

Women Empowerment and Economic Development

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Women empowerment and economic development are closely related: in one direction, development alone can play a major role in driving down inequality between men and women; in the other direction, empowering women may benefit development. Does this imply that pushing just one of these two levers would set a virtuous circle in motion? This paper reviews the literature on both sides of the empowerment–development nexus, and argues that the interrelationships are probably too weak to be self-sustaining, and that continuous policy commitment to equality for its own sake may be needed to bring about equality between men and women. (JEL I14, I24, I32, I38, J13, J16, O15)

1. Introduction

The persistence of gender inequality is most starkly brought home in the phenomenon of “missing women.” The term was coined by Amartya Sen in a now classic article in the *New York Review of Books* (Sen 1990) to capture the fact that the proportion of women is lower than what would be expected if girls and women throughout the developing world were born and died at the same rate, relative to boys and men, as they do in sub-Saharan Africa. Today, it is estimated that 6 million women are missing every year (World Bank 2011). Of these, 23 percent are never born, 10 percent are missing in early childhood, 21 percent in the reproductive years, and 38 percent

above the age of 60. Stark as the excess mortality is, it still does not capture the fact that throughout their lives, even before birth, women in developing countries are treated differently than their brothers, lagging behind men in many domains. For each missing woman, there are many more women who fail to get an education, a job, or a political responsibility that they would have obtained if they had been men.

Table 1 summarizes some indicators of the relative position of women and men circa 1990 and circa 2009 in poor countries. Both the relative deprivation of women, and the extent to which there have been improvements over the last twenty years, are apparent in a number of spheres. In access to education: in low and moderate income countries, the enrollment rate for girls in secondary school was 34 percent in 2010, while that for boys was 41 percent. Twenty

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TABLE 1
SOME INDICATORS OF THE WELFARE OF MEN AND WOMEN

	1990		2009 or 2010	
	Boys/men	Girls/women	Boys/men	Girls/women
Primary enrollment rate (gross) (1) [low income countries]	81(1991)	67(1991)	107	100
Secondary enrollment rate (gross) (2) [low income countries]	30 (1991)	22 (1991)	41	34
Labor force participation (3)	82% (1980)	50% (1980)	78%	52%
Gender ratio at birth, China (4)	1.11	1	1.18	1
Gender ration at birth, India (5)	1.06	1	1.09	1
Maternal mortality (per 100,000 live births) (6) [low income countries]	X	850	X	580
Life expectancy (7) [low income countries]	51	54	56	59
[high income countries]	72	79	77	83

Sources:

- (1) World Bank (2011).
- (2) World Bank (2011).
- (3) World Bank (2011).
- (4) People's Republic of China Population Census Office (1990).
- (5) Indian Registrar General and Census Commissioner (1990).
- (6) World Bank (2011).
- (7) World Bank (2011).

years before, the rates were respectively 22 percent and 30 percent. Meanwhile primary school enrollment has become nearly universal for both boys and girls. In labor market opportunities: women are less likely to work, they earn less than men for similar work, and are more likely to be in poverty even when they work. Women spend almost twice as much time on housework, almost five times as much time on child care, and about half as much time on market work

as men do (Berniell and Sánchez-Páramo 2011). In political representation: women constituted just 19.4 percent of the members of lower and upper houses of parliaments in July 2011 (Inter-parliamentary Union 2011). In legal rights: women in many countries still lack independent rights to own land, manage property, conduct business, or even travel without their husband's consent. Twenty-one of the 63 countries studied by Htun and Weldon (2011)

have unequal inheritance rights for men and women.

There is a bidirectional relationship between economic development and women's empowerment defined as improving the ability of women to access the constituents of development—in particular health, education, earning opportunities, rights, and political participation. In one direction, development alone can play a major role in driving down inequality between men and women; in the other direction, continuing discrimination against women can, as Sen has forcefully argued, hinder development. Empowerment can, in other words, accelerate development.

Policymakers and social scientists have tended to focus on one or the other of these two relationships. Those focusing on the first have argued that gender equality improves when poverty declines. Policymakers should therefore focus on creating the conditions for economic growth and prosperity, while seeking, of course, to maintain a level playing field for both genders, but without adopting specific strategies targeted at improving the condition of women.

In contrast, many emphasize the second relationship, from empowerment to development. The Secretary General of the United Nations, Kofi Annan, for example, has argued that achieving gender equality is a “prerequisite” to achieving the other Millennium Development Goals (MDGs), including eliminating poverty, reducing infant mortality, achieving universal education, and eliminating the gender gap in education by 2015 (United Nations 2005). In its report, “Engendering Development,” the World Bank (2001) calls for policies to address gender imbalance in “rights, resources, and voice,” and recommends that institutional structures be overhauled to promote equality, and that specific measures, such as girls' scholarships and quotas

for women in parliament, be adopted. These measures are justified, according to the report, not only because they promote equity, but also because they are necessary to accelerate development. Interestingly, the 2012 World Development Report (World Bank 2011) adopts a much more nuanced message. While it emphasizes the “business case” for women empowerment, it mainly takes it as given that the equality between women and men is a desirable goal in itself, and policies should aim to achieve that goal.

This paper reviews the evidence on both sides of the empowerment–development relationship. It first shows that poverty and lack of opportunity breed inequality between men and women, so that when economic development reduces poverty, the condition of women improves on two counts: first, when poverty is reduced, the condition of everyone, including women, improves, and second, gender inequality declines as poverty declines, so the condition of women improves more than that of men with development. Economic development, however, is not enough to bring about complete equality between men and women. Policy action is still necessary to achieve equality between genders. Such policy action would be unambiguously justified if empowerment of women also stimulates further development, starting a virtuous cycle. This essay argues that empowering women does indeed change society's choices in important ways, although the usual depiction of women as always making the best decisions for long-term development is somewhat exaggerated. The conclusion here is a more balanced, somewhat more pessimistic picture of the potential for women's empowerment and economic development to mutually reinforce each other than that offered by the more strident voices on either side of the debate.

2. *Can Economic Development Cause Women's Empowerment?*

Gender inequality is often greater among the poor, both within and across countries. For example, while the gender gap in primary and secondary gross enrollment has rapidly gone down between 1991 and 2009 worldwide, it is still wider in poor countries (7 percentage points for primary enrollment, 13 percentage points for secondary enrollment) than in middle income countries (3 percentage points for primary enrollment, 2 percentage points for secondary enrollment) and rich countries (0 percentage points for primary, 1 percentage point for secondary). And within countries, gaps between boys and girls persist in poorer and more isolated communities (World Bank 2011). The participation of women in the labor market has grown by 15 percent in East Asia and Latin America between 1971 and 1995, a rate faster than that for men, and the gender gap in wages has narrowed as well. The life expectancy of women has increased by 20–25 years in developing countries over the past fifty years (World Bank 2011), while male life expectancy did not improve as much.

Is it the case that as countries develop, women's empowerment will follow naturally, and there is therefore no need for specific policies targeted at improving the condition of women? Is it sufficient to fight poverty and to create the conditions for economic growth in poor countries? Recent research suggests that economic growth, by reducing poverty and increasing opportunity, can indeed have an important positive impact on gender equality.

2.1 *Relaxing the Grip of Poverty through Economic Development*

The first way by which economic development reduces inequality is by relaxing the constraints poor households face, thus reducing the frequency at which they are

placed in the position to make life or death choices. Because these tragic choices are often resolved at the expense of women's well-being, increasing the resources available to families, as economic development does, reduces the excess vulnerability of women.

Even in the countries where the preference for boys is strongest, the evidence that girls systematically receive less care than boys under normal circumstances is not as clear-cut as one might guess. It is, of course, very difficult to observe whether, for example, girls are given less to eat than boys, since households under observation are likely to change their behavior. Also, when asked to keep diaries of how much each member consumes over a given period, households may misreport the portions given to boys and girls. Finally, households may give the same amount to boys and girls, but girls' needs may be different. Deaton (1989, 1997) proposed an ingenious way to use household consumption data to indirectly estimate whether girls are given less to eat than boys. He noted that, when a child is born, the household, in effect, becomes poorer, since there is now one more person to feed—one who will remain unproductive for a long while. This means that the adult members of the household need to cut down on their own consumption to make room for the new expenditures. Observing the extent to which the household consumption of "adult goods," such as cigarettes, alcohol, or adult clothing drops when a child is born, provides us with an indirect estimate of the "cost" of the child. If families expend fewer resources on girls, for example, if girls are given less to eat than boys, then the adults will cut their consumption of adult goods by a smaller amount when they have an extra girl than when they have an extra boy. Yet, both in Cote d'Ivoire, where Deaton first conducted the research, and in Pakistan, where he repeated the analysis (Deaton 1997), there is no evidence that households

reduce consumption of adult goods less for a girl than for a boy. The lack of evident discrimination in everyday life is also apparent, for example, in immunization rates. The vaccination differential between boys and girls in India is small or nonexistent (according to the National Family Health surveys, girls have received 4.55 shots, and boys 4.79 shots). Rajasthan is one of the states in India with the lowest female to male ratio and the lowest immunization rate among states in India. Yet, Banerjee et al. (2010) find no difference in immunization rates between boys and girls: on average, boys had received 1.19 immunizations, and girls 1.18.

This is not to say that girls are not treated differently than boys. The differential treatment is observed when either children or parents face extreme circumstances. India has one of the largest discrepancies in gender-specific mortality rates. One reason for this is that girls are treated differently when ill: for example, a study found that, in the poor neighborhoods of New Delhi, girls are more than twice as likely to die of diarrhea (Khanna et al. 2003). This may not only cause excess mortality, but a progressive deterioration in the nutritional status of girls compared to boys, even if girls eat as much as boys. If poor households are less likely to spend money on a girl's illness than on a boy's illness, then improved access to health services, through either health insurance for the entire family or free medical care for the poor, would disproportionately help girls, even if parents do not change their behavior toward them.

Differential treatment of girls and boys also becomes acute when the household itself is facing a crisis. In India, the excessive mortality rate of girls, relative to boys, spikes during droughts. When they cannot afford to feed everyone, families disproportionately sacrifice the welfare of girls (Rose 1999). Research conducted in rural Tanzania shows explicitly how the vulnerability of women

increases when households face a crisis. When the harvest is bad, due to droughts or floods, and food is scarce, the murder of "witches" (almost always old women) is twice as likely to occur as in normal years (Miguel 2005). If crises throw poor households into circumstances in which they are more likely to discriminate against vulnerable women, then increasing the ability of poor households to weather crises would disproportionately help women.

