

Investments, bequests, and public
policy: intergenerational transfers and
the escape from poverty

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ABSTRACT

This paper develops a conceptual framework for understanding the role of intergenerational transfers in the intergenerational transmission of poverty, provides empirical evidence on key aspects of intergenerational transfers, and discusses the role of public policy in helping the poor accumulate assets and transfer them to the next generation.

While different types of wealth can be transferred intergenerationally by a multitude of actors, this paper is more narrowly focused on transfers of human and physical capital (assets), forms of wealth for which we have more empirical evidence. Section 2 consists of a conceptual framework that examines how families transfer wealth to children, and how the poor may face barriers to the transfer of such wealth. Section 3 illustrates various aspects of the conceptual framework using empirical evidence from developing countries, focusing on three themes: (1) the role of credit constraints in preventing optimal investments in human capital and asset transfers; (2) the role of gender differences in schooling and assets in perpetuating unequal lifetime incomes of men and women; and (3) the role of the marriage market and assortative matching in perpetuating asset inequality across families and intergenerationally. Section 4 examines the scope for public policy to relieve constraints to the accumulation and transfer of wealth to the next generation, bearing in mind the goals of reducing both poverty and inequality in the long run.

Keywords: intergenerational transfers, poverty, human capital, assets.

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1. Introduction

According to the Chronic Poverty Research Centre, the most enduring form of poverty is intergenerationally transmitted poverty (Hulme, Moore and Shepherd 2001). Unfortunately, we know much more about the transfer of wealth from one generation to the next than its mirror image. This paper attempts to contribute to our understanding of factors that prevent the accumulation and intergenerational transfer of wealth. While different types of wealth (human, financial, socio-cultural, socio-political, and environmental capital) can be transferred intergenerationally by a multitude of actors (Moore 2001), this paper is more narrowly focused on factors that impede the transfer of human and physical capital (assets), forms of wealth for which we have more empirical evidence. Section 2 consists of a conceptual framework that examines how families transfer wealth to children. I use this framework to highlight occasions when the opportunity to transfer wealth to the next generation may be lost due to 'stumbling blocks' faced by parents. Section 3 illustrates various aspects of the conceptual framework using empirical evidence from developing countries. It is organised around three themes that correspond loosely to life-cycle stages: (1) the role of credit constraints in preventing optimal investments in human capital (usually in childhood) and asset transfers (in adulthood); (2) the role of gender differences in schooling and assets in perpetuating unequal lifetime incomes of men and women (in adulthood); and (3) the role of the marriage market and assortative matching (also in adulthood) in perpetuating asset inequality across families and intergenerationally. Section 4 examines the scope for public policy in relieving constraints to the accumulation and transfer of wealth to the next generation, bearing in mind the goals of reducing both poverty and inequality in the long run.

2. A conceptual framework for understanding intergenerational transfers and the intergenerational transmission of poverty¹

2.1 Introduction

Most intergenerational transfers take place within the family.² Family members, often but not always parents, take decisions about the resources to be provided to their children to enable them to grow, learn, socialise and eventually become adult members of society.³ Most of the decisions taken while children are young are related to investment in human capital - not only investment in schooling, but also in child health and nutrition. As children marry and form their own households, decisions are taken regarding transfers of assets that enable them to form a new productive and social unit. Finally, as parents age and die, decisions are taken regarding old age support and the transfer of remaining assets to children. We take a broad view of intergenerational transfers to encompass both investment in human capital and asset transfers, and allow these to take place at any time during the child's life cycle. However, the transfer of wealth from one generation to the next can be blocked at any point by a multitude

¹ This conceptual framework is very similar to that in Hoddinott and Quisumbing (2003), but has been adapted to deal with intergenerational transfers. For a more extensive discussion of intergenerational transfers, see Behrman (1997).

² The term "family" designates a group of individuals related by marriage and consanguinity, which is different from the term "household," which is a group of individuals living together. While households are, in general, composed of family members, they may also include unrelated individuals (servants, visitors, fostered children). Families typically consist of multiple households related by blood or marriage but not necessarily living together.

³ Moore (2001) has argued that poverty can also be transmitted through "public" spheres of community, market and state. Since this paper aims to provide both a conceptual framework and empirical evidence, its focus is on the family, since the bulk of empirical evidence deals with familial transfers.

of factors and unexpected events, especially if they take place at vulnerable periods of the child's development.

This section outlines a basic analytical framework for understanding intergenerational transfers to children. Four building blocks underlie this approach:

- i) We assume that parents care about the well-being of their children, though we recognise that this may vary across children;
- ii) Parents take into account the extent to which these investments will make both their children and themselves better off in the future when choosing to invest in their children;
- iii) Parents' ability to undertake investments in their children is constrained by the resources – money and time – available to them, the prices they face, and their ability to trade off present versus future resources (indicating the presence of capital markets, or alternatively, credit constraints); and
- iv) Parents may disagree about these decisions; hence the ability of an individual parent to determine household decisions will also affect these investments.

These building blocks can be summarised as 'preferences', 'returns', 'constraints', and 'bargaining'.⁴

To analyse the intergenerational transmission of poverty, I look at the mirror image of this framework, that is, how 'stumbling blocks' corresponding to each of these building blocks can prevent the intergenerational transfer of wealth:

- i) Parents may care about the welfare of their children, but unequal preferences may lead to their favoring some children over others - for example, sons over daughters, older versus younger children, or biological versus foster children⁵;
- ii) Parents may perceive that 'returns' to investing in children are low, owing to high child mortality or few opportunities in the labor market, or that returns to investing in some children may be lower than in others (for example, if daughters leave the household upon marriage);
- iii) Parents may have limited resources, may find the costs of investing in children too high, and may be constrained by their ability to trade off present for future resources, which may be critical when they face adverse shocks; and
- iv) Parents may exercise their bargaining power in ways that may not be conducive to the transfer of wealth to their children, or to some of their children.

