Gender, Poverty and Demography: An Overview

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Much has been written on gender inequality and how it affects fertility and mortality outcomes as well as economic outcomes. What is not well understood is the role of gender inequality, embedded in the behavior of the family, the market, and society, in mediating the impact of demographic processes on economic outcomes. This article reviews the empirical evidence on the possible economic impacts of gender inequalities that work by exacerbating demographic stresses associated with different demographic scenarios and reducing the prospects of gains when demographic conditions improve. It defines four demographic scenarios and discusses which public policies are more effective in each scenario in reducing the constraints that gender inequality imposes on poverty reduction. JEL codes: J10, J13, J16, J18

There has been renewed interest in the links between demographic change and economic outcomes. This interest has focused primarily on the window of opportunity for accelerating economic growth presented by the increasing share of adults in the population relative to children and the elderly. But it is well known that a larger set of demographic processes can influence the prospects for poverty reduction and economic growth.

Much has also been written on how gender inequality affects fertility and mortality outcomes as well as economic outcomes. What is not well understood is the role of gender inequality in mediating the impact of demographic processes on economic outcomes.

This overview examines the impact of gender inequality on poverty through the prism of four dominant demographic conditions (figure 1). Gender equality does not necessarily mean equality of outcomes for men and women but rather equality of opportunity (and the ability to make choices) in the family, market, and society (World Bank 2007). Girls and women are typically more affected by inequalities in opportunities—which have serious (and often overlooked)

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implications for the perpetuation of poverty—but the impact of gender inequalities on men’s well-being are also discussed. As there are few data on differences in opportunity, much of the discussion is necessarily based on studies of gender differentials in outcomes as a proxy measure of opportunity.

The evidence on these relationships varies in quantity and quality. An extensive literature establishes associations between variables but does not prove causality. This overview flags these analytical differences and focuses primarily on the relationship between gender inequality and poverty outcomes, which is backed by a growing body of micro studies using increasingly rigorous methods. Less attention is given to the relationship between gender inequality and economic growth, which is more difficult to measure and for which the evidence is much weaker (see Schultz 2009, in this issue).

The four demographic settings are as follows:

- “Demographic explosion”—countries with high fertility and declining child mortality, leading to high youth dependency ratios; lower per capita resources for investments in human capital, infrastructure, and economic growth; and greater difficulty for households to emerge from poverty.
- “Demographic window of opportunity”—countries where declining fertility has led to a high proportion of working-age adults in the population relative to children and the elderly, offering the prospect of

![Figure 1. Flowchart of Demography, Poverty, and Gender Relationships](source: Authors’ analysis)
increasing savings and economic growth if appropriate policies are put in place to use the expanded labor force productively.

- “Demographic implosion”—countries where the population is aging rapidly as a result of continuing low fertility and declining adult mortality, straining public and private resources for supporting the elderly, a disproportionate number of whom are women since women typically outlive men.

- “Demographic hourglass”—countries where the prime working-age population is declining because of premature adult mortality (from armed conflict or disease, such as HIV/AIDS), raising dependency ratios, increasing households’ vulnerability to poverty, and reducing the potential for economic growth. This is the reverse of the demographic window of opportunity. While countries progress over time from the first to the third scenario, this hourglass effect can occur under any of the other scenarios if there is an unusual mortality spike.

These four demographic settings are illustrated with examples in figure 2.

Gender inequalities exacerbate demographic stresses and limit potential gains when demographic conditions improve. In high-fertility settings, gender inequalities slow fertility decline, negatively affecting women’s health and lifetime earnings and reducing prospects for income growth for current and future generations. In the second scenario, gender inequalities restrict women’s participation in productive employment and thereby lower the potential economic growth dividend. In rapidly aging populations, the strains of supporting the elderly are exacerbated by gender inequality in access to productive assets and employment. But where gender inequalities are so grave as to result in significant numbers of “missing” women due to sex selection, men may be deprived of familial support in their old age. And under the hourglass scenario, gender inequalities increase the vulnerability of children and the elderly to poverty if men die, because women are less well placed to support their dependents single-handedly—though this can be partly offset by an increase in potential economic niches left by the men who die.

Map 1 identifies countries by their dominant demographic scenario. The most demographically stressed countries are those that still have high fertility but are also subject to the hourglass scenario as a result of high HIV prevalence rates or armed conflict. This combination of demographic stresses severely constrains these countries’ efforts to reduce poverty and increase growth.