These two examples suggest that just reducing the grip of poverty on these households or helping them to deal with crises could improve the welfare of women of all ages. Ali et al. (2011) show that, in seven countries around the world (including Afghanistan and India), there is no difference in the ways that girls and boys are treated by health practitioners once they reach the facility. If facilities were closer and easier to reach, parents would likely be bringing boys and girls more often, and they would then be equally treated. Some also argue that, mechanically, improvements in water and sanitation conditions, as well as the better control of infection, may also be more beneficial to girls than to boys, because boys are more susceptible to congenital deformation, and their disadvantage compared to girls, is lower for infectious diseases (Drevenstedt et al. 2008).

As households become richer, they will also be less likely to face choices at the margin of subsistence. Indeed, in India, the study by Rose (1999) shows that households that can buffer their consumption in a bad year—those, for example, with assets to sell—do not show the dramatic increase in relative mortality of girls during droughts. This first suggests that providing households with insurance against risk may reduce both child mortality and the mortality gap between boys and girls, and second, that households that are a little richer are less likely to be thrown into desperation by bad

rainfall. Reducing poverty, it seems, even without targeting women, will disproportionately help women. Pension remittances in South Africa offer suggestive evidence of how a nontargeted transfer can improve the plight of women. At the end of apartheid in the early 1990s, old-age pension programs, previously limited to whites, were expanded to cover South Africans of all races. Since the introduction of the program, witch killings in rural Northern Province have dropped dramatically (Singer 2000). It is, of course, difficult to definitively establish causality given the many other political and social changes that occurred in South Africa during the same period.

Economic development reduces poverty. It increases the ability—distinct from will—of households to withstand crises and the ability of governments to insure their poorest citizens against sickness and hunger. Thus, by reducing the vulnerability of poor households to risk, economic development, even without specifically targeting women, disproportionately improves their well-being

2.2 *Economic Development, Fertility, and Maternal Mortality*

Other than pre-birth and in early childhood, women are most likely to be missing relative to men in childbearing years. This, of course, is not the result of active discrimination, but due to the fact that women carry children and give birth, and that in itself is a dangerous activity. Other than directly affecting the welfare of women (and not men) in a significant way, maternal mortality is potentially a source of lower parental investment in childhood: if parents expect girls to be much more likely to die as young women than boys, they may be more inclined to invest in boys. Jayachandran and Lleras-Muney (2009) find that the sudden reduction in maternal mortality in Sri Lanka (brought about by effective public policy) led to a convergence in the education level of boys and girls. They

estimate that every year of increase in life expectancy leads to an increase in years of education of girls (relative to boys) of 0.11 of a year. This creates two ways for economic development to potentially improve the relative welfare of women: by reducing the chance that they die at each childbirth, and because economic development goes hand in hand with a reduction in fertility.

In sub-Saharan Africa, a woman faces a 1 in 31 chance of dying from complications due to pregnancy or childbirth, while in the developed regions the risk is 1 in 4,300 (World Bank 2011). While maternal mortality depends on a number of factors, it is less likely to occur if individuals are richer (and are able to deliver in a high quality facility) and if health systems function better. The diffusion of technological innovation matters as well: Jayachandran, Lleras-Muney, and Smith (2010) find that the introduction of sulfa drugs in the United States led to a 24 to 36 percent reduction in maternal mortality in the 1930s.

Overall, fertility decreases with income and education and age at first birth increases. Age at first birth is a risk factor in maternal mortality: very young mothers are more likely to die or have complications in childbirth. Fertility has declined dramatically in most developing countries over the last two decades, with few countries now having a total fertility rate of 6 or higher. That in itself has had a mechanical impact in reducing the number of missing women by decreasing the number of chances a woman has to die during her childbearing years.

2.3 *Giving Women Hope by Expanding Their Opportunities*

The fact that women have fewer opportunities in the labor market may contribute to their unequal treatment in the household. Parents have lower aspirations for their daughters than for their sons, and female teenagers themselves have lower aspirations.

For example, in West Bengal, Beaman et al. (2011) find that, in places where no woman had ever been the local leader, 86 percent of parents wanted their daughters to be either a housewife or whatever their in-laws would decide for her (the corresponding fraction was below 1 percent for the boys).

If women do not work outside the home, there may be a perception that they do not need to be as strong and healthy and that they do not need a formal education. Interviews of parents in five states in north India conducted for the Public Report on Basic Education (PROBE) in India (The PROBE Team 1999), found that as high as 10 percent of them believed that it was *not* important for girls to be educated—only up to 1 percent believed the same for boys. Fifty-seven percent wanted their sons to study “as far as possible,” while only 28 percent wanted the same for their daughters. Many parents believed that educating girls is not necessary, since girls are only expected to marry and take care of their households. In the Beaman et al. (2011) study, 32 percent of the parents reported that they wanted their teenage boys to graduate from secondary school or college, and only 18 percent wished the same for their girls.

If part of the motivation for educating children is to enhance their employment opportunities, then improving the opportunities available to women in the labor market would provide a strong catalyst for the treatment of women to change for the better. Economic development leads to a change in the nature of work that is more conducive to women’s work. This happened in the United States during 1930–50, where expansion of the demand for clerical workers increased the availability of jobs that even respectable women could keep once married (Goldin 2006). More recently, this has happened not only in China and Mexico, with the rise in factory work suitable for women, but also in India with the rise in service jobs due to outsourcing.

It has been shown in several contexts that parents and children are sensitive to the perceived returns to education: those who believe that education is more worthwhile invest more in school (avoiding dropping out, being absent less often, or working harder toward exams).¹ Three recent studies, one in China and two in India, show that increased opportunities for women in the labor market do indeed translate into better outcomes for women. The introduction of the Household Production Responsibility System as part of post-Mao agricultural reforms in rural China allowed farming households to grow cash crops instead of staple cereals. This led to a substantial boost in the production of tea in areas that were suitable for growing it. Given their smaller stature, particularly in terms of their height and the size of their hands, women have a comparative advantage over men in the production of tea. In regions unsuitable for growing tea, the production of cash crops disproportionately produced by men rather than women increased following the reform. Qian (2008) shows that the number of missing women, which is particularly high in China, decreased in tea producing regions compared to other regions. For the same increase in total household income, an increase in female income of 7 U.S. dollars per month (10 percent) translates into a 1 percentage point increase in the survival rate for girls. It is striking that this is true even in China, where it is generally believed that cultural factors and the “one-child” policy are very strong determinants of the preference for boys.

The entry of India into the world economy provides another example of economic development leading to improved gender equality, even reversing the fortunes of boys and girls as the traditional segregation of schooling options turned against boys.

¹ See Jensen (2010b), Nguyen (2008), and Attanasio and Kaufmann (2009).

Munshi and Rosenzweig (2006) study the choice of language instruction in Mumbai over several decades. In universities, instruction is in English, but in primary and secondary schools, parents can choose either English or the local language, Marathi, as the medium of instruction for their child. When India liberalized its economy in the 1990s, and its software and service industries grew, the economic returns to education in English increased dramatically. The new sectors, such as outsourced telemarketing, also provided labor market opportunities for women who had traditionally been shut out of the labor market, leading to a rapid increase in English-based education for both boys and girls. Among the lower castes, the increase was much faster for girls than for boys: the proportion of lower-caste girls instructed in English almost caught up to that of upper-caste girls, but for the boys, the increase was not any faster compared to other castes. Among the lower castes, girls are now more likely to be educated in English than boys are. The reason is that members of low-caste households have traditionally relied on the caste network to find jobs, and choosing instruction in English for the child was construed as an attempt to break out from the foray of the caste. This spirit persists to some extent, locking boys into education in Marathi and then less lucrative jobs. This constraint does not apply to girls, who traditionally did not participate in the labor market. In other words, girls have no tradition of relying on the caste (old-boy) network and are free from the group expectations that bind the boys. Girls can be educated in English and therefore be in a better position to take advantage of marketplace opportunities as they arise. A quiet revolution is happening, even if households are not fully aware of the consequences of their individual choices.

An experiment conducted by Jensen (2010a) provides another clear demonstration of how an increase in available

opportunities can benefit girls more than boys. Jensen teamed up with Business Process Outsourcing centers (BPOs) centers to organize recruiting sessions in randomly selected villages in rural areas where recruiters would typically not go in three states in Northern India. In some villages, only women were recruited, and in some villages, both men and women were recruited. Not surprisingly, compared to other randomly chosen villages that did not see any such recruiting efforts, there was an increase in the employment of young women in BPOs in these villages. Much more remarkably, given that this was in the part of India probably most notorious for discrimination against women, three years after the recruiting started, girls age five to eleven were about 5 percentage points more likely to be enrolled in school in the villages where there was recruiting. They also weighed more, suggesting that parents were taking better care of them. The effects on boys was much more muted, even in villages where they were explicitly recruited. Jensen and Miller (2010) show that this low effect is the combination of a negative effect of boys whom parents wanted (at baseline) to keep them on the farm and positive for those whom they wanted to send away. Here again, the facts that girls are not expected to continue to be the ones to preserve the family tradition actually turned out to be to their advantage.

All these examples show that gender-blind policies that improve the economic welfare of households can improve gender equality, and that diversifying the economy and increasing women's options in the labor market can cause households to adjust their behavior, moving them toward gender equality.

2.4 Freeing Up Women's Time

A key source of inequality between women and men stems from the way they are expected to spend their time. Berniell and Sánchez-Páramo (2011) conducted a study

of time use for the World Development Report 2012, using data for 23 countries from the Multinational Use Study, and 12 countries that they added to make the data set more representative of poor countries. A clear, unsurprising pattern emerges: at all level of incomes, women do the majority of housework and care and, correspondingly, spend less time in market work. The difference ranges from 30 percent more time spent on housework by women than men in Cambodia to six times more in Guinea, and from 70 percent more time for child care in Sweden to ten times more in Iraq. These differences have an impact on women's ability to participate in market work, be fully engaged in their career, etc. This is one reason why women in developing countries are more likely to be involved in informal work (such as running a small business) that may not be the most productive use of their time. For example, they may run a shop from their house in order to be able to mind the children at the same time, instead of taking on productive employment. This reduces the chance that they have an autonomous income, which, as we will see below, has clear implications for their bargaining power within the household.

In this context, economic development can lead to the empowerment of women by freeing their time (which can then be used for market activities or for other things). Greenwood, Seshadri, and Yorukoglu (2005) argue that the diffusion of appliances in the United States between 1930 and 1950 was a key driver of the increase in the labor market participation of women during that period and beyond. Dinkelman (2010) exploits the logistical feasibility of the roll out of electrification in South Africa to study the impact of access to electricity on female and male labor supply. She finds that electrification led to an increase of 9.5 percentage points in female employment (without any change in male employment)

and argues that this increase was due to time freed for women in home production. Devoto et al. (2011) find no impact on time devoted to market activities when households became connected to piped water in Morocco, but a significant increase in leisure and reduction in stress levels and intra-households conflicts.