Most economic analyses of intergenerational transfers encompass elements (i) to (iii), and this framework, called a general parental consensus model by Behrman (1997), places few restrictions on the allocation of human resource investments and transfers to and among children. Two special cases of this model, the wealth model (Becker and Tomes 1976, 1979; Becker 1991) and the separable earnings-transfers (SET) model of Behrman et al. (1982) make stronger assumptions. Both models take the total resources that parents allocate to

⁴ Note that while we describe this framework in terms of parental decisions, not all children live with their parents. This framework applies equally to cases where children live with other relatives or foster carers or where the extended family is the decision-maker regarding transfers to children.

⁵ Of course, it is also possible that parents may not care about their offspring at all. Children may be abandoned, abused, or even killed by their parents. Parents may be ill-prepared for parenthood (especially in the case of early or unwanted pregnancies), or psychologically or physically unable to care for their children. These are important reasons why some children may be physically and/or psychologically scarred for life. Unfortunately, the economics literature is largely silent about these phenomena, except perhaps for the nascent literature on biological preferences and orphanhood, much of it (in developing country settings) motivated by the need to examine the consequences of the HIV/AIDS epidemic.

children as given, assume that parents make human capital investment decisions for children, and find that under imperfect capital markets, parents are not necessarily able to equalise the market rate of return on investments to the market rate of interest on financial assets.

More recent analyses of intergenerational transfers have taken into account the possibility that parents may not have equal preferences to transfer resources to children. Inspired by collective models of household behavior (see Haddad, Hoddinott and Alderman 1997 for a review), these studies have examined the differential impact of parental resources on the allocation of resources within the household. Behrman (1997) and Strauss and Thomas (1995, 1998) review this growing evidence; in developing countries, studies by Quisumbing (1994) and Estudillo, Quisumbing, and Otsuka (2001) in the Philippines, and by Quisumbing, Estudillo and Otsuka (2004) in Ghana, Indonesia, and the Philippines support the assertion that parents do not necessarily agree on the allocation of wealth transfers (land and schooling) between sons and daughters. Bargaining between parents, as suggested by (iv) above, will therefore affect the eventual allocation of transfers among members of the household.

2.2 Preferences

We assume that parents are altruistic; that is, they care about the well-being of their children both now and in the future. But while parents care about their children, it does not necessarily follow that parents care equally about all their children, nor does such equal concern imply that all children are treated equally. Accordingly, parental preferences may affect investments in children through two pathways. One pathway reflects the extent to which parents have equal concern for the well-being of their children; the second reflects the child outcomes that are of concern to parents.

Parents with 'equal concern' for all children are parents who value a given improvement in the well-being of any child equally. But not all parents' preferences can be described as being of equal concern. For example, in parts of south Asia where boys are valued more highly than girls (Miller 1997; Sen 1990) parents exhibit unequal concern in the sense that they value an improvement in a boy's well-being more highly than an equal improvement in a girl's well-being. A child's birth order also comes into play, interacting with the child's gender as well as family size. Family size is intimately linked with the stage of the parents' life cycle. First-born or low birth-order children may have parents who are less experienced with child-rearing, but later-born children have to share parental resources with more siblings. Indeed, siblings may compete for scarce parental resources, with male siblings often favored; Garg and Morduch (1998) and Morduch (2000) present evidence of this in rural Ghana. Children may thus end up doing better if their siblings are sisters, since in many societies, girls have less claim on parental resources, or, as in the case of Taiwan, older sisters may contribute to school fees for younger children (Parish and Willis 1993).⁶

The outcomes that parents value also influence the forms of investment made in children. The wealth model (Becker 1991, Becker and Tomes 1976) provides the basic framework for understanding this issue. In this model, human resource investments in children are both socially efficient (Pareto optimal) and privately efficient (wealth maximising). That is, altruistic parents will invest in the human capital of each child until the expected rate of return on each such human capital investment equals the market rate of interest. Each child need not receive the same wealth-maximising level of human capital, owing to differences in children's ability to benefit from these investments. These differences might reflect innate child characteristics – for example, some children may be more 'educable' (in the sense of being able to do well academically) than others – or may reflect societal norms and

⁶ Parents may also exhibit greater concern for children with closer genetic links, as the literature on orphans and child fostering suggests (e.g. Case, Lin, and McLanahan 2000).

constraints – for example, where there is gender discrimination in the labor market. Optimal distribution amongst offspring is then obtained via transfers of money and other assets to offset earnings differences.

However, this model results in efficient human levels of human resource investments only if parents devote enough resources to their children that there are positive transfers to at least one of them (Behrman, Pollak and Taubman 1995) and this may be unlikely in a poor developing country. Credit constraints may also prevent parents from investing optimally in their children's human capital, an issue we discuss more extensively below. Behrman, Pollak and Taubman (1982, 1995) suggest that when parents cannot fully compensate for unequal investments (brought about for the reasons described above), their investments in children will reflect a trade-off between equitable outcomes and the maximisation of expected incomes of all children. For example, in rural South India, Behrman (1988a, 1988b) finds that in the post-harvest season, when food is relatively plentiful, there is evidence of equal concern or aversion to inequality; by contrast, during the lean season, parents place greater weight on the returns to the provision of nutrients to children with the result that boys and older children are favored at the expense of girls and younger children.

2.3 Returns

The discussion in the previous section described 'returns' in terms of future earnings either in the labor market or working on one's own account in agriculture or in a non-agricultural enterprise. There is a considerable body of literature that documents the relationship between health, schooling and earnings.⁷ There may also be other forms of return. Where an individual's characteristics such as health and education matter in terms of the type of partner a child marries - the idea that there is 'assortative matching', there may be additional returns in the sense that children will enter into a 'better' marriage. This conveys benefits not only to the child, but also to the parents where such marriages represent an alliance of families, not individuals. Parents may transfer wealth strategically to their children at the time of marriage to ensure a better match.

