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# How Do Women Weather Economic Shocks?

## A Review of the Evidence

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## Abstract

Do women weather economic shocks differently than men? The evidence shows this to be the case, especially in low-income countries. The first-round impacts of economic crises on women's employment should be particularly salient in the current downturn, since women have increased their participation in the globalized workforce and therefore are more directly affected by the contraction of employment than in the past. Crises also have second-round impacts, as vulnerable households respond to declining income with coping strategies that can vary significantly by gender. In the past, women from low-income households have typically entered the labor force, while women from rich households have often exited the labor market in response to economic crises. In contrast, men's labor force participation rates have remained largely unchanged. Evidence also suggests

that women defer fertility during economic crises and that child schooling and child survival are adversely affected, mainly in low-income countries, with adverse effects on health being greater for girls than for boys. In middle-income countries, by contrast, the effects on children's schooling and health are more nuanced, and gender differences less salient. Providing women in poor households with income during economic downturns makes economic sense. This paper reviews workfare programs and cash transfers and finds that the former provide poor women with income only when they include specific design features. The latter have been effective in providing mothers with income and protecting the wellbeing of children in periods of economic downturn.

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This paper—a product of the Gender and Development Unit, Poverty Reduction and Economic Management Network—is part of a larger effort in the department to analyze the effects of aggregate economic shocks on women. Policy Research Working Papers are also posted on the Web at <http://econ.worldbank.org>. The author may be contacted at [nsinha@worldbank.org](mailto:nsinha@worldbank.org).

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## **1. Introduction**

What, if any, are the gender-specific consequences of the current global financial crisis for women and their children in poor countries? To help answer this question, this paper reviews recent empirical evidence in developing countries on the ways women have been affected by and responded to aggregate shocks differently from men. Because women's time allocation is intimately linked with decisions about children, the paper also reviews data from past crises to understand how fertility and children's health and schooling are affected, disaggregating these effects by the sex of the child.

We hypothesize that the first-round impacts of the current global financial crisis will include (a) a reduction in women's income and an increase in household poverty risk, as a result of losses in employment in export-oriented industries; (b) a tightening of microfinance lending; and/or (c) a fall-off in remittances (Figure 1). These first-round impacts should be particularly salient in the current crisis compared to past crises, when export and credit markets were much smaller and women were less integrated into them, and when remittances were a much smaller part of household incomes.

The crisis will also have second-round impacts, as vulnerable households respond to the decline in household income with coping strategies that can have gender-differentiated effects. Women can respond to the drop in household income by increasing their hours of work (if they are already in the labor force), entering the labor force, or adjusting their time and effort in the home. Women can further cope by altering their fertility, and households can curtail (or increase) investments in children's health and/or education.

We begin by looking at women who were already in the labor force at the time the crisis hit (first-round effects). For these women, the magnitude of the impact depends on the sector of employment. Next, we review the responses of women who, at the onset of the crisis, were outside the labor force. In past crises, women have typically entered the labor force (added worker effect) in response to declining household income (second-round effect). This effect appears to be particularly strong in lower-income households and in lower-income economies, where there is an informal labor market or a rural sector to absorb additional workers. In the current crisis, however, anecdotal evidence shows contractions in women's employment in informal sector jobs tied to the global economy, such as waste recycling and industrial outworkers (e.g., home-based garment workers).

Women in developing countries appear to postpone fertility in times of economic crises. With regards to children, schooling and child survival are adversely affected mainly in low-income countries, with increasing evidence that adverse effects on health are much greater for girls than for boys. In middle-income countries, instead, the effects on children's schooling and health are more nuanced, and gender differences less salient. We can assume that the effects of the current crisis on fertility and child well-being will mirror effects observed in previous downturns, and that impacts will differ by the level of country development. Historically, crisis relief and safety-net programs have reached women primarily in their roles as mothers and homemakers (food distribution programs, community kitchens, etc.). Fewer programs have sought to increase the incomes of women in poor households, by designing emergency employment programs that successfully attract female workers or by transferring cash directly into women's hands. The paper briefly reviews public works and income transfer policies introduced during

past economic crises to examine how well they have increased women's income, and, therefore, as is explained later in this paper, how well they have been able to contain potential adverse effects of the crisis on current and future poverty. The next section discusses the conceptual framework and the mechanisms through which women and their children respond to macro shocks. Section 3 reviews the evidence on these mechanisms from past crises, as well as preliminary evidence emerging from the current downturn. Section 4 discusses the policy responses of governments and Section 5 presents conclusions and policy recommendations.

## **2. Conceptual framework: Possible transmission channels**

The first-round effect of economic downturns is an increase in job losses, particularly for workers in the sectors most directly affected (Figure 1). In the current economic crisis, this effect is further compounded by declining remittances and the credit crunch. Job losses, falling wages, and rising unemployment significantly reduce household income (both actual and expected) and increase the risk of poverty, thereby triggering a second or follow-on effect (Fallon and Lucas 2002). In developing countries where unemployment insurance is unavailable and credit markets are limited, households have to rely on other channels to withstand the income shock and meet their consumption needs.

Entry into the labor force by women previously not working for pay is one possible channel households have to maintain consumption (added worker effect). However, falling wages during recessions can also *discourage* paid work, and some women, particularly better-educated women, may decide to drop out of the labor force

until wage offers improve. Overall, women's attachment to the labor force has increased over time. More recently, this attachment has accelerated in specific sectors due to the rising demand for female labor coming from the expansion of service industries and export-oriented manufacturing (World Bank 2001, Kabeer 2008). The percentage of female-headed households, in which women play the role of both breadwinner and caregiver, has also increased (Cunningham 2001). Both trends have reduced the supply of women not working for pay or working in subsistence or home production. Nevertheless, female labor force participation remains below that of men in most parts of the world, and women are more likely to dominate the category of workers who enter the labor market to supplement household income.

In response to economic shocks, households can also alter their fertility. Declining income and worsening labor market conditions encourage women to postpone births. Increasing work participation also encourages women to delay births. Lower wages during an economic downturn, however, also means that women's opportunity cost of childbearing is lower, making recessions a good time for women to have children.