Another source of gain of time with economic development is the reduction of fertility, already mentioned, as well as the change in the timing of this fertility. Young women who marry or have children typically drop out of school or college and are less likely to work (Field and Ambrus 2008, Miller 2010, Duflo, Dupas, and Kremer 2011). They tend to marry partners who are older than them. All of these lead to a reduction in women's autonomy and capacities. In the United States, Goldin and Katz (2002) show how the availability of the pill to young, unmarried women in the 1960s increased the age at marriage and the length of study of young women.

2.5 *Economic Development and Women's Rights*

Empirically, there is a strong correlation between economic development and women's legal rights, in areas as diverse as property rights, access to land, access to bank loans, violence against women, abortion policy, etc. Doepke and Tertilt (2009) show a robust negative correlation of 0.4 or higher across countries between the lack of rights and GDP per capita. Historically, the expansion of economic rights to women in the United States and Europe preceded their access to political rights (Doepke and Tertilt 2009; Fernandez 2009). While it is of course impossible to infer causality from the data, two lines of argument suggest why economic growth could lead men to willingly surrender economic rights to their wives. Doepke and Tertilt (2009) argue that, when the importance of human capital in the economy

increases (with technological progress), men start to be willing to surrender some rights to women to ensure that children get better educated (the argument requires that women care more about children's human capital and that bargaining power matter for household decisions, which we will discuss below). The trade-off is between their utility today and the utility of their offspring (children, grandchildren, and future generations). Fernandez's (2009) argument is slightly different, although related: she argues that as fertility declines, fathers' interest as husbands (who would like to have all the rights), start to conflict with their interest as fathers (who would like to protect their daughters against their future son-in-laws). With economic growth and a decline in fertility, the balance starts tilting towards the latter interest, and women's economic rights are expanded. Doepke and Tertilt provide some historical narrative that is consistent with their theory, and Fernandez some suggestive evidence from the granting of rights to women in the United States that states that had a faster reduction in fertility were more likely to expand women's rights. Empirically, there remains much more to be done, and this is a very interesting area of research. These two papers provide convincing theoretical arguments, however, that economic growth can lead to a progression in women's rights. In fact, Doepke and Tertilt explicitly conclude that institutions such as the World Bank that are interested in women's rights would be well inspired to focus on programs favorable to economic development (such as education policy), rather than push for direct legislative changes for women's rights.

Is that how it works, then: as countries develop, empowerment of women will follow naturally? Is there a reason to design policies specifically targeted toward improving the condition of women? Or is it sufficient for improving women's condition to fight poverty and to create the conditions for economic

growth in poor countries? In a word, will economic development be enough?

2.6 *But Will Economic Development Be Enough?*

There is evidence that growth will not be enough to overcome discrimination in the home and in a number of domains. Sex ratios remain skewed in favor of boys. In China, despite rapid economic growth (and the reforms described above), the sex ratio at birth has worsened continuously since 1970, with an acceleration in the 1990s from about 53 percent of boys among all (reported) births to about 57 percent of boys among all (reported) births. Within Asia, the sex ratio at birth in South Korea and Taiwan, both rich countries, is similar to that in China and India. The gap between girls and boys is closing for primary and secondary schooling, but for tertiary education, the ratio of females to males has not improved overall, even though participation has risen for both boys and girls. In the labor market, even in developed countries, women who are equally qualified continue to earn less than men at all levels of qualification. Legal rights, particularly property rights, of women remain different from that of men in many countries, even as economies grow. Compared to economic opportunities, education, and legal rights, the gender gap in political participation has narrowed the least between 1995 and 2005. As of July 2011, only 26 countries in the world had met the target (set by the U.N. Economic and Social Council in 1990) of having 30 percent or more women in national legislative seats; the proportion of seats held by women in single or lower houses of parliament was only 19.4 percent globally, up from 15.9 in 2005, 13.5 percent in 2000, and 9 percent in 1987 (Inter-parliamentary Union 2011).

The persistent difference in sex ratios at birth illustrates the fact that economic development, and the availability of new technologies, can have perverse effects on

gender equality if it decreases the cost of discriminating against girls. High differences in reported sex ratios at birth between girls and boys are the result of unreported birth—infanticide—and increasingly, from sex-selective abortion. Sex-selective abortion shows how the wider availability of new technologies and the increased well-being of households resulting from economic development have led to an increase in a particularly egregious form of discrimination. This is not limited to China: the 2001 census in India revealed a reversal of the trend in the sex ratios, particularly in the most prosperous states in the north of India. By the time of the 2011 census, they had dropped to their lowest levels since independence. Economic calculus plays a role here as well. Advertisements for clinics practicing sex-selection in Mumbai used to read, “Better pay Rs 500 now than Rs 50,000 later” (Desai 1994). The Rs 50,000 refers to the dowry that the parents would need to pay when a girl is married. With the cost of sex identification and abortion becoming so low with new technologies, many more parents may prefer to abort girls rather than to raise and marry them. In Taiwan, Lin, Qian, and Liu (2008) document that the sex ratio at birth (i.e., the fraction of boys among live births) in Taiwan increased from 0.515 in 1980 to 0.54 by 1990. All of the increase is accounted for by increases in the sex ratio for higher parity. They argue that the legalization of abortion in Taiwan in 1985/86 (when prenatal sex determination was already available) is responsible. Even if increased opportunities for women reduce the dowry, there is little chance that they will bring it to such a low enough level so as to make it worthwhile to let a girl live in the face of such a low cost for abortion. Sex selection does not appear to disappear even in the United States. When a blood test that can determine the gender of the baby after seven weeks of pregnancy became

commercially available in the United States, there were reports of concerns that it could be used for sex-selective abortion (Belluck 2011). These concerns are almost surely justified: even without this test, there is evidence of sex-selective abortion in some ethnic groups in the United States and Canada today: in particular, since 1980, there is an abnormal ratio of boys to girls among children at higher parity in Chinese, Korean, Asian American, and Indian-American families (Abrevaya 2009; Almond and Edlund 2008; Almond, Edlund, and Milligan 2009). Almond and Edlund report, for example, that for third children, if there is no previous boy, boys will outnumber girls by 50 percent. Using linked records from California, Abrevaya shows that Asian Indian mothers were significantly more likely to have a terminated pregnancy and to give birth to a boy when they have previously only given birth to girls. Eventually, in societies where there is a male preference, the pressure on the marriage markets due to the rising sex ratio (it is estimated that there are twenty million more boys under 20 than girls in China, and 25 million more in India (Edlund and Lee 2009)) may provide some incentive for the sex ratio to revert. Edlund and Lee (2009) provide evidence that the sex ratio is normalizing in Korea, after having exploded with the introduction of sonography.

The disparity in earnings at all levels of qualification even in richer countries illustrates the persisting bias against women. This is not the place for a detailed review on gender discrimination in developed countries: Goldin (2006) provides a masterful summary of the long-run evaluation of the place of women in society. Gaps in wages, occupation, education, and labor force participation have shrunk considerably in the United States from 1930 to 1990, in part due to some of the phenomena discussed earlier (a rise in the demand for clerical work, the resulting larger investment in education,

household appliances, the diffusion of the pill), but the convergence seemed to level off after 1990. Differences in participation and in wages do persist, particularly at the top, in part due to biases toward women, as well as different cultural attitudes of what is expected of women.

Ample research by psychologists shows that in developed countries, there is a widespread “implicit” bias, shared by both men and women, associating men with career and the sciences and women with family and liberal arts. For example, implicit associations tests (e.g., Greenwald et al. 2002; see also www.implicit.org) ask participants to sort two series of names to the left or the right of the screen. For example, female first names must be placed on the right, and male first name on the left. In the second series (alternating with the first), words evoking career must be placed on the left, and words evoking family must be placed on the right [or the opposite]. Because it is easier for people to put things on the same side if they “go together,” the difference in the time spent filling the stereotypical block (e.g., women and family are on the same side) and the nonstereotypical block (women and career are on the same side) indicate an implicit bias. Both women and men are more likely to associate women with family and men with careers. Both women and men are more likely to associate women with liberal arts and men with science.

This bias has persisted despite the widespread participation of women in these academic disciplines and the labor markets in these countries. These biases affect women’s rewards for participating in the labor market or for getting a higher education both directly and indirectly, by persuading girls that they are not cut out for particular jobs, or just not as good as men. Psychologists have shown this effect, known as the “stereotype threat,” to be very powerful. When female and male students, recognized

for being good at math, are given a difficult math test in college, women do worse than men. When they are given the same test after being told, “You may have heard that girls are less good than boys at math, but this is not true for this particular test,” however, female students do just as well as males (Spencer, Steele, and Quinn 1999). The explanation for this phenomenon is that girls have accepted and internalized the bias that they are not as good at math, and they give up when the going gets tough. When they are told that this “fact” does not apply to that particular test, they know to continue to try hard. As long as these biases persist, gender equality will be hindered even if the technological conditions for an even playing field are met. Women are also negotiating less and less aggressively than men at hiring and during the promotion stage, and are less willing to compete (Babcock and Laschever 2003; Gneezy, Niederle, and Rustichini 2003).

Likewise, while a number of factors continue to hinder the parliamentary representation of women—the type of electoral system present in a country, the role and discipline of the political parties, the lack of previous political experience of women—the widespread perception that women are not competent leaders is probably the strongest barrier to greater participation of women in policy making. It persists in developed countries as well: a series of experiments have shown that, holding performance constant, women leaders are evaluated more negatively than male leaders. These studies typically either provide a written description of leadership situations, varying the sex of the leader, or use trained actors to lead, allowing the experimenters to control the degree of success the leader achieves (Swim et al. 1989). The surveys find the bias is most pronounced when the leadership role is typically considered a male role.

Similar evidence coming from India suggests that citizens tend to give lower performance marks to female leaders than to male leaders, given the same information about them, are also less likely to associate women with leadership than men, and are generally not feeling positive toward females in politics. Beaman et al. (2009) investigate attitudes in rural West Bengal using a variety of methods. In one experiment, they ask respondents to listen to a short political speech, read out either by a male actor or a female actor. Among people who had not had the experience of a female leader, randomly selected respondents who heard the “male” speech are significantly more likely to give it favorable marks than those who heard the female speech. In another part of the study, they conduct “implicit association tests,” and show a strong association between women and the domestic sphere. Finally, respondents (particularly male) seemed quite comfortable acknowledging that they strongly preferred a male as leader rather than a woman (this is in a country that has a female head of the majority party and a female president—since then, the state of West Bengal has also elected a female as the head of the state). It seems that there is a significant cultural barrier to recognizing women as competent policy makers.