In making these investments, parents might also be considering their own future well-being. As they age, they will increasingly require assistance – in the form of money, goods and services (such as care) – from their adult children. The knowledge that such assistance may be needed partly motivates their choice to have children and make investments in them, the 'old age security' motive for fertility (Leibenstein 1957, 1975; Cain 1981, 1986; Nugent 1985; Hoddinott 1992). Such a motive reflects two forms of market imperfections: in capital markets (Cigno 1991) and in the market for services such as care for the elderly and companionship (Cox 1987). Intergenerational transfers provide children with the financial means of caring for their elderly parents but also make children more independent of their parents. To ensure that they are not abandoned in their old age, parents may invest in the socialization of their children, setting out 'rules of conduct' to ensure that such transfers do take place (Cigno 1991).⁸ If potential returns in terms of transfers and caregiving are less from daughters in societies where girls 'marry out,' parents may be less inclined to invest in daughters, even if they may care equally for the welfare of daughters and sons.

Children may also provide an insurance function. In the absence of well-developed formal private sector insurance markets and governmental safety nets, insurance arrangements with family members may dominate because information is likely to be better for family

⁷ See the review in Hoddinott and Quisumbing (2003), and the extensive reviews in Strauss and Thomas (1995, 1998).

⁸ Alternatively, parents may make future transfers to children, such as bequests, contingent on the provision of attention, assistance and companionship; see Bernheim, Shleifer and Summers (1985); Hoddinott (1992).

members than for others.⁹ For such insurance to be effective, different family members need to be subjected to risks of different shocks that are not too highly positively correlated (Stark and Levhari 1982). Geographical distances tend to lessen the extent of positive correlations among many of these shocks. For this reason, migration of family members and exogamous marriages both have the potential to increase insurance possibilities. For example, Rosenzweig and Stark (1989) provide evidence of the role of marriage in consumption smoothing in India, while de la Brière et al. (2002) find that female migrants to the United States increase remittances in response to loss of work due to illness of their parents in the Dominican Republic.

2.4 Constraints

In developing and developed countries, parents face constraints resulting from limited time, money and the relationship between the factors that influence child development and outcomes such as schooling, health, nutrition, etc. Time and budget constraints are obvious factors that may limit the ability of parents to transfer resources to their children. Budget constraints reflect both decisions made by the household as well as exogenous factors. Decisions to work rather than undertake child care, to engage in wage work or agriculture or some form of own-business activity – and decisions regarding the amount of time spent in these activities – will influence household income. These decisions will be affected by household characteristics including education and assets such as land and capital goods. At the same time, returns to time spent in different types of work and the price of goods purchased by the household are typically beyond the control of the household. Wages in the labor market, prices for agricultural commodities, even the exchange rate, will affect household incomes. Budget constraints will also depend on the number, age, and other characteristics of other family members.

Because some transfers to children are 'lumpy', e.g. assets, credit constraints may have a particularly important role in parental strategies to invest in children. For example, parents will typically have to save to purchase assets that can be transferred to children, if they want to transfer more than the stock of assets they themselves inherited. Even in the case of schooling, a less lumpy investment, credit constraints matter. Becker and Tomes (1986) show that, in the presence of credit constraints, parents may not be able to equate the expected rate of return on each such human capital investment to the market rate of interest. The actual amount invested in each child will then be a function of parental income. If parental incomes are derived from past human capital investments and assets, and if children's lifetime incomes are derived from returns to their attained human capital, the presence of credit constraints provides a pathway by which parental assets can influence children's lifetime incomes and poverty status.

2.5 Bargaining

Implicit in the framework described above is the assumption that parents or other decision makers are in agreement regarding investments made in children and that they are willing to pool their resources in order to undertake these investments. Alderman et al. (1995) and Haddad, Hoddinott and Alderman (1997) describe this as a 'unitary model' because it assumes that parents act 'as one.' However, it is possible that parents disagree on the nature and the allocation of these investments across children. Where this is true, the ability of individual parents to impose their preferences – their bargaining power – also plays a role.

Bargaining power is affected by four sets of determinants: (1) control over resources, such as assets; (2) influences that can be used to influence the bargaining process; (3) mobilisation of interpersonal networks; and (4) basic attitudinal attributes. Economic analysis

⁹ For a developed-country example, see Altonji, Hayashi and Kotlikoff (1992).

of bargaining power has tended to focus on economic resources exogenous to labour supply as a major determinant of bargaining power. The threat of withdrawing both oneself and one's assets from the household, grants the owner of those assets some power over household resources. These threats are credible if supported by community norms or divorce laws; see, for example Thomas, Contreras and Frankenberg (2002) for Indonesia.

Factors that can influence the bargaining process include legal rights, skills and knowledge, the capacity to acquire information, education, and bargaining skills. Some of these influences are external to the individual (for example, legal rights), but many of them are highly correlated with human capital or education. In some instances, domestic violence can be used to extract resources from spouses or their families, as in the case of dowry-related violence in India (Bloch and Rao 2002). Individuals can also mobilise personal networks to improve their bargaining power. Membership in organizations, access to kin and other social networks, and 'social capital' may positively influence a person's power to affect household decisions. Lastly, basic attitudinal attributes that affect bargaining power include self-esteem, self-confidence, and emotional satisfaction.¹⁰

A variety of proxies for bargaining power have been used in the economics literature, including: (1) shares of income earned by women (Hoddinott and Haddad 1995); (2) unearned income (Thomas 1990; Schultz 1990); (3) current assets (Doss 1999); (4) inherited assets (Quisumbing 1994); (5) assets at marriage (Thomas, Contreras and Frankenberg 2002); and (6) the public provision of resources to specific household members (Lundberg, Pollak and Wales 1997; Rubalcava and Thomas 2002). All of these measures capture some dimension of bargaining strength, but only the relatively uncommon natural experiments related to public provision of resources are likely to be entirely exogenous to individual and household decisions.¹¹ Regardless of the specific measure used, most of these studies indicate that resources controlled by men and women significantly affect the allocation of resources to children.

