

Social Safety Net Primer Series

Gender and Risk in the Design of Social Protection Interventions

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June 2002

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Social Safety Net Primer Series

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Very Low Income Countries	Smith and Subbarao
Transition Economies	Fox
Non-contributory pensions	Grosh and Schwarz

1. Papers may be added or deleted from the series from time to time.

Abstract

This paper outlines a framework for analyzing the gender dimensions of risk and its effects on the outcomes of individuals, households, and various vulnerable groups. The paper proceeds by first documenting, based on available empirical evidence, the gender disaggregated impact of shocks. Results from the studies reviewed lead to the following conclusions:

- ?? Current evidence suggests that shocks can lead to differences in outcomes by gender.
- ?? The most important factor that mitigates against adverse shocks is household level assets (the evidence shows that differences in gender outcomes are largest for the poorest households).
- ?? Men and women may be exposed to different risks or may experience varying degrees of vulnerability; these differences in vulnerability are strongly influenced by differences in asset ownership.
- ?? Gender roles and social norms determine whose labor is used as a buffer against shocks.

Given these results, and the review of gender issues specific to a subgroup of social protection programs (namely, safety nets, pensions, and unemployment programs), the paper proceeds to outline specific steps that can be taken to incorporate gender considerations in the design of these programs.

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Introduction

Social protection (SP) programs alleviate poverty by providing (i) assistance to individuals, households, and communities to better manage risk and (ii) support to the extremely poor. It can also be argued that there is an efficiency role for SP programs through the potential of these programs to reduce inequities that lead to the prolonged asset depletion that compromises long-term economic growth. Various kinds of SP programs are used to achieve a combination of the above objectives for various target groups or beneficiaries. A sample of these are summarized in table 1. Irrespective of the type of program adopted, a vast number of SP program designs are still based on an implicit assumption of family structure—that is, one wage earner with dependents and transfers that are pooled for the benefit of the family. The evidence presented here shows that undue focus on the household or family (without attention to intrahousehold dynamics and inequities and processes that generate these) compromise the efficiency, equity, and effectiveness of SP programs. Three broad areas of gender effects are covered:

- ?? Transfers, gender of the transfer recipient and the impact on the welfare of individuals within the household
- ?? Shocks and gender differentiated effect of shocks
- ?? Gender dimensions of economic or demographic changes or transitions.

Evidence from the above categories of studies show that shocks do lead to gender differentiated outcomes, and SP programs are not gender neutral. These results are further strengthened by numerous studies that show an increased share of woman's income within a household (and greater access to or control over assets by women), leads to increased household expenditures on food and increased investments in child health and education. For example, Thomas (1990) finds that the marginal impact of female-controlled income on child survival probabilities is 20 times higher than male-controlled income in Brazil. For the purposes of this paper, we only highlight the salient findings from these studies because this

¹ The authors are grateful to Harold Alderman, Paulette Castel, Wendy Cunningham, Amit Dar, Christine Jones, Karen Mason, Pierella Paci, Robert Palacios, and Susan Razzaz for discussions and comments on an initial draft of this paper. The authors would also like to thank the Safety Nets and the Gender and Development Thematic Groups for their financial support.

relationship has been extensively discussed in the literature (World Bank 2001a; Haddad, Hoddinott, and Alderman 1997 provide a summary). The implication for SP interventions is that even when the household is the target, household consumption patterns will differ depending on whether money is given to men or women.

Table 1. Stylized Summary of Possible Gender Consequences for Selected Programs

<i>Program type</i>	<i>Objective</i>	<i>Example of gender issue</i>	<i>Possible consequences</i>
Safety nets	Income support Access to basic services	Gender of transfer recipient	Impact on consumption pattern of household
Pensions	Transfer from government to elderly	Differences in life expectancy and labor force participation between men and women	Differences in pensions earning in old age
Unemployment insurance	Protection from income losses associated with employment risks	Social norms and gender roles may dictate individual movement in and out of employment	Used for risks associated with unpaid home production activities thereby reducing efficient working of labor market
Child labor	Human capital development and increased equity and education; legislation to limit harmful child labor	Low asset levels for household coupled with social norms regarding how boys and girls will care for parents in old age	Bias toward either investing in boy or girl within household
Social funds	Use agencies to channel grant funding to small-scale projects to help poor communities design and implement projects	Explicit inclusion (consultation) of women in design and decisionmaking in program choices	Could affect pattern of programs implemented and who benefits

In the case of gender-differentiated effect of shocks, we review empirical studies that explicitly examine whether men (boys) or women (girls) within households are affected differentially by adverse shocks. Indications from the evidence so far suggest that girls and women often bear the consequences of the household's inability to smooth consumption. These studies point to design factors that can help to minimize gender disparities.

Finally, the gender dimensions in demographic and social or economic change arising from the process of economic development and crisis highlight the importance of re-examining the model of the family on which SP program design is based. The nature of these economic and demographic changes varies by region and by countries within regions. However, there are gender dimensions that can be identified in each case. For example in Organisation for Economic Co-operation and Development (OECD) countries, there are increasingly more women in the workforce and the breadwinner is not always male. Furthermore, women are increasingly combining paid work with unpaid work (in the form of care of the sick, elderly, and children). Current SP programs are not designed to deal with this type of worker because programs assume a full-time worker with a career (who even if currently engaged in unpaid work is expected at some point in the future to rejoin the workforce). This creates problems of insecurity for families that decide to have several children.

In the Eastern Europe and Central Asia (ECA) region, women were well covered for unpaid work contingencies (such as births, childcare, care of sick, and so on) prior to the

transition. Unfortunately, the higher perceived cost of women as a result of extensive coverage of SP programs under the socialist system meant that they were first to be laid off during the transition. At the moment, there may not be a strong gender bias in terms of social security coverage because many of these women have already earned eligibility under the old system. However, there are increasing reports of gender segregation in the labor market that in the long run will have implications for women's access to benefits because these will be based mainly on access to formal employment. Transition has also been difficult for men whose roles as breadwinner have been undermined as unemployment rates have skyrocketed. In some countries, high unemployment rates have affected the gender roles of males over 50 leading to reports of high suicide rates, accidents, domestic violence, and alcohol abuse.

In Africa the poor, and particularly poor women, have limited access to the formal social security system, and their access to entitlements and resources are established through men with social benefits conceived as family benefits. Yet, in many societies, polygamous marriages are common, and the number of widows and orphans are increasing as a result of the HIV/AIDS pandemic and conflicts. These trends, in addition to other changes such as urbanization are also weakening traditional ties and contracts. Also, a woman's position after divorce is particularly difficult due to a weakening of traditional ties and contracts or complete changes in contracts and relations that are no longer binding.

Overall the above changes have had an impact on the changing structure of the family. In the case of derived entitlement programs (such as old-age pensions, family allowance, and health care) that depend on stable family bonds based on the traditional nuclear family, fragmented family patterns increase the risk that people slip through holes in the informal nets that protects them. These elements highlight the importance of incorporating gender into the design and implementation of social protection programs as well as the need to move beyond the household to re-examine the model of the family used to design SP programs. The studies reviewed in this paper are used to illustrate examples of these issues and discuss some implications for program design.

The paper proceeds as follows: in Section II we lay out a conceptual framework to explore how risk preferences, wealth, access to credit, and social norms affect household and intrahousehold behavior; in Section III we provide some limited, yet compelling evidence to highlight the differential effect of various adverse shocks on women (girls) and men (boys); in Section IV we discuss issues pertaining to incorporating gender in program design, and where possible illustrate these issues using actual programs; and in Section V we present policy conclusions based upon our review of existing studies.

Conceptual Framework of Household Behavior and Responses to Risks

We begin this section by highlighting the fact that while men and women may be exposed to different sources of risks and might have different risk preferences, these preferences are themselves strongly influenced by the level of wealth or assets, access to credit or insurance, and social norms. However, it is necessary to first define some of the concepts to be employed in this review pertaining to gender, risk, and social norms and to explain how these concepts interact to yield observed outcomes on welfare and on risk management strategies for individuals, households, and communities.

Gender can be defined as socially constructed roles and learned behaviors and expectations associated with females and males. These roles and relationships evolve out of interactions among biological, technological, economic, and societal norms or constraints (World Bank 2000). Gender roles shape an individual's capacity to manage risks, which may also influence the effectiveness of SP programs. This gives rise to specific gender issues that affect an individual's ability to manage risk and indirectly determine how SP programs affect individuals, in terms of access and control of income or assets, perceptions of risk, and cultural norms that define what men and women can achieve and what roles they adopt. The issue of cultural norms also encompasses issues of intrahousehold dynamics and political economy more broadly. These gender issues can affect welfare indirectly. Policymakers may also choose to use SP programs to directly achieve the gender objectives of empowerment and equity. These issues and concepts are all very closely interrelated and are discussed in more detail below.

Risk Perception, Asset Ownership, Access to Credit, and Social Norms

One's perception of risk will be conditioned by both objective factors such as information about past occurrences of events that negatively influence income or welfare and subjective probabilities that an event will occur. A subjective perception of risk will also be determined by one's vulnerability to and potential resilience to an income shock. The vulnerability that a household faces will influence its sensitivity to an income change and will be determined by its asset base and its access to various risk mitigation and coping strategies.

The issues of risk, access to credit, and subsequent investment decisions in the developing world has been primarily addressed within the context of examining differences across rich and poor households--not between men and women within households. Various studies have found that poor rural households tend to undertake less risky activities compared with wealthier households. One reason offered is that the poor are "intrinsically" more risk averse. However, Binswanger and Sillers (1983), using experimental data from their survey of villagers in semi-arid tropical India and their review of experimental studies on risk aversion from El Salvador, the Philippines, and Thailand, suggest that both rich and poor farmers hold similar intrinsic attitudes toward risk. Despite large differences in household wealth and income, rich respondents and poor respondents exhibited essentially similar measured risk aversion. Yet, investment patterns of the two groups usually show that poorer farmers behave in a relatively more risk averse manner than rich farmers.

Eswaran and Kotwal (1987, 1990) provide a theoretical explanation behind this observed difference. They demonstrate the effects of credit constraints on risk behavior to show that constraints faced by individuals can overshadow the effect of risk preferences in determining responses to risk. Eswaran and Kotwal's (1990) illustration is set in a situation where two agents have identical aversion towards risk, as represented by the same utility function, but differ in their access to credit. The agent with the access to the higher credit ceiling is referred to as the rich agent, and the poor agent has access to a lower credit ceiling. Under the assumption that agents prefer to smooth their consumption profile by borrowing in bad states and saving in good states (that is, pooling risk across different time periods), the scope of this consumption smoothing will be restricted by the agent's ability to borrow (access to credit). The model demonstrates that although poorer and wealthier agents have similar risk preferences, poorer agents behave as if they are more risk averse than wealthier agents because of the differences in ability to borrow. Empirical studies have also highlighted the fact that poor households that are constrained in their access to credit often fall into a

“poverty trap” given that they face a bitter tradeoff: accept risk that could lead to pernicious fluctuations in income or minimize risk by selecting low-return investments that perpetuate poverty (Morduch 1999; Binswanger and Rosenzweig 1993).

Aside from controlling fewer resources with which to cushion the impact of catastrophic events, women may experience risk differently from men because of differences attributed to their physiological needs. Across the lifecycle, individuals require different levels and types of nutrients that will be further differentiated on the basis of sex. In particular, if a woman experienced nutrient deprivation during her early years of life she may be in greater need of resources during her adolescence and reproductive years. These needs may sensitize women’s responsiveness to risk. Although we are not aware of empirical work that addresses the biological dimension of gender and its impact on risk, there are studies that attempt to account for gender in investment decisions (Bajtelsmit, Bernasek and Jianakoplos 1999; Gustafson 1998; and Powell and Ansio 1997). However, these studies are inconclusive.

Gender-based risk preferences cannot be easily disentangled from attitudes towards risk, which are shaped by control over assets and access to credit. Thus, differences in the behavior and resource allocation patterns between men and women will be strongly tied to their degree of control and access to assets and risk management strategies. Currently, there are no empirical studies that explicitly show how differential access to assets shape differences in investment activities and precautionary behavior between men and women. There are, however, various studies that indicate that greater control over assets by women leads to increased household expenditures on food and increased investments in child health and education.

The study by Quisumbing and Maluccio (1999) illustrates how interaction among gender roles, social norms, and differences in quality and control of assets between men and women can impact on the welfare of individuals within the household. The study uses data from Bangladesh, Ethiopia, Indonesia, and South Africa to test whether assets held by men and women when they enter into marriage, a proxy for bargaining power that can be treated as exogenous to decisions made within marriage, influence subsequent household expenditure patterns (food, health, education, child clothing, and male adult goods—alcohol, tobacco). The authors find that (i) the larger amount of assets under the control of women in Bangladesh, Ethiopia, and Indonesia tends to increase the share of household expenditures spent on children’s education; (ii) different assets may have different implications for bargaining power within the household, if cultural factors such as “status” or “prestige” are associated with specific assets; and (iii) differences in social norms governing use of assets across communities or ethnic groups may in some cases be more important than variations in asset holding of men and women within those groups.