Evidence such as this provides support for the idea of “reservations” or quotas for women in policy-making positions. Since perceptions are biased, in the absence of affirmative action of some sort, it would be very difficult for women to break into politics. Indeed, in most of the seventeen countries where the target of 30 percent of women in parliament has been achieved, some kind of affirmative action measure has been in place. If one wants to achieve balanced gender representation rapidly, it seems clear that affirmative action will be needed.

More generally, economic development alone will probably not be enough to bring

about equality between women and men in the foreseeable future, and policies will be required to accelerate this process.

Yet, the gains from policies that target women come, to some extent, at the expense of men. This much is evident in politics. Any position that a woman gets through a quota is a position that a man does not get. The trade-offs are not always as explicit, but can be very stark indeed. For example, specific measures to improve access of girls to school, such as scholarships for girls or latrines in school, are an expensive way to get more girls into schools. Given that enrollment is already high, many scholarships go to girls who would have gone to school anyway, making the cost per additional girl induced to go to school very high. This means that within the very limited budget of most developing countries, the transfers to girls come at the direct expenses of boys. The money spent on scholarships is not spent on other things that may help both boys and girls, such as hiring new teachers, or deworming everyone. The trade-offs are real: comparative cost effectiveness research (comparing across different experiments in a variety of contexts) suggest that the cost per extra child enrolled of additional scholarships may be much larger than that of deworming, or informing parents of the returns to education (Dhaliwal et al. 2011).

Thus, policies that explicitly favor women need to be justified, not just in terms of being necessary to bring about gender equality, but in terms of gender equality itself being desirable and worth the cost it implies. The second part of this essay explores the common justification that the trade-off between the interests of various people seen in the short run is transitory; in the long run, there is no trade-off between helping women more and helping everyone, because increasing the share of resources going to women will increase the amount of resources so much that everyone will be better off.

3. *Can Women's Empowerment Cause Economic Development?*

There are two rationales for supporting active policies to promote women. The first is that equity is valuable in and of itself: women are currently worse-off than men, and this inequality between genders is repulsive in its own right. For example, in the United Nation's 2005 report on the Millennium Development Goals (MDG), Kofi Annan, the Secretary General of the United Nations, writes: "The full participation of women to all levels of decision-making is a basic human right." The second, a central argument in the discourse of policymakers, is that women play a fundamental role in development. The gender gap in education, political participation, and employment opportunities should therefore be reduced not only because it is equitable to do so, but also because it will have beneficial consequences on many other society-wide outcomes. It should be done, in other words, to increase efficiency. Accordingly, in the same report, Kofi Annan argues that gender equality is in fact a "pre-requisite" to achieving the other MDGs.

The stance that women empowerment is desirable for efficiency shapes both the policy debate and the resultant economic policies the world over. Micro-credit schemes, for example, have been directed almost exclusively at women, because, it is argued, women invest the money in goods and services that improve the well-being of families, in goods that are conducive to development. Similarly, most conditional cash transfer benefit programs in developing countries, such as PROGRESA/Oportunidades in Mexico, direct the transfer to women, not men. Transfers conditioned on school enrollment are often higher for girls or even positive only for girls. Measures to enforce women's access to political positions through quotas have been instituted in 87 countries, including India, where a 1993 constitutional amendment required that one-third of rural

village council seats and village presidencies be reserved for women.

Former World Bank President, James Wolfensohn, addressing the Fourth UN Conference on Women, said:

Education for girls has a catalytic effect on every dimension of development: lower child and maternal mortality rates; increased educational attainment by daughters and sons; higher productivity; and improved environmental management. Together, these can mean faster economic growth and, equally important, wider distribution of the fruits of growth. . . . More education for girls will also enable more and more women to attain leadership positions at all levels of society: from health clinics in the villages to parliaments in the capitals. This, in turn, will change the way societies will deal with problems and raise the quality of global decision-making.

Wolfensohn makes four claims. First of all, that education of girls would change outcomes for their children and the rest of us. We might call this a "reduced form" argument: broad "empowerment" of women could change outcomes. Education could have an effect, for example, through, for example, by improving their understanding of how to raise children, use contraception, and manage their homes. His second claim is that empowerment of women in a narrower sense (power or the ability to influence decision making) would also change outcomes. The third claim is that these changes would be positive. The comment also raises a fourth issue, assuming that increasing decision making of women would indeed lead to different (and better) outcomes, that is what policy instruments are available to policymakers to achieve these changes. Do they need to wait for it to come from improvement in their human capital (the quote suggests it would be a consequence of their improved education), or can policy interventions, such as changes in the law, change in electoral rules, changes in the rule governing programs, or other similar "top down" interventions change effective power?

The remainder of this section investigates these four issues. As will become apparent, the answers are often interlinked: it is often a change in the rules governing local politics, or particular programs, for example, which allow us to identify shifts in power and their resulting outcomes. Moreover, there is no simple measure of “power” (unlike education, for example), so that change in power is often proxied by changes in outcomes. Nevertheless, these four themes serve as a useful organizing framework for the literature.

3.1 *Women Empowerment and Changes in Family Outcomes*

A substantial literature has studied these issues and found clear evidence of a correlation between mothers’ education and earnings, and child welfare, particularly child health. Moreover, the correlation with mothers’ education and earnings is almost always found to be stronger than the corresponding correlation with fathers’ education and earnings. However, correlations are often misleading. In this instance, there are two fundamental problems with the interpretation of the results. First, a woman’s education, earnings, or political participation may be correlated with unobserved dimensions of her ability, family, or community background. To the extent that these unobserved factors directly determine child health, the correlation does not indicate the causal effect of raising a woman’s education, earnings, or political participation. It is important to recognize that the very fact that women are typically less likely to get an education, earn an income, and participate in political decisions is likely to make this bias stronger for women than for men. Likewise, children might do better in countries or regions where women’s political participation is greater because these places are otherwise more favorable environments. Second, the comparison between the coefficients of

husbands’ and wives’ education or earnings might be obscured by a correlation between wives’ education or earnings and unobserved characteristics of husbands for two reasons: On the one hand, more educated or richer women may be able to marry men who care more about their children. On the other hand, the observation that, after controlling for total resources, income in the hands of women is associated with more desirable outcomes than income in the hands of men may reflect unobserved attributes of a man that directly influence child outcomes. For example, if he is progressive enough to allow his wife to seek employment, then this same progressive attitude may make him treat his children better.

To get around these problems, researchers have exploited specific circumstances where the distribution of power, education, or earnings of women and men changed for reasons that had nothing to do with their individual choices. These situations allow us to approximate what would happen if women’s empowerment policies were put in place and applied to everyone, not only to very special families.

A first dimension of empowerment (that mentioned by Wolfensohn) is education. Education can have a range of benefits within the households: if more educated women command higher outside wages, and it is easier for them to get a job, then investing more in educating women, rather than in men, may indeed have a more positive impact on child health than when the investments are spread evenly if women’s bargaining power in the household leads to better outcomes for children. In addition, if women are the primary caregivers for young children, then more education may help them provide better care. Therefore, many believe that a special effort is needed to educate girls, and that educating girls would have tremendous spillover effects. Unfortunately, the evidence for this is not as strong as is commonly believed. Although an association between education

of mothers and the outcomes of their children has been found over and over again, the evidence, in most cases, suffers from obvious biases: educated girls come from richer families and marry richer, more educated, more progressive husbands. As such, it is, in general, difficult to account for all of these factors, and few of the studies have tried to do so. Breierova and Duflo (2004) use the massive expansion of school construction in Indonesia in the 1970s to generate variation in the differences in schooling between husbands and wives based only on their region of birth and their dates of birth to get around this problem. When they correct for the fact that more-educated women differ from less-educated ones, they still find that, conditional on the household's average education level, households have fewer children when the wife is more educated. However, they did not find a lower infant mortality. While there is no doubt that education has a positive effect on child mortality, it is not clear that girls' education is much more critical than boys' education. Chou et al. (2010) use the same empirical strategy to study the impact of father and mother education on child health in Taiwan (which introduced compulsory junior secondary schooling in 1968 and introduced it progressively in different regions). They find strong and positive effects of both father and mother education on child survival, and one effect is not significantly greater than the next. While more needs to be learned about this, the automatic presumption that female education is more important than male education for child mortality and for other children outcomes may need to be revised: it seems that both matter.

3.2 *Women as Decisionmakers*

3.2.1 . . . *within the Household*

Micro-credit schemes or welfare agencies that restrict credit or transfers to women on

the grounds that the money will be put to use germane to development implicitly recognize that women are not entirely powerless. If women were powerless, then the money would be immediately appropriated by their spouses, and we would see no impact of distributing the money to women rather than to men. Conversely, if households were harmonious entities where everyone had the same preferences and desires, then the nominal ownership of money would not matter within the household. It would all go to a common pool and channeled toward the best uses for the families.

In practice, there are good reasons to think that real families are somewhere between these two extremes—neither ruled by a dictator, nor without discord. Instead, all household members have different preferences, and different ideas about many things, from how many children to have to how best to spend household income, and each idea is given a different weight in the ultimate decision depending on each member's information set and bargaining power. In demographic and health surveys, for example, women typically report wanting fewer children than their husbands (Becker 1999). A consequence of this difference is that if women can hide their contraceptive choice from their husbands, final fertility may be lower. Ashraf, Field, and Lee (2010) provide a clear demonstration of this phenomenon in Zambia. In an experiment, they provided 836 married women in Lusaka, Zambia, with a voucher guaranteeing free and immediate access to a range of modern contraceptives through a private appointment with a family-planning nurse. Some women received the voucher in private, while others received the voucher in the presence of their husbands. This made a huge difference: compared to cases where husbands were involved, women who were seen alone were 23 percent more likely to visit a family-planning nurse, 38 percent more likely to ask for a

relatively concealable form of contraception (injectable contraceptives or contraceptive implants), and 57 percent less likely to report a unwanted birth nine to fourteen months later. It is important to note that this does not mean that allowing women to conceal contraception would be a desirable policy: it is quite possible that, once husbands do learn that this option exists, they become quite suspicious of their wives. They could, for example, prevent them from going to the health clinic altogether, delaying important care. But the paper is clearly demonstrating that the lack of congruence in preferences and the ability (and willingness) to conceal information is a critical element in understanding household decisions. Ashraf (2009) presents lab-experiment evidence that also demonstrates the importance of information: men who need to decide how to allocate a prize do it very differently when they must share the information on what they decided with their wives and when they must negotiate with them before taking the decision.