1. In turn, changing demographic dynamics can affect gender inequality. For example, it can affect spousal dynamics. Since men typically marry women younger than themselves, the age gap can increase with high fertility and the resultant growth in size of successive births cohorts. This gives husbands a potential edge over their wives, which diminishes when falling fertility reduces the scope for finding a wife much younger than oneself. Little is known about how this affects other outcomes, such as investment in human capital.
The article is organized as follows. The first four sections synthesize the main findings to date for the four demographic settings. Section V presents some suggestions for research and policy.

I. “Demographic Explosion”: High Fertility and Rapid Population Growth

It is an arithmetic truth that rapid population growth strains resources at both societal and household levels. Rapid population growth (see figure 2a) reduces available resources per capita for public investment in services such as health and schooling, as well as for investment in growth through expansion of infrastructure and employment opportunities. These reductions in investment per capita take a toll on prospects for economic growth and poverty reduction, though in the very long sweep of history higher population density can be
associated with more rapid technological change (Kremer 1993). At the household level, having many children puts pressure on the household budget and can be associated with poorer human capital outcomes through many channels, to the detriment of children, women, and the household economy. The evidence is discussed below.

**Effects on Child Health and Well-being**

Parental investment in children may be diluted as the number of children increases. Poorer families, in particular, may have trouble feeding and schooling their children, and the difficulty may increase with family size. Several studies have examined this quantity–quality tradeoff, controlling for the potential endogeneity between family size and child outcomes.

Evidence of this tradeoff is found in the developing world, for example in Indonesia, where weight for age is lower in later-born children (Henderson and others 2008). In a review of studies from around the world, Behrman, Alderman, and Hoddinott (2004) find that low birth weight is associated with stunting, poorer cognitive development, and lower adult productivity. In the developed world, where parental incomes are relatively high, less dramatic effects are found in some studies. In the United States, children’s likelihood of attending private school falls with increasing number of siblings (Conley and Glauber 2006). In Norway, later born children have been found to have lower IQs (Black, Devereux, and Slavanes 2007). Data from the United Kingdom are also suggestive of the disadvantages faced by low-birth-weight children—children born prematurely were shorter as adults, with lower earnings, and were less likely to have professional or managerial jobs (Strauss 2000). Other studies

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**Note:** Data refer to the medium variant assumption of fertility trends.

**Source:** Authors’ analysis based on data from United Nations Population Division (2006).
in developed countries find no effect of greater numbers of children, for example, in Israel (Angrist, Lavy, and Schlosser 2005).

Gender adds a further twist to this story of resource dilution, since there is a strong preference for sons in many developing economy settings. In South and East Asia, parental son preference is strong and results in significant “culling” of daughters to keep family size down (Chung and Das Gupta 2007), thereby reducing the resource dilution caused by continuing to bear children until the desired number of sons is achieved. This pattern of excess female child mortality is not found in Sub-Saharan Africa (Garenne 2003). Filmer, Friedman, and Schady’s (2009) article in this issue shows that parents are more likely to stop bearing children if they have a son, so girls tend to have more siblings. This means that son preference, combined with incomplete culling of girls, leads to larger family size. This effect is strongest in South Asia, followed by Central Asia and the Middle East and North Africa.

Effects on Women’s Health, Labor Force Participation, and Earnings

Women pay a high price for high fertility in maternal mortality, a major cause of death for young women in high-fertility settings (WHO 2007). Moreover, women’s mortality risk remains elevated long after childbirth: a study in Bangladesh found that the risk is nearly twice as high as normal for up to two years after childbirth (Menken, Duffy, and Kuhn 2003). The risk is even higher for poor women, who have less access to quality care during pregnancy and childbirth (Bloom, Wypij, and Das Gupta 2001).

Childbearing can also take a toll on women’s labor force participation, productivity, and earnings. In Bangladesh, Joshi and Schultz (2007) find that lower fertility was associated with a rise in women’s earnings, better maternal and child health, and higher schooling for the sons in the family. Studies in settings as diverse as Brazil and the Philippines indicate that childbearing is associated with lower women’s labor force participation (Connelly and others 2006; Adair and others 2002). However, other studies find only a weak correlation between declining fertility and women’s labor supply. This may be due to the intervening role of family structures and dynamics, including fosterage, that affect the allocation of labor in the household and the compatibility between paid work and child care. In addition, cultural practices may constrain women’s access to jobs and productive resources, as well as female labor demand.