The Indonesian community studied by Quisumbing and Maluccio is part of a Muslim, matrilineal society. The main assets are paddy (considered more prestigious) and forest land. Results show no preference in consumption allocation between boys and girls, however, daughters fare less well relative to boys of similar age groups in terms of educational investments when mothers had more paddy land. The authors explain that this result may reflect an anticipation that girls will inherit paddy land and thus compensates for the underinvestment in their human capital. In contrast, results from the Bangladeshi community that is part of a Muslim yet patrilineal society, suggest that while wealthier fathers favor sons

over daughters, mothers who have more control over household income or assets and are better educated are able to increase educational investments in their daughters.

In the case of Ethiopia, husband and wife's asset effects were dominated by site-specific characteristics and ethnic and religious differences. There were no significant differences within sites or communities with regard to asset ownership. Therefore, legal reforms that affect property rights may be more effective in affecting intrahousehold distribution than direct redistribution. For example, the existence of marriage contracts—a traditional practice in some regions—increases the share of assets going to women. This contrasts with Bangladesh where differences in asset ownership within sites are large enough to warrant interventions to increase women's assets relative to men's. This study highlights the fact that it is also important to consider social norms that govern the assignment, control, and transferability of assets by different household members.

Even if men and women have similar risk preferences, the way this translates into observed responses might not only depend upon the type of market failures individuals face, but also by social norms. In many societies, there are both formal laws and informal social norms that govern issues related to inheritance, marriage, use and transfer rights over assets, and labor utilization. Often there is a lack of congruence between these formal and informal institutions, and in many societies local customs prevail over official laws. For example, in many societies norms govern whether a woman can work outside the household and the type of labor activity in which she can engage.

Social structures may define individual expectations and the notion of what is possible, particularly for women, thus affecting their responses to risk. Where these institutions limit women's economic potential through curtailing investment in girls' human capital, limiting occupational choices for women in the labor market, or denying them access to local credit markets for making capital investments in self-employment activities, their possibilities for operating in risky environments or responding to shocks will be limited.

When women experience inequality in society, they are likely to also experience it at home. Competing for scarce resources within the household, women may find that the larger institutional environment is critical in defining their bargaining power compared with other members. Formal and informal norms also determine women's ownership and command over assets, income, and other resources of the household. Women may even lose control over their own assets once they are brought into the household, although in some settings spouses can recover whatever assets they brought into the marriage if it is dissolved. Ownership and control of household assets will influence an individual's bargaining power over how resources are allocated. An individual member's relative claim to wealth also determines her or his potential for pursuing opportunities outside of the household should it be dissolved or for mitigating risk.

Social changes or shocks also have consequences for male welfare through changes in gender roles that can have adverse consequences for both men and their families. For example, there has been a relative decline in life expectancy because of rising unemployment, growing alcoholism, and depression among men in the ECA. These changes have affected men and their families through higher suicide rates, and violence. In the Latin American and Caribbean region (LAC), there is a trend in some countries of decreasing male enrollment in school. In

Colombia there has been a change in male roles as result of the conflict and growing skepticism among young men of the value of education in improving their life.

In such environments, men and women may perceive different risks or calculate different probabilities for the same situation or economic opportunity. Thus, institutions that define roles and expectations or shocks that give rise to changes in roles for men and women may perpetuate gender inequality and ultimately determine gender differentiated responses and outcomes regarding risk.

Risk Management and Coping Strategies

Risk management ex ante refers to actions intended to reduce the risk of failure or income shortfall by reducing the variability of income. Ex ante strategies include income portfolio diversification strategies such as crop diversification, income diversification, and migration by either the entire household or selected members to areas where employment prospects are greater or risk conditions are dissimilar. It may also include the precautionary establishment of mechanisms for compensating income shortfall such as reciprocal exchanges of gifts, loans, and social obligations, and the accumulation of food and other assets that can be drawn down during periods of duress.

In contrast, risk management ex post refers to coping strategies intended to reduce the consequences of failure or income shortfall once it has occurred. These actions include drawing down savings, selling of physical assets, utilizing formal and informal sources of credit to stabilize consumption needs, and appealing to social safety nets and private or family networks for financial assistance. In the event of failure to smooth consumption, a family will have to reduce resource allocation among its members, which may ultimately threaten its existence as a unit.

Drawing upon data from rural India, Townsend (1994) finds that rural communities are able to devise informal insurance strategies for pooling idiosyncratic risk in the absence of contingency markets. In an efficient setting in which village-level risk is pooled, household consumption should reflect the average level of consumption in the village. Efficient risk pooling at the village level enables households to make independent decisions regarding the allocation of household resource endowments to productive activities and particular levels of household labor supply and consumption choices.

Household-level risk pooling may be conceptualized in a similar fashion to village-level pooling schemes. Individual consumption would be determined by aggregate household income—not the individual's income. Efficient risk pooling within the household ensures that negative fluctuations in a member's income do not cause changes in that member's consumption. An individual's consumption would be influenced by aggregate income changes at the household level. Thus, sharing risk within the household enables individuals to rely upon other member's income during times of crises should their income stream fluctuate negatively in response to an unforeseen event.

While pooling risk within the family may minimize information asymmetries, certain limitations may prevail. The family will have a more limited pool of resources upon which to rely compared with the village at large. More importantly, however, the direct dependence of assets across household members is likely to be high, and the risks facing household

members will be correlated. When coping mechanisms fail, households may increase their labor supply by working more hours and involving additional family members, or migration. Because the poor own relatively few assets, they are likely to increase their labor supply. If the shock is covariant and has affected the local labor market, migration may provide the only alternative response. When men migrate, women and children must fill in the labor slack. Ineffective risk management may lead to reductions in human capital investments in household members. Children may experience reductions in household consumption in the form of stunted growth and severe malnutrition. They may also be pulled out of school and sent to work when the household cannot afford school fees. The reduction to a child's health stock resulting from consumption losses and the lost schooling time leads to a diminished potential in future earnings for these children. Thus, failures in the labor or credit markets perpetuate poverty and vulnerability across generations.

Extending Townsend's (1994) test for risk pooling across households and drawing upon data from rural Ghana, Goldstein (1999) rejects risk pooling within the household in response to health and agricultural shocks. According to Goldstein, women pool their risk with other nonkin women in the village (that is, receive transfers from nonfamily women friends in the village, not from spouse's and/or extended family members), while men pool their risk with a wider group that includes clan members both within and outside the village. This study highlights the importance of social networks (gender group in this case for women) beyond kinship networks in helping individuals cope with risk. Goldstein (1999) suggests that in certain circumstances, the household may be the wrong unit of analysis for risk sharing, and thus, a wrong unit of targeting for many policies. "Given these results, a policy such as providing credit or insurance to the 'household head' during a risky agricultural season might not filter through to his spouse should she face unexpected events in her own endeavors" (Goldstein 1999, p. 31). However, the existence of separate coping mechanisms for men and women does not necessarily imply that the household is not pooling risk. We would need evidence that if a woman failed to receive adequate transfers from other nonkin women in the village during an illness, her husband would either not provide for her or his circumstances may constrain his ability to provide adequate assistance. Both are plausible outcomes. However, as long as the impact of the shock is successfully mitigated, separate coping channels can still be consistent with an overall household strategy.

Summary. The discussion so far suggests some key results that inform how SP programs will affect gender and welfare within the household. Indications are that shocks translate to gender-differentiated impacts depending on the degree of access by men and women to income and assets, their respective risk preferences, cultural and social norms that influence household dynamics, and political economy issues within the community and at a national level also. Therefore, the way in which gender might affect SP programs will be dictated by these factors. (Please see Appendix for more detailed discussion on the theoretical implications of various household and intrahousehold models). The next section examines how this issue translates to individual and household level outcomes.

How Might Gender Affect the Impact of SP Programs?

How might gender affect the impact of SP programs on the welfare of individuals within households? The discussion of the previous two sections shows that the answer to this question is very much grounded in gender roles and social norms. One can summarize in stylized fashion how gender might influence outcomes of SP programs by examining their

objectives and applying the previous framework. Table 1 contains examples of the main gender issues and their possible consequences for various types of programs.

In the case of safety nets, a key gender issue pertains to who in the household receives the transfer. This issue has implications for the pattern of household consumption and consumption of individuals within the household. Aside from this is the issue of how societal expectations and gender roles influence access to program benefits. For example, the choice of type of projects to include in public works programs often defines the degree of participation of women. In the case of contribution-based programs such as pensions and unemployment insurance, gender issues surrounding differences in labor force participation between men and women will be the main defining factor of the possible gender outcomes of these programs. In the case of pensions this could lead to differences in earnings between men and women in old age. Furthermore, the pension system design itself could also exacerbate these earnings based differences between men and women depending on whether the system is private, public, flat-rate, or means tested.

In the case of child labor programs, bias against boys and girls will be a function of household dynamics and the way social norms translate into decisionmaking at the household level. For social funds-type programs that involve communities, issues to do with political economy at the community level—that is, who stands to gain or lose by adoption of given type of programs—coupled with social norms will determine the pattern of projects adopted and who benefits from these. For example, social norms at the village level may lead to exclusion of certain groups from project benefits if consultations do not account for these effects. In the case of informal arrangements, men and women may rely on different networks, and this may have a strong influence on the level of vulnerability and impact of shock on individuals.

The above discussion on how gender might affect SP outcomes illustrates how if programs are not properly designed, they could lead to exacerbation of existing inequities or create new ones. Further to this is the issue of how shocks affected individuals, and how the gender effects of programs interact with shocks on individuals to produce gender-differentiated outcomes. The next section examines the empirical evidence to determine whether there are indeed systematic differences in outcomes, based on gender as a result of shocks to the household and the implication for how SP programs are designed.

Empirical Evidence

The previous section outlined the pathways and likely effects of how gender can influence outcomes of SP programs. This section examines whether there is systematic evidence that shocks result in gender-differentiated outcomes with respect to nutrition, education, earned income, or employment. The second part of this section presents evidence from actual programs regarding gender effects. The final part of this section summarizes the results presented from the empirical evidence.

Gender-differentiated Responses to Shocks

There are a host of empirical studies at the household level that test the degree to which different types of households are able to smooth consumption. These studies also explore the pathways through which consumption smoothing is attempted, but currently there are only a

few empirical studies that can inform us as to how consumption-smoothing strategies used by households result in differential outcomes across household members. For example, while Foster (1995) examines the effect of flooding in Bangladesh on child health outcomes, and Jacoby and Skoufias (1997) examine the effects of rainfall shocks on child schooling attendance in India, neither study differentiates outcomes (nutritional status or educational attainment) by gender of the child.

As we highlighted in the previous section, how men and women are affected by various shocks will be shaped by a number of factors such as individual preferences and assets. Existing empirical studies suggest that these differences are largest for those households most vulnerable or least able to mitigate against the shocks. Inability of the household to smooth consumption often results in the disproportionate absorption of shocks by specific household members through the depletion of calories and nutrients, increased incidence of morbidity and mortality, and increased demands on labor time relative to those of other household members. This section examines the available evidence according to whether the shock is covariate or idiosyncratic.

Covariate Shocks Households experience covariate shocks in the form of weather shocks such as drought, flooding, macroeconomic shocks, and technological shocks. The evidence presented here illustrates some of the ways households cope and how this often translates to differences in outcomes among individuals within the household.

Weather Shocks. Rose (1999) examines the impacts of rainfall shocks on child mortality in rural India and finds that negative rainfall shocks in the first two years of life lowers the relative survival probabilities of girls compared with boys, particularly among landless households. Conversely, a positive rainfall shock in the first two years of life increases the likelihood of a girl's survival relative to a boy's survival. This suggests that in a time of crisis, poor rural households in India allocate scarce resources to boys at the expense of their daughters, while redressing the inequality during surplus seasons. Not only is this finding consistent with a coda of well established empirical studies on excess female mortality and promale bias in South Asia, it is also consistent with Behrman (1988) who finds pro-son bias in nutritional allocation to be greatest during the "lean" season, while during the "surplus" season households in rural India transfer more nutrients to women and girls.