The need to keep things hidden from, or at least not immediately available to, their husbands appears to lead women to forgo convenience to keep things quiet, and some times to act in a way that lowers overall efficiency. Anderson and Baland (2002) argue, for example, that the rotating savings and credit associations (ROSCAs) popular especially among women in many parts of Africa are primarily a way for women to keep savings away from their husbands.² Schaner (2011) provides striking evidence of this phenomenon in Kenya. As part of an experiment, she opened bank accounts for men and women in Kenya. After having opened the accounts,

some randomly selected individuals received a free ATM card, which cut the cost charged by the bank for withdrawals (in addition to making it more convenient). Men behaved as expected: those who got the ATM card made more active use of the accounts: they saved more, and withdrew and deposited money more often. But the effect was opposite for women: those who got the ATM card used the accounts *less*. Further analysis showed that this effect was concentrated among women with low bargaining power. It thus seems that women were less willing to use the account if it was easy for their husbands to get the money out.

In this context, the share of the household budget contributed by a member may well have an important impact on how much weight is given to the expenditures he/she favors. When women are decisionmakers within the household, how much they bring to the table can have an important impact on ultimate choices. Empirically, a large literature has tested whether income in the hands of women of a household has a different impact on intra-household allocation than income in the hands of the men. The evidence suggests that, compared to income or assets in the hands of men, income or assets in the hands of women is associated with larger improvements in child health (e.g., Thomas 1990), and larger expenditure shares of household nutrients, health, and housing (e.g., Thomas 1993). These studies may in general, however, suffer from the problem that families where women earn a larger share of the income are different from those where women do not. Thomas (1990, 1993) uses unearned income to circumvent the issue that earned income is endogenous (and corresponds to the labor supply decisions of men and women). But this only partially addresses the problem, because unearned income is often the product of assets (so women with more unearned income may have come to the marriage with

² Other arguments have been made for ROSCAs. Besley, Coate, and Loury (1994) show that for every person except the last one in the group, ROSCAs allow members to have the good faster than if they saved on their own, increasing utility even if they have to forgo interest rates. Gugerty (2007) and Basu (2011) propose that ROSCAs are a way for hyperbolic discounters to commit to save.

more wealth, and therefore are different). Moreover, marriage decisions further complicate the interpretation of these results, as men who marry richer women may be more likely to have tastes similar to theirs.

Duflo (2003) takes the strategy of using unearned income a step further, and uses the rapid expansion of the Old Age Pension Program in South Africa to address the remaining identification issues. At the end of apartheid, the government committed to achieving parity of benefits and eligibility requirements between whites and blacks. This was achieved mostly by increasing the benefits received by blacks, which grew very rapidly between 1990 and 1993. In 1993, 80 percent of black women above age 60 and 77 percent of black men above age 65 received the pension. The maximum benefit of 370 rands per month—about 3 U.S. dollars per day—was equal to one-half of the minimum wage, and about twice the median per capita income in rural areas. Due to traditional living arrangements, nearly one-third of black children under the age of 5 currently live with a pension recipient. Children who live with a pension recipient tend to come from relatively disadvantaged backgrounds, and so they tend to be smaller than other children their age. To estimate the effect of receiving a pension on the anthropometric status of children, Duflo exploits the fact that height reflects accumulated investments in child nutrition. The larger the proportion of life during which a child was well-nourished, the taller she will be given her age. Expansion of the program in the early 1990s increased the likelihood of receiving a pension among qualified elderly people, and the benefits became substantially larger. Thus, to the extent that the pension resulted in improved nutrition, children born after the expansion were more likely to have spent a larger fraction of their lives well-nourished if they lived with a pension recipient.

Indeed, Duflo finds that girls who live with a grandmother who receives the pension are heavier than those who live with a grandmother who is not quite old enough to receive the pension. Moreover, when she looks at height, Duflo finds that older girls, who were born before the pension was in effect, are smaller when they live with a pension recipient (male or female) than when they live with a nonrecipient. However, among young girls, who have lived their lives since the pension system was put in place, those who live with a grandmother who receives the pension are taller than those who live without one. This suggests that pensions received by women do translate into better nutrition for girls. While the weight of the older girls catches up immediately, deficit in early nutrition continues to be seen in height even after good nutrition has resumed, and this is why the older girls remain smaller. We estimate that for girls, living with a grandmother who receives the pension is enough to bridge half the gap between the size of children in the United States and in South Africa. In contrast, no such effect is found when the pension is received by a man and no corresponding effects were found for boys (note that boys were as delayed as girls in terms of their stature before getting the pension, so this difference does not appear to be due to the fact that only girls need to catch up).

3.2.2 . . . *on the Farm: Women and Property Rights*

We observe many instances in which women retain property rights over a portion of the assets they bring into the household (we have already seen an example in Indonesia). In Africa, it is common for women and men to retain separate property rights over productive assets, particularly land. For example, in Burkina Faso, women retain ownership of their individual plots within the marriage. Household members work on each other's plots, and inputs such

as fertilizer may be purchased collectively. The production is also pooled together for consumption by all household members. Of course, as we saw above, household members may have different opinions about how these pooled resources should be used, and various factors, including how much land they own, will influence the final consumption choices of the household. A well-functioning family, however, would first try to maximize the size of the pie before thinking about how to divide it. All inputs, including labor, seeds, and fertilizer, should be allocated to all plots so as to maximize the overall productivity of the landholding. Udry (1996) shows that, in practice, this is far from being the case. Many more inputs are being used on the men's plots, so that, after controlling for the year, the characteristics of the plots, and the type of crops produced, men's plots are much more productive than women's plots, mostly because much more fertilizer is applied to these plots. Because the effectiveness of using fertilizer declines steeply with how much is used, it would make much more sense to use a little on both men's and women's plots. This, however, is not what households seem to be doing in most cases. Overall, household production might increase by 6 percent just by reallocating the same amount of fertilizer and labor. This is not negligible in an environment where people are so poor.

So why would they not do this? One answer may be that households decide how to allocate resources as a function of how much food everyone produced in a day, without taking into account the fact that a household member may have helped out another to generate this production. Each household member prefers a bigger share of a smaller pie and, as a result, each works mostly on their own plot without regard to maximizing overall household production, and they do not sufficiently help other household members with time or inputs. Men, being richer and therefore

less credit constrained, can afford fertilizer, which they use on their own plot, but not on the woman's plot. Given this imperfection in negotiating within the household, a solution to increase household productivity would be for the woman to "rent" her land to her husband, who would then make the efficient production choice. One reason why this does not happen is because property rights are weak: if the husband works on the wife's land for too long, he will eventually be recognized as "owning" it, and will stop compensating her. Anticipating this, women are not ready to surrender control to their husbands even for compensation, and both members continue to produce in their own corners. This is an example where the fact that women have insecure property rights leads to sheer waste, and literally makes families poorer.

Weak property rights for women also lead to an inefficiently low level of investment in Ghana. Farmers in Ghana let their land lie fallow for a few years to replenish its nutrients. This is a form of investment in that farmers forgo production for a few seasons for higher post-fallow production. The risk, of course, is that someone seeing the fallowing land may decide to start producing on it. Where property rights are secure, this does not happen. Property rights on agricultural land in Ghana, however, are anything but secure. In fact, a farmer only has, at best, usufructuary rights: the land belongs to both the village and the lineage, so that even if a piece of land is attributed to someone by the lineage, there is always the possibility that the village will reallocate it to someone else. The more powerful someone is within either the village or the lineage, the more likely it is that they can fight opposing claims on their land, and thus can choose to fallow without risk of being expropriated. Goldstein and Udry (2005) show that indeed, farmers who have a position of power within either the village or the lineage are more likely to fallow their land, and fallow it longer. As a result,

they have more productive land. Women are less likely to hold a position of power. As a result, they fallow less often, and this leads to a lower productivity for their land. Again, the lower position of women directly results in inefficient investment, and this is not corrected by the transfer of property rights within the household, which might secure the claim of the household vis-à-vis the lineage or the village, but at the expense of weakening women's positions within their own households.

3.2.3 . . . and within the Community: *Women as Policymakers*

We have seen that women and men have different preferences, and that the household does not efficiently bargain to choose the actions that maximize the household's utility, suggesting that women and men will have different policy preferences. First, women will prefer policies that better reflect their own priorities. Since they are particularly concerned about child health and nutrition, they should prefer policies that will help them achieve these objectives. Second, women should be in favor of policies that will increase their bargaining power within the household, that is, policies that improve their situation in cases of divorce, and policies that increase their productivity in everyday work or improve their chances to access the labor market. In practice, we do see that women and men have different preferences over policies. Chattopadhyay and Duflo (2004) collect data on the types of complaints brought by both men and women to the local village councils in two districts in the states of West Bengal and Rajasthan, India. Village councils administer local public goods in rural India. The types of formal complaints differ by gender. For public works, women in West Bengal complained most about drinking water and roads, and much less about education and irrigation. Men complained most about

roads and irrigation and less about drinking water. In Rajasthan, over half the complaints made by women were about drinking water, while very few complained about education. Drinking water was also a big concern for men in Rajasthan, but it was not as predominant an issue as for women. In contrast, men complained much more than women about roads and education. The pattern of complaints dovetails with gender responsibilities of men and women within the household and their employment opportunities. Women are responsible for collecting drinking water and, in West Bengal, they are the main beneficiaries of road works as they provide the bulk of labor on roads. In Rajasthan, both men and women work on roads, but men use the roads more as they travel more frequently in search of work.

This implies that giving women the right to vote makes a difference. And indeed, Miller (2008) shows that the introduction of women suffrage in the United States was associated with a decline in infant mortality. In most countries however, women and men now have the right to vote, although they do not get elected. Thus, the next step to increase women's political power is to directly affect their representation through quotas or reservation policies.