Adjusting children's schooling is another channel for households to protect consumption. Reduced income may encourage families to pull their children out of school to supplement household income. However, falling wages could also mean that it is less attractive to do so. Families might cut back on health inputs (such as nutritious foods, medicines), which would have a direct adverse effect on children's health and survival. Mothers' time spent on children's health is also affected by recession. Children's health is likely to be adversely affected if mothers enter the labor force or increase hours worked in response to the recession. However, children's health can

potentially improve if falling wages discourage mothers' market work, freeing up mothers' time to spend on children's health.

For both the schooling and health effects, the child's gender matters (Schultz 1997). For example, future benefits to educating sons may be perceived to be higher than to educating daughters, making it attractive to pull girls out of school during crises. Parents could also respond by reducing schooling for all children, but daughters engage in home work (substituting perhaps for mothers' home time) while sons participate in market work. If there are higher (perceived) returns to investing in sons than in daughters, and if credit markets are imperfect, then parents in poorer households are more likely to cut back on investing in girls (Rose 1999).

Within each channel of household responses discussed above, falling income and worsening labor market conditions are predicted to have opposite effects. As Ferreira and Schady (2009) hypothesize, the initial level of income, health of credit markets, and the severity of the recession will shape which of these effects are observed. Richer countries, and those with deeper and better functioning credit markets, are more likely to see improvements in children's schooling and health during downturns, while opposite effects are likely to be observed in poorer countries. Middle-income countries should fall somewhere in between, and which effects will prevail is an empirical question. Gender differentials in these effects are likely to be observed more frequently in poorer countries than in richer countries.



### **3. Impacts of economic crises: The evidence**

#### **3.1. Women's labor market impact**

Researchers have used three different approaches to estimate the impact of an aggregate shock on women's labor market outcomes (Table 1). The first one measures percentage changes in women's and men's labor market outcomes as the economy experiences (and recovers from) a crisis --e.g., Kim and Voos (2007) for South Korea; Smith et al (2002) for Indonesia, McKenzie (2003) for Mexico, McKenzie (2004), for Argentina. This approach yields only a broad measure of the impact of crises because it is unable to differentiate seasonal and temporal trends in labor market outcomes from any female added worker response. A second approach measures the impact of a percentage drop in GDP (or some measure of business cycle) on women's and men's labor market behavior --e.g., Bhalotra and Umana (2009), and Pessino and Gill (1997) for Argentina. This research identifies whether women's and men's labor market outcomes are pro- or counter-cyclical, but, like the first approach, is unable to separately determine the extent of the added worker effect among women. Finally, a third approach directly estimates this added worker effect by measuring women's labor market response associated with husbands' unemployment or a reduction in household income --Skoufias and Parker (2006) and Cunningham (2001) for Mexico.

The strongest evidence of women's labor market response comes from the Latin American debt crises of the early 1980s and late 1990s. Women's labor force participation rose in Lima, Peru (Francke 1992) during the crisis in the early 1980s; similar responses were observed in Chile in the 1974-75 crisis and in Costa Rica in the

1982 downturn (Leslie et al. 1988). More recently, this effect was also present during the Latin American economic crisis of the mid 1990s in urban Argentina (Cerutti 2000). The only exception to this pattern in Latin America comes from Humphrey's (1996) analysis of female labor force participation rates in Sao Paulo, Brazil during the debt crisis of the 1980s. Using data from Argentina, Pessino and Gill (1997) apply different measures of the business cycle and estimate the impact on women's and men's labor force participation. They find that all women's labor force participation is countercyclical while among men, labor force participation is countercyclical only for those aged 20-49. Analysis of household survey data from Mexico's Peso crisis of the mid-1990s also shows evidence of a female added worker effect. Skoufias and Parker (2006) find that during the Peso crisis wives were 14 percent more likely to enter the labor force as a result of husband's transition to unemployment. Parker and Skoufias (2006) analyze the impact of the male household head's unemployment on the wife's probability of entering the labor force during the economic boom or recovery period in Mexico and compare the impact to that obtained during a recession. They find that husband's unemployment increases the wife's probability of entering the labor force, during both economic crisis and economic prosperity, but this effect is larger during the crisis.

There is also some evidence of rising female labor force participation in some countries during the East Asian crisis of 1997. As male unemployment increased, female labor force participation rose in the Philippines (Lim 2000) and Indonesia (Smith, Thomas, Frankenberg, Beegle, and Teruel 2002). Using household level data from Demographic Health Survey from 66 countries and across 21 years (1985-2006), Bhalotra and Umana (2009) show that globally, on average, a 10 percent drop in country

GDP is associated with a 0.34 percentage point (69 percent) increase in women's work participation.

Women's rising labor force participation during crisis emerges more reliably among low- and middle-income households than in upper-income ones (Cerutti 2000, Humphrey 1996, Judisman and Moreno 1990, Lee and Cho 2005). Women who exhibit the strongest increases in labor force participation are those with low education, who traditionally experience the lowest rates of economic participation in these low- and middle-income economies (Cerutti 2000). Some studies also show that women who enter the labor market during crises are usually older (Aslanbeigui and Summerfield 2000, Cerutti 2000, Lee and Cho 2005) and have older children (Cerutti 2000, Lee and Cho 2005). On the other hand, in the case of Philippines during the East Asian crisis, evidence suggests that young women may have joined the labor force instead of enrolling in high school (Lim 2000).

Is women's labor market response to crises stronger in urban or rural areas? Much of the existing literature has focused exclusively on urban areas (Cerutti 2000, Francke 1992, Judisman and Moreno 1990, Lee and Cho 2005). In his study of the Philippines, Lim (2000) shows that women's entry into the labor force was much more marked in urban areas; however, in rural areas, women's overall labor force participation did not increase but there was a significant increase in their work hours. In fact, female work hours seemed to replace male work hours in agriculture. Similarly, exploring state-level data in India, Bhalotra (2010) finds that recessions are associated with an increase in rural women's labor supply. She argues that this result suggests the dominance of the added worker over the discouraged worker effect in rural India; that is, economic downturns

increase household poverty, and, as Das and Desai (2003) find, the likelihood of being employed is significantly higher for the very poor women than for the others.

The impact of crises on women's labor force participation has often been the strongest in the informal or unregulated sectors of the economy, which more readily absorb additional women through participation in petty commerce, domestic service, and the like (Francke 1992, Hirata and Humphrey 1990).<sup>1</sup> There is mixed evidence on women's participation as unpaid family workers. Lim (2000) finds that the proportion of women working as unpaid family workers declined in the Philippines during the East Asian crisis; in contrast, Smith et al (2002) find that this proportion increased in Indonesia during the same crisis.