For example, Thomas (1994) finds that in Brazil, Ghana and the United States, maternal education has a larger impact on the health of girls than on boys, with the reverse holding true for paternal education. He suggests that because girls (boys) substitute for activities performed by mothers (fathers), women (men) have an incentive to invest in girls (boys). By contrast, Haddad and Hoddinott (1994) find that in rural Cote d'Ivoire, increases in the share of household income accruing to adult women improves height given age for pre-school boys relative to girls. They argue that if women desire an equitable distribution of health amongst

¹⁰ While the economic literature has not dealt extensively with this issue, part of the success of group-based credit programs such as the Grameen Bank has been attributed to its group-based empowerment approach. Many NGOs have explicit empowerment objectives that go beyond economic means to include legal awareness, political participation, and use of contraception (Schuler, Hashemi and Riley 1997).

¹¹ For example, labour income, typically included in the calculation of income shares, is problematic because it reflects time allocation and labour force participation decisions that may have been the *result* of previous bargaining. Non-labour income, on the other hand, is more likely to be exogenous, though the assumption that it is independent of labour market decisions may not be true if a substantial portion comes from, for example, pensions, unemployment benefits, or earnings from accumulated assets. Current asset holdings are likely to be affected by asset accumulation decisions made during the marriage. Inherited assets, on the other hand, would be less likely to be influenced by decisions within marriage, particularly those inherited before the union. Inherited assets remain vulnerable to other potential 'endogeneity' problems, however. An example is if inheritances are correlated with individual unobservable characteristics, such as tastes or human capital investments in the individual, and these characteristics in turn influence the outcomes under study (Strauss and Thomas 1995). Also, they may be endogenous to the marriage as a result of marriage market selection (Foster 1998). Assets brought to marriage are a related set of indicators of bargaining power that are not affected by decisions made within the marriage, though they are susceptible to the same potential endogeneity problems as inheritances.

all children, and given the unequal health endowments of boys and girls (boys at very young ages are relatively less biologically robust), they will favour boys over girls. Second, elderly Ivorian women typically co-reside with at least one of their male offspring. Hence, the need for assistance in old age encourages women to skew relatively more resources under their control towards male offspring. Quisumbing and Maluccio (2003) find that while women's assets at marriage are reflected in higher expenditure shares for education in Bangladesh and South Africa, these allocations do not benefit boys and girls equally.¹² In Bangladesh, fathers' schooling has a negative effect on girls' schooling for both 6–10 year olds and 11–15 year olds; but fathers' and mothers' assets do not have differential effects on daughters relative to sons. In South Africa it is the opposite: fathers' schooling has a positive effect on girls' schooling while mothers' assets brought to marriage have a negative effect on girls. In Ethiopia, mothers with more assets invest preferentially in boys (Quisumbing and Maluccio 2003). Thus, in all three countries, the pattern is consistent with patterns of old age support, and thus may reflect the impact of potential returns as well as parental preferences. In contrast, in matrilineal Sumatra, Indonesia, mothers with more paddy land invest preferentially in sons' education, while better-educated fathers invest in their daughters' schooling. Mothers with more paddy land may invest less in their daughters' education since their paddy land will traditionally be bequeathed to daughters, whereas fathers, who normally engage in other non-farm activities in addition to cultivating their wife's family land, may benefit from having better-trained daughters.

2.6 Summary

This conceptual framework points to a multitude of factors that affect intergenerational transfers to children - and possible barriers that the poor may face in making such transfers of wealth. Parents, whether rich or poor, may have different preferences regarding the child in which to invest resources; when resources are scarce, these tradeoffs become starker. Expected returns in labour markets in marriage markets, and in terms of support to parents in their old age, may lead parents to invest differentially in sons versus daughters. Most important to the poor, household resources may be limited to begin with. Lastly, differences in the relative bargaining power of individual household members may reinforce patterns of discrimination embedded in parental preferences.

¹² In examining the impact of father's and mother's resources on allocations among sons and daughters within a family, it is important to control for unobserved family-level characteristics that may affect allocations between boys and girls. The appropriate analysis therefore involves family fixed-effects analysis, with the sample of families being restricted to those with more than one child, with at least one of either sex.

3. Empirical evidence on intergenerational transfers, lifetime incomes, and inequality

3.1 The impact of credit constraints on intergenerational transfers

There is abundant empirical evidence that, in the presence of credit constraints, parental resources – household income and socio-economic status – affect investments in children's human capital. Fewer parental resources mean lower investments in children. For example, in Peru and Vietnam, children from households with lower income and with fewer holdings of durable goods are more likely to fall behind in school (Jacoby 1994; Behrman and Knowles 1999). Evidence that household income is associated with increased years of completed schooling comes from countries as diverse as Malaysia (King and Lillard, 1987), Brazil (Levison, 1991), Indonesia (Deolalikar, 1993), and Peru (King and Bellew, 1991). In Sub-Saharan Africa, the education of the household head has a positive and significant effect on school enrollment, attendance and completion (Lloyd and Blanc 1996). Enrollment rates are 26 to 39 percentage points lower for household heads without schooling compared to household heads who have seven or more years of schooling. Competition from siblings for scarce parental resources plays a role as well: in Bolivia and Guatemala, for example, more siblings in the household increase the probability of grade repetition for children in primary school (Patrinos and Psacharapoulos 1992).

Owing to data limitations, what we know about the effects of parental resources on asset transfers is more limited. Not surprisingly, the available evidence shows that parents with lower levels of initial assets are less able to make larger asset transfers to children. This may arise due to credit constraints - poorer parents are less able to self-finance asset accumulation and eventual transfer of assets to children.

An alternative way of examining the impact of credit constraints is to examine what happens when households experience income shocks. A large literature on consumption smoothing (e.g. Hall and Mishkin 1982, Altonji and Siow 1987, Zeldes 1989, Townsend 1994) shows that if credit markets are perfect, households should be able to smooth consumption against idiosyncratic shocks. However, village-level insurance mechanisms are usually less able to smooth the impact of aggregate shocks. But poor households typically do not have the same access to the same consumption-smoothing opportunities enjoyed by the rich, such as borrowing and remittances (Skoufias and Quisumbing 2005). In the poorest households of urban Brazil, loss of earnings by the household head has adverse consequences on child time in school and grade advancement (Neri et al. 2000), with children more likely to working as a consequence. In rural India, households withdraw their children from school when experiencing shortfalls in crop income (Jacoby and Skoufias 1997).