To understand the effect of having women as policymakers, Chattopadhyay and Duflo (2004) study the reservation policy for women in India mentioned above. A constitutional amendment required states to both devolve power over expenditure for local public goods to rural village councils, and to reserve a third of all council seats and council presidencies for women. As a result, the political representation and participation of women has increased. A comparison of the type of public goods provided in reserved and unreserved village councils shows that the gender of the council president impacts investments. Women invest more in infrastructure that is directly relevant to the

expressed development priorities of women. In West Bengal, where women complained more often than men about water and roads, reserved councils invested more in water and roads. In Rajasthan, where women complained more often about drinking water but less about roads, reserved councils invested more in water and less in roads. This result is in sharp contrast to the commonly held view that positions reserved for women usually go to the wife of the previous male leader who effectively continues to rule through his wife. The study also found that women in reserved seats were less experienced, had less ambition and lower prospects in politics, and were of lower socioeconomic status. There is no evidence, however, that these differences drove the results. It appears that only the gender of the local leader explains the different investment decisions in villages reserved for women. In other words, a world run by women would look decidedly different. Women leaders do seem to better represent the needs of women. This is true even in an environment (rural Rajasthan) where women traditionally have very little power, female literacy is very low, and where many believe women leaders simply implement the wishes of their husbands. In fact, these women are changing the realities on the ground.

3.3 *Empowering Women: What Policy Instruments?*

The South African situation, where a radical change in the political situation led to the establishment of a permanent transfer program of reasonably large magnitude for adults who live with children, is relatively rare. Absent these rare situations, are there things policymakers can do to shift power to women in their community or in their families? Or do they need to rely, once again, on a natural process of development (perhaps accelerated a little bit by working on improving access to education for girls or by

encouraging an economy where women have better access to market opportunities)?

The Chattopadhyay and Duflo (2004) study in India suggests that it is indeed possible to shift power within the community via a change in the electoral rules. Even if women and men were to have different preferences it is not sufficient to ensure that women policymakers, particularly those selected through quotas, would act any differently than men. In fact, in a perfectly democratic system, they would not, since both men and women would try to do what their constituents expect them to do in order to be reelected. Additionally, even if we thought women leaders did a better job of understanding women's needs, it would not necessarily follow that policies designed to guarantee greater representation by women would be an effective way to achieve this representation. For example, if women are politically weak, they may find it difficult to influence actual decisions. In India, the reservation policy was (and is still, to a large extent) met with a large measure of suspicion: women would not be powerful leaders; they would be eclipsed by their husbands; or worst, local elite would take advantage of the policy to reascertain their power against the Panchayat. And yet the quota policy made a real difference in actual outcomes.

Furthermore, this difference appears to be durable, beyond the initial push, by affecting attitudes. The study by Beaman et al. just mentioned takes advantage of India's reservation policy, which specifies that, at each election, one-third of the villages are randomly selected and must elect a woman at the head of the local council. They compare the results of the implicit association test associating women and politics and the responses to the speeches. They find that, in men's response to the speeches, all the bias against women is erased (and in fact it becomes a bias in favor of women). The bias against women and leadership is also diminished.

Although, interestingly, the response to the explicit question is not affected, people do vote more for women after the seats lose their reserved status. Beaman et al. (2011) examine another form of attitude: the aspirations that parents have for their children, and that teenagers have for themselves. We have already noted the gaps between boys and girls. This gap is reduced by 0.15 standard deviations (one-fifth) in villages where positions have been reserved for females for ten years. Moreover, even in the absence of any additional investment in education infrastructure, this led into an increase in educational attainment for teenage girls, and a reduction in the gaps with boys. There are thus real effects on future gender equality of giving more power to women than they would naturally be getting, over and above their ability to directly influence outcomes.

To what extent can similar “top-down” policies affect the balance of bargaining within the household? One avenue is the legal environment. A woman’s options outside the marriage are also important for bargaining *within* the marriage. If a woman has no options outside of the marriage, and both she and her husband know that divorce is not possible or that in the case of divorce she would be without any means of support, then the husband can impose decisions on the household—he can threaten his wife with being left in a much worse position if she does not yield. This suggests that the institutional environment, such as the type of divorce laws that exist, and the ease of remarrying or of finding other ways of supporting oneself in case of divorce would affect decision making within households, even when they do not end up divorcing. In Indonesia, each spouse retains ownership of the resources he/she brought into the marriage. Thomas, Contreras, and Frankenberg (2002) show that, even controlling for the household resources today, the resources each spouse brought into the marriage continue

to affect decision making within households. Specifically, children are in better health if their mother brought more resources into the marriage. Field (2007) finds that when squatters in Peru were given a property title for their land, fertility declined, but only in areas where the prescription to put both the woman’s and man’s name on the title was effectively enforced.

In many developing countries, women are very poorly protected in the case of divorce, and stand to lose assets and the custody of their children. Even when divorce laws exist, it is frowned upon in society, and remarrying is difficult. Surprisingly, there is little research on the effect of these institutions in developing countries. Work from the United States suggests that the institutions themselves matter for the outcomes within the family. Chiappori, Fortin, and Lacroix (2002) show that the rights of each spouse in case of divorce (which vary by state and have evolved differently in different states over time) affect the labor supply decisions among married couples. Angrist (2002) shows that the female children of American immigrants have a higher marriage rate and lower labor supply (a sign of higher bargaining power, in the United States) when there were more males among the recent immigrants of their age cohorts. The reason is that migrants tend to marry within their ethnic group. Immigration-induced sex ratios that are not balanced across sexes thus increase the likelihood of remarriage of the sex that is in short supply in case of a divorce, and thus increases their bargaining power within the household.

This suggests that policies seeking to increase women’s welfare in case of divorce or to increase women’s access to the labor market may impact outcomes within the household, in particular child health. But would these effects extend to temporary transfer programs that do not profoundly change the nature of the relative status of men and

women? For example, do conditional cash transfers given to a mother for a period of a few years have greater positive effects than if they had been given to a father? The answer is not obvious a priori. One might expect the household to recognize that the transfers are temporary. In this case, the transfer should have no real effect on the recipient's bargaining power in the decision making, since the household knows that very soon it will revert to the prior situation, and that the woman would be punished if she tried to extract too much while her power lasted. In other words, instead of trying to extract as much as possible at any point in time, the household members should insure each other, and temporary transfers would not matter.

In practice, however, we observe that household members do not seem able to provide efficient insurance to each other. They may face the same constraints that informal insurance between households is subject to (moral hazard, hidden information, limited commitment, etc.). In Côte d'Ivoire, women and men grow different crops and are therefore affected differentially by the same rainfall. Some years are good for men, and some years are good for women. One would expect that the consumption in the family would not be affected by the temporary, rain-induced fluctuations in the share of income contributed by each partner. Yet Duflo and Udry (2004) find that it is: in years when the production of women's crops is higher, the household spends a bigger share of its budget on food and also on private goods for women. In years when the production of male's crops is higher, the household spends a bigger share of the budget on alcohol and tobacco and male private goods. Robinson (2011) has a similar finding from an experiment in Kenya, where husbands and wives were given small transfers over a period of a few weeks.

And indeed, the fact that conditional transfer programs are targeted to women, rather

than to men, seem to make a difference, even when they are both temporary and small. This was first demonstrated in a nice study by Lundberg, Pollak, and Wales (1997), which takes advantage of a change in the allocation of child benefits in the United Kingdom from a tax credit to a direct payment in the name of the mother. This transfer "from the wallet to the purse" was associated with an increase in the consumption of women's and children's clothing in households with children. Surprisingly, despite the fact that most of the recent CCT are targeted to women, there is very little evidence on whether this is a factor in their effectiveness: since most of them are just targeted to women, it is essentially impossible to distinguish the impact of the gender of the recipient from that of the effect of the increased income, or the conditionality.³ An exception is a recent study by Benhassine et al. (2011), which exploits the randomization of the gender of the recipient of a small conditional cash transfer in Morocco. They found that, despite the fact that the transfer was very small (it represented only about 3 percent to 4 percent of beneficiary's total consumption), households reported spending it differently when the woman was a recipient, and it had a somewhat larger effect on the education of young children and girls when women received it. It seems unlikely that the program directly affected their bargaining power, and indeed the study does not find any evidence that other dimensions of women empowerment have changed. However, they seem to have been more likely to be in charge to spend that money, and they were more likely to spend it on education.

There are two important lessons from these findings. First, even if they do not bring about radical changes in women's

³ Although some studies try to do this by using a functional form for the impact of income on consumption patterns.

status or in the way women are perceived in society, policies targeted toward women can have immediate consequences. Even smaller changes that just give women control over a small stream of resources affect at least the way that this money is spent. Increasing women's control over resources, even in the short run, will improve their say within the household, which will not only increase their welfare, but as research seems to have shown repeatedly, child nutrition and health as well. The second lesson is that families do not function very well, since they are not able to provide each other even basic necessities. This means that we cannot rely on the family to correct imbalances in society in, for example, women's property rights. If the family is functioning well, the fact that women have weak property rights could be solved by transferring property from women to men within the household, with the men able to compensate the women for this. If a woman cannot rely on her husband to continue to compensate her over time, however, she will be reluctant to do so, and will prefer to retain ownership of the property, even if it is with weak ownership. In turn, this may have consequences for the efficiency of households' production, may slow down investment and growth, and may contribute to keeping households in poverty.

3.4 *Empowering Women: Is It Free Lunch for Development Policy?*

Women and men have different preferences, and accordingly, use their rights over the permanent transfer to express those preferences. However, the fact that women have different preferences does not mean that those preferences are always benevolent, that they always favor "good things," favorable to development. In the South Africa case, giving money to women helps girls, but not boys. Edmonds (2006) uses the same reform in South Africa to study the impact of the pension program on education.

He compares school enrollment of adolescents (ages 13 to 17) in families where there is an elderly member who is eligible for the pension and in families where there is an ineligible elderly member. He finds that, compared to those in families with ineligible elders, children are more likely to be in school when they live with an eligible man than with an eligible woman. Here again, we find evidence that the identity of the income holder matters. In this case, however, it is when men receive the pension that they make the decision favorable to well-being and development.

In the case of women's power, in the first cycle, women shift the allocation of public goods in a way that is unambiguously positive: while women invest more in drinking water, they invest less in schools in West Bengal, and less in roads in Rajasthan. This is not surprising since they operate within a set budget, and whatever resources are used in one area need to come from another (in the second cycle however, in West Bengal, they seem to be doing more pretty much across the board, though still disproportionately on water). While this reform was clearly good for women (whose preferences were now taken into account), it is less clear whether it is overall welfare improving or not: in order to answer this question, one would need to decide whether water was more important than schools or roads. There is no obvious way to do this calculation: in West Bengal, we tested all water wells, and found most of them to be completely clean. The extra investment in drinking water infrastructure may thus have been primarily a matter of convenience for women. Beaman et al. (2009) collect detailed data on health outcomes in households in these villages. They find no impact of women's leadership on measure of infant health, but it does reduce the time teenage girls spend collecting water. This is not to say that this convenience is not important. Devoto et al. (2011) found a large

effect of the connection to the water system on self-reported happiness. How one values this convenience, versus educating children or better roads, is not something that economists are well placed to evaluate. A coherent argument could be made that if women had not had power for a long time, and thus the investment in drinking water had been lagging behind, it is probably efficient to invest more there. But this reminds us that there is no magic bullet, and that trade-offs remain unavoidable.