Despite the apparent predominance of the female added worker effect, under certain conditions, large numbers of women may instead withdraw from the labor force during a recession. Kim and Voos (2007) examined labor force participation rates among men and women in South Korea during the 1997 financial crisis. More women than men dropped out of the labor force and became discouraged workers. This discouraged worker effect occurred primarily among young, single, pink-collar women and outweighed increased labor force participation among middle-aged married women, who entered the labor market to maintain family income. Employment dropped more in percentage terms for women than for men at the outset of the crisis; and female employment rates recovered as the country started to emerge from the crisis. Interestingly, Kim and Voos (2007) also found that five years after the economic crisis, women's employment rates

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<sup>1</sup> However, this effect is not universal; for instance, McKenzie (2003) finds that self-employment as a whole declined in Argentina during the 2002 financial crisis.

had recovered almost completely. Women's employment grew by more percentage points than men's over the five-year period from 1997 to 2002.

Evidence suggests that both labor market entry (added workers) and exit (discouraged workers) during crises might operate simultaneously, affecting different groups of women differently. Bhalotra and Umana (2009) find considerable heterogeneity in women's labor market response by education. Specifically, women with more education often behave pro-cyclically; i.e., they reduce labor market participation during economic downturns. This coincides with the findings of Humphrey (1996) in an analysis of women's labor market participation during Brazil's debt crisis of the 1980s. No aggregate added worker effect was detected in the Brazil data due to the simultaneous occurrence of both added and discouraged worker effects, as poor women joined the labor force and non-poor women exited. The two effects canceled each other out.

In summary, increasing labor force participation and exiting the labor force do not necessarily represent competing hypotheses, since they do not apply to the same sections of the population. In particular, entry into the labor force (added worker effect) appears to be strongest for low-income households, among women with low education, and among older women, while the discouraged worker effect appears to be strongest for the more educated, younger women in the labor force.

Evidence on the impacts of the 2007-2009 financial crisis on women and families is yet not available. We can expect that some women in developing countries will be "protected" from the short-term impacts of this financial downturn because they do not have access to global markets (and are solely involved in subsistence or home

production). In other cases, however, women dominate employment in export manufacturing (e.g., in Bangladesh, Cambodia, Nicaragua, and the Philippines) and high-value agriculture (e.g., in Ecuador, Thailand, and Uganda) (Dolan and Sorby 2003; Kabeer, 2008). Women employed in these industries will likely suffer direct employment losses from the contraction in industrial countries' demand for developing country exports. In Thailand, during the financial crisis of 1997, women were the majority of all retrenched workers in sectors such as garments, toys, knitting, electrical appliances, jewelry, plastic products, and shoes and leather products (Mahmood and Aryah 2000).

There is anecdotal evidence that, unlike in previous crises, the informal sector may have ceased to be a good safety net during this downturn. This is linked to falling demand for products in global supply chains that include informal sector producers. For example, in India, half of self-employed women in the garment sector in Ahmedabad saw their monthly earnings decrease to less than 1000 rupees by January 2009, while all earned above that amount in November 2008. During the same period, 31 percent saw significant decreases in the number of days worked.<sup>2</sup> Similarly, self-employed waste pickers, frequently women and among the poorest of the poor, have seen a significant reduction in the price of scrap/recycled waste material in Delhi and Ahmedabad, India (Chintan Environmental Research and Action Group 2009). Case studies of waste pickers, home-based workers, and street vendors in 10 countries reveal uniformly deteriorating working conditions and falling incomes as result of this financial crisis (Horn 2009).

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<sup>2</sup> Reported by Women in Information Employment Globalizing and Organizing (WEIGO) 2009, "Global Economic Crisis and the Informal Economy," based on data from the Self-Employed Women's Association.

On the other hand, the ongoing banking crisis and formal credit squeeze might be expected to have a larger direct impact on men than on women, since men are the majority of financial services users and formal sector borrowers. However, women are the majority of clients of microfinance institutions (MFIs). Women comprised 85 percent of the poorest 93 million clients of MFIs in 2006 (Microcredit Summit Campaign Report 2007), and as credit dries out, their earnings from micro-businesses are expected to drop. This should be especially true in Latin America and Eastern Europe and Central Asia, where MFIs obtain a significant portion of their lending resources from commercial rather than concessional (grant) sources (CGAP 2009).

### **3.2. Fertility**

Empirical evidence on how fertility is affected during economic crises is available mainly for middle income and developed countries and suggests that fertility rates are pro-cyclical. The research reviewed here examines the impact of business cycles (GDP growth rates, unemployment rates) on fertility (e.g., total or age specific fertility rate, or the probability of giving birth). Using panel data for 18 Latin American countries covering over 45 years and a separate analysis of transition to first, second and higher order births using Demographic and Health Surveys, Adsera and Menendez (2009) find that women postpone and in some cases even reduce childbearing during economic crises; this fertility response appears to be in response to increases in unemployment rather than slowdown in GDP growth. They find fertility postponement to be stronger for younger, urban, and more educated women; however, the association between economic slowdown and likelihood of second or third childbearing is strongest among the least educated women. Further, with the spread of family planning in Latin America, the

relationship is most robust among the most recent cohort. Similarly, McKenzie (2003) finds evidence of deferred and/or lower fertility in response to the Mexican Peso Crisis of 1995. His analysis shows that about one in 20 households postponed or decided against having a child as a result of the crisis, among both educated and non-educated households, and both rural and urban households.

Some studies find that deferring fertility during economic crises is confined to a certain subset of women (mostly women who are more likely to be credit constrained), implying that economic crises change the composition of women giving birth, which may or may not be reflected in overall fertility rates. Using a large micro-dataset from India, Bhalotra (2010) shows that during periods of economic downturn, women at high risk of spontaneous abortions or stillbirths become more likely to defer fertility. Specifically, she finds that in both rural and urban areas, illiterate women are more likely to avert childbearing during economic recessions. Further, in rural areas, this is also true for women with illiterate husbands and for women from scheduled tribes, which represent a disadvantaged ethnic group in India. In a similar vein, but from a developed country context, Dehejia and Lleras-Muney (2004) find that in the United States, there is a reduction in the fraction of black mothers who are high school dropouts during recession (periods of high state-level unemployment). Since these women are more likely to have unhealthy babies, their deferred fertility during economic downturns translates into overall improvements in child health (Dehejia and Lleras-Muney, 2004).