There is relatively little evidence on impacts of credit constraints on intergenerational transfers of assets because longitudinal data linking parental credit constraint to asset transfers to children is scarce. Recent empirical evidence from a longitudinal study in Bukidnon, Philippines, however, suggests that the effects of credit constraints persist to the next generation (Quisumbing 2006). Parents who were credit constrained in the past (approximately 20 years ago) have lower levels of land and non-land assets in 2003, made significantly lower transfers of land and non-land assets to children, and have significantly lower levels of consumption expenditure per adult equivalent in 2003 compared to those who were unconstrained. Children whose parents were credit constrained in the past also have significantly lower levels of land and non-land assets, and significantly lower levels of consumption per adult equivalent. Related work by Gilligan (2006) on children's adult height and educational attainment confirms that parental credit constraints have an adverse impact on children's human capital. Individuals who spent their childhood in households that were credit constrained have significantly lower adult height and lower educational attainment than those whose households were unconstrained.

3.2 The impact of the intrahousehold distribution of transfers on lifetime incomes

Differences in the type and amount of wealth transferred by gender could also result in differences in lifetime incomes of men and women. While one could rashly predict that females are always worse off when it comes to intergenerational transfers and, therefore, lifetime incomes, whether the bestowal of different types of assets to sons and daughters sets one on a permanently lower income path depends very much on the social, cultural, and labour market environment. Quisumbing, Estudillo and Otsuka (2004) address this issue in the Philippines, Sumatra and Ghana: societies with very different social and cultural conditions. In the Philippines, which are characterised by bilateral kinship and inheritance, sons inherited more land, but daughters achieve higher educational attainment.¹³ In matrilineal Sumatra, land inheritance has traditionally favored women, although men have higher schooling attainments. With the introduction of agroforestry and the expansion of public schooling, respectively, sons are increasingly inheriting land that is suited to agroforestry, and the gender gap in schooling has narrowed. Finally, in Ghana, which has uterine matrilineal inheritance¹⁴, daughters are disadvantaged in both land transfers and schooling investments, although wives are increasingly receiving 'gifts' of land with strong private property rights from their husbands, if they help the husband establish a cocoa farm.

How have these differential bestowals of land and schooling affected lifetime incomes of men and women? Quisumbing, Estudillo and Ostuka (2004) estimated the impact of changing the distribution of land and education between sons and daughters on lifetime incomes, based on estimated coefficients of the effect of farm land and schooling on household incomes. In the Philippines, the smaller farm income of daughters due to smaller areas of inherited paddy land is almost exactly compensated by their larger non-farm incomes due to their higher schooling attainments. In the Sumatra sites, sons' and daughters' incomes are largely equalised, reflecting the rough equality of agricultural land inheritance and the equal level of schooling between sons and daughters. In the case of Ghana, however, women's income is significantly lower than men's. Such a persistent and significant income gap can be attributed largely to social discrimination against females in land transfers and schooling, even if the gap is decreasing through time. The authors conclude that in relatively egalitarian societies, such as the Philippines and Sumatra, lifetime incomes will tend to be equalised. Lifetime incomes will be systematically lower for women in societies where social discrimination against women persists.

It is difficult to generalise beyond these three countries because the patrilineal inheritance system is probably more dominant in the developing world as a whole. In the case of the three inheritance systems discussed above, women have both interests in and influence on land inheritance in one way or another. Thus, men and women negotiate to whom particular pieces of land should be transferred. In contrast, women are often excluded from land inheritance decisions in patrilineal communities. Micro-level studies in South Asia show significant pro-male bias in patrilineal societies: women have less access to land (Agarwal 1994), tend to receive significantly less schooling than men (Meier and Rauch 2000: 267), and receive significantly less food intake and provision of medical care (Haddad et. al. 1996). Moreover, the assertion that land inheritance and schooling can be close substitutes depends crucially on the ability of educated women to realise returns to schooling in non-farm jobs. Even if women have a higher probability of participating in the non-farm labour

¹³ In societies with bilateral kinship and inheritance, individuals consider both their father and mother's relatives as kin, and can inherit property from both their father and mother.

¹⁴ Traditionally, Akan households in this region have practiced uterine matrilineal inheritance, in which land is transferred from the deceased man to his brother or nephew (sister's son) in accordance with the decision of the extended family or matriclan. The preferred order of inheritance if a man dies intestate is: first, his uterine brother; second, if there is no uterine brother, the son of a uterine sister. The third option is one of the sons of the deceased mother's sister (Awusabo-Asare 1990). The type of matrilineal kinship system in Ghana is different from that in Sumatra, where property passes directly along the female line, from grandmothers, to mothers, to daughters.

market (as in the Philippines), they may still face strong barriers to attaining equal opportunities in the market and may have to confront sexual harassment and violence in the workplace. Moreover, if land bestows social status, power, and access to credit that education does not provide, the above calculations of economic returns may miss out on important non-measured social and economic returns (Floro 2006).