Women’s lifetime earnings are negatively associated with the number of children, and this is especially the case for women who are less educated and those who begin childbearing early. In the United States, this association is strongest among poor and less educated women (Angrist and Evans 1996). Similarly, in the United Kingdom, a woman with no job qualifications and two children has half the total lifetime earnings of her childless counterpart, and a mother of four has less than a fifth (Matheson and Summerfield 2001). In Chile, Barbados, Guatemala, and Mexico, Buvinic (1998) finds that adolescent
childbearing was associated with lower monthly earnings for mothers and lower child nutritional status only among poor people. In agrarian settings, women’s participation in the labor force and lifetime economic productivity may be less disrupted by childbearing, but countering this hypothesis, tabulations of time-use data from countries in Africa, Asia, and Latin America, including several still largely agrarian societies, indicate that women spend twice as much time on unpaid care work as do men (Budlender 2008).

**Effects of Girls’ Education and Urbanization on Fertility**

Women’s education is strongly negatively correlated with fertility (Cochrane 1979). More recent studies that have controlled for potential endogeneity between the variables have established this link more conclusively in a range of settings, including Guatemala, Indonesia, and Nigeria (Behrman and others 2006; Breierova and Duflo 2004; Osili and Long 2004). However, further evidence is still needed to establish causality unambiguously and clarify the principal pathways by which women’s schooling affects fertility. In many settings, including China and several African countries, urbanization has also been found to be correlated with lower fertility, partly due to higher opportunity costs (education and employment) and greater access to family planning services (Brockerhoff 1998; Goldstein, White, and Goldstein 1997).

Women’s disadvantage in schooling is narrowing in most regions of the developing world. Grant and Behrman (2008) find that the gender gap in school enrollment at ages 10–12 (but not at older ages) fell between 1990–99 and 2000–05 in South Asia, Middle East and North Africa, and West and Central Africa. In Latin America, Southeast Asia, and Southeast Africa, they find that girls ages 10–12 have somewhat higher levels of primary school enrollment than do boys and that their secondary school attainment (conditional on enrollment) is higher than that of boys’.

**II. The “Demographic Window of Opportunity”**

The demographic window of opportunity is the period following fertility decline, when the share of working-age people in the population rises and dependency ratios are low (see figure 2b). This increases per capita income and per capita availability of public resources to invest in human capital and the infrastructure for economic growth. Aggregate savings can be raised, and the expanded labor force can be used to increase the pace of economic growth. This in turn helps speed fertility decline, in a virtuous cycle of high growth and low fertility. Eventually the population starts aging, and this window of opportunity closes.

**Realizing the Demographic Dividend**

The extent to which this window of opportunity can be converted into a demographic dividend of increased economic growth depends on the effectiveness of
state policies. Realizing the dividend requires early investments in schooling and health, so that the working population is educated and healthy. Robust evidence shows that while expanding the quantity of education is important, its quality is critical for economic growth (Hanushek and Woessmann 2008). Policies, therefore, should encourage investments in school quality and in the expansion of employment opportunities, especially in industries that can absorb the semi-skilled labor that predominates in developing economies. Promoting international trade and a favorable investment climate and reducing labor market rigidities increase the demand for labor.

East Asian countries implemented such policies, and a third of the nearly tripling of real per capita income over 1965–90 has been attributed to their ability to harness the demographic shifts to advantage (Bloom and Williamson 1998). By contrast, Latin America’s underperformance compared with East Asia during this period has been linked to protectionist trade policies that impeded realization of this dividend (IDB 2000). However, establishing causality between demographic and economic change is methodologically complex, given simultaneity between demographic and economic variables. Shultz (2009) finds, for instance, that results vary enormously depending on the level of analysis. He finds large estimates at the aggregate level (even when cross-country regressions use instruments to control for simultaneity) but only weak, insignificant estimates with more rigorous household survey data for the association between a rising share of households with working-age individuals and increasing aggregate demand for savings (following the life-cycle savings model).

Gender Inequality and the Demographic Dividend

Gender inequality can mediate the effect of the demographic bulge on economic growth in a number of ways. First, it can slow the speed of fertility decline and therefore the timing and size of the window of opportunity. This can result in a shallow but prolonged window of opportunity, not the sharp surge of working-age population seen in East Asia.

Second, gender inequality in schooling can limit the potential for economic growth by restricting the pool of talent and reducing average labor force quality (World Bank 2001). Galor and Weil (1996) conclude that gender inequalities in schooling and employment can seriously diminish countries’ prospects for growth and poverty reduction. Studies in a range of settings indicate that expanding women’s education and control over household resources is associated with better child health and education (King and Hill 1993; World Bank 2007), boosting the potential for future productivity and economic growth.