### **3.3. Gender-disaggregated impacts on children's schooling and health**

Policymakers are concerned that during recessions, households could cut back on investing in children's human capital – a response potentially damaging for children's long-term wellbeing. As discussed in Section 2, depending on the labor market conditions, availability of credit, and initial income levels, economic downturns can either encourage or discourage households to use human capital investments in children, particularly girls, as a way to maintain consumption. The evidence summarized below estimates the impact of economic crises on children using two different approaches: one compares the trends in schooling/health before and during periods of economic crises; the other uses household level data and estimates the impact of household head's unemployment on girls' and boys' schooling and health.

#### **3.3a Schooling**

The evidence from macroeconomic crises in Latin America and East Asia suggests that children's school enrollment can either increase or decrease, but gender differences in these effects appear to be minimal. In Mexico and Peru, for example, recessions increase children's schooling. There is also evidence of this link from the United States during the Great Depression (Goldin 1999); and from Mexico during the Peso Crisis of the early 1990s (McKenzie 2003). Focusing on the months around the onset of the Peso Crisis, Skoufias and Parker (2006) find that while the household head's unemployment did not lead teenage children to enter the labor force, it reduced teenage daughters' school attendance (but there was no effect on teenage sons' school

attendance). Schady (2004) finds that Peru's economic crisis of the 1980s increased schooling for both girls and boys.

In Cote d'Ivoire and India, two low-income countries, income variability associated with weather shocks reduces children's schooling, but there are no significant gender differences (Jensen 2000, Jacoby and Skoufias 1997). Economic downturns are linked with declines in children's school enrollment and/or increases in child labor in the Philippines during 1997-98 (Lim 2000), Indonesia during 1997-98 (Frankenberg et al. 1999, Thomas et al. 2004), and Costa Rica during the 1980s (Funkhouser 1999). In Indonesia, the gender differences in declines in school enrollment during the crisis varied by age group. In the Philippines, the decline in school enrollment at the elementary level was seen only for girls, while elementary school enrollment of boys increased substantially (Lim 2000). Thomas et al. (2004) show that poor Filipino households spent more on the education of young men (ages 15-19) by cutting back on the education of younger children (ages 10-14, both male and female), and on the education of older females (ages 15-19).

### **3.3b Children's health**

Like schooling impacts, recessions are associated with both higher and lower infant mortality rates.<sup>3</sup> For example, during economic crises, infant mortality improved in the United States (Dehejia and Lleras-Muney 2004, Gerdtham and Ruhm 2004, Ruhm 2000) and worsened in Mexico and Peru (Cutler et al. 2002, Paxson and Schady 2005). Paxson and Schady (2005) show that the economic crisis in Peru in the late 1980s

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<sup>3</sup> Observed changes in children's health outcomes during economic recessions need to be interpreted with care because children's health (and that of childbearing women) is sensitive to both private and public expenditures on health, both of which are likely to be affected during recessions.

coincided with sharp increases in infant mortality rates; however, they attribute this at least partly to the collapse in public spending on health, which occurred during the same time. There is some evidence that the 1997-99 financial crisis in Indonesia had adverse impacts on neonatal mortality rates in both urban and rural areas (Rukumnuaykit 2003; see also Simms and Rowson 2003).<sup>4</sup> Stillman and Thomas (2004) show that weight-for-height of children deteriorated during the 1998 economic crisis in Russia. Bhalotra (2010) shows that in rural areas in low-income countries, infant mortality rates increase during economic downturns. Based on data from World Development Indicators (2009), an analysis by Buvinic (2009) of countries' progress toward the Millennium Development Goals (MDG) suggests that girls in poor households in the countries with pre-existing high child mortality rates (and/or low female schooling) are highly vulnerable to the effects of the global economic and food crises. Their situation is especially precarious in the subset of 15 countries, mostly in Africa, that are affected by both low female schooling and high infant and child deaths, as well as decelerating growth (Buvinic 2009).<sup>5</sup>

Unlike schooling impacts, however, there is strong suggestive evidence in low-income countries of gender differences in the way recessions affect infant mortality (Baird, Friedman, and Schady 2007; Friedman and Schady 2009). Baird et al. (2007) use Demographic and Health Survey data from 1986-2006 on mothers' reports of births and deaths from 59 low-income countries in Sub-Saharan Africa, Latin America, and South

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<sup>4</sup> This evidence is slightly controversial, since other studies do not find impacts of the Indonesian crisis of 1997-98 on child health outcomes (Strauss et al. 2004, Frankenberg et al. 1999).

<sup>5</sup> Countries with high infant mortality rates are those in the highest quartile of the distribution of under-five mortality rate scores (per 1,000 live births) for 151 developing countries in the year 2007. Similarly, countries with low female schooling are those in the lowest quartile of the distribution of the ratio of girls to boys in primary and secondary enrollment for 131 developing countries for the latest year between 2004 and 2007 (World Development Indicators 2009). Countries with decelerating growth identified by using World Economic Outlook 2009 projections and calculations by World Bank Staff.

and East Asia. They combine these data with data on per capita GDP, and find that while boys and girls benefit from positive shocks to per capita GDP in a similar way, negative shocks are much more harmful to girls than to boys. On average, a 1 percent change in per capita GDP changes boys' infant mortality by 0.27 deaths per thousand births, and girls' infant mortality by 0.53 deaths per thousand births. They show that the association between negative GDP shocks and female infants' disadvantage in survival holds not just in South Asia, but also in the other regions not usually associated with a preference for sons.

Using a methodology similar to Baird et al. (2007), Friedman and Schady (2009) focus on 30 Sub-Saharan African countries to examine the potential impact of the current economic crisis on infant mortality. Combining data on mothers' reported births and deaths with per capita GDP growth rates from the International Monetary Fund (actual between 1993 and 2008 and projected for 2009), Friedman and Schady (2009) find that almost all the infant deaths arising from a shock to GDP are concentrated among female infants. A 1 percent deviation in GDP results in about 0.33 more male deaths per thousand children born, and 0.62 more female deaths per thousand children born. They estimate that as a result of the expected growth slowdown in 2009, there will be between 28,000 and 49,000 excess deaths in Sub-Saharan Africa, and most of these deaths will be among girl infants.