3.3 Assets at marriage and the marriage market¹⁵

3.3.1 Assortative matching

The above discussion has assumed that returns to parental investments are realised by individuals, not by couples. However, one of the most important occasions for intergenerational transfers is marriage, an event of deep economic importance in many agrarian settings. First, it typically marks the onset not only of a new household but also of a new production unit, e.g., a family farm. Assets brought to marriage determine the start-up capital of this new enterprise. Even if this new enterprise initially engages in joint production with the parents of one of the spouses, as is typical in many extended family settings, whether virilocal or uxorilocal, eventually the household will engage in its own independent productive activities.¹⁶ The success of this new household enterprise thus depends to a large extent on what happens in the 'marriage market', that is, on the arrangement reached by the bride and groom and their respective families regarding the devolution of assets to the newly formed household. Second, in an environment where asset accumulation takes time and is particularly difficult for the poor, assets brought to marriage play a paramount role in shaping the lifetime prosperity of newly formed households. Assortative matching between spouses – the rich marry the rich, the poor marry the poor – not only increases inequality, it also reduces social mobility due to intergenerational transfers of assets at marriage.¹⁷

Assortative matching is of interest to policymakers because of its effect on inequality, both within and among households. Fafchamps and Quisumbing (2005a) find that, to a large extent, the formation of new couples in rural Ethiopia is characterised by assortative matching. There is also substantial inequality in assets brought to marriage, with a Gini coefficient for all combined assets of 0.621. They also observe extreme inequality in assets brought to marriage by brides: most brides bring nothing while a few bring a lot. Gini coefficients for individual assets are higher than for total assets combined, the highest being for land, reflective of the high inequality in parental landholdings. They also find that the correlation between parental wealth and wealth at marriage is high, thereby suggesting relatively low intergenerational mobility. However, the correlation between assets at marriage and current assets is lower, indicating either that couples continue to accumulate assets over their married life, that bequests counteract some of the initial asset inequality at marriage, or that public redistribution policies (particularly the redistribution of land by Peasant Associations) have had an impact on current inequality. Combined with high inequality in assets brought to marriage, the pairing of prospective brides and grooms based on human capital favours the reproduction of rural inequality over time. This result is consistent with studies of earnings inequality elsewhere: Hyslop (2001), for instance, shows that in the United States assortative matching contributes over one-quarter of the level of permanent inequality, and 23 percent of the increase in inequality between 1979 and 1985.

¹⁵ This draws heavily from Fafchamps and Quisumbing (2006).

¹⁶ Residential patterns are virilocal if the newlyweds reside with the groom's family (or if the new family lives in the groom's village) and uxorilocal if the newlyweds reside with or near the bride's family.

¹⁷ There is ample empirical evidence in support of the assortative matching hypothesis (Montgomery and Trussell 1986; Fafchamps and Quisumbing 2006). Recent evidence also suggests that assortative matching on human capital attributes has increased relative to sorting based on parental wealth and physical capital (Quisumbing and Hallman 2006; Fafchamps and Quisumbing (2005a).

3.3.2 *Assets at marriage and impacts on the next generation*

In many developing countries, parents and the extended family are involved in the decision to marry. Since assets brought to marriage in large part come from the parents of the bride and groom, bequest considerations come into play as well. The empirical evidence strongly indicates that sons and daughters are not treated equally (Strauss and Thomas 1995; Behrman 1997). As indicated above, the extent of gender inequality in asset inheritance nevertheless varies across cultures, depending on patrilineal, matrilineal, or bilateral forms of kinship and inheritance (Quisumbing, Estudillo and Otsuka 2004). In many societies, marriage is also the occasion for large transfers of wealth between the family of the bride and that of the groom. 'Brideprice' refers to the case when assets are transferred from the groom's family to the bride's; when assets flow from the bride's family to the groom's, it is called a dowry. Others define dowry as a large transfer made to the daughter at the time of her marriage, regardless of whether it is controlled by her or by the groom's family (Botticini and Siow 2003).¹⁸

There are several explanations for the presence of dowry and brideprice.¹⁹ One explanation posits that dowries (or brideprices) are pecuniary transfers used to clear the marriage market. That is, when the supply of brides is larger than that of grooms, or grooms' attributes are valued more in the marriage market, dowries prevail. If relative values shift in favour of brides, or there is a relative shortage of brides, the system shifts over to brideprices. An alternative theory (Botticini and Siow 2003) posits that in virilocal (mostly agricultural) societies, parents provide dowries for daughters and bequests for sons in order to mitigate a free riding problem between their married sons and daughters. Since married sons live with their parents, they have a comparative advantage in working with the family assets relative to their sisters. If daughters leave home to marry, it will be difficult for them to claim parental assets upon their parents' death. The authors also argue that dowries will disappear as labour markets develop and children become less dependent on their family's assets for their livelihoods. As the demand for different types of occupation grows, parents will invest more in general rather than family-specific human capital. Instead of the dowry, parents will transfer wealth to both sons and daughters as human capital investments and bequests.

Dowries and brideprices also serve other functions besides market clearing and bequests.²⁰ Parents' bequest decisions may depend on their expectations regarding marriage market outcomes. For instance, if parents expect husbands to bring lots of assets to marriage, they may compensate by giving less to daughters and more to sons, themselves contributing to the observed pattern of bequeathing more to sons. Parents may also seek to strategically manipulate marriage market outcomes by increasing what they give to their child. For instance, parents may raise what they give to their daughter if doing so enables her to marry a higher ranked groom. Bidding for grooms can thus raise bequests from parents to children, as Fafchamps and Quisumbing (2005b) find in Ethiopia.

Regardless of the other functions of dowry and brideprice, what is probably most important for the intergenerational transmission of poverty is the extent to which there are gender differences in total assets brought to marriage, and the impact of these differences on investments in the next generation. In most societies for which we have data on assets at

¹⁸ There may also be other kinds of transfers, such as contributions to the cost of the wedding ceremony itself. These are relatively small compared to the value of assets ultimately transferred to the bride and groom.

¹⁹ See Goody (1973) for the classic anthropological treatment and Botticini and Siow (2003) for a review of economic explanations for dowry and brideprice.