2. Improving health outcomes has been widely found to be associated with better cognitive outcomes as well as greater labor productivity and higher income at the micro level, but the impact of health improvements on economic growth at the macro level is difficult to measure and more mixed (Glewwe and Miguel 2008; Jack and Lewis 2007).
Third, increased female labor force participation (and greater gender equality in labor markets) contributes to the demographic dividend. It has been argued that women’s entrance into the labor force was one of the most important features in East Asia’s demographic dividend (Mason 2006). Shultz (2009) argues that the gains from increases in female labor supply will be larger than those from changing age structures.

Cultural restrictions can constrain women’s economic contributions. In the Middle East, such restrictions have prevented women from taking advantage of the opportunities created by economic opening (Schultz 2009). And because of cultural restrictions, it is also common for women to be less likely to own or have secure access to productive assets, such as land. Deininger (2008) shows that in Ethiopia increasing women’s tenure security (by issuing land titles in the names of both husbands and wives) increases farm productivity and empowers women in the household.

In societies with strongly patrilineal kinship systems, parents have lower incentives to invest in schooling their daughters since they cannot receive support from married daughters. Filmer (2000) finds a large gender gap in female enrollment in selected countries in South Asia and the Middle East, especially in poorer households.

III. “Demographic Implosion”: Rapidly Aging Populations

The rapid fertility decline in much of the developing world is graying the population much faster than in the developed world and typically at lower levels of income, straining sources of old age support. Although the share of older people in industrialized nations remains higher, by mid-century 80 percent of the world’s elderly will be living in developing economies. The most rapid growth of the elderly population will be in East Asia, which experienced the most rapid fertility declines (figure 3). South Asia and the Middle East will have more time to put formal old age support systems in place, and for Sub Saharan Africa the problem is far in the future.

Systems of Old Age Support

In the developed world, formal systems support the elderly and protect against poverty in old age, although an increasing number of countries face problems with the continued financing of these systems as the proportions of the elderly rise (Williamson and Smeeding 2004). Some middle-income countries such as Brazil and South Africa show that modest cash transfers directly targeted to the elderly can significantly reduce poverty and extreme poverty (Case 2004; de Carvalho 2008). Interestingly, when women received the transfers they also used them to improve their grandchildren’s health and schooling, an effect that was not measurable when men received the transfers (Carvalho 2008; Duflo 2003). These measures may be fiscally unaffordable in many low-income countries, however, where until recently the formal sector has been small and citizens have
not contributed to pension funds. These countries may also lack the administrative capacity to deliver such targeted support. In most developing economies, non-contributory pensions provide negligible support (Casabonne 2007).

Traditional systems of familial support are still largely in place in the developing world, with children the main source of material and physical support for their elderly parents. The proportions of elderly living with their children are highest in Asia, followed by Africa and Latin America (United Nations 2005). Coresidence with children is associated with a lower likelihood of being poor in old age, although causality has not been established. Smeeding and others (2008) find in middle-income countries (China; Taiwan, China; and Mexico) that people in multigenerational households have net disposable income poverty rates that are not much different from those in rich countries. Non-coresident children may also help support their parents financially and otherwise.

With urbanization and modernization, the proportion of elderly living in multigenerational households shrinks: between the early 1980s and 2000, it fell from 78 to 66 percent in Mexico, and from 95 to 58 percent in Taiwan, China (Smeeding and others 2008). However, familial support can show remarkable resilience even after decades of social change. In Taiwan, China, only 29 percent of elderly respondents said that pensions or retirement benefits constituted their main source of income (Chan 2005). Persistence in patterns of familial support offers a window of time for countries to build up the resources to establish more formal old age support policies. These policies need to be carefully designed, since government transfers to the needy can diminish the flow of private transfers from relatives (Jimenez and Cox 1992).

**Figure 3.** Increases in the Old Age Dependency Ratio, 2005–50 (Ratio of Projected Population Ages 65+ to ages 15–64)

*Note:* Data refer to the medium variant assumption of fertility trends.  
Gender Inequalities Heighten the Problems of Old Age Support

Women are more vulnerable than men to poverty in old age, for several reasons. First, they have lower lifetime earnings as a basis for earnings-linked support systems and for personal savings, because they participate less in the formal labor force, are paid less for their participation, and childbearing lowers their lifetime earnings curve. And they own fewer assets than men (World Bank 2007). In sum, women make large non-monetary contributions to their families, but are in turn more dependent on them for support.