Although there is a fairly large literature linking localized income shocks to female health, this relationship between female infant mortality and economy-wide shocks needs further investigation. One possibility is that households reduce health inputs to daughters and protect sons' health when GDP growth slows down. Another

explanation could be the process of biological selection in births during crises (Friedman and Schady 2009). It is widely believed that female fetuses are more robust than male fetuses and more likely to be born, particularly during economic crises. Thus males who do survive pregnancy are likely to be healthier than females, so that among all *live* births, girls are less likely than boys to survive past infancy.

#### **4. Policy responses in times of recession and financial crisis: Impacts on women and children**

During crises, there is a strong microeconomic argument for public spending on pro-poor programs that channel cash benefits through women, independent of the possibility that women may be more crisis-affected than men. The case for this argument rests on a growing body of evidence which suggests that women allocate a larger share of resources (such as food expenditures) to children and household public goods than do men.<sup>6</sup> The case for targeting fiscal stimulus or pro-poor program funds to women should be especially important in low-income countries, where economic downturns are linked with negative educational and child health outcomes – the latter particularly for girls – and where social protection systems that could serve to cushion these negative effects are largely non-existent.

Two ways to get income into women's hands is by expanding women's employment options, or by providing them with cash transfers (conditional or unconditional).<sup>7</sup>

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<sup>6</sup> For a review of this literature, see Morrison, Raju, and Sinha 2007.

<sup>7</sup> Other ways of expanding employment options include programs supporting self-employment, enterprise development, and skills training. There is very little evidence on the impacts of such programs introduced during crises (Betcherman and Islam 2001).

#### **4.1. Expanding women’s employment through public works programs**

Public works programs, often rolled out as a quick response to crises, have had varied success in attracting women’s participation. These programs are designed with the twin objectives of providing temporary job opportunities and acting as a safety net for vulnerable households. By offering low wages, the programs are implicitly targeted to the poor. Table 2 summarizes the design features, female participation rates, and impacts (where available) of public works programs introduced during crises in Argentina, Chile, Indonesia, Korea, and Peru. The share of women among participants in these programs ranges from less than 30 percent (Argentina’s *Trabajar II*, Chile’s POJH, and Indonesia’s *Padat Karya*) to more than 60 percent (Argentina’s *Jefes*, Chile’s PEM, Peru’s PAIT, and Korea’s public works program).

A significant proportion of female workers in the programs with high female participation appear to be added workers; i.e., women from poor households entering the labor force during crisis. Thus the programs were able to capture poor women’s need for paid work in periods of economic downturn.

While cultural barriers to working outside the home and child care responsibilities might prevent women from participating in public works, the available evidence suggests that the programs with high female uptake included specific design features that encouraged their participation. Incentives to attract female workers include both the type of work offered and the nature of the intermediary agency. For instance, programs such as Indonesia’s *Padat Karya*, which offered mainly construction work, attracted fewer women because of both the nature of the work and cultural barriers. Even in places

where women do construction work, the use of construction companies as intermediary agencies to hire workers may preclude women from getting jobs. This was the case with the first social fund, Bolivia's Social Emergency Fund, a compensatory program launched in response to a severe economic crisis in the 1980s. Construction companies that were hired by the government as executing agencies restricted women's access to employment under the fund (Buvinic 1996).

On the other hand, design features such as work sites close to home, and the availability of child care, support women's participation (as in Argentina's *Jefes* program). Below-market wages and/or minimum wages are also likely to favor female participation, not only because such wages might be relatively high as compared to women's average market wage, but also because they will discourage higher male participation, as males look for higher-paying alternatives. This could explain why in Chile, the program for heads of household (POJH) had substantially lower female participation than the minimum employment program (PEM); in POJH, the wage rate was twice that of PEM (Buvinic 1996). An eligibility criterion that sets a limit on the number of beneficiaries per household or requires the participant to be a head of household, for instance, might also limit female participation (as in Argentina's *Trabajar II*), unless the headship criterion is not verified, as happened in *Jefes* (see Galasso and Ravallion 2004, and Tcherneva and Wray 2005).<sup>8</sup> On the other hand, setting an explicit target to reach women with public works (as PAIT did in Peru) seems to help.

A common criticism of public works programs is that while they offer short-term safety nets and employment opportunities, participants may not necessarily find it easy to

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<sup>8</sup> Other program features that appear to matter for women's participation include mode of payment (piece rates or task-based payment), recruitment efforts, and women's access to program information.

exit the program, and gender differences may influence exit rates. Reviews of the impact of public works programs in developed and transition economies suggest that in some countries, the stigma attached to these programs could reduce participants' future employability (Betcherman and Islam 2001), although, again, the degree of stigmatization could vary by gender. Little evidence is available on the long-term effects of participating in public works programs in developing countries, and no there is no evidence on possible gender differences in these effects. Overall, workfare programs, if they include specific design features, can provide poor women with needed work and income during economic downturns, but much more needs to be known about their short and long-term impacts on women's and households' ability to cushion the downturns successfully.

#### **4.2. Cash transfer programs**

Several countries have also introduced cash transfer programs and programs to protect children's human capital. An outcome of the Mexican Peso crisis was the introduction of *Oportunidades* (then called *Progresa*), the well-known conditional cash transfer program that requires participating poor households to invest in their children's human capital (World Bank 2008). A notable design feature of *Oportunidades* is that mothers are the recipients of the transfers. Impact evaluations show that this program has been beneficial for children's schooling and health. De Janvry et al. (2006) also show that the program helps protect poor children's school enrollment if the household faces shocks, such as unemployment of the household head. Another unusual feature of its predecessor, *Progresa*, was to give larger cash transfers to families to send girls to school



(because in rural areas, where *Progres*a was rolled out, girls' school enrollment rates were lower than boys'). The larger cash transfers worked perhaps too well – girls' enrollments increased significantly more than boys' enrollments, which led to the transfers being recalibrated under *Oportunidades* (Szekely 2008). Indonesia introduced a scholarship program during the 1997 crisis called *Jaring Pengamanan Sosial*, with the aim of keeping enrollment rates for primary and secondary education at pre-crisis levels. One of the goals of the program was to allocate at least half of the scholarships to girls. The scholarships and grants were transferred directly to local post offices, where the intended beneficiaries could collect the funds. Sparrow (2007) evaluated the impact of the program and found that it increased enrollment, especially for primary school aged children from poor rural households. In addition, the scholarships appear to have helped poor households to smooth their consumption during the crisis, thereby reducing their reliance on sending children to work. The program worked equally well for both genders.