²⁰ They can be used to increase the bargaining power within her new household, protecting her from domestic violence and ill-treatment by inlaws (Bloch and Rao 2002; Zhang and Chan 1999); they can guarantee sexual fidelity (Bishai et al. 2003). The timing of bridewealth payment can also serve a risk-smoothing function, as indicated by evidence from Zimbabwe (Hoogeveen, van der Klaauw and van Lommel 2003).

marriage, men bring more physical and human capital to marriage than women (Quisumbing and Maluccio 2003; Quisumbing and Hallman 2006).²¹ An analysis of trends in schooling, age, and assets at marriage in six developing countries shows that in all six countries, years of schooling at marriage have increased for husbands and wives (Quisumbing and Hallman 2006). In four out of six countries, grooms also seem to be bringing more physical assets to marriage.²² Over time, however, in three out of six countries, husband-wife gaps in schooling attainment at marriage have decreased - pointing to an equalisation of human capital at marriage.²³ Nevertheless, the distribution of assets at marriage continues to favor husbands. In three out of six countries, the husband-wife asset difference has not changed over time - and therefore continues to favour husbands - and has even increased in the two Latin American countries. Finally, transfers at marriage are increasingly favouring men in Bangladesh, while the gap in transfers at marriage is decreasing in South Africa.

The reduction of husband-wife gaps in age and schooling indicates a potential improvement in the balance of power within the family, but asset ownership continues to favour husbands. These findings from our data mirror changes in investment in human capital and asset ownership worldwide (Quisumbing and Meinzen-Dick 2001). In general, investment in women's human capital has improved markedly in the last 25 years: life expectancy has increased 20 percent faster for females than for males, fertility rates have declined, and gaps in educational attainment have begun to close. However, gender gaps in the physical assets and resources that can be commanded through available legal means continue to persist. In large part this is because of social and legal mechanisms that do not give women equal rights to own and inherit property, particularly land. Persistent differences in assets in favour of men have important implications for household well-being and the welfare of future generations, given recent findings that increasing women's status and control of assets have favourable effects on child nutrition and education (Hallman 2000; Quisumbing and Maluccio 2003; Smith et al. 2003).

²¹ Most of these data come from the International Food Policy Research Institute's research program on Strengthening Development Policy through Gender and Intrahousehold Analysis, and are publicly available from www.ifpri.org.

²² In the two countries where landholding information is not aggregated with total assets, husbands' land ownership at marriage remains constant in one case (Philippines) and declines in the other (Mexico). Land ownership at marriage by women is decreasing through time in the Philippines, and remains constant, though very low (less than 1 percent of sample wives) in Mexico. Asset values of husbands increase through time in four countries and remain constant in Ethiopia and the Philippines. Asset values of wives increase in three countries (Guatemala, Mexico, and South Africa), remain constant in Ethiopia and the Philippines, and decline in Bangladesh. (In the two countries for which Quisumbing and Hallman have data on marriage payments, trends have been in opposite directions: payments are increasing for husbands and decreasing for wives in Bangladesh, and decreasing for both in South Africa.)

²³ The exceptions are Guatemala and the Philippines, where the difference in years of schooling has not changed over time, and Ethiopia, where the difference is increasing. In the Philippines, there is no gender gap in schooling in this generation, while in urban Guatemala, women are likely to be better educated than their rural counterparts. The disturbing trend in Ethiopia is consistent with the levelling off of enrolment rates for girls and the persistence of gender gaps in education in sub-Saharan Africa, a consequence of lack of improvement in public educational facilities and high opportunity costs of education for girls.

4. Implications for public policy

The above discussion has highlighted aspects of the process of intergenerational transfers, as well as the constraints that parents face in making those transfers. For the poor, relieving those constraints will be important to allow the next generation to escape poverty. Strategies to break the intergenerational cycle of poverty should include both strategies to enable the poor to accumulate assets over time and preserve their asset base in the face of unexpected shocks, as well as strategies to enable the poor to transfer wealth to the next generation in an efficient and equitable manner.

4.1 Enabling the poor to accumulate assets over time

It is obvious that for the poor to transfer assets to the next generation, they have to be able to accumulate a stock of assets over and above the value of their lifetime consumption. Strengthening property rights will be important to help the poor accumulate assets over time. In many societies, the poor do not have legal rights to land or other forms of property. Without recognised property rights, it is difficult to make investments to sustain and improve one's asset base. It is also difficult to obtain access to formal financial markets, since formal loans typically require collateral. Governments may want to consider mechanisms to reduce initial costs for acquiring capital, which are usually prohibitively high for the poor. These include 'sweat equity' (contributing labour to asset-creation schemes), or group guarantees as collateral substitutes (as in the Grameen Bank's microfinance programmes). Groups also offer the opportunity to invest in social capital, although the acquisition of social capital, like other forms of capital, is not costless, requiring investment of time and, sometimes, financial resources. Other approaches may seek to help the poor accumulate assets for which initial costs are not prohibitively high (such as livestock), and use such initial asset accumulation as a springboard for accumulating larger assets. Governments (or private institutions) may also need to look into providing a whole spectrum of financial services that enable the poor to save (especially if there are positive shocks) and draw down on savings, if necessary, rather than liquidate assets in case of negative shocks.

4.2 Providing mechanisms to maintain the poor's asset base in case of negative shocks

Evidence from life histories (see Davis, 2005, for Bangladesh) suggests that asset accumulation is gradual and incremental, but shocks such as death and illness can lead to a rapid depletion of assets. Safety nets that enable the poor to smooth consumption - ranging from publicly provided health insurance, credit-cum-insurance schemes, as well as food-for-work - may protect the poor from temporary shocks that could otherwise lead to a permanent depletion of asset stocks. Studies of emergency assistance after droughts and floods in Ethiopia and Bangladesh, for example, indicate that well-targeted food assistance enabled poor households to attain pre-disaster levels of consumption and to restore their asset base (Gilligan and Hoddinott 2005; Quisumbing 2005).

4.3 Enabling the poor to invest in the next generation's human capital

As economies urbanise and employment shifts from agriculture to non-agriculture, investment in the next generation's human capital will increasingly become the most important type of intergenerational transfer that the poor can make. Scholarship programmes targeted to the poor, and conditional cash or food transfers to increase school and clinic attendance, can reduce the effective price of education to the poor. While these can be targeted to increase schooling of children, regardless of gender (see Ahmed and del Ninno 2002 on Bangladesh's Food for Education programme), they often yield larger impacts

on girls' education, and can also be targeted to girls (e.g. providing greater incentives to girls). Other approaches that have shown promise both for reaching the poor as well as promoting gender equality in education are: (1) reducing prices and increasing physical access to services; (2) improving the design of service delivery; and (3) investing in time-saving infrastructure (King and Alderman 2001; World Bank 2001).