Second, women live longer than men, on average, largely because of women’s biological advantages and men’s greater tendency to engage in risky behavior. Gender differences in opportunity also contribute, for example, through men’s greater exposure to hazardous occupations. Greater longevity can be desirable, but it also means that women are likely to be widowed and perhaps lose access to all or part of their husband’s income or pension. Moreover, women are exposed to a longer period of old age, with potentially poor health, when the need for support is higher. On the other hand, studies indicate that women are better integrated than men into family and social networks, giving them sources of resilience (Knodel and Ofstedal 2003).

The elderly are more vulnerable where kinship systems prescribe that only sons can support their aged parents and less vulnerable when children of either sex can provide parental support. Fertility decline further increases the likelihood of elderly parents having no son able to support them. This suggests that the need for state support may be higher in some societies than in others and that policies for state support may need to be tailored to prevailing cultural patterns.

An especially striking manifestation of how old age support can be affected by gender inequalities is currently unfolding in China, where significant proportions of girls are “missing” as a result of strong son preference. While this problem has been widely discussed, Ebenstein and Sherigin’s (2009) article in this issue explores its dynamics and implications. They show that significant proportions of men in China will remain single and will face an old age without the physical and financial support of a spouse and children. The regions of China with the highest levels of culling of girls are also the prosperous regions of the country, able to attract marriageable women from poorer areas. Thus, Ebenstein and Sherigin show that the unmarried men will be concentrated among those who are poorer and less educated, living in regions with lower employment opportunities and resources for providing public support to

3. Genetic and physiological factors predispose women to greater longevity (Waldron 2005)—while men have higher levels of engagement in life-threatening behaviors such as smoking and drinking and violence as well as higher exposure to hazardous occupations, resulting in higher mortality rates from causes such as lung cancer, accidents, suicide, and homicide (McKee and Shkolnikov 2001; Waldron 2005).
their citizens. Ironically, a cultural bias against girls will increase male poverty and vulnerability, especially in old age.

IV. “Demographic Hourglass”: Working-age Adults Missing

If premature mortality shrinks the prime working-age population, there are economic and social consequences at both macro and micro levels that are opposite those of the demographic window of opportunity. At the macro level, the labor shortfall and the rise in dependency ratios diminish the potential for economic growth and poverty reduction. At the micro level, households suffer from the loss of income from the missing adult, and the remaining members of the household are put under greater stress to provide and care for household members. Familial support for the elderly and for children becomes stressed. On the other hand, the labor shortages can benefit women and others who might normally have greater difficulty finding a job.

Demographic Effects of Premature Adult Mortality and Skewed Age–Sex Distributions

One major factor contributing to hourglass populations is armed conflict, which typically boosts mortality among men more than among other population groups. The resulting shortage of working-age men can be dramatic: in 1950, after World War II, there were 40 percent more women than men ages 25–39 in Germany, and 57 percent more in what is now the Russian Federation (see figure 2d). In Africa in 2000, there were an estimated 51 male deaths per 100,000 compared with 15 female deaths per 100,000—for low- and middle-income countries the average was 6.2 male deaths per 100,000 (WHO 2002)—suggesting excess male mortality due to violence. Studies show the devastating effects of conflict at the macro and micro levels and have also analyzed the economic causes of conflict (Collier and Sambanis 2005; Stewart and Fitzgerald 2001). However, studies of gender differentials in the effects of conflict are limited by the difficulties of data collection in the aftermath of war and of the attribution of causality, so they are not reviewed here.

Another possible factor producing hourglass populations is the reverse skewing of the population age–sex distribution as a result of strong societal son preference, which increases girls’ mortality. Current sex ratios at birth in China, as indicated by the 2005 One Percent Population Sample Survey, imply that these birth cohorts will have nearly 20 percent fewer female than male adults. The fallout for men has been discussed above. However, son preference may not shrink the total labor force, since it implies a choice not to reduce family size, but to alter its sex composition. Indeed, if parents are inefficient at

5. The effect of large-scale labor outmigration is also not discussed, since the literature shows that labor migrants are not typically lost to their place of origin unless they take their families with them.
culling daughters, son preference may increase the size of birth cohorts (Filmer, Friedman, and Schady 2009).

HIV/AIDS is another important factor contributing to high levels of premature adult mortality and shrinking the labor force. By 2020, some of the worst affected countries (Botswana, Lesotho, Swaziland, and Zimbabwe) will have lost an estimated 35 percent or more of their working-age populations (ILO 2006). A high prevalence of HIV/AIDS is estimated to have a large negative impact on GDP growth (Corrigan, Glomm, and Mendez 2005). The mechanisms through which this happens include loss of labor productivity because of illness and death, increased health care expenditures that lead to dissaving, and lower capital accumulation and expenditures on schooling.