In short, increasing evidence suggests that cash transfers to mothers have been effective in protecting the well-being of children in periods of economic downturns, and some evidence further suggests that these cash transfers can alter families' preference for investing scarce resources in boys over girls. Remaining questions include (a) whether these findings can be generalized from schooling to health and from one setting to another; and (b) how stable will be the change in families' gender preferences in the absence of concrete incentives, once the programs are rolled back.

## 5. Discussion

It is clear from the review of the evidence that aggregate economic shocks do not have homogenous effects on the poor. Gender matters in explaining differential effects, both in terms of the direct, or first-round effects, of the economic shock; and in terms of the coping strategies of households, or second-round effects. But these gender differences vary across countries and stages of development. Table 3 summarizes some of the impacts on women and children for different countries. The table shows that added worker effects for females are a robust response across countries, except for Brazil, where both added and discouraged worker effects are shown; for Korea, where women withdrew from the workforce; and for the United States. In the United States, over the 20<sup>th</sup> century, the magnitude of the added worker effect appears to have diminished over time (Lundberg 1985, Maloney 1991, Moehling 2001). Juhn and Potter (2007) suggest that this diminished added worker effect could be attributed to a sizeable increase in women's attachment to the labor force, so that they are equally affected as their husbands, and to the availability of social insurance such as unemployment or disability benefits. Additional evidence presented in this review suggests that added worker effects prevail in low-income countries and among low-income households, while discouraged worker effects prevail among high-income countries and high-income households. The current global crisis, however, may alter these predictions, given that, for the first time in history, women in low-income countries are being laid off from jobs tied to the contraction in global demand; and that the informal economy may be equally affected and cease to be a safety net for the poor.

Workfare programs, if designed appropriately, have captured some of this female added worker effect during recent economic downturns. Such programs may be even more necessary during the current crisis if, in fact, there are growing direct female employment losses from businesses tied to the global contraction in demand. But there are many unanswered questions regarding this added worker effect and the impact of workfare programs on poor women. Do female added workers stay in the labor market or do they eventually revert to pre-crisis status?<sup>9</sup> Do they have more or less trouble than their male counterparts exiting from workfare programs? Is stigmatization because of these programs an equal concern for women and for men?

Similar to the effects on women's employment responses, the effects of aggregate economic shocks on child schooling and health outcomes vary by the country's stage of development. In rich countries, children's schooling and health generally improve during economic downturns, while in poor countries the opposite occurs (in middle-income countries, outcomes are more ambiguous). In poor countries, there are no clear gender differences in the decline in child school enrollments, but there is a clear gender difference in deteriorating health outcomes for children. Aggregate economic shocks have much larger impacts on infant mortality among girls than among boys across different cultures, and not only in regions where a strong preference for male children has been well documented. This suggests that families in low-income countries appear to make greater efforts to protect boys over girls during periods of economic stress, and calls for the need to devise public policies especially targeted to protect girls' health and nutritional status. Conditional cash transfers to mothers, with larger transfers to families

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<sup>9</sup> Posadas (2010) explores the long term labor market behavior of women who entered the labor force during Indonesia's financial crisis of 1997. She finds that only between 6 and 13 percent of women leave employment once the shock is over; majority stay on in the labor market.

to protect the health of girls, could be part of the answer – along with governments protecting basic health and educational expenditures in periods of downturns. Questions about these programs include how easily they can be implemented and monitored in low-income countries, and how easily they can adapt to changes during downturns. Also, are they able to counteract the preferences of poor families to protect boys' health status first, and if so, how lasting are these changes?

The gender differences that have emerged from this review of the evidence are partly a function of differences between men and women in access to labor and credit markets and in the allocation of household labor, and partly the result of households' coping strategies when faced with a drop in household income. These differences can be significant and largely predictable, and therefore are amenable to policy intervention.

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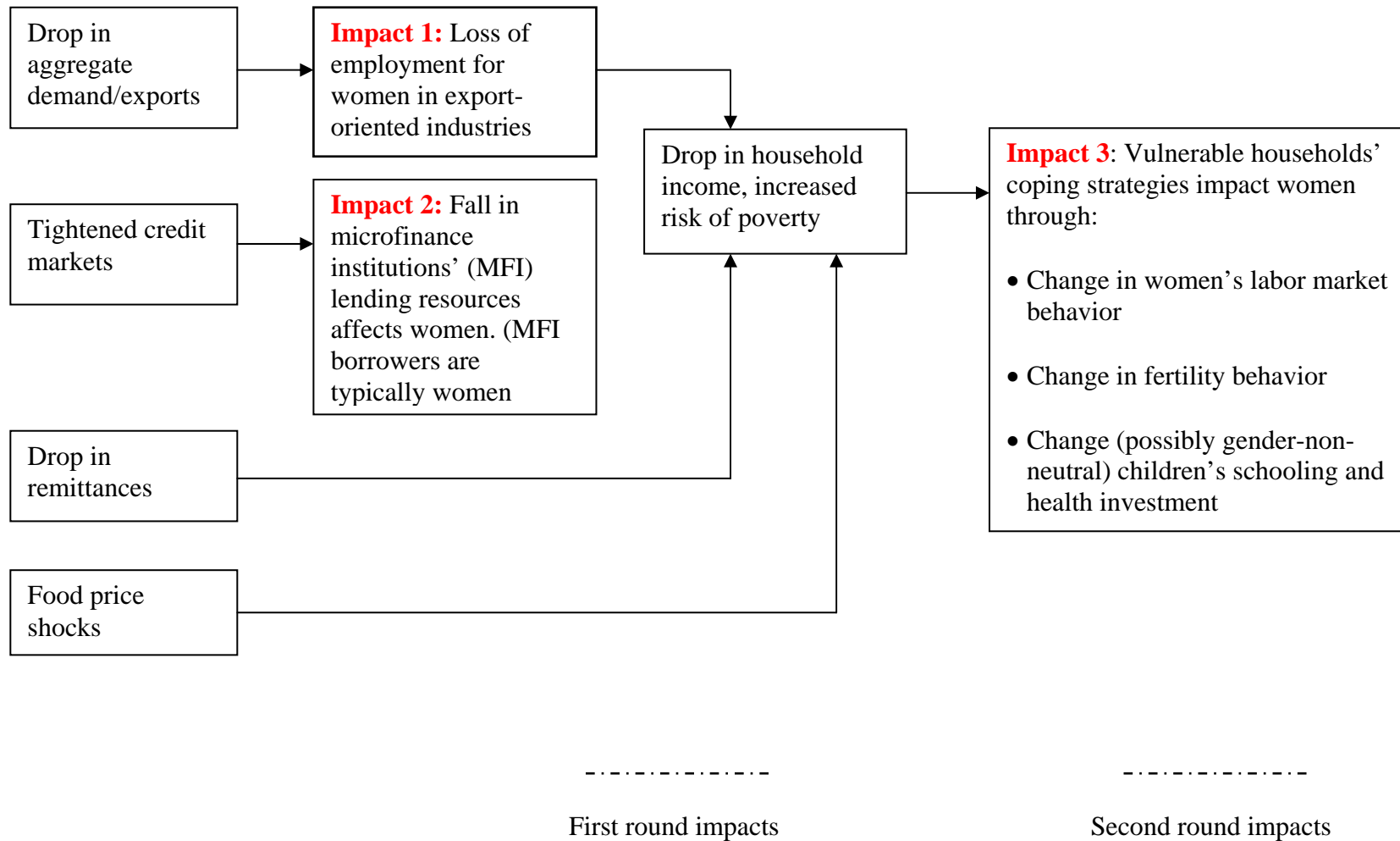
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**Figure 1: Possible transmission channels for impact of economic crises on women**