That said, we have seen along the way several examples where giving women more power would have been efficiency enhancing: this was the case in Udry's study in Burkina Faso, where lower investments on the women's fields makes households inefficient, or in Goldstein and Udry's study in Ghana, where because of weak property rights, women were not investing. In the West Bengal study, though the static gains may depend on a policymaker's objective function, there seems to be more unambiguous dynamic gains, through the changes in attitudes toward female policymakers (allowing voters to choose among a larger pool of candidates) and teenage girls (which leads to a change in the households' willingness to invest in their human capital, without reduction of the investments in boys). However, policymakers often are too quick to conclude that an allocation of resources toward women, rather than men, would always be efficiency enhancing. The example of capital for microenterprise is a useful cautionary tale.

A strong claim by microcredit organizations (who disproportionately lend to women, rather than to men) is that because women are more likely to be shut off from formal or informal sources of credit than men, the returns to investing in their businesses should be larger than the returns to investing in women. The problem is that if women face other forms of unequal access to

markets than men (from insecure property rights, to constraints on their mobility or on their time due to the obligation of child rearing), access to inputs or cash alone may actually be more productive for women than for men. Karlan and Zinman (2011) find no evidence that microcredit loans given to women have larger effects than those given to men. Even more troubling are the results of De Mel, McKenzie, and Woodruff (2009) that directly test the proposition that the marginal returns to investing in female-owned enterprises is larger than that of investing in male-owned enterprises. They provided cash or in-kind grants to randomly selected businesses in Sri Lanka, and compared their performance to that of a comparison group. While they found a very large effect of the grants given to men (suggesting returns to capital of about 5 percent per month), the effect of the grant on profit was essentially zero for women. Fafchamps et al. (2011) replicate the experiment in Ghana, with similar results: the in-kind grants had *some* effect on the profit of female-owned businesses, but only for those businesses that were quite profitable to start with. And for women, like in Sri Lanka, the cash grants had no effect on business profits whatsoever.

There are a number of potential explanations for these results: women work in different sectors, which may be more competitive, and have less scope for expansion and increases in profit; they may also be less committed to their businesses (or their husband may be less committed to letting them grow it . . .) if this is mainly seen as a way to slightly increase household income while keeping her busy. Finally, women may know less about how to run a business. The latter hypothesis has motivated a large effort worldwide to combine microfinance services with business training, particularly by the organization Freedom From Hunger. Addressing one constraint (credit) is not enough, the theory goes; the

gaps in education also need to be addressed. Randomized impact evaluations tend to suggest that the effects of such business training are quite limited (Karlan and Valdivia 2011; Drexler, Fischer, and Schoar 2010). Field, Jayachandran, and Pande (2010) shed interesting light on why that may be the case, and in particular on how an entrepreneurship opportunity (which could in principle be training or finance) interacts with existing, slow moving social norms. In collaboration with SEWA, a microfinance and support organization for self-employed women, they conduct a randomized evaluation of a relatively standard business training program in Ahmedabad, Gujarat. They find that the training had a positive impact on business income for Upper Caste women, but not for Lower Caste women (the least restricted group in their sample) or Muslim women (the most restricted group). They interpret these differences as stemming from a nonmonotonic effect of social norms on the ability to acquire and apply business knowledge. Upper Caste women might have had more to learn than Lower Caste women because they are less likely to be very active participants in the market place before the training. But Muslim women, whose mobility was even more restricted, were not able to put that knowledge to use. This study provides a striking illustration of the trade-off faced by policy: the fact that women face multiple constraints means that relaxing just one may not improve outcomes. In this case, some policies that explicitly target women (for training or for financial resources) may actually not be effective or cost effective.

4. Conclusion

Women's empowerment and economic development are closely interrelated. While development itself will bring about women's empowerment, empowering women will bring about changes in decision mak-

ing, which will have a direct impact on development. Contrary to what is claimed by some of the more optimistic policymakers, it is, however, not clear that a one-time impulsion of women's rights will spark a virtuous circle, with women's empowerment and development mutually reinforcing each other and women eventually being equal partners in richer societies.

On the one hand, economic development alone is insufficient to ensure significant progress in important dimensions of women's empowerment, in particular, significant progress in decision-making ability in the face of pervasive stereotypes against women's ability. On the other hand, women's empowerment leads to improvement in some aspects of children's welfare (health and nutrition, in particular), but at the expense of some others (education).

This suggests that neither economic development nor women's empowerment is the magic bullet it is sometimes made out to be. In order to bring about equity between men and women, in my view a very desirable goal in and of itself, it will be necessary to continue to take policy actions that favor women at the expense of men, and it may be necessary to continue doing so for a very long time. While this may result in some collateral benefits, those benefits may or may not be sufficient to compensate for the cost of the distortions associated with such redistribution. This measure of realism needs to temper the positions of policymakers on both sides of the development/empowerment debate.

REFERENCES

- Abrevaya, Jason. 2009. "Are There Missing Girls in the United States? Evidence from Birth Data." *American Economic Journal: Applied Economics* 1 (2): 1–34.
- Ali, Rabia, Jishnu Das, Damien de Walque, Kenneth L. Leonard, Mattias Lundberg, and David Peters. 2011. "Patterns of Health Care Interactions in Seven Low and Middle-Income Countries." Background Paper for the *World Development Report 2012*.

- Almond, Douglas, and Lena Edlund. 2008. "Son-Biased Sex Ratios in the 2000 United States Census." *Proceedings of the National Academy of Sciences* 105 (15): 5681–82.
- Almond, Douglas, Lena Edlund, and Kevin Milligan. 2009. "O Sister, Where Art Thou? The Role of Son Preference and Sex Choice: Evidence from Immigrants to Canada." National Bureau of Economic Research Working Paper 15391.
- Anderson, Siwan, and Jean-Marie Baland. 2002. "The Economics of Roscas and Intra-household Resource Allocation." *Quarterly Journal of Economics* 117 (3): 963–95.
- Angrist, Josh. 2002. "How Do Sex Ratios Affect Marriage and Labor Markets? Evidence from America's Second Generation." *Quarterly Journal of Economics* 117 (3): 997–1038.
- Ashraf, Nava. 2009. "Spousal Control and Intra-household Decision Making: An Experimental Study in the Philippines." *American Economic Review* 99 (4): 1245–77.
- Ashraf, Nava, Erica Field, and Jean Lee. 2010. "Household Bargaining and Excess Fertility: An Experimental Study in Zambia." Unpublished.
- Attanasio, Orazio, and Katja Kaufmann. 2009. "Educational Choices, Subjective Expectations, and Credit Constraints." National Bureau of Economic Research Working Paper 15087.
- Babcock, Linda, and Sara Laschever. 2003. *Women Don't Ask: Negotiation and the Gender Divide*. Princeton and Oxford: Princeton University Press.
- Banerjee, Abhijit Vinayak, Esther Duflo, Rachel Glennerster, and Dhruva Kothari. 2010. "Improving Immunisation Coverage in Rural India: Clustered Randomised Controlled Evaluation of Immunisation Campaigns With and Without Incentives." *British Medical Journal* 340: C2220.
- Basu, Karna. 2011. "Hyperbolic Discounting and the Sustainability of Rotational Savings Arrangements." *American Economic Journal: Microeconomics* 3 (4): 143–71.
- Beaman, Lori, Raghavendra 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, Raghavendra Chattopadhyay, Esther Duflo, Rohini Pande, and Petia Topalova. 2011. "Female Leadership Raises Aspirations and Educational Attainment for Girls: A Policy Experiment in India." Unpublished.
- Becker, Stan. 1999. "Measuring Unmet Need: Wives, Husbands or Couples." *International Family Planning Perspectives* 24 (4): 172–80.
- Belluck, Pam. 2011. "If You Really, Really Wanted a Girl . . ." *New York Times*, August 20.
- Benhassine, N., Florencia Devoto, Esther Duflo, and Pascaline Dupas. 2011. "Income, Price, Bargaining Power? Experimental Evidence from Morocco on How Conditional Cash Transfers Impact Educational Investments." Unpublished.
- Berniell, María Inés, and Carolina Sánchez-Páramo. 2011. "Overview of Time Use Data Used for the Analysis of Gender Differences in Time Use Patterns." Background Paper for the *World Development Report 2012*.
- Besley, Timothy, Stephen Coate, and Glenn Loury. 1994. "Rotating Savings and Credit Associations, Credit Markets and Efficiency." *Review of Economic Studies* 61 (4): 701–19.
- Breierova, Lucia, and Esther Duflo. 2004. "The Impact of Education on Fertility and Child Mortality: Do Fathers Really Matter Less than Mothers?" National Bureau of Economic Research Working Paper 10513.
- Chattopadhyay, Raghavendra, and Esther Duflo. 2004. "Women as Policy Makers: Evidence from a Randomized Policy Experiment in India." *Econometrica* 72 (5): 1409–43.
- Chiappori, Pierre-Andre, Bernard Fortin, and Guy Lacroix. 2002. "Marriage Market, Divorce Legislation and Household Labor Supply." *Journal of Political Economy* 110 (1): 37–72.
- Chou, Shin-Yi, Jin-Tan Liu, Michael Grossman, and Ted Joyce. 2010. "Parental Education and Child Health: Evidence from a Natural Experiment in Taiwan." *American Economic Journal: Applied Economics* 2 (1): 33–61.
- Deaton, Angus. 1989. "Looking for Boy–Girl Discrimination in Household Expenditure Data." *World Bank Economic Review* 3 (1): 1–15.
- Deaton, Angus. 1997. *The Analysis of Household Surveys: A Microeconomic Approach to Development Policy*. Baltimore and London: Johns Hopkins University Press.
- 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.
- Desai, Sonalde. 1994. *Gender Inequalities and Demographic Behavior: India*. New York: Population Council.
- Devoto, Florencia, Esther Duflo, Pascaline Dupas, William Pariente, and Vincent Pons. 2011. "Happiness on Tap: Piped Water Adoption in Urban Morocco." National Bureau of Economic Research Working Paper 16933.
- Dhaliwal, Iqbal, Esther Duflo, Rachel Glennerster, and Caitlin Tulloch. 2011. "Comparative Cost-Effectiveness Analysis to Inform Policy in Developing Countries: A General Framework with Applications for Education." Unpublished.
- Dinkelmann, Taryn. 2010. "The Effects of Rural Electrification on Employment: New Evidence from South Africa." Princeton University Woodrow Wilson School of Public and International Affairs Research Program in Development Studies Working Paper 272.
- Doepke, Matthias, and Michele Tertilt. 2009. "Women's Liberation: What's in It for Men?" *Quarterly Journal of Economics* 124 (4): 1541–91.
- Drevenstedt, Greg L., Eileen M. Crimmins, Sarinnapha