4.4 Enabling the poor to continue investing in human capital even if they are credit constrained or if shocks occur

Credit constraints prevent the poor from investing optimally in human capital because they cannot borrow to finance human capital investments, they may withdraw children from school in case of income or other shocks, and they may have to send children to work to increase family incomes in the short run. Conditional cash transfers not only provide income transfers to the poor, but may provide a safety net to prevent them from withdrawing children from school in case of shocks. De Janvry, Finan, Sadoulet and Vakis (2006) provide evidence from PROGRESA in Mexico; Gitter (2005) provides similar evidence for Nicaragua. The Red de Proteccion Social, the Nicaraguan conditional cash transfer programme, helped to substantially increase school enrollments; the impacts of this program were greatest for credit constrained households that were experiencing an economic shock.

4.5 Enabling the poor to transfer assets to the next generation through legally sanctioned, transparent, and equitable mechanisms

The reform of property rights systems and the legal framework is crucial to enabling the poor to transfer assets to the next generation. If property rights are weak and are contested, assets may not be transferable to the next generation. Often, statutory and customary law may not be consistent. Transparency of inheritance law may be a prerequisite for enabling the poor to assert their claims in court. Moreover, poor claimants often do not have the resources or legal know-how to assert their property rights, and in developing countries, formal legal systems may well be biased against the poor. Assuring claims to common property across generations may also be critical to ensuring sustainable natural resource management.

The difficulty of ensuring equity in intergenerational transfers is well illustrated by persistent gender disparities in inheritance, particularly land inheritance. Gender disparities in the inheritance of natural and physical capital persist partly because the legal framework supports property rights systems that are biased against women (Quisumbing and Meinzen-Dick 2001; Gopal 2001). Thus, legal reform is necessary to change statutory laws to strengthen women's entitlements, and to increase the enforceability of their claims over natural and physical assets. Land titling is often mentioned as a solution to gender disparities in land rights. However, land titling is feasible only if land rights are sufficiently individualised, and many programmes have failed largely due to premature implementation. If titling programmes are implemented, they must pay special attention to the gender issue. If men are traditionally owners of land, land titling may strengthen their land rights at women's expense. To be fair, men and women should be equally qualified to acquire land titles, or titles could be awarded jointly to men and women.

Women should be able not only to hold a title to land, but also to inherit land. In many traditional societies, women may be left without property if their husbands die without leaving a will. In Ghana, widows' property rights were strengthened with the promulgation of the Intestate Succession Law (PNDCL 111) in 1985, which provides for the following division of the farm: three-sixteenths to the surviving spouse, nine-sixteenths to the surviving children, one-eighth to the surviving parent, and one-eighth in accordance with customary inheritance law (Awusabo-Asare 1990; Quisumbing, Payongayong, Aidoo, and Otsuka 2001). However, the effectiveness of legal reforms also depends on women's knowledge of the provisions of

the law and their ability to enforce their claims in court. While improving women's land rights is conducive to both increased gender equity and production efficiency, it is not enough. Transferring ownership of land to women is unlikely to raise productivity if access to and use of other inputs remain unequal.

The gender issue in asset inheritance is important not only because of equity considerations, but also because it has important implications for the transfer of wealth to the next generation. In the face of the HIV/AIDS epidemic in Sub-Saharan Africa, a widow may be forced to leave her husband's village upon his death and therefore have no control over land and other assets used jointly. In some cultures, 'widow inheritance,' in which a woman is expected to marry the brother of the deceased, is the only way she can retain rights to her husband's land. However, such practices place women at even greater risk of acquiring the disease (Drimie 2003; Strickland 2004; Gillespie and Kadiyala 2005). Increasing evidence has also shown that assets controlled by women often result in increased investments in the next generation's health, nutrition, and schooling (Quisumbing and Maluccio 2003; Smith et al. 2003). Preventing the intergenerational transmission of poverty may therefore involve a two-pronged solution of making opportunities to acquire and transfer assets more equitable across households, as well as reducing inequality in the control of resources within the household.

References

- Agarwal, Bina. (1994) *A Field of one's own: Gender and land rights in South Asia*. Cambridge, UK: Cambridge University Press.
- Ahmed, A. U., and del Ninno, C. (2002) Food for Education Program in Bangladesh: An evaluation of its impact on educational attainment and food security. Food Consumption and Nutrition Division Discussion Paper 138. Washington, D.C.: International Food Policy Research Institute.
- Alderman, H., Chiappori P-A., Haddad L., Hoddinott J., and Kanbur R. (1995). Unitary Versus Collective Models of the Household: Time to Shift the Burden of Proof? *World Bank Research Observer* Vol. 10, pp. 1-19.
- Altonji, J. G. and Siow, A. (1987) Testing the Response of Consumption to Income Changes with (Noisy) Panel Data. *Quarterly Journal of Economics*, Vol. 102, pp. 293-328.
- Altonji, J., Hayashi, J., and Kotlikoff, L. (1992) Is the extended family altruistically linked? New tests based on micro data. *American Economic Review* 82 (5): 1177-1198.
- Awusabo-Asare, K. (1990) Matriliney and the new intestate succession law of Ghana. *Canadian Journal of African Studies* 24 (1): 1-16.
- Becker, G. (1991) *A Treatise on the Family* (second edition), Cambridge, MA: Harvard University Press.
- Becker, G. and Tomes, N. (1976) Child Endowments and the Quantity and Quality of Children, *Journal of Political Economy* 84, S143-162.
- Becker, G. S. and Tomes, N. (1979) An equilibrium theory of the distribution of income and intergenerational mobility. *Journal of Political Economy* 87 (6): 1153-1189.
- Becker, G. S. and Tomes, N. (1986) Human capital and the rise and fall of