Hoddinott and Kinsey (1998, 2000) examine the impact of a drought on the health or nutritional outcomes of boys or girls and men or women in rural Zimbabwe. Unlike Rose (1996), Hoddinott and Kinsey (1998) do not find significant differences in nutritional outcomes between boys and girls in response to the shock. They do find a significant reduction in the rate of growth of children aged 12-24 months, especially within poorer households. Moreover, this height loss appears to persist over time, reflecting a permanent reduction in nutritional status. Thus, children in poorer households tend to be the most vulnerable group and in some contexts--that is, South Asia—safety net programs must also pay particular attention to protecting girls during times of crisis.

On the other hand, Hoddinott and Kinsey (2000) find that the body mass index (BMI) of women is adversely affected by the drought, but not men's BMI.² The authors also find that

² The BMI is the ratio of a person's weight to the square of her or his height and is a proxy for underlying adult nutritional status and health.

not all women are affected equally by the drought. The BMI of daughters-in-law of the male household head are unaffected by the drought. However, both wives and adult daughters (young women who have had children out of wedlock, or women who have either separated or divorced and have returned to their natal homes) of the household head are adversely affected. Household-level holdings of livestock (a proxy for household wealth) mitigates against the adverse shock for wives, while failing to attenuate the adverse impacts of the drought on daughters. This suggests the following: (i) daughters-in-law may have access to resources or transfers outside the household that help them to successfully mitigate against the drought; (ii) the vulnerability of wives of the household head is a function of the level of household assets that can be used as a buffer against negative income shocks, alternatively, daughters-in-laws may enjoy greater status by virtue of their marriage to the sons of the head of the household; (iii) there may be an expectation that married daughters will eventually return to their husbands. Given this expectation, it may be less worthwhile to invest scarce resources in household members who might not make future contributions to the household. Moreover, these women might suffer due to cultural reasons. Given that both unmarried daughters who have had children out of wedlock and women who have returned to the household following failed marriages are often stigmatized and therefore may face discrimination in nutrient allocation, particularly, during a time of crisis.

Another possible explanation for this drop in women's BMI might have to do with changes in time use brought about by the drought. Drawing upon detailed time use survey data from rural Ghana, Higgins and Alderman (1996) find that labor time devoted to agricultural activities even in normal times (nondrought years) has a strong negative effect on the BMI of adult women, but does not affect the BMI of adult males. Different labor activities have different energy requirements. Hoddinott and Kinsey (2000) do not have detailed time use data to explore for changes in labor activities induced by the drought. Thus, it is unclear whether the drop in women's BMI reflects labor allocation to more strenuous activities or relative reduction in calorie intakes (compared with adult males). Regardless of whether the decline in female nutritional status stemmed from an "optimal" household strategy or not, changes in labor activities, or lack of adequate bargaining power, Hoddinott and Kinsey (2000) highlight the fact that in times of crisis, it might be important to go beyond targeting vulnerable groups to identifying members within such groups who are most at risk in order to fine tune the response.

Dercon and Krishnan (2000) examine risk sharing of individual adult health shocks within the household using data from rural Ethiopia. The authors find that poor households are affected by agricultural shocks, while richer households are more successful in smoothing consumption levels. More dramatically, the authors find that poor households are not sharing risk--women in these households absorb the impact of adverse shocks disproportionately. The deleterious health effects of these shocks on women are mitigated by various inside and outside options that shape intrahousehold bargaining power, such as age gap between partners and customary laws on settlement upon divorce. Similar to the findings of Hoddinott and Kinsey (2000), the most significant factor that mitigates against the health shock to women is overall household wealth. Unfortunately, neither Dercon and Krishnan (2000) nor Hoddinott and Kinsey (2000) have information on assets held by men and women. Thus, their results do not indicate whether increasing overall household assets or increasing the share of assets under the ownership (or control) of women is more effective in helping women to mitigate against adverse shocks.

Macroeconomic Shocks. There is a sizeable literature on whether structural adjustment during the 1980s in Latin America and Africa adversely affected women. To some extent, the outcomes were situation-specific. In Bolivia for example, the initial large layoffs were in mining, a sector dominated by men. In other Latin American countries, the cuts in public sector employment disproportionately affected women. The evidence suggests that economic crisis will give rise to differential effects on labor supply, consumption, and health outcomes of individuals within the household.

During a recession when the male household head becomes unemployed, other household members, including women, enter the labor force and women's labor force participation rates increase. Horton (1996) hypothesizes that as crises and recessions impede (or reverse) the transition from the informal to the formal sector, this would disadvantage women in all countries, because women tend to shift more slowly from unpaid family work to formal employment. For example, Cerruti (2000) shows that in Argentina, women's labor force participation increased because of instability (not just a decline) of income of the primary earner. She shows that in total, unemployment among males increased 3.6 times and among females 4.2 times between 1991 and 1995. Some of this increase for females could be a result of an increase in the labor force participation of women in times of crisis coming out of unpaid work—as opposed to employment.

The same study by Cerruti also found that women in households where the head recently changed labor force status were twice as likely to enter the labor force than those where the head continuously remained employed. Gill and Pessino (1998) derive similar results for Argentina and find Argentine women are more likely to be in the labor force when the unemployment rate for males is high. This study also finds that wives are more likely to be working if husbands are unemployed. Thus, married households attempt to use the labor force participation of the wife to buffer shocks to household income.

The fact that women more move into the paid labor force during times of crisis to support the family is not necessarily a “bad” thing. In order for this to be viewed as an adverse outcome for women, it would be necessary to understand the mechanisms behind the phenomenon. It may be that women are working even longer hours--doing both paid and unpaid home production work. Alternatively, it may be that in normal economic times, women are being segregated and systematically discriminated against in the labor market, or they may just choose to stay at home, until a crisis occurs. During crisis, women join the labor force to help support the family, but are either employed in menial tasks or “low prestige” jobs. Once the crisis is over, they return to unpaid home production. This type of labor force instability adversely affects women's access to contribution-based SP programs and has a particularly adverse effect on women's welfare if there is no scope for individual choice whether to work or not, or leads to increased work hours at little or no pay.

Labor force instability reduces the likelihood that a worker will retain benefits such as pensions, seniority rights, and health insurance. In addition, individuals may also lose previously acquired skill levels and social networks. Similar trends in Eastern Europe and Central Asia (ECA) are pointing to increased vulnerability for women. Before the transition, workers enjoyed heavy social support in the form of pensions, family assistance, and secured employment. But now that women tend to have interrupted labor force participation, their incomes are lower than men's arising from differences in education, hours worked, occupational segregation, and gender discrimination. As the transition economies move

toward contribution-based systems of pension, indications are that there will be lower pension benefits for women on average. Additionally, labor force instability may be associated with negative health outcomes. Dramatic increases in adult male mortality rates (compared with adult females), particularly in Russia, reflect the underlying sociocultural phenomenon that labor instability and loss of employment have had a devastating impact on men's mental (and subsequent physiological) well being when they are no longer able to uphold social expectations as primary providers of the household.

Fallon and Lucas (2000) synthesize the findings from several studies that examine how financial crises affect labor market conditions (employment, unemployment, and wages or earnings), human capital outcomes (health and education), and poverty or inequality. The studies are based upon experiences from Argentina, Indonesia, Korea, Malaysia, Mexico, Thailand, and Turkey—countries that experienced similar macroeconomic shocks (currency devaluation, short-term capital flight, and declining gross national product) in the 1990s. The dominant labor market effect of the financial crises of the 1990s was a decline in real wages, rather than declining employment (total employment actually increased during the crisis in some countries) or significant reduction in hours of work. Cross-country experience reveals a strong association between economic crisis and fall in wages—the deeper the depreciation of the exchange rate, the larger was the decline in real wages. Despite stable overall employment rates, there was significant turnover in employment during the crisis, with labor movements occurring between sectors of production and between formal wage jobs, casual wage employment, and self-employment.

It appears that some households were able to smooth their incomes during the shock by increasing their labor force participation and reliance on transfers. There is strong evidence that changes in female labor force participation played an important role in smoothing household income in Indonesia. Also, given that per capita expenditures declined least in Indonesian communities that were relatively better off, this suggests that community-level transfers (as opposed to household-level transfers) allowed aggregate consumption smoothing in those communities.

The limited evidence on health or nutritional status and educational impact of the crises is mixed. The weight-for-height ratio of male and female children of impoverished households in Indonesia actually improved, while there was a drop in the BMI of both male and female adults.³ This suggests that in Indonesia adults attempted to protect the health of vulnerable children by bearing a greater share of the decline in nutrient intake. In contrast, expenditure patterns from Mexico suggest that women and girls were particularly deprived of household resources in response to the crisis. In difficult economic times, it has been documented that households increase their demand for child labor (on-farm and off-farm) and school attendance decreases. A World Bank study in Argentina found that girls are more likely to be withdrawn from school during crises (World Bank 2000). This phenomenon is more prevalent among poor households in which child labor is frequently used. Usually, boys tend to work in various market activities to earn income directly and girls tend to assist indirectly with childcare. In contrast, Moser (1996) found that the demand for child labor in Ecuador does not lead to children dropping out of school; however, it does adversely affect school completion rates.

³ The weight-for-height ratio is a flow proxy for child nutritional status. Low measures would be associated with the condition of wasting.

Technological Shocks. Evidence from sub-Saharan Africa suggests that the introduction of new agricultural technologies (modern varieties, irrigation, and improved cultivation techniques), which improve productivity, have resulted in the displacement of women from agricultural activities and in the loss of their agricultural income (Dey Abbas 1997). In Gambia, women traditionally controlled (rain-fed) rice cultivation. However, with the introduction of new rice technologies (accompanied with small-scale irrigation schemes), they were soon displaced by men (von Braun and Webb 1989). Women lost well-established use and ownership rights to rice land as it increasingly came under irrigation, even though the official tenancy titles issued by the government were registered in women's names. In the process, rice production shifted from female control to control by the male household head who monopolized the high-return activity.

Similar cases of reduction in female income-generating activities and lack of control over productive assets due to introduction of new technology packages have been documented in Kenya (Hanger and Moris 1973) and Burkina Faso (McMillan 1987). The implication here is that in the event of technological shocks, interventions may be required to ensure that the status of women is not undermined (even in the case when these are specifically targeted to women) by taking into account the potential relative effects on men and their responses.

Idiosyncratic Shocks

In addition to covariate and economy-wide shocks, households and individuals experience idiosyncratic shocks in the form of illness, deaths, births, unemployment, and so on. Divorce is also another form of idiosyncratic shock that leads to dissolution of the household. Men and women face different kinds of risk associated with occupational, social, and biological factors. For example, evidence from Argentina (World Bank 2000) shows that men are more likely to die from violence and accidents and are more affected by depression and substance abuse, while women are particularly vulnerable to health risks arising from their maternal roles (World Bank 2000). This suggests that men and women may be exposed to different risks based on gender roles and social norms. Furthermore, based on gender roles and social norms, men and women may experience varying degrees of vulnerability given exposure to the same risk.

Summary of Evidence. The above discussion highlights the potential differential effect of shocks on individuals within the household and the need at times to move beyond the household to target individuals with policy interventions to account for social and gender-differentiated roles. Table 2 illustrates this point based on a summary of the results for some of the studies discussed here.

The above discussion leads to the following general observations regarding risk and the gender-differentiated impacts of risk:

- ?? Current evidence (although limited) suggests that shocks can lead to differences in outcomes by gender.
- ?? The biggest factor that mitigates against this effect is household level assets or poverty—differences in gender outcomes are largest for the poorest households.
- ?? Assets held by men and women may differ in quality or in the social prestige assigned to them. Also, in certain contexts, men and women may have different

informal networks, and transfers and social protection programs may affect these differently.

?? Men and women may be exposed to different risks and experience varying degrees of vulnerability given exposure to the same risk based on gender roles and social norms.

Table 2. Examples of Gender-differentiated Impacts of Shocks

<i>Country</i>	<i>Type of shock</i>	<i>Outcome indicator</i>	<i>Individuals most affected</i>
Argentina	Economic	Unemployment	Increased 3.6 times for men and for women 4.2 times
		School attendance	Girls more likely to be withdrawn from school
		Violence and accidents	Men more vulnerable
		Health risks	Women more vulnerable (childbirth)
Ethiopia	Drought	BMI	Women in poorest households absorb shocks disproportionately
India	Drought	Survival probability	Decline in girl survival rates (for landless households)
	Rainfall	Survival probability	Increase in girl survival probability
	Seasonality	Calorie consumption	Lean season: pro-son bias Surplus season: pro-women or girl bias
Zimbabwe	Drought	BMI	Decrease for women with children out of wedlock, separated, divorced, and returned to natal home

Source: Behrman (1998); Cerruti (2000); World Bank (2000); Dercon and Krishnan (2000); Hoddinott and Kinsey (2000); Rose (1996)

The evidence also highlights the importance of labor in risk management, particularly for the poorest households that have few assets. The main determinant of whose labor is used as buffer is defined by gender roles and social norms, often the woman's labor is used as the buffer. If women are able to find employment during crisis to help support the family, there is the question of why they do not do this during normal times? Are there factors that exclude or constrain them from employment in normal times or are they simply taking up menial tasks during crisis?

