinking the costs of criminal violence from a life-course perspective, Criminology, 38,553-588.doi:10.1111/j.1745-9125.2000.tb00899.
de Mel, Suresh, David McKenzie, and Christopher Woodruff. 2009. "Are Women More Credit Constrained? Experimental Evidence on Gender and Microenterprise Returns." American Economic Journal: Applied Economics, 1(3): 1-32.
Mhalotra, A., Warner, A., McGonagle, A. and Susan Lee-Rife 2011. Solutions to End Child Marriage, What the Evidence Shows. ICRW.
Miguel, E. and Kremer, M. (2004), Worms: Identifying Impacts on Education and Health in the Presence of Treatment Externalities. Econometrica, 72: 159–217.
National Alliance to End Sexual Violence. (2010). 2010 survey of rape crisis centers.
United Nations. 2013 Fact Sheet.http://www.un.org/millenniumgoals/pdf/Goal_3_fs.pdf
Pande, Rohini and Deanna Ford. 2011. "Gender Quotas and Female Leadership: A Review," Background paper for the World Development Report on Gender.
Dr Paul M Pronyk FRCP,James R Hargreaves PhD,Julia C Kim FRCP,Linda A Morison MSc,Godfrey Phetla MA,Prof Charlotte Watts PhD,Joanna Busza MSc,John DH Porter MD. Effect of a structural intervention for the prevention of intimate-partner violence and HIV in rural South Africa: a cluster randomised trial
The Lancet - 2 December 2006 (Vol. 368, Issue 9551, Pages 1973-1983)
DOI: 10.1016/S0140-6736(06)69744-4
Psacharopoulos, G. & Patrinos, H. (2002). Returns to investment in education: a further update. Policy Research Working Paper Series 2881. Washington, DC: The World Bank.
Psacharopoulos, G. (2014). Benefits and Costs of the Education Targets for the Post-2015 Development Agenda. Copenhaghen Consensus.
Roy, S. 2014. "Empowering Women: Inheritance Rights and Female Education in India". Mimeo.

Sekhon, Jasjeet S. and Rocio Titiunik. 2012. “When Natural Experiments are Neither Natural Nor Experiments.” American Political Science Review 106 (1): 35-57.
Schultz, T.P. (2002). Why Governments Should Invest More to Educate Girls. World Development, 30 (2): 207-225.
Svensson, J. (2005). “Eight questions about Corruption”, Journal of Economic Perspectives, 2005, 19 (5): 19-42.
Thomas, Duncan. 1990. “Intra-household resource allocation: an inferential approach”.Journal of Human Resources, 25(4) 635-664.
United Nations, Department of Economic and Social Affairs, Population Division (2013). World Marriage Data 2012 (POP/DB/Marr/Rev2012).
United Nations. 2013. “Promote gender equality and empower women”. Fact sheet.
United Nations, High Level Panel. 2014. “A New Global Partnership”.
World Bank. 2014. Voice and Agency: Empowering women and girls for shared prosperity. Washington D.C.
World Development Indicators 2014 . The World Bank.
World Health Organization (2013). “Global and regional estimates of violence against women: prevalence and health effects of intimate partner violence and non-partner sexual violence”.
http://www.povertyactionlab.org/

This paper was written by Irma Clots – Figueras, Associate Professor at the Department of Economics in Universidad Carlos III de Madrid. The project brings together 62 teams of economists with NGOs, international agencies and businesses to identify the goals with the greatest benefit-to-cost ratio for the next set of UN development goals.

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