**HIV Prevalence and Gender Inequality**

Both men and women are affected by HIV, but in Africa many more women than men are affected and at younger ages than men. Recent surveys in eight African countries show HIV prevalence rates of 1.2–1.8 times higher among women than among men in six of these countries, particularly in those below ages 35–40 (Mishra and others 2005). The Joint United Nations Programme on HIV/AIDS estimates that women make up three-quarters of Africans ages 15–24 who are HIV positive (UNAIDS 2008).

**IMPACT ON ORPHERNS.** Orphanhood can be associated with poorer schooling and health outcomes for children, especially in poorer households. In a sample of 39 Demographic and Health Surveys, poor households in about a third of countries had a significant orphan disadvantage, but there was not a larger gender gap for orphans than for non-orphans in most countries (Ainsworth and Filmer 2002).

Studies in Tanzania, where longitudinal data have been carefully collected and analyzed, find that children who lose their mother fare worse than those who lose only their father. Their schooling suffered more if they lost their mother, especially in poorer households (Ainsworth, Beegle, and Koda 2005). They were also disadvantaged in height, especially if they were younger when orphaned (Beegle, De Weerdt, and Dercon 2008). Orphaned girls face an additional disadvantage as a consequence of their gender: they become exposed to HIV earlier than other children, especially if they come from poorer households (Beegle and Krutikova 2007).

**IMPACT ON SPOUSES AND CHILDREN.** Having a working-age adult ill with HIV takes a heavy toll on other household members. Children are diverted to activities other than schooling. In Tanzania, longitudinal data show that children sharply reduced their hours spent in school before the death but returned to school after the death (Ainsworth, Beegle, and Koda 2005). Girls are sometimes disproportionately affected (Yamano and Jayne 2004).
An evaluation of the impact of antiretroviral therapy in Kenya found that access to antiretroviral drugs helps keep HIV-infected adults in the labor force. This is associated with lower participation of women in cash-generating work, in turn freeing children (boys more than girls) from additional household work to return to school (Thirumurthy, Zivin, and Goldstein 2005).

**IMPACT ON AGING PARENTS.** Studies from a range of settings find that aging parents face heavy burdens if they have a child with HIV. First, the toll of caring for an adult child with HIV can deplete their resources, especially for the poorer elderly. Studies in Asia (Cambodia and Thailand) and Southern Africa find that to meet these costs, parents sell assets, use their savings, take loans, and work extra hours (Gregson 2008). Several of these studies are based on surveys of self-reported status after the child becomes ill or dies, so the results of Adhvaryu and Beegle (2008), which are based on longitudinal data, are of special value. They find that in Tanzania parents who lose adult children deplete their assets to meet the additional expenses and that thereafter older women increase their working hours, working longer into old age.

Second, aging parents support their orphaned grandchildren. In both Asia (Cambodia and Thailand) and Southern Africa, surveys indicate that grandparents are the primary caregivers for about a third of orphaned children (Deininger, Garcia, and Subbarao 2003; Gregson 2008) and partially support others.

Third, losing adult children increases old-age vulnerability to poverty. For about half of poorer parents in Cambodia and Thailand who had lost an adult child, that child was the parents’ main source of support (Knodel 2006). Bereaved parents can potentially turn to other children for support, but their need for support is intensified by their depleted assets. And high levels of mortality can offset the potential risk diversification of having several children. It is estimated that by 2010 in South Africa, nearly one in five people older than 60 will have no surviving children (Merli and Palloni 2006).

**V. DISCUSSION AND POLICY IMPLICATIONS**

Viewed through the lens of the dominant demographic conditions in a country, the development implications of gender inequality become clearer. These implications relate in particular to the value of girls in the family, the quality of family planning services, gender equity in schooling and employment, and old age support. Cultural factors leading to a preference for sons over daughters are typically viewed as a problem for girls and women, since they may result in the culling of unwanted daughters and reduce parental willingness to invest in girls’ health and schooling.