If most adult women live in households that also comprise male adults, the effects of changes in total household income would seem to be of first—order importance. However, there are second—order effects if women's earned incomes decrease relative to men's, because the intrahousehold literature suggests that decreases in women's relative contribution to household income are associated with smaller shares of household expenditures devoted to children and basic needs. If women have to work longer hours in poorly paid jobs in the informal sector following a shock, this also has negative impacts for the welfare of women and the household, via reduced time for child care and other home production activities.

Thus, even if the target of a formal safety net is the household, differential labor supply responses between men and women can have strong implications for the appropriate level of the transfer to adopt and its disincentive to work. These considerations appear to be most important for the poorest households because the effect of risk on the welfare of men (boys) and women (girls) appears to yield larger differences for individuals in these households.

Making Social Protection Programs More Gender Sensitive

The discussion in the previous section highlighted the differential effect of shocks on individuals within the household and the need, at times, to target individuals within the household with specific interventions. In this section we review some selected empirical evidence to highlight the gender-differentiated effects of social assistance and targeted social protection programs (for example, child benefit subsidies, public work, and targeted transfer programs) and contribution-based programs, and their implication for program design. There are issues of gender that cut across these various types of programs, such as the differences in labor-incentive effects between individuals in a household, differing time constraints between men and women and how this affects access to programs, and the effect of programs on informal transfers and networks for men and women. These issues affect SP program outcomes through their effect on coverage, equity, and efficiency of programs. The section begins by discussing issues pertinent to social assistance and targeted programs. Following on this, issues specific to contribution-based programs are discussed. The section ends with an overview of cross-cutting issues.

Publicly Financed Social Assistance and Targeted Programs

Social assistance and targeted programs are usually designed to help individuals close to or below the poverty line with the risks that they face. These programs include in-kind transfers of food, housing, or energy subsidies, as well as direct cash transfers. There are different design issues that have gender implications: targeting; the form of the transfer, whether it should be cash or in-kind; processes involved in receiving the transfer; and impact on time constraints for men and women. Further discussions of issues to do with incentive effect along with program examples are discussed in the next section under cross-cutting issues.

The question of how to target effectively and efficiently to reach intended beneficiaries is a central issue to targeted programs. Related to this is the question of whether to stop at the household or to move beyond to individuals within the household. The answer will be based on a recognition that certain individuals within the household are likely to be more vulnerable to shocks than others and that intrahousehold dynamics mediated by social norms will influence the effectiveness of transfers in countering the effects of shocks. Therefore, whether to stop at the household level or move beyond it will depend on whether the policymaker is more concerned with lifting the household beyond some minimum threshold of poverty (in the hope that this will reduce inequalities across individuals in the household) or with influencing the consumption patterns of specific individuals.

For example, the special nutritional and health needs of pregnant and lactating women often make them particularly vulnerable to shocks. Thus several programs—such as the Jamaican food stamp program and Honduras Programme de Asignacios Familiar (PRAF)—attempt to target these special groups by tying the transfer to the use of social services. In other programs where children are the target vulnerable group—for example, Mexico’s Programa Nacional de Educacion, Salud, y Alimentacion (PROGRESA) and England’s child benefit program—transfers are given to mothers with the assumption that they are likely to spend more on children than if transfers are given to the father.

There are also cases where social norms play a larger role in how shocks affect individuals and the effectiveness of SP programs than intrahousehold dynamics. For example, in the 1980s in Kerala state, India, only 20 percent of the needy and destitute

received transfers from a pension system, and men benefited more than women because the targeting mechanism did not recognize the nature of vulnerability women faced as distinct from what men faced—that is, limited freedom to remarry, insecure property rights, social restrictions on living arrangements, and restricted employment opportunities. The targeting mechanism was based on individual applications when village-level participatory decisionmaking may have been more appropriate. Eligibility required proof of age, residency, and limited income. But, proof of age and residency were difficult to provide by the poorest and homeless. Also, the process of providing proof of age created a stigma for beneficiaries. These factors were shown to be particularly restrictive on widows' access to the pensions. As a result, a widow's pension was introduced in the early 1990s that helped to correct some of the bias against women (Chen and Dreze 1995).

The form of the transfer may also influence who gains access to the transfer. The empirical evidence to support this phenomenon arises from public works programs. For example, in Lesotho and Zambia, payments of 50 percent of wages in-kind attracted more women than men to work sites. Similar observations have been made in the case of public works in Bangladesh and India (Subbarao 2001). Studies have also found that piece-rate or task-based payment (as opposed to time-rate wages) are sometimes more favorable to enhancing the participation of women because these help to ease time constraints by allowing several members of a family to share the work. In certain cases, task-based payments enable women to dovetail household chores with income earning opportunities. However, there are situations where men are paid more than women for similar piece-rate tasks. For example, in the case of labor intensive, piece-rate tasks requiring heavy lifting or digging, as is the case in some public works programs, differences in wages are likely to reflect inherent productivity differentials between men and women for the particular type of work.

In addition to the form of the transfer, another issue that may influence who gains access to the transfer has to do with time constraints and the effects on transaction costs incurred by men and women to receive transfers. Current evidence suggests that women often face higher time constraints than men because of their dual roles in both paid work or farm production and unpaid home production (Brown and Haddad 1995; Blackden and Bhanu 1999; World Bank 2001a). Cunningham (1999) uses data from LAC to show that for every hour worked outside the household, women work half an hour less in home production activities, implying that women lose leisure time, and overall less time is spent on home production activities. When this is the case, programs that require long times spent in queues will adversely affect access for female-headed households with few adult members that can take turns standing in queues. At other times, the administrative requirements to gain access (as in the India widows' pension example above) have been relatively more constraining to women's compared with men's access.

Gender of the Transfer Recipient Matters. Evidence so far suggests that even in the case of nontargeted programs, children's welfare may be influenced by the gender of the person who receives the transfer. Unfortunately, very few SP programs have attempted to explore the possibilities of exploiting this result for improved program design. The U.K. child benefit program is among the few with a well-defined counterfactual that allows one to determine the impact of the recipient's gender on household consumption. Lundberg, Pollak, and Wales (1997) examine how household expenditure patterns were affected by the change in a child benefit program in England during the late 1970s. Prior to April 1977, the U.K. child benefit scheme was primarily carried out by reducing the amount of

withheld taxes from the father's paycheck. Over the 1977-1979 period this tax reduction in male head's paycheck was replaced by a single Child Benefit program that instead made a nontaxable weekly payment to the mother ("wallet to purse"). This policy change represented a substantial redistribution of income within the household; by 1980, child benefits amounted to 8 percent of average male earnings in the United Kingdom. The reassignment of the transfer within the household resulted in a shift towards greater expenditure on women and children's clothing relative to men's clothing.

Aside from the gender of the transfer recipient, part of the observed changes in consumption could also have been due to the way in which the transfer was now perceived—as a transfer meant specifically for the child. Focus group studies by Lister and others (1999) support this, and the fact that giving the transfer to the mother was key to producing the observed outcomes. Thus, this study not only provides additional empirical evidence that income is not pooled within the household, it also demonstrates that the gender of the transfer recipient may affect outcomes. Duflo (2000) examines the effect of pensions in South Africa on child nutritional status and finds that pension benefits to female (compared to male) pensioners has a significant effect on the nutritional status of girls who reside with the pensioner. Thus, given social norms in South African society, pension benefits have positive unintended effects on girls. Similarly, PROGRESA in Mexico has been designed to specifically give the transfer to women in the household. Preliminary evaluation results of PROGRESA suggest that the program has helped to increase women's control over their income.

Another issue to consider is the potential response of the spouse who does not receive the transfer. Evidence cited above, in the examples of technology shocks suggests that, if the benefits are large enough, transfers to women may be usurped by men. For example, there are reports in Bangladesh, related to micro finance schemes intended solely for women, of wives borrowing money for their husband's use (Kabeer 1998). There have also been case studies and press reports based upon sporadic focus group interviews that suggest that domestic violence may increase with transfers made to women, that is, increased income or control over income by females induces a male backlash. There is, however, no evidence from analysis using household survey data to substantiate the anecdotal evidence.

All of these examples highlight the importance of gender in designing targeted programs. However, there is a need to be cautious in assuming that the transfer should always be given to the woman. First, in many OECD countries, gender roles are changing in a way that implies it is not always women that stay at home to take care of children. Second, social norms may define the pattern of discrimination for children of a particular gender. For example, Haddad and Hoddinott (1994) find that increased female income shares were correlated with higher child health of boys in Côte d'Ivoire, yet had no effect on the health status of girls. Numerous studies from Bangladesh suggest that one of the leading factors of excess girlchild mortality has to do with the reluctance of mothers to seek medical care for girls (relative to boys). Policymakers should therefore pay particular attention to gender roles and social norms, as a means of exploring who should receive the transfer (even when the target is the household), and determining ways to ensure that the intended recipient of the transfer retains entitlement to the transfer.

Contributions-financed Social Insurance Programs

This section deals with issues specific to contribution-based programs as it pertains to pensions and unemployment insurance programs. These programs are designed to fulfill both a savings or insurance function and a redistribution function. Pensions aim to facilitate consumption smoothing over the lifecycle (savings or insurance function) and to provide a minimum level of welfare for the lifetime poor (redistribution function). Unemployment benefits perform primarily an insurance function, insuring against the risk of unemployment. The gender issues arise from differences in earning potential between men and women (as defined by their gender roles). This means that on average, women will be faced with lower earnings and therefore fewer benefits relative to men. The reason for this arises from the following facts:

- ?? Women's labor force participation tends to be more variable relative to that of men and is characterized by spells of inactivity and hours and mobility constraints
- ?? Women live longer (and in most countries retire earlier, this is relevant for pensions), yet experience more occupational segregation and gender discrimination
- ?? Women are more conservative in investment decisions (most relevant for private pensions and individual savings accounts in those countries where fully funded schemes offer investment choice to workers)
- ?? All this implies lower earned income for women over the lifetime relative to men, lower contributions and lower benefits.

The above issues provide the backdrop for the discussion in this section.

Pensions

Ever since the study *Averting the Old Age Crisis* (World Bank 1994), the World Bank has advocated reforms to move from a pay-as-you-go (PAYGO) system toward a multi-pillar system. The multi-pillar system as defined by the Bank involves three main schemes or pillars for a country's pension system (James 1998):

- ?? Mandatory, publicly managed, tax-financed pillar for redistribution
- ?? Mandatory, privately managed, fully funded pillar for savings
- ?? Voluntary pillar for people who want more protection in old age.

The move towards multi-pillar systems arose out of the inefficiencies of the PAYGO system where taxes on the current generation of the young finance the pensions of the current old generation. In addition, under PAYGO, risks in old age are not completely covered for the poor, rates of taxes on labor often lead to evasion issues causing people to escape to the informal sector, and early retirement is relatively more pervasive along with low savings, and misallocation of funds (James 1998 provides an overview of these issues).

The multi-pillar system aims to deal with these inefficiencies. However, there are still gender issues that need to be considered in regard to the various systems. These gender issues are closely related to issues to do with benefits and to some degree also the financing of programs. In general, there are two kinds of benefit schemes: defined benefit and defined contributions. In defined-benefit schemes, the level of the pension is independent of the

amount contributed. It is usually related to some measure of earnings—that is, flat rate, minimum guarantee, or means-tested schemes. In the case of defined-contribution plans, pension benefits depend on the level of individual contributions and the returns they earn. Actual systems tend to combine elements of both of these models.

There is some debate in the literature over the merits of defined contribution versus defined benefits. The defined contribution approach has been promoted based on the following reasons:

- ?? Portability—management of defined contribution pensions is decentralized, which means it can be more easily portable than a defined benefit program
- ?? More flexibility and choice with respect to workers' investment choices as well as improved competitions among fund managers
- ?? Limited political manipulation and interference—there is some belief that defined contribution schemes mean that average workers will be reluctant to allow political interference in pension investment decisions because the emphasis will be on maximizing returns and benefits at retirement (Thompson 2001).

In spite of these advantages, defined contributions require workers to assume greater risk, which means that retirement benefits are much less predictable than under defined benefits.

As mentioned, the gender issues related to these schemes arise from differences in earnings potential, years of employment in the formal labor force, and life expectancy between men and women. In the case of public defined benefit, or PAYGO-defined benefit, there is an implicit subsidy that benefits those who live longer, which means women benefit more relative to men as a group. Also, those with steeper age-earnings profiles will benefit most. Because men usually have steeper age-earnings profiles compared with women, they pay contributions on relatively lower wages in earlier years and receive lifetime benefits based on final wages that are higher.