**Table 1. Impact of macroeconomic crises on women’s labor market behavior (selected papers)**

Country	Study	Approach and Findings
Mexico	Cunningham (2001)	<ul style="list-style-type: none"> <li>Examines women and men’s response to economic shocks, adjusting for individual and household characteristics.</li> <li>Married women enter the labor force in response to a macroeconomic shock (increase in male unemployment rate), husband’s sudden job loss, or a drop in household labor income. Married women are more likely to enter informal entrepreneurship work.</li> <li>Husbands are unresponsive to economic shocks. When they do enter the labor force, they do so in informal wage or contract work.</li> <li>Single mothers are unresponsive to macroeconomic shocks (unemployment rate), but do enter the labor force if household labor income falls by more than 50 percent. If a household member loses job, then single mothers are more likely to enter informal wage work.</li> </ul>
	McKenzie (2003)	<ul style="list-style-type: none"> <li>Analyzes patterns in labor force participation rates by age group and compares to pre-crisis rates.</li> <li>Largest change in women’s labor force participation occurred before the crisis hit (1992-94). The crisis slowed down the rate of increase in labor force participation for women. Same is true for men. The paper finds no change in age-specific labor force participation rates during the crisis (1994-96).</li> </ul>
	Skoufias and Parker (2006)	<ul style="list-style-type: none"> <li>Use a regression to estimate the impact of male household head’s transition from employment to unemployment during the crisis period on wife’s and teenage children’s probability of entering the labor force (Probits regressions based on cross-sectional data).</li> <li>Controlling for relevant characteristics, wives are 14 percent more likely to enter the labor force (added worker effect). Head’s unemployment does not lead teenage children to enter the labor force.</li> <li>Household head’s unemployment does reduce school attendance by teenage daughters, but does not affect teenage sons’ school attendance.</li> <li>For wives who were already in the labor force, male household head’s unemployment significantly reduces the probability that the wife will leave the labor force.</li> </ul>
	Parker and Skoufias (2006)	<ul style="list-style-type: none"> <li>Use a regression to estimate the impact of male household head’s unemployment on wife’s probability of entering the labor force during a recession and an economic boom.</li> <li>The male household head’s unemployment raises wife’s probability of entering the labor force, during both the crisis and economic prosperity; the magnitude is larger during the crisis.</li> </ul>
Argentina	Gill and Pessino (1997)	<ul style="list-style-type: none"> <li>Regress labor force participation (LFP) on a measure of cycle (unemployment rate of prime-age (35-49) males) and time trend (t) for different age groups (15-19, 20-34, 35-49, 50-64, and all).</li> <li>Female LFP is countercyclical for all age groups (coefficient on Up is positive).</li> <li>Male LFP is countercyclical only for 20-34 and 35-49.</li> <li>They also try a specification with another measure of cycle – Index of Industrial Production.</li> </ul>

	McKenzie (2004)	<ul style="list-style-type: none"> <li>• Paper does not focus per se on the question of labor supply.</li> <li>• Key variable is employment. An individual is considered to be in the workforce if he or she was employed for 1 hour or more of paid work in the reference week; or if he or she worked for 15 hours or more without pay; or if he or she did not work in the reference week due to factors such as leave, vacation, illness, or strike, but did maintain his or her employment status.</li> <li>• Paper finds that due to the nature of the crisis, workers – male or female – were not able to increase their hours of work though they would have liked to. Total family hours of work did not increase. What did increase was the share of income coming from workfare programs for households in the poorer quintiles. Most work program participants were women.</li> </ul>
Indonesia	Smith, Thomas, Frankenberg, Beegle, and Teruel (2002)	<ul style="list-style-type: none"> <li>• Key variable is employment or whether a person was working in the reference week. Work is defined as an activity for the sake of generating income or helping to generate income that takes at least one continuous hour. Similar definitions used by SAKERNAS and IFLS.</li> <li>• The paper’s findings are based on comparison of labor force participation rates before and during the crisis, adjusted for worker characteristics.</li> <li>• Hourly earnings: (a) wage workers – hourly earnings declined for both men and women; (b) self-employed workers – hourly earnings declined for women but not for men. In rural areas, self-employed men actually experienced positive income changes during the crisis.</li> <li>• Employment rates: men’s workforce participation rates declined, women’s workforce participation rates increased. Relative to the National Labour Force Survey (SAKERNAS), the Indonesian Family Life Survey (IFLS) estimates significantly larger increases in workforce participation rates during the crisis. The source of this difference is the greater increase in unpaid family work measured by IFLS. The paper discusses how SAKERNAS and IFLS differ in asking about work activities.</li> </ul>
Korea	Kim and Voos (2007)	<ul style="list-style-type: none"> <li>• .</li> <li>• More women than men dropped out of the labor force and became discouraged workers. This discouraged worker effect occurred primarily among young, single, pink-collar women.</li> <li>• The discouraged worker effect outweighed the added workers among middle-aged married women who entered the labor market to maintain family income.</li> <li>• Employment dropped more in percentage terms for women than for men at the outset of the crisis.</li> <li>• Female employment rates recovered as the country started to recover from the crisis. Paper notes that 5 years after the economic crisis, women’s rates of employment and labor market participation had recovered almost completely. Women’s employment grew by more percentage points than men’s over the 5-year period from 1997 to 2002.</li> </ul>
Philippines	Lim (2000)	<ul style="list-style-type: none"> <li>• The paper compares labor force participation rates before and during the crisis, unadjusted for worker characteristics.</li> <li>• Labor force participation rates increased for women, mainly young women. For men, labor force participation rates remained largely unchanged, except for an increase in participation by young men.</li> <li>• There was a corresponding drop in high school enrollment rates for girls and boys. There appeared to be a drop in female enrollment at the elementary school level. The paper does not make any attempt to link these two patterns.</li> </ul>