- Vasuilashorn, and Caleb E. Finch. 2008. "The Rise and Fall of Excess Male Infant Mortality." *Proceedings of the National Academy of Sciences* 105 (13): 5016–21.
- Drexler, Alejandro, Greg Fischer, and Antoinette S. Schoar. 2010. "Keeping it Simple: Financial Literacy and Rules of Thumb." Center for Economic and Policy Research Discussion Paper 7994.
- Duflo, Esther. 2003. "Grandmothers and Granddaughters: Old-Age Pensions and Intrahousehold Allocation in South Africa." *World Bank Economic Review* 17 (1): 1–25.
- Duflo, Esther, Pascaline Dupas, and Michael Kremer. 2011. "Education, HIV and Early Fertility: Experimental Evidence from Kenya." Unpublished.
- Duflo, Esther, and Petia Topalova. 2004. "Unappreciated Service: Performance, Perceptions, and Women Leaders in India." Unpublished.
- Duflo, Esther, and Christopher Udry. 2004. "Intrahousehold Resource Allocation in Côte d'Ivoire: Social Norms, Separate Accounts and Consumption Choices." National Bureau of Economic Research Working Paper 10498.
- Edlund, Lena, and Chulhee Lee. 2009. "Son Preference, Sex Selection and Economic Development: Theory and Evidence from South Korea." Columbia University Department of Economics Discussion Paper 0910-04.
- Edmonds, Eric V. 2006. "Child Labor and Schooling Responses to Anticipated Income in South Africa." *Journal of Development Economics* 81 (2): 386–414.
- Fafchamps, Marcel, David McKenzie, Simon R. Quinn, and Christopher Woodruff. 2011. "When Is Capital Enough to Get Female Microenterprises Growing? Evidence from a Randomized Experiment in Ghana." National Bureau of Economic Research Working Paper 17207.
- Fernandez, Raquel. 2009. "Women's Rights and Development." National Bureau of Economic Research Working Paper 15355.
- Field, Erica. 2007. "Entitled to Work: Urban Property Rights and Labor Supply in Peru." *Quarterly Journal of Economics* 122 (4): 1561–1602.
- 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.
- Gneezy, Uri, Muriel Niederle, and Aldo Rustichini. 2003. "Performance in Competitive Environments: Gender Differences." *Quarterly Journal of Economics* 118 (3): 1049–74.
- Goldin, Claudia. 2006. "The Quiet Revolution That Transformed Women's Employment, Education, and Family." *American Economic Review* 96 (2): 1–21.
- Goldin, Claudia, and Lawrence F. Katz. 2002. "The Power of the Pill: Oral Contraceptives and Women's Career and Marriage Decisions." *Journal of Political Economy* 110 (4): 730–70.
- Goldstein, Markus, and Christopher Udry. 2005. "The Profits of Power: Land Rights and Agricultural Investment in Ghana." Yale University Economic Growth Center Discussion Paper 929.
- Greenwald, Anthony G., Mahzarin R. Banaji, Laurie A. Rudman, Shelly D. Farnham, Brian A. Nosek, and Deborah S. Mellott. 2002. "A Unified Theory of Implicit Attitudes, Stereotypes, Self-Esteem, and Self-Concept." *Psychological Review* 109 (1): 3–25.
- Greenwood, Jeremy, Ananth Seshadri, and Mehmet Yorukoglu. 2005. "Engines of Liberation." *Review of Economic Studies* 72 (1): 109–33.
- Gugerty, Mary Kay. 2007. "You Can't Save Alone: Commitment in Rotating Savings and Credit Associations in Kenya." *Economic Development and Cultural Change* 55 (2): 251–82.
- Htun, Mala, and Laurel Weldon. 2011. "Sex Equality in Family Law: Historical Legacies, Feminist Activism, and Religious Power in 70 Countries." Background Paper for the *World Development Report 2012*.
- Indian Registrar General and Census Commissioner. 1990. *Census of India 1991. 2010: Census of India 2011*. New Delhi: Government of India Ministry of Home Affairs.
- International Institute for Population Sciences. 1995. *National Family Health Survey (MCH and Family Planning): India: 1992–93*. Bombay: International Institute for Population Sciences.
- International Institute for Population Sciences, and Macro International. 2009. *National Family Health Survey (NFHS-3): Nutrition in India: 2005–06*. Mumbai: International Institute for Population Sciences.
- International Institute for Population Sciences, and ORC Macro. 2000. *National Family Health Survey (NFHS-2): India: 1998–99*. Mumbai: International Institute for Population Sciences.
- Inter-parliamentary Union. 2011. "Women in National Parliaments." <http://www.ipu.org/wmn-e/arc/classif310711.htm>.
- Jayachandran, Seema, and Adriana Lleras-Muney. 2009. "Life Expectancy and Human Capital Investments: Evidence from Maternal Mortality Declines." *Quarterly Journal of Economics* 124 (1): 349–97.
- Jayachandran, Seema, Adriana Lleras-Muney, and Kimberly V. Smith. 2010. "Modern Medicine and the Twentieth Century Decline in Mortality: Evidence on the Impact of Sulfa Drugs." *American Economic Journal: Applied Economics* 2 (2): 118–46.
- Jensen, Robert T. 2010a. "Economic Opportunities and Gender Differences in Human Capital: Experimental Evidence from India." National Bureau of Economic Research Working Paper 16021.
- Jensen, Robert T. 2010b. "The (Perceived) Returns to Education and the Demand for Schooling." *Quarterly Journal of Economics* 125 (2): 515–48.
- Jensen, Robert T. and Nolan Miller. 2010. "Keepin' 'em Down on the Farm: Old Age Security and Strategic Underinvestment in Children." Unpublished.

- Karlan, Dean, and Martin Valdivia. 2011. "Teaching Entrepreneurship: Impact of Business Training on Microfinance Clients and Institutions." *Review of Economics and Statistics* 93 (2): 510–27.
- Karlan, Dean, and Jonathan Zinman. 2011. "Micro-credit in Theory and Practice: Using Randomized Credit Scoring for Impact Evaluation." *Science* 332 (6035): 1278–84.
- Khanna, R., A. Kumar, J. F. Vaghela, and J. M. Puliye. 2003. "Community Based Retrospective Study of Sex in Infant Mortality in India." *British Medical Journal* 327: 126–29.
- Lin, Ming-Jen, Nancy Qian, and Jin-Tan Liu. 2008. "More Women Missing, Fewer Girls Dying: The Impact of Abortion on Sex Ratios at Birth and Excess Female Mortality in Taiwan." National Bureau of Economic Research Working Paper 14541.
- 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): 463–80.
- Miguel, Edward. 2005. "Poverty and Witch Killing." *Review of Economic Studies* 72 (4): 1153–72.
- Miller, Grant. 2008. "Women's Suffrage, Political Responsiveness, and Child Survival in American History." *Quarterly Journal of Economics* 123 (3): 1287–1327.
- Miller, Grant. 2010. "Contraception as Development? New Evidence from Family Planning in Colombia." *Economic Journal* 120 (545): 709–36.
- Munshi, Kaivan, and Mark Rosenzweig. 2006. "Traditional Institutions Meet the Modern World: Caste, Gender, and Schooling Choice in a Globalizing Economy." *American Economic Review* 96 (4): 1225–52.
- Nguyen, Trang V. 2008. "Education and Health Care in Developing Countries." Unpublished.
- People's Republic of China Population Census Office. 1990. *Sample Data of the 1990 Population Census, 2010: China's Main Demographic Indicators from the 6th Population Census*. Beijing: People's Republic of China Population Census Office.
- The PROBE Team. 1999. *Public Report on Basic Education in India*. Oxford and New York: Oxford University Press.
- Qian, Nancy. 2008. "Missing Women and the Price of Tea in China: The Effect of Sex-Specific Earnings on Sex Imbalance." *Quarterly Journal of Economics* 123 (3): 1251–85.
- Robinson, Jonathan. 2011. "Limited Insurance within the Household: Evidence from a Field Experiment in Kenya." Munich Personal RePEc Archive Paper 30842.
- Rose, Elaina. 1999. "Consumption Smoothing and Excess Female Mortality in Rural India." *Review of Economics and Statistics* 81 (1): 41–49.
- Schaner, Simone G. 2011. "The Cost of Convenience? Transaction Costs, Bargaining Power, and Savings Account Use in Kenya." Unpublished.
- Sen, Amartya. 1990. "More than 100 Million Women Are Missing." *New York Review of Books* 37 (20).
- Singer, Rena. 2000. "New South African Law Targets Old Fears of Occult." *Christian Science Monitor*, December 6.
- Spencer, Steven J., Claude M. Steele, and Diane M. Quinn. 1999. "Stereotype Threat and Women's Math Performance." *Journal of Experimental Social Psychology* 35 (1): 4–28.
- Swim, Janet, Eugene Borgida, Geoffrey Maruyama, and David G. Myers. 1989. "Joan McKay versus John McKay: Do Gender Stereotypes Bias Evaluations?" *Psychological Bulletin* 105 (3): 409–29.
- Thomas, Duncan. 1990. "Intra-household Resource Allocation: An Inferential Approach." *Journal of Human Resources* 25 (4): 635–64.
- Thomas, Duncan. 1993. "The Distribution of Income and Expenditure within the Household." *Annales d'Economie et de Statistique* 29: 109–35.
- Thomas, Duncan, Dante Contreras, and Elizabeth Frankenberg. 2002. "Distribution of Power within the Household and Child Health." Unpublished.
- Udry, Christopher. 1996. "Gender, Agricultural Production, and the Theory of the Household." *Journal of Political Economy* 104 (5): 1010–46.
- United Nations. 2005. *Progress towards the Millennium Development Goals, 1990–2005*. Secretary-General's Millennium Development Goals Report. New York and Geneva: United Nations Publications.
- World Bank. 2001. *Engendering Development: Through Gender Equality in Rights, Resources, and Voice*. New York and Oxford: Oxford University Press; Washington, D.C.: World Bank.
- World Bank. 2011. *World Development Report 2012: Gender Equality and Development*. Washington, D.C.: World Bank.