In the case of fully funded defined contributions, years of contribution, rate of return on pension funds, as well as the rate of contribution also affect pension benefits. In addition, the annuity factor involved in the benefit calculation is also important, because with gender-based tables, the annuity factor is greater for women than men, implying lower pension benefits, even for the same level of pension fund. Therefore, factors that affect accumulation of the pension fund during working years and those that affect the funds withdrawal pattern during retirement will have an affect on retirement income.

In addition to these issues that are specific to particular types of pension schemes, there are those that pertain to both. The first issue pertains to annuity tables—unisex versus gender-based. The unisex method distributes equal monthly benefits to annuitants. Public defined benefit schemes implicitly use these types of tables. Private defined contribution schemes employ gender-based tables based on both equity and efficiency grounds. There is much debate over the equity dimensions; one argument favoring gender-based tables is that it eliminates the implicit subsidy that arises with unisex tables—men and women receive equivalent benefits based on gender-mortality. The unisex table, however, provides equal benefits to men and

women with equal longevity. The efficiency issue rests on the argument that gender-based methods minimize market failure in the insurance market due to adverse selection.

Given women's overall pattern of labor force participation compared with men, which is characterized by high variability relative to that of men, with spells of inactivity and hours and mobility constraints, women's average earnings, contributions, years of employment will be lower, implying a lower pension benefit. Much of these effects are related to women's roles in home production. Therefore, policies to lower the opportunity cost of home production have been suggested. These policies operate on the principle of pooling retirement income so that wives can be compensated for the time they spend during home production and care of children, and men can explicitly take on the cost of the forgone income to the wife. This is important given the increased incidence of divorce and remarriage. Some of the policies that have been proposed to account for home production include, joint contributions, annuities, and pension sharing. These are discussed later.

The source of funding also adds to the possible variation in program design with private pensions generally funded from the investment of individual savings and returns on these, and public pensions being funded from either tax or general revenue. Issues to do with the source of financing and the rate of savings required to promote good returns on investment for funded schemes will influence gender outcomes. Differences in savings between men and women will be influenced by differences in labor earnings, age at retirement, and risk preferences. More careful research is required of these issues, to explore the gender implications of reforms to improve social security funding.

Suggestions for reform of payroll tax systems to increase revenues and minimize market distortions include eliminating the ceilings on contributions and paying a flat rate on the total payroll. These changes would facilitate expanded coverage, be more progressive, and remove the incentive for firms to create noncovered jobs, all of which would benefit women. An alternative would be to fund out of general revenues to improve equity. There are arguments that in a developing country context, funding out of general revenues would allow for better coverage of workers in the informal sector and rural areas and provide improved coverage for women.

Source of financing is likely to have a greater adverse effect on pension benefits for women if tax is on labor as opposed to general revenues in the case of public funds. This arises from the greater labor elasticity of women (compared with men) and the fact that women tend to earn lower wages. Defined benefit schemes are likely to be more equitable because benefits are not related to contributions and are either flat rate, minimum guarantee, or means tested.

In terms of country experience of reforms and their gender impact, the following examples illustrate how specific countries have dealt with reforms. For example, in a study of pension reform in Kazakhstan, Kyrgyzstan, Latvia, and Moldova, Castel and Fox (2000) find that reforms since the transition have led to relatively lower coverage rates for women compared with men. Prior to the reforms, everyone was employed by the state, and women received pension credit for time spent out of the labor force to raise children or care for the sick. In addition, the wage structure was fairly compressed and the informal sector small. Therefore pension differences between men and women were not significant, if anything

women benefited more than men because they live longer and therefore could receive benefits longer.

However, since the economic transition in ECA, there has been some “feminization” of poverty, particularly among the elderly. It is estimated that women over 60 significantly outnumber men in the same age group because of extremely high mortality rates among males. Also, rising divorce rates have contributed to a higher number of female-headed households. This implies that women in these households must rely more on their own pensions. In addition, some countries (that is, Kazakhstan and Kyrgyzstan) eliminated the right to pension credit for time on maternity leave. Generally, the reforms have focused on increasing retirement age for men and women and tying pension benefits to contributions. Kyrgyzstan and Moldova have opted for a system based on defined contributions, Latvia has a two-tier system, and Kazakhstan developed a new system based on the Chilean model.

Regarding the equity issues inherent in the pension system following reforms, one can argue that women have benefited relatively more from an actuarial point of view. This is because women live longer and retire earlier and therefore will receive more pension payments or a higher implicit return for the same level of contribution. In addition, as mentioned before, women tend to benefit more from a minimum benefit because they tend to have a shorter working history and lower remunerations than men.

There have also been problems in maintaining the value of pensions, and this has impacted on the relative benefits of pensions to men and women. First, in many countries, pensions have not been regularly indexed to prices. In some cases, they have not been paid at all due to the increase in informal employment that has significantly reduced contributions, as well as the lack of budget resources to fill the financing gap of the social security systems. This leads to low current pensions with levels that are under the poverty line.

Thus, anecdotal evidence shows that many pensioners are moving in with their children to supplement their income. This is supported by focus groups that report that isolated retired pensioners without support from their nuclear family are likely to be extremely poor. The situation is worse for the oldest pensioners living in rural areas that suffer from arrears in payments. Because women live longer than men they are likely to be among the more vulnerable groups, particularly because survivor pensions are usually a fraction of the pension of the insured person. As a result, widows are more vulnerable to lower benefits and the problems cited earlier.

These trends may explain the observation that women in general oppose reforms to increase their retirement age. This resistance may therefore be explained by the changes in the economic organization of the household. In a context of limited labor demand, “older” women prefer to stay home and take care of children. Furthermore, the children of these older women may encourage this trend as it helps offset the cost of childcare and unpaid home activities. Recent analysis shows for example that the presence of the elderly does increase significantly the chances that women work. As part of the reforms, government has been making efforts to find ways to include workers that are self-employed, because there is some concern that increasing numbers of workers will have limited working histories that will qualify them for old-age pension. But the heterogeneous nature of this category of worker makes the task difficult. For example, the category may include both poor and nonpoor workers. In addition, women are often declared as unpaid family workers and as a result are not covered. At most

these women will receive survivor pensions, based on their spouse's occupation as a farmer or self-employed worker. However, these benefits are likely to be small, yielding very low contributions for this group and therefore low pension payments. Even the receipt of survivor pension will account for only a fraction of the old-age pension.

This contrasts with Chile, where the proportion of the employed who actively contribute to a personal pension is slightly higher for women than men (Barrientos 1998). Chile's pension system has been reformed from its pay-as-you-go system financed by payroll taxes with a weak link between contributions and benefits. Eligibility was restricted to those with a minimum of 10 years of service. The minimum age to start was 65 for men and 60 for women in Social Service System, or minimum seniority of 30 years in the Employee Funds. In 1973, the total contribution rate by both employees and employers was 26 percent of wages. Inclusion of contributions to the national health system brought this figure up to 50 percent of wages. Benefits also included survivor's pensions, but widows with pension benefits from the Social Service System are required to choose between their own pension and the corresponding widow's pension. There was choice for people on the old system to move to the new system. Therefore, the old system is gradually being phased out. New entrants into the job market must join the new system.

The new system is compulsory for wage and salary workers and optional for the self-employed. Workers take up a personal retirement account with one of the private pension funds. Benefits are strictly a function of contribution, and there is no minimum requirement in terms of years of contribution to receive benefits. In addition, the new system includes a minimum pension guarantee that would raise benefits for women with low schooling. Also, because married men are required to provide for their spouse's pension as a function of her probability of survival, this lowers the individual benefits of married men relative to single men. Evidence from Barrientos (1998) and Edwards (2000) suggest that the design of pension systems has contributed to maintaining equal access to benefits for men and women.

The Chile case suggests that to improve gender sensitive design, it is important to diminish the effect of the structural factors mentioned previously. Even though their total contributions (and benefits) may be low, tying benefits to contributions, rather than years of service, ensures that women are not penalized for the variability in their labor force participation. The provision of childcare and disability pension or insurance, lowers occupational segregation and discrimination based on gender roles related to having children and caring for the sick (which falls disproportionately on women). In addition, the provision of a minimum pension for those falling below some minimum level ensures protection for individuals with low earning potential. Finally, the type of private pension implemented (given the structure of the labor market) is important.

For example, occupational pension schemes based on defined benefits place barriers and few incentives for women employees. These schemes reflect final salary and tenure and are designed to redistribute benefits from short-tenured, short-hours low earning workers to long-tenured, fixed hours well promoted workers (see Barrientos 1998 and studies referenced there). Private pension plans, however, depend on personal contributions and the returns on investments. They are portable and can be adapted to lifecycle changes. However, if benefits are derived as a fixed proportion of contributions this means that low earners or irregular contributors will generate low earnings. In addition, there are studies that show that women are more conservative investors, which means less risky but lower returns for retirement.

Therefore, the tendency of women to exhibit more conservative investment behavior for retirement may compound the problem of lower average retirement consumption. Finally, an important effect of personal pension plans is that the lifecycle timing of employment and active contributions has a larger negative effect on pension benefits. For example, delaying contributions until later in life under personal pension systems will lead to lower benefits entitlements than under defined benefit pension plans.

Unemployment Insurance

Unemployment insurance (UI) programs are intended to protect workers from income losses associated with involuntary and unanticipated interruptions in employment. There are also unemployment assistance benefits that are means tested. These programs are generally publicly funded.

Key design issues for unemployment benefits include the level of the transfer, duration of the transfer, duration of employment that qualifies one for the transfer or length of contribution that qualifies one for receipt of benefits, and financing. These are important considerations because of their likely effect on efficiency and equity through the impact on the labor market and employment of different vulnerable groups.

The evidence for the effect of UI transfers on employment is spotty. The OECD labor study (OECD 1994) suggests that a significant proportion of the increase in unemployment arising from the existence of UI benefits reflects an increase in the labor force arising from more people classified as being engaged in job search. The study states that the negative effects on employment of UI benefits may be relatively small because a period of employment is required before employment benefits can be received. De Ferreanti and others (2000) find that results are also mixed in Latin America with respect to the effect of UI on employment and unemployment spells.

In addition to these aggregate effects, the OECD labor study argues that the pathway through which UI benefits lead to increased unemployment may differ for men and women. The study argues that in the case of males between the ages of 24-54, unemployment accounts for as much as half of total nonemployment (the proportion is far lower for all other age and sex groups). Furthermore, the variance of inactivity rates is much lower than the variance of unemployment rates. Thus, higher unemployment rates among this group are probably mainly associated with lower employment rather than lower inactivity. In the case of women, the OECD study argues that UI benefits are likely leading to employment status for women. Specifically, it suggests that UI benefits are probably lowering the inactivity rates for women. It also cites some studies that go so far as to suggest that benefit entitlements may have a positive impact on employment rates for women. Moorthy (1989) explains that the rise in Canadian unemployment rates relative to the U.S. unemployment rates between 1967 and 1988 was largely due to the effect of increased benefit entitlements in increasing Canadian female unemployment rates. However, over the same period, female employment increased much faster in Canada than in the United States. Similarly, in Spain, between 1984 and 1990, benefit coverage of unemployment rose sharply and female unemployment rose, along with female employment.

In the case of labor supply, evidence for OECD countries show that benefit levels do not have a significant effect on hours worked for prime age males because wages and number of

hours worked is determined mainly through collective agreements or is set at 35-40 hours per week. Therefore, the lack of variation in labor supply makes it difficult to estimate a labor supply elasticity. In contrast, the same study finds that the wage elasticity of labor for married women is 0.50, with a relatively small income effect. Much of this effect could be due to the fact that women are employed in more part-time positions for which collective labor agreements are not enforced and therefore have more flexible hours. There is also evidence that unemployment assistance benefits create a disincentive to work for wives of unemployed men leading to a “poverty trap.” The study finds that some women working part time often leave work when the husband becomes unemployed, because part-time earnings are deducted from the couple’s benefit under means-testing arrangements. The study also shows that assistance benefit systems tend to lead to lower aggregate female unemployment rates than insurance systems. Because most married women have employed husbands, insurance benefits create an incentive for this group to become or remain unemployed while social assistance benefits do not.

These results are inconclusive regarding the effect of UI benefits on employment levels. However, the effects on labor supply have implications for financing through wage taxes. Attention needs to be devoted to the design of the tax system to minimize the impact on labor incentives because evidence from the OECD study shows that some groups are more responsive to tax changes. For example, tax changes for married women and single-parent families are more likely to provoke a labor supply response than changes for prime-age males. This response appears to decline the greater the number of hours the individual is working. In addition, tax changes can provoke entry into and out of the work force and may even go so far as to create a “poverty trap.” The implication of this evidence is that these effects are likely to be greatest for poor female-headed households engaged in part-time or transitory work.