**Table 2. Women's participation in public works programs introduced during financial crises**

Country	Program and year	Eligibility criteria and other design features	Explicit incentives for female workers	Share of women among participants	Impact on women
Peru	PAIT 1985 (Temporary Income Support Program)	16-55 yrs of age, underemployed or unemployed; one beneficiary per family; minimum wage offered.	Goal to target women with 30% of jobs created; Work site close to home; Availability of child care.	84% (1986)	Increased female labor force participation .
Chile	PEM 1975 Minimum Employment Program	Targeted to the unemployed; wage offered below minimum wage (Buvinic 1996).	No specific measures.	72.6% (1987)	Attracted previously inactive women.
Argentina	Head of Households ( <i>Jefes de Hogar</i> ) 2002	Unemployed heads of households with children under age 18, handicapped persons and/or pregnant women in the house were eligible; wage offer about 75% of minimum wage; required work between 4-6 hours/day in community services and small construction or maintenance activities, or in training programs (including finishing basic education). Applicants also had to show that their children were attending school and had up-to-date vaccinations.	Free childcare for participants; Work site close to home.  Headship criteria not verified; Part-time work in community services and small construction or maintenance activities; Participants offered the possibility of attending training programs (including finishing basic education).	70% (2005)  Female heads of households accounted for 60% of program participants in the first two years and reached 75% in 2005 (Wray 2005).	Labor force inactivity of women reduced by 21-27 percentage points; no effect on men's labor force inactivity (Galasso and Ravallion 2004)  Share of female (male) income accounted for by work programs increased from 3 (2) percent in October 2001 to 22 (16) percent in October 2002 for the lowest quintiles (McKenzie 2004).
Korea	Program introduced in	Unemployed or daily workers without regular income, aged 18-60.	Some of the public works schemes were targeted to women (Horton and Mazumdar 2001).	In 1998, about 41 percent of participants were female. By 1999, almost 49 percent of participants	Not available.

Country	Program and year	Eligibility criteria and other design features	Explicit incentives for female workers	Share of women among participants	Impact on women
	1998	Recipients of unemployment benefits are ineligible. Spouses of recipients of unemployment benefits who receive less than 300,000 won in benefits are eligible.		were female (Kang et al. 2001).	
Chile	Employment Program for Heads of Households (POJH) 1982	Targeted to households heads; wages twice that of PEM.	None	28% (1987)	Gender specific impacts unavailable. Program found to be successful in raising household income.
Argentina	<i>Trabajar II</i> 1997	Unemployed poor households; offered 30-40 hours of work/week at less than minimum wages; work was offered in small-scale community-level projects (repair, expansion, minor construction, or remodeling of schools, health and/or basic sanitation facilities, small roads and bridges, small dams and canals, community kitchens and centers, tourist centers, and low-cost housing.	Trabajar I was targeted to male household heads. Trabajar II removed headship eligibility criteria to attract women but female participation remained low.	15% (1998)	The average net gain in income is about half of the average Trabajar wage. Percentage net gain for the poorest 5% is 74%. Average gains similar between men and women, but higher for younger workers (Jalan and Ravallion 2002).
Indonesia	<i>Padat Karya II</i> 1998	Program targeted newly poor and retrenched workers as well as long-term poor and unemployed. The program mainly targeted	No incentives for female workers.	Reported to be low (Islam et al. 2001).	Not available.

Country	Program and year	Eligibility criteria and other design features	Explicit incentives for female workers	Share of women among participants	Impact on women
		retrenched workers from construction and manufacturing industries (Betcherman and Islam 2001). Most activities included construction.			

**Table 3. Previous crises: available evidence by country**

<b>Income level at time of crisis</b>	<b>Country</b>	<b>LFP effects/other LM effects for Women</b>	<b>Schooling</b>	<b>Health</b>
<b>Low income</b>	Cote d'Ivoire (drought 1986-87)		Decline in student enrollment for both boys and girls.	Deteriorating child health for both boys and girls.
	Pooled DHS data from several low income countries			Girls' infant mortality more sensitive than boys' infant mortality to fluctuations in GDP.
<b>Lower middle income</b>	Indonesia (1997-98)	Added worker effect in 1997-98.	Decline in student enrollment for young boys and girls and older girls.	Higher neo-natal mortality, but overall not much effect on child health.
	Peru (crisis during 1980s)	Added worker effect in Lima.	Increase in student enrollment for both boys and girls.	Lower BMI for adults Higher infant mortality rate.
	Philippines (1997-98)	Added worker effect.	Drop in high school enrollment for both boys and girls. Drop in elementary school enrollment, more for girls than boys. Increase in child labor, more for boys than girls.	
<b>Upper middle income</b>	Argentina	Added worker effect in urban areas during 1990s.		
	Brazil	Both added and discouraged worker effect in Sao Paulo during 1980s.		

	Costa Rica (crisis during 80s)		Decline in student enrollment for both boys and girls in rural areas, higher for girls than boys in urban areas.	
	Mexico	Added worker effect during 1980s	Increase in student enrollment in 1995-96, stronger for boys than girls.	Higher child mortality during crises.
	Russia (1998 crisis)			Deterioration in weight for height for both boys and girls.
<b>High income</b>	Korea (1997-98)	Discouraged worker effect in Seoul in 1997-98.		
	United States	No effect.	Increase in student enrollment during Great Depression.	Improved child health outcomes.