Filmer, Friedman, and Schady’s (2009) article in this issue shows that son preference can also increase the likelihood that girls will be exposed to parental resource dilution: parents continue childbearing until they reach their desired
number of sons, so girls tend to belong to larger families. However, as Ebenstein and Sherigin’s (2009) article in this issue shows, from a demographic scenario perspective, high male to female sex ratios at birth or a culture in which only sons are able to provide old age support affects not only young girls, but also older men’s vulnerability to poverty and the country’s ability to support its elderly population. Culture, fortunately, is malleable, and studies show that son preference can diminish in the face of modernization, especially if the media and other sources are used to reshape attitudes toward daughters (Chung and Das Gupta 2007).^6^ 

In addition to the influence of the media, the surest way to increase the value of girls and women in the family and society is to invest in reducing gender inequalities in schooling and employment. These are smart investments across the different demographic scenarios. However, family planning programs should head the list in settings where high fertility is a major threat to countries’ prospects for economic growth and household poverty reduction. Such programs are particularly cost-effective in high-fertility settings and in settings with high HIV prevalence and should be a priority investment for the 63 countries that currently experience high fertility (see map 1), especially the 15 countries in Sub-Saharan Africa that show both high fertility and hourglass mortality due to HIV/AIDS. The direct health benefits of family planning for women and children from increasing birth intervals, reducing teen pregnancies, and preventing mother-to-child HIV transmission are well known (Levine and others 2006). In addition, Schultz (2009) shows that in a social experiment in Matlab, Bangladesh, family planning increased women’s wages and their investments in child quality (sons’ schooling and daughters’ health). These health and economic payoffs to family planning should accelerate fertility decline in high-fertility, high–hourglass mortality countries.8

To fully reap the benefits of the demographic dividend as countries transition from the high-fertility scenario to the early stages of the demographic window of opportunity, investments in schooling that increase education quality for all and reduce gender gaps in school enrollment and completion are

6. Development has two countervailing effects on the culling of girls. On the one hand, improved financial and physical access to better sex-selective technology tends to increase culling. On the other hand, modernization changes attitudes in favor of greater gender equality. Studies indicate that the second effect comes to outweigh the first.

7. Pritchett (1994) argues that desired family size rather than family planning programs is a major factor contributing to fertility reduction. However, his analysis ignores the fact that successful family planning programs focus intensively on reducing desired family size. For example, in India, the media are used heavily through direct advertising, soap operas, and the like to disseminate the idea that smaller families are happier families. Jensen and Oster’s (2008) study of cable television in India shows that media exposure reduces fertility.

8. These benefits of family planning in high-fertility Sub-Saharan African countries, where women record high unmet need for contraception (19.4 percent of women, according to Levine and others 2006), should influence desired fertility and counter Pritchett’s (1974) argument that desired fertility and not family planning is the predominant factor in explaining fertility decline.
especially important. Reducing gender gaps in school attainment without increasing school quality and the cognitive skills of female and male students will not have desired effects on individual earnings and economic growth (Hanushek and Woessmann 2008). These efforts should pay special attention to increasing the access of girls from socially excluded groups, who constitute the largest proportion of girls not in primary school, and narrowing gender gaps in secondary schooling, where gender disparities are the widest and the returns to girls’ schooling the greatest (Tembon 2008). Investments also need to be balanced in the growing number of cases where boys’ schooling attainment is lagging behind or reversing.

There is a rich literature on policy options to improve student performance and reduce gender disparities in schooling. Schooling reforms that seek to improve student performance can take decades (20–30 years), but improved student performance is critically linked to economic growth, and evidence indicates that it benefits girls more than boys (Tembon 2008). Reducing gender disparities in schooling includes supply-side interventions, such as broadening school options for girls and, notably, incentives so that parents send children to school. Demand-side interventions such as conditional cash transfer programs have been found to be effective in expanding child schooling, sometimes more for girls than for boys (Fiszbein and Schady 2009). In settings such as Bangladesh, where cultural factors preclude parents’ receiving support from married daughters, disincentives for investing in schooling for daughters can be offset through scholarships or stipends for girls (Khandker, Pitt, and Fuwa 2003).

Schooling opportunities for all, but especially for girls, can be severely compromised in hourglass settings because of HIV/AIDS and conflict. Policy alternatives include accelerated learning programs and targeted programs to improve the school-to-work transition and skill deficits of poor adolescent girls and young women—a critical target group or entry point for interventions that seek to break the intergenerational transmission of poverty. Rigorous evaluations of a generation of demand-driven youth training programs in Latin America have found that they successfully ease young women’s transition into jobs by promoting equal access to women, especially through training in non-traditional skills, stipends for childcare, and strong links between training and private sector labor demand (Attanasio, Kugler, Meghir 2008; Ñopo, Robles, and Saavedra 2007). The challenge is to roll out these designs in high-fertility, high HIV/AIDS, and post-conflict hourglass settings with substantially less institutional capacity.