This discussion implies that given gender roles in the household, for those double-income earning households that are close to the poverty line where the man is employed, when their wives become unemployed, the decision to re-enter employment will be affected by home production—that is, the cost of childcare and caring for the sick or elderly. It also suggests that depending on the design of the program in a specific country, the wife’s decision to continue work may also be affected if her husband becomes unemployed. In either case, these effects may lead to heavy reliance on UI benefits. This reliance will not promote re-entry into the job market for women if the income earned through employment (after accounting for all costs) is less than the benefit level.

For example, Cantillon (1994) uses Belgian data to show a positive correlation between the unemployment rate for married women and the number of children after controlling for education, age, occupation, and sector of activity. The study also shows that two income households are more subject to unemployment and for longer periods because they are less available for work. In addition, household income consisting of single labor income plus unemployment benefit is not sufficient to bring more than 16 percent of these households above the poverty line. Added to this is the fact that the number of double-income households with an unemployed wife that are below the poverty line would increase by 52 percent without the wife’s unemployment benefit. These data illustrate the importance of adjusting working conditions and social security to specific problems that face households with children and two full-time jobs. This is especially an issue for women with low

education in lower social groups. In the Belgian case, these groups are forced out of necessity into an undue reliance on unemployment insurance as contingency against unpaid work risk.

This is an issue that has not been extensively explored in the literature. Yet there is evidence that other countries may exhibit the same phenomenon. Cunningham (2000) finds results for the Brazil UI system that seem to suggest the same phenomenon is at work in that country. The study finds that UI benefits are correlated with self-employment for men but not for women. Thus, if women are using the UI system to cover risk arising from unpaid work such as births, illness in the family, or need to care for elderly relatives, this undermines the flexibility of the labor market because it does not encourage employment or job search for this group. The social protection system needs to provide insurance designed to cover these particular contingencies.

The discussion here implies that the fact that unpaid work activities at home fall predominantly on the woman means that the woman's low labor force participation is likely to limit UI contributions and in turn benefits. These effects will tend to be larger in countries where firms do not bear the unemployment benefits cost of dismissals (thus, applies to most countries except the United States), or in countries such as Belgium where UI benefits duration is unlimited in principle, for the head of household and single people, and where benefits also cover part-time work. Therefore, the main gender considerations for UI involves finding ways to promote labor market flexibility by encouraging men's and women's employment and ensuring that UI benefits are indeed being employed as insurance against unemployment and not against unpaid home production activities. In the case of women, promotion of labor force participation can be achieved through provision of support to women in home activities such as childcare to leave more options open to women who prefer paid employment.

Aside from these issues, the decision to implement UI will be dictated by the level of informality of a given economy and explains why unemployment insurance programs are not commonly found in poorer countries. In the case of an economy with a large informal sector, programs such as public works are one means to help in smoothing fluctuations in income while also building infrastructure and assets. Other proposals have included modification of severance pay programs and implementation of an individual savings account.

Edwards and Manning (1999) put forth a proposal for an unemployment insurance savings account where benefits would be based on defined contributions with a replacement rate of 50 percent up to a maximum of six months. Similarly, severance payment is prevalent in LAC and there have been proposals to reform these programs to perform the same function as unemployment insurance programs (De Ferranti and others 2000).

Whether a country chooses to adopt traditional UI programs (as found in OECD countries), UI savings account or severance pay type schemes, it will still be important to consider gender implications of the programs. In the case of individual savings accounts, lower average wages for women and variable employment will yield lower total savings. Therefore, it will be important to supplement these programs with some form of social assistance or targeted program. In the case of severance pay, if not properly designed, one may observe the same pattern of undue reliance on these transfers for unpaid home activities as described above for the Brazil example.

Cross-cutting Issues

This section examines cross-cutting issues to do with labor incentive effects that arise as a result of benefits from social protection programs as well as issues of how formal programs may impact on informal programs. Two issues are addressed: issues to do with incentive effects and differences between the welfare of men and women regarding how formal transfers impact on informal transfers and issues to do with unintended effects and the additional role a good understanding of social norms and gender roles can play in anticipating these effects.

Differentiated Labor Supply Effects between Men and Women

In designing programs, policymakers are concerned with the potential disincentive effect to work. These effects can increase the cost of the program and the cost to society in general. The issue here is if transfers lead to a decline in labor supply, does the forgone income outweigh the cost of the transfer? If labor is being pulled away from productive activity, society loses because the money could have been put toward more productive uses. Furthermore, the cost of the program increases because someone is receiving a transfer who might otherwise be ineligible. This is a particular issue in the case of an economy where those who are able and willing to find work can do so. If income-earning opportunities exist and able-bodied individuals are not fully employed, there is greater concern for labor supply disincentive effects as transfers may be displacing earnings in the wage market. However, if there are no wage earning opportunities or if households are “overemployed” in the sense that it compromises nutritional status and health, it is important to know whether transfers are leading to a reduction in hours worked for some individuals with a reallocation of time between work and home production for others. Available evidence suggests that there can also be strong cross-effects generated.

In the case of poor countries with high unemployment where potential beneficiaries are overworked, transfers that lead to a reduction in labor supply or increases in leisure or home production can be a desirable goal. However, a consideration of gender issues recognizes that these effects may differ between men, women, and children in the household. In general, a decline in labor supply for children is viewed as good, particularly if the additional time can now be spent toward activities that do not undermine the human capital of the child in question. However, it is important to ensure that a transfer given to adults in the household is not causing a reallocation of labor within the household in a manner that may compromise the welfare of either girls or boys. For example, an intervention that increases the time spent away from home by the mother may have detrimental effects for girls’ schooling if girls are then required to substitute their labor for their mother’s in home production activities. A study by Lokshin, Glinskaya, and Garcia (2000) in Kenya on the effect of childcare costs on the labor allocation of girls and boys gives a sense of this effect. The study finds that increases in childcare costs caused significant reduction in girls’ probability of being in school while having no effect on boys’ schooling.

In the case of adults, the gender of the transfer recipient also gives rise to gender differences in labor supply and in the pattern of time allocation as well as cross-effects between men and women. The potential relative magnitudes of these changes (for men and women) can be estimated by examining the effect of nonlabor income on labor supply for men and women. For example, Kimmel and Kniesner (1998) find that for the United States during the period 1983-1986 the wage-labor supply elasticities for women are significantly

larger than for men. Abdulai and Regmi (2000) find that the income elasticity of labor supply in Nepal is greater for men than women. Skoufias (1994) finds a similar result for India.

Ilahi (2000) reviews various studies on the effect of wages and nonwage income on labor supply and allocation of men and women and finds that in South Asia increase in own wages leads to an increase in labor force participation for women (and a decrease in leisure in some studies). The studies also find that an increase in female wage leads to an increase in male time spent in home production, while increases in male wage leads to an increase in leisure for females. These studies support the claim that social protection programs will have differential effect on labor supply of men and women.

The few studies that examine the effect of actual social protection transfers on the labor supply of men and women in a developing country context show mixed results. For example, the PROGRESA program in Mexico had no significant effect on the labor supply of adults, despite the fact that the average value of the transfer for a household was US\$264. This is equivalent to about 20 percent of the mean value of consumption of poor households. However, the program does lead to a modest reduction in the labor participation rates of children, particularly in unpaid activities. Overall, there is a net increase in income to beneficiary households through transfers from PROGRESA, and these are not substantially affected by reductions in children's labor income (Skoufias and Parker 2001). These effects are likely due to the fact that the program is closely tied to school attendance and use of health facilities by women and children, which is very closely monitored and enforced.

In contrast, Sahn and Alderman (1996) find significant household labor supply response to food-related income transfers in Sri Lanka. The authors examine how men's and women's decision to participate in the labor market and the number of hours they work is affected by the household's receipt of a rice subsidy. The authors find that for rural or urban males and urban females, the transfer does not influence their decision to participate in the labor market. This should not come as a surprise given that the decision of whether to work was most likely made long before receipt of the transfer. What does come as a surprise is that the transfer appears to decrease the probability of female labor force participation in rural areas. The authors do not provide an explanation for this finding. However, the authors find that both in rural and urban areas, there is a substantial reduction in the number of hours worked by both men and women, in response to receiving the rice ration. However, there was no available data to show whether the reduced time for work was translated into either increased leisure or home production activities.

Datt and Ravallion (1994) estimate the impact on household time allocation of one of the most empirically scrutinized public-works employment projects from the developing world, the Employment Guarantee Scheme of the state of Maharashtra in India. Since the mid 1970s, the Employment Guarantee Scheme has aimed to offer unskilled rural employment on demand, paying workers a daily wage tied to the prevailing agricultural wages in return for their unskilled labor (on projects ranging from road building to reforestation). The primary aim of the authors is to examine whether the project generated significant net income gains to the participants. The authors find that the project indeed does appear to generate sizeable net income gains to the participants, with the pecuniary opportunity cost to public-works participation being quite low. In terms of gender-differentiated project outcomes (the authors have access to gender disaggregated labor data from only one village, Shirapur), the authors find that the project displaces different activities

for men and women (decreases unemployment for men, decreases in leisure or domestic work for women).⁴ They also find significant gender cross-effects in time allocation in Shirapur (men take up more own-farm work when women join the project).

Blau (1997) examines the labor disincentive effects of social security among older married couples by examining the spouse benefits provision of U.S. social security.⁵ The study uses empirical results from the Retirement History Survey to show that the spouse benefit provision has a moderately small negative effect on the labor force participation of older married women and a small positive effect on the labor force participation of older married men. Blau (1997) also performs simulations to see the likely effect on labor supply of the proposed change to eliminate the spouse benefits and replace this with earnings sharing.⁶ The simulations show that wives' exit rates decrease by 6-12 percent if the husband is unemployed and by 55-59 percent if he is employed. The husbands' exit rates decrease by 37-47 percent. In contrast, entry rates of husbands increase by 20-64 percent, and that of wives increase by 29-129 percent. These results suggest that the earnings sharing program promotes greater labor force participation among women. This is not surprising because this program offers a greater potential for both spouses to maximize retirement consumption through increasing current household income.

Finegan and Margo (1994) also find that the "added worker effect" holds for their analysis of public works programs (public emergency work (PEW)) implemented during the 1930s in the United States.⁷ They apply a test of the added worker effect—that is, nonworking women would have been more likely to enter the labor force and working women less likely to leave it, if their husbands were unemployed. Because the PEW was means tested, they hypothesize that if the employment of the wife diminished the odds of eligibility for the PEW, one would expect to see a disproportionate number of labor market exits among wives of men on work relief. The authors find that unemployment of the husband tripled the entry rate of women into the labor market from 0.9 to 2.7 percent. In contrast, the exit rate from the labor market for married women declined from 17.8 to 14.2 percent. The authors hypothesize that the PEW dampened the added worker effect because wives of unemployed men (who would have been eligible for work relief) would have been more likely to be in the labor force. They find that wives of unemployed men who had been on work relief in 1939 had a higher entry rate of 1.7 percent compared with 1.2 percent for the wives of those who had been on work relief in 1940. In addition, among wives of men on work relief in 1940, few had worked in 1939, and, of those who worked, few were likely to have left the labor force by the time of the survey. The study results imply that more women would have been in the labor market in the absence of the PEW.

To promote increased labor force participation for women, programs such as child care or early childhood programs appear to be effective. Lokshin (2000) finds that in Russia, subsidies to reduce the costs of market-based childcare are more effective in increasing labor force participation and hours worked of mothers than increases in wages. Similarly Lokshin,

⁴ The authors do not have information to distinguish between time devoted to leisure and domestic work.

⁵ In spouse benefits the woman is entitled to either 50 percent of her husband's benefit or a retired worker benefit based on her own earnings record, whichever is greater.

⁶ Under earnings sharing, total earnings of both husband and wife are divided in half and the benefits formula is applied to each half of total family earnings to estimate the benefit for each spouse.

⁷ The "added worker effect" is a term used in labor economics to describe entry of a woman into the labor force in response to a change in the employment status of the spouse.

Glinskaya, and Garcia (2000) find that in Kenya, higher costs of childcare reduce the labor force participation of mothers. In addition, higher costs of childcare significantly decrease girls' probability of being at school while having no effect on boys' schooling. These studies point to the potential of subsidized childcare in increasing female employment and income,⁸ and in helping to increase female investment in education.