Schultz’s (2009) article in this issue surveys the literature on the macro and micro links between the demographic window of opportunity and economic development, showing how labor market and microcredit policies could be better designed to increase women’s income-earning potential. Policies that expand labor demand and create economic opportunities for women are fundamental for reducing the intergenerational transmission of poverty in
high-fertility and high young-adult-mortality scenarios, to help realize the demographic dividend and to increase private savings for old age. These policies, in turn, will have positive impacts on girls’ schooling by narrowing the gap between the returns to girls’ and boys’ schooling and helping to change parents’ perception that girls are less valuable than boys. The time to implement these policies is now—in the past decade and a half girls’ schooling has improved noticeably but women’s labor force participation rates have barely budged (World Bank 2007).

Trade policies can expand women’s employment by increasing employment in sectors that favor women, such as the garment industry, electronics, and high-value agricultural exports (cut flowers and fruits)—while also reducing the gender gap in employment in other industries. But there is also evidence that trade works to narrow the occupational gender wage gap in richer but not in poorer countries (Oostendorp 2009). It may be that women need a certain skill level to take advantage of trade-related opportunities.

This argues for skills training and labor-intermediation programs targeted to youth and women to facilitate their entry into the employment opportunities generated by the opening of markets to international trade. More generally, women tend to be more vulnerable to labor market conditions than do men and to experience higher unemployment rates and may therefore benefit disproportionately from an overall expansion in job opportunities. For example, Kolev and Sirven (2007) find a positive relationship between male and female employment ratios in 21 African countries, and they find the lowest gender gaps in employment in countries with the largest male employment ratios.

Experience with employment generation (public works) programs designed to cushion the impact of economic crisis on poor people shows that the programs can ensure high female participation by including incentives to attract female labor, such as numerical targets for women’s participation, use of community-based intermediary agencies, work sites close to home, home-based production, and availability of child care (Buvinic 2008).

In addition to wage employment, expanding women’s access to entrepreneurship and self-employment is critical to boost women’s economic opportunities and contributions and is especially timely in demographic explosion and hourglass scenarios with undeveloped labor markets. Doing this requires increasing women’s access to credit and other inputs. Substantial experience with microfinance agencies shows that their programs effectively reach women and can have larger benefits for female borrowers than for male borrowers (Armendariz de Aghion and Morduch 2005; Pitt and Khander 1988). Less is known about successful models to increase women’s access to formal financial services, while recent studies in Italy, Eastern Europe, and Central Asia find that women are disadvantaged in obtaining finance from commercial banks (Alesina, Lotti, and Mistrulli 2008; Sabarwal and Terrell 2008).

Policies also need to be carefully designed to help women remain in the labor force when they have children. Access to child care is a common feature of public
works programs that reach women, and public investments in pre-primary schooling increase maternal labor supply (Berlinski and Galiani 2007). However, labor market regulations that seek to protect women by requiring employers to pay for maternity leave and similar fringe benefits can reduce employers’ willingness to hire women. Public funding for such fringe benefits may be more effective. Further, most mandated fringe benefits are withheld from wages, leaving employers’ cost of labor relatively unaffected (Shultz 2009).

As populations age, governments increasingly need to consider safety net and pension options for vulnerable elders, typically older women. Modest targeted non-contributory pensions have been found effective in reducing old age poverty in Brazil and South Africa and might be used to help poor parents elsewhere cope with the costs of caring for HIV-affected children and their orphans.

Substantial research gaps remain on the relationships among demographic factors, gender inequalities, and economic outcomes. Foremost, they include looking beyond associations between variables to testing for causality between, for instance, female schooling or female wages and lower fertility. In addition, evidence is needed on the relationship (and pathways) between growth outcomes and increased gender equality in schooling and the labor market. Also, evaluation research needs to better understand how specific policies affect women’s labor supply, wages, and savings. How is women’s labor force participation affected by gender inequalities in wages and discrimination against women in labor markets? And, in turn, how does women’s participation in the labor force affect aggregate savings and investments? While difficult, another major research need is isolating the impact of demographic changes brought about by conflict on women’s labor force participation, gender inequality, and family well-being.

Progress in establishing stronger links between gender equality and poverty and growth and in moving from establishing associations to asserting causality will increasingly be possible with growing investments in gender-informed panel studies with large samples and natural or scientific experiments. Filling these research gaps should help in identifying effective policy interventions for creating a virtuous cycle of increased gender equality, poverty reduction, and economic growth.

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