Differentiated Effect on Informal Transfers and Networks for Men and Women

Another source of incentive effects concerns the potential effect of formal transfers on informal transfers and networks for men and women. Although informal transfers can be effective in the case of idiosyncratic risks, crowding out these transfers may at times be warranted—when shocks are covariate, widespread, and repeated. In addition, informal transfers and networks may reinforce existing patterns of poverty by maintaining existing economic and social barriers along ethnic, gender, class, and generational lines (see the Social Protection Poverty Reduction Strategy Papers Sourcebook (World Bank 2001b)). Finally, in considering the issue of the impact of formal programs on informal mechanisms, it is important to assess whether the program results in a more cost-effective social protection program, given program benefits and costs (including “crowding out” of private transfers).

Although there is some evidence to illustrate the differences in informal networks between men and women, there are few studies that examine the differential effect of formal transfers on informal networks for men and women. World Bank (2000) finds labor force entry is a risk mitigation and coping strategy adopted by middle-class married women and poor children in Argentina. In contrast, poor adults maintain multiple jobs to aid in income diversification. Women with children rely on self-employment and informal salaried work as a coping tool, while men are more likely to rely on the formal wage sector. In general, women's coping activities draw on various skills they have acquired through their various roles as homemakers and caretakers and through volunteering in the community. This makes women versatile in identifying alternative income-generating activities for coping. Men, however, tend to stay with typical labor market activities. Thus, it is important to examine how formal programs are affecting the ability of men and women to adopt informal means to manage risk. Few studies have examined this effect. Ezemenari (1997) uses data from Mongolia to examine the effect of government transfers to individuals in the household on private transfers to these same individuals. The results show that government transfers to females under age 35 are associated with lower private transfers. However, government transfers to other age groups in the household had no significant effect on the private transfers received by these individuals.

Programs Can Have Unintended Consequences

Even when the program has the best of intentions, complex interactions within the household might result in perverse outcomes. Khandker (2001) examines how boys and girl's schooling is affected by a female stipend program in Bangladesh. Bangladesh introduced a nationwide secondary school stipend project for girls in 1994 to help increase female school enrollment and completion rates (and to help lower the age of marriage and hence reduce fertility rates). The program provides both a tuition subsidy (to the school) and a stipend (to the girl's household) varying with grade level if the girl meets certain eligibility conditions (for

⁸ Unfortunately, the papers do not report what effect childcare has on the employment of males.

example, attend 75 percent of school days or remain unmarried while enrolled). Aggregate national education statistics indicate a 45 percent increase in girl's enrollment and 8 percent increase in boy's enrollment over 1994-1997. However, detailed rural household survey data from that period show only a modest 18 percent increase in girl's enrollment and an 8 percent reduction in boy's secondary enrollment rate⁹ This study indicates that even though the program was specifically targeted to induce greater investment in female education by increasing household income (income effect), the program had an unintended impact of increasing the relative cost of boy's education (substitution effect) and hence might have actually decreased boy's enrollment rates (in rural areas). It is thus imperative that policymakers have a firm understanding of the factors that influence tradeoffs in investment decisions within the household.

Summary of the Evidence

The evidence highlights the fact that SP programs are not gender neutral. Table 3 highlights this fact with a summary of some of the studies reviewed in this section. Bearing this in mind and understanding the gender effects of different programs, policymakers can use this to design programs that do not exacerbate gender inequities while improving on efficiency. The key messages are that in general the gender of the transfer recipient matters for household expenditure and welfare and that programs can often have unintended consequences on the welfare of men (boys) and women (girls).

As we have highlighted, some studies suggest that household participation in certain safety net programs has resulted in a decline in female labor force participation. When a female who participates in a safety net program opts out of the labor market or reduces time spent in market activities, there is a reduction in her share of household income—there may or may not be a drop in total household income (depends upon several factors such as loss in labor income and magnitude of the transfer). This loss may have implications for female empowerment by affecting her relative influence on decisionmaking in the household. However, if females choose to devote more time to leisure and household work, the appropriate policy response is not straightforward. We would need to further examine whether this change has brought about adverse effects on specific members of the household (for example, did program participation bring about a reduction in child schooling expenditures and were boys and girls equally affected?). In addition, studies have shown that often when mothers are required to enter the labor market to aid in smoothing shocks to household income, girls in the household may be called upon to take up the household work. Early childhood programs may be one means of dealing with these effects while allowing women to enter the labor market if they choose to do so.

⁹ Also, the household survey data indicates that while there was an increase in the enrollment rate of girls (and a decrease in boy's enrollment rates), there was a decrease in the secondary school completion rates for girls and an increase in the secondary school completion rates for boys. This suggests that boys with lower ability were being pulled out of school, while there was increased entry of both high- and low-ability girls.

Table 3. Gender Effects of Selected Social Protection Programs

<i>Program</i>	<i>Gender aspects or effects</i>	<i>Welfare outcome</i>
<i>Transfers and safety net programs</i>		
Rice subsidy in Sri Lanka	No explicit consideration of gender effects in design; hours worked decline for men and women	Decline in hours worked for women could lead to decline in income and pattern of consumption; empowerment and trade-off with increase in leisure
PROGRESA in Mexico	Transfer to woman 20 percent of average household consumption; no effect on labor allocation, but increased women's decisionmaking in the household	Increase in empowerment; increase in use of social services for women
Child benefit in the United Kingdom	Switch from tax benefit through father's pay check to a child benefit (nontaxable) given to mother (8 percent of average male income)	Significant increases in expenditures on women and children clothing relative to men's
Maharashtra employment scheme—public works in India	The project displaces different activities for men and women	Results in reduction of men's unemployment, reduction in women's leisure or domestic work; the results also show significant gender cross-effects in time allocation in Shirapur (men take up more own-farm work when women join the project)
<i>Pension programs</i>		
Widow's pension in India	Existing scheme benefited men more than women because the targeting mechanism did not recognize the nature of vulnerability women faced as distinct from what men faced—that is, limited freedom to remarry, insecure property rights, social restrictions on living arrangements, and restricted employment opportunities; in addition, the administrative requirements to gain access to benefits was more cumbersome for poor illiterate widows	Recognizing these effects, a widow's pension was introduced that increased access of widows to pension benefits and relieved the biases against women
Pensions in South Africa	No explicit gender considerations in design	Benefits to women lead to large increases in anthropometric measures for girls (with no effect on that of boys); in contrast, transfers to men have no effect on nutritional status of children
Namibia's National Pension Scheme	Requires both men and women to contribute to maternity fund but only women benefit	Met resistance from men because of requirement that both men and women contribute
ECA Pension Reform	Proposal to increase retirement age for women	Resistance from women who prefer to retire early to help with caring of grandchildren so daughters can work
Chile Personal Pension Plan (reformed system)	Survivor's plus minimum pension increase pensions for widows, and married women earn higher pension benefits; requires a minimum of 20 years to be eligible for minimum pension guarantee	Marriage increases likelihood of men's contribution and reduces women's—reflects effect of household factors on women's work
U.S. Defined Contribution Pensions	Women contribute less (after controlling for overall household portfolio and socioeconomic differences across individuals)	Women exhibit higher relative risk aversion
<i>Unemployment insurance programs</i>		
Belgium (early 1990s)	Number of double income households that have unemployed wife that are below poverty line would increase 52 percent without the wife's UI benefit	Undue reliance on UI by married women to extent that it can be viewed as contingency against unpaid work risk
Brazil	Increase in UI increases self-employment for men but not women	Potentially similar to Belgian example

Source: Sahn and Alderman (1996); Skoufias and Parker (2001); Lundberg, Pollak and Wales (1997); Datt and Ravallion (1994); Chen and Dreze (1995); Duflo (2000); Kasente (2000); Castel and Fox (2000); Barrientos (1998); Bajtelsmit and others (1999); Cantillon (1994); Cunningham (2000).

There are also gender issues peculiar to different programs. In the case of contribution-based programs, gender considerations require an emphasis on tying benefits to contributions—not years of service. For pensions, the choice in the mix of pillars to make up a pension scheme and decisions on whether to emphasize defined benefit or defined contribution in design will impact on gender outcomes. In addition, design issues should take

account of longer life expectancy of women, their more conservative investment habits, variability in labor force participation, and their role in home production or unpaid work.

In the case of unemployment insurance, the design in some countries has led to it being used as insurance against unpaid work contingencies and shocks. There are proposals of how to introduce a modified version of unemployment insurance to many poor countries where traditional unemployment insurance programs are not feasible—that is, individual savings accounts and modification of severance pay. However, these newly proposed programs also need to examine the gender implications to ensure that they do not propagate inequities inherent in the design of the “traditional” unemployment insurance programs.

Implications for Program Design Principles

Gender-differentiated risk responses and their corresponding labor supply effects will have implications for the indicators chosen, targeting, and level of the transfer in program design. In order to reflect the differences in risk perceptions and responses and to capture how the shock may alter the relative status of individuals in the household, indicators should aim to estimate the gender differentiated welfare outcomes associated with the shock. Some of these outcome measures could act as early warnings of the potential worsening conditions of women’s welfare as well as welfare of the household in general. Among the kinds of indicators that could be measured are ratio of male to female wages for the same occupational mix, differences in asset holdings between men and women, ratio of female consumption to male, and change in health and nutritional status of females relative to males. In terms of program design, the studies reviewed here point to some key issues to consider:

- ?? SP programs are not gender neutral and shocks will affect males and females differently
- ?? The dual roles of women have strong implications for differential labor incentive effects between males and females and SP program design
- ?? All programs need to account for these factors, but there are also program specific gender effects that must be incorporated into program design.

SP Programs Are Not Gender Neutral and Shocks Will Affect Males and Females Differently. The cause of this outcome is very much related to social norms and gender roles, which generally relegate the responsibility of home activities and unpaid work to women. Program design issues to address this are related to the objective of the transfer: raise income or affect consumption patterns of specific individuals within the household.

The evidence presented here suggests that one quick important step to reduce inequities and biases within the household is to raise overall household income. This implies that the objective of raising incomes or bringing households to the poverty line is closely tied to reducing inequities within the household. However, transfers large enough to bring households to the poverty line will lead to larger disincentive effects for labor. These disincentive effects are likely to be larger for married women than men given women’s relative elastic labor supply. Ways of combating this are discussed later.

Another objective, aside from raising household income is to affect the pattern of consumption within the household. Evidence here suggests that (even if the household is the

target), giving the transfer to the caregiver or person responsible for unpaid home activities can be an effective way of influencing the pattern of household consumption.

Thus, in the short run, transfers can be used to increase household income or influence the pattern of consumption. In the long term, tying these transfers to the use of basic social services will aid in promoting investment in human capital.

To account for the fact that men and women face different risks, benefits should be tied to the relevant contingencies that they cover. For example, in the case of health risks, SP programs can be provided in the form of microinsurance for various health risks. In the case of child health status and risks, mother-child-health benefits can be tied to the use of social services. In the case of economic crisis, counseling programs can be instituted to help men and boys handle changing roles in times of crisis, and these can be linked either to a transfer or employment program.

To account for contingencies associated with unpaid work (which usually fall disproportionately on women), interventions should be designed so that they are tied to this contingency to minimize the increased risk to the welfare of the caregiver. Several steps can be taken. One suggestion is to combine social security credits during marriage, which can be combined with individual credits earned before and after marriage for individual benefits. This form of earnings sharing would increase benefits for working and stay-at-home caregivers, divorced women, and widows, particularly older women who fall in this group who are among the poorest in many countries. Other potential measures to account for the effects of unpaid work are discussed below.

The Dual Roles of Women Have Strong Implications for Differential Labor Incentive Effects between Males and Females and SP Program Design. This issue is most pertinent for programs where benefits are received in the form of transfers or where funding of the program involves some degree of tax to labor.

Effects can be larger for women because their labor supply tends to be relatively more elastic than that of men. The labor disincentive may not necessarily be a bad thing. This effect may be desired if women are overworked and unpaid work is valued. However, it is important to keep in mind the tradeoff between increased empowerment (as measured by increased decisionmaking in the household and defined by independent sources of income for women) through employment and the wages earned and freed up time to devote to home activities.

There can also be cross-effects between individuals in the household because of the added worker effect or women's labor used as a buffer for household shocks. Therefore policymakers must decide whether to allow the "benefit" of the disincentive effect to go to the spouse responsible for unpaid work because they have less time or could use time more effectively for home production activities than the main breadwinner.

There are also suggestions that changes in tax policy can help to address the issue of differences in labor supply between men and women, particularly married women. For example, in the United States tax laws discourage two-earner families at all income levels by taxing the spouse that earns the lower income (usually the woman) at a higher rate than the primary earner. Given the labor supply elasticity characteristics for women, lower taxes on women's labor would encourage movement into the workforce for women. In addition, the

characteristics of men's labor income implies that increased taxes on their labor will either have no change or lead to men working harder to make up for the lower income.

Other options include allowing deductions for childcare expenditures on the part of the caregiver. However, it is important to keep in mind that these measures based on tax credits are more relevant for OECD countries or households within these countries that earn income in the taxable range. In the case of poor countries or poor households, interventions such as child allowance paid to the primary caregiver and provision of free health coverage for children and primary caregiving combined with other social assistance and targeted programs will be more relevant.

A related issue is the impact of programs on the labor supply of children in the household. It is important to ensure that transfers given to adults in the household is not causing a reallocation of labor within the household in a manner that may compromise the welfare of either boy or girls. For example, an intervention that increases the time spent away from home by the mother may have detrimental effects for girls' schooling if girls are then required to substitute their labor for their mother's in home production activities.

In addition to issues to do with incentive effects are issues concerning transaction costs faced by men and women. Studies on time use and allocation differentiated by gender suggests that women, particularly in poor households, have greater time constraints than men. Therefore, the same absolute levels of transaction costs to receive the transfer for women may have greater impact on household welfare than similar transaction costs for men. Program design should therefore incorporate measures that account for the time constraints of women.

There Are Also SP Design Issues to Incorporate Gender that Are Specific to Certain Programs such as Public Works, Pensions, and Unemployment Insurance. The previously mentioned issues apply equally to transfer and nontransfer programs. Those issues specific to particular programs are discussed below.

In the case of public works, the form of the wage—whether cash or in-kind—can affect participation of women. Studies show that women more than men participate in programs where food (as opposed to cash) is distributed. Participation of women can be further encouraged through the provision of childcare at or near work sites. Providing piece work or task-based work that can be performed in the homestead also encourages women to combine home activities with paid work. Finally, the type of work should be socially acceptable, and community or religious leaders should be brought on board to sanction the tasks and to encourage the participation of women.

In the case of pensions, equalizing social security benefits along the lines discussed previously is one potential measure. Alternatively, social security credits can be given directly to family caregivers as is done in France and Germany for time spent out of the labor market caring for young or old family members. Another measure that can be adopted is to implement funded schemes that are based on family savings and investment as opposed to individual or personal savings and investment. To ensure that women are making the most efficient investment decisions to improve saving as much as men, measures such as public education campaign to inform workers about how to make good investment decisions and regulation of private pension schemes could be adopted.

If policymakers opt for individual pension schemes for married couples, there are design issues that can be adopted to account for the difference in life expectancy between men and women and the fact that labor participation rates differ between men and women. One option is the use of joint annuity tables or a move toward unisex tables. Related to this is increasing the retirement age for women. In addition, pensions can be used to account for maternity leave and survivor's pension in the case of death of the spouse. In the case of divorce, one could have claims on the pension of the main earner for years of unpaid work of dependent ex-spouse.

In the case of unemployment insurance, there is a need to re-examine the appropriateness for those that are engaged in home production by perhaps designing programs that are linked to childcare and elderly care to promote increased employment for women. One option is to eliminate the distinction between paid and unpaid workers. Primary caregivers would be considered part of the workforce and eligible for temporary unemployment compensation and job training in the event of a divorce; workmen's compensation for job related injuries would also apply.

To encourage women to re-enter the labor force, programs such as universal preschool for all preschoolers would guarantee that all children have access to developmental education critical to the early years. This is a luxury that many poor families in many countries are not able to afford. For example, the U.S. Census Bureau estimates that after housing and food, childcare is the single largest expense item for young families. This contrasts with France where 99 percent of three to five year olds attend preschool at little charge. These measures in conjunction with unemployment insurance and assistance would encourage and support women to re-enter the labor force if they should choose to do so.

The above discussion highlights the importance of identifying gender-based factors that prevent individuals from smoothing consumption and designing social protection programs to ease these constraints. Further issues that are cross-cutting and that call for caution refer to the issue of whether SP programs should be used to achieve gender equity. This question is closely related to whether SP should be based on individual access or on benefits to family breadwinner with measures to ensure sharing of benefits between main breadwinner and the caregiver. If one agrees to individual access does this mean individualization of social benefits—that is, assess eligibility and amount of benefit based on individual merit. Then the person responsible for unpaid work is likely to be at a disadvantage. Therefore, individual access should be closely tied to roles and not just income—in other words, unpaid work should be valued.

There is a need to combine childcare with other transfers to maximize possibilities for re-employment for women (or the person responsible for unpaid work). Finally, evidence presented in this study suggests that transfers based on gender of recipient effects the pattern of household consumption and welfare. While it is important that policymakers have a good understanding of social norms and gender roles that can aid in anticipating unintended effects of the program within the household, overwhelming evidence suggests that transfers that ultimately aim to enhance child welfare (nutrition, health, and education) should be deliberately made to women.

Appendix: Theoretical Implications of the Impact of Risk on individual welfare based on Models of the Household

Intrahousehold allocation may have important effects on distribution. Households may act to increase inequality by allocating resources so as to reinforce endowment differences or to decrease inequalities by allocating resources so as to compensate for endowment differences. Depending upon the resource allocation rules utilized by the household in general or in response to a particular event, reductions in calories and nutrients may result in reductions to health status for adults and child members. Even within the context of fairness, allocation rules may have differential implications for member welfare. For example, Farmer and Tiefenthaler (1995) examine six different nutritional distribution outcomes that could all be consistent with the notion of equity, but could have differential outcomes on a member's well being: (i) equal split of food, (ii) proportional split of food, (iii) equal loss of food, (iv) equal health outcomes, (v) proportional health claims, and (vi) equal shortfall from maximum health. The authors compare health outcomes and food allocations under each allocation rule and find that the distribution of outcomes differs.

The process by which families allocate and distribute resources has sparked much controversy within the field of economics. Katz (1997) asserts that the challenge to replace the unitary household model, which is derived from a single utility function and budget constraint, with new models of family resource allocation (or household economics) has come from two disparate intellectual camps: the neoclassical economists who are motivated to deconstruct the household and its decisionmaking processes and institutional economists who emphasize the normative and structural processes of the family as a unit. Ultimately the dynamics of these interactions will influence both the subjective perceptions of an individual household member's vulnerability and the distribution of outcomes within the household in response to risk.

Two models of decisionmaking characterize the household economics literature—a collective model and a noncollective model of the household. The collective model can be further divided into the unitary model and the cooperative or bargaining model.

Unitary Model

The unitary model has dominated household economics. In the unitary model, all members within the household share similar preferences. Critics have attacked the model on the basis of its unusually strong assumptions. The first assumption of the model is that a benevolent dictator exists to represent the joint preferences of family members and to ensure an efficient allocation of household resources. The second assumption is based on the exogeneity of household preferences, which implies that household behavior is responsive only to changes in prices and income. Thus, gender-differentiated outcomes are explained by the presence of discriminatory forces occurring outside of the household and not on the basis of asymmetric power relationships between members.

For example, Rosenzweig and Schultz (1982) use the unitary model of the household to account for differences in child mortality rates between boys and girls within households. Drawing upon data from rural India, the authors find that states with higher female wage rates also have lower female-child mortality rates. The authors suggest that households in low-wage states devote (relatively) greater resources to boys given that their lifetime earning potential (and hence transfers to parents) is higher than girls. Similarly, Pitt, Rosenzweig, and

Hassan (1990) analyze differences in household resource allocation in rural Bangladesh using the unitary model as the underlying framework. They explain differential distribution of nutrients as a response to differences in relative returns to member's income generating potential. Thus gender-differentiated resource allocations may reflect differences in the stratification of occupational choices available to men and women and the differences associated with the marginal return of an additional unit of resource (food, education, and health care) to an individual's productivity.

One of the major contributions of the unitary model of the household has been to highlight the fact that households are both consumers and producers (Becker 1964; Lau, Lin, and Yotopoulos 1978; Barnum and Squire 1979). Under the assumption that rural households operate in an Arrow-Debreu economy (for example, perfect information and complete credit and contingency market), the household can decentralize its production and consumption decisions--referred to as "separability" (Singh, Squire, and Strauss 1986). The Arrow-Debreu characterization is however inappropriate to address the realities of many low income environments that are plagued by incomplete markets (for example, credit rationing and incomplete contingency markets). Nor does the Arrow-Debreu characterization allow us to examine the affects of institutional arrangements and transaction costs at the household level (Dasgupta 1993 . If a household is unable to mitigate against a shock (due to failures in credit and risk markets, inadequacy of transfers, and so on), then production and consumption decisions can no longer be made separately (Roe and Graham-Tomasi 1986).

Risk is inherently a dynamic concept--thus, static unitary models of the household are not suited to explicitly model household responses to risk. However, dynamic models of the household are rather complex and often rely upon extremely restrictive and unrealistic assumptions that in turn drive the results. For example, Rosenzweig and Wolpin (1993) build a dynamic household model that attempts to explain how rural households in India use their holding of livestock to buffer against weather risk. Tractable results from their model can only be derived under the restrictive assumption that there is absolutely no household savings.

Collective or Bargaining Model

Cooperative models of intrahousehold resource allocation assume that members have distinct goals and preferences that cannot be easily represented in a single welfare function. Outcomes of the resource process vary according to an individual member's bargaining power, which is influenced by an individual's claim to resources. In contrast to the unitary model, the allocation process is endogenous. While the particular outcomes are not modeled explicitly, the solution is assumed to maximize household cooperation and is pareto optimal.

Under the collective model, the household as an economic unit is sustainable if the utility gains associated with marriage are greater than the sum of each individual's indirect utility, which in turn is a function of prices related to the consumption of private goods and nonlabor income. An individual's indirect utility is representative of her best alternative state outside of the household and will be conditioned by what is referred to in the literature as "extra-household environmental parameters." These parameters define the economic opportunities individuals have at their disposal in the event of a divorce or exit from the household: laws concerning alimony and child support, changes in tax status associated with moving between marital states, ability of each spouse to receive transfers from his own family, assets owned prior to entering into marriage, social norms and demographics that

underpin marriage and remarriage markets, and access to social networks and social capital. Thus, shocks that have relative differential effects on the control of income of men and women will have an effect on their relative bargaining power and as a consequence determine how risk affects their individual welfare.

This model has been primarily used within the context of testing whether men and women pool income within the household. Most studies using consumption data rejected income pooling (Haddad, Hoddinott, and Alderman 1997). One of the central assumptions of the bargaining model is that pareto efficiency must hold within the household. However, studies using production data such as Jones (1983), Udry (1996), and Owens (2000) not only reject income pooling (thereby rejecting a unitary model of the household), but cast doubt on the validity of bargaining models.

Noncooperative Model

Noncooperative models of the household challenge the notion that members abide by a bargaining rule. Acknowledging the realities of family life, proponents of these models argue that enforcement problems, asymmetric information, and inefficiency form a better characterization of interactions within the household. Katz (1997) suggests that a number of empirical studies have revealed that members of the same household are often unaware of the other's earnings, assets, and time use. Enforcement of the marriage contract in many societies is informal, which may imply that invoking social norms is the only way to enforce cooperative solutions.

Two primary expositions of noncooperative models have been developed in the literature. The first is a Cournot-Nash framework in which members make decisions about individual labor supply and expenditures and take their partner's response as given. Lundberg and Pollak (1994) separate spheres model can be traced to this framework. There is no bargaining, instead, the utility maximizing strategy is such that each spouse takes the action of the other spouse as given. The lack of bargaining or noncooperation arises because the level of transaction costs (monitoring or information sharing and enforcement of contractual agreements) outweigh the gains to bargaining. In these models, members control separate spheres of influence and make unilateral decisions over allocation of these resources. The model assumes that in the absence of explicit bargaining, division of labor is largely based on gender roles. As a result, the household is depicted as a site of gender-specific economies linked by reciprocal claims on members' income, goods, and labor.

A second type of cooperative model is the principal-agent model that characterizes family relationships as an employee-employer or landlord-tenant relationship. Situations that describe men as having asymmetric control of productive factors and who use them to induce their wives to work on men's fields in exchange for meeting some reservation constraint may be characterized by this type of model. Because these models are not characterized by efficient allocations, households may not necessarily share risk. Thus, the ability to absorb risk will depend on the assets and resources available to individuals.

Summary

While attempts have been made at incorporating risk into unitary models, incorporating risk into bargaining or noncollective models is far more challenging, requiring a vast array of restrictive assumptions. Regardless of the underlying allocative process, the choice of risk

management strategies employed by the household and the degree to which it succeeds in confronting risk will have differential consequences on member welfare. Decisions made on the basis of gender or age will ultimately affect risk preferences. Preferences regarding risk will be affected by abilities to mitigate the effects of risk ex ante or to cope with the consequences of shock ex post. In many situations, women bear fewer productive assets and possess limited outside options for leaving a marriage, should obligations not be fulfilled. Social norms will affect women's opportunities for exercising their preferences within the household and can limit the possibility of pursuing outside options. Thus, differences in social roles between men and women will give rise to differences between them in preferences, responses, and outcomes regarding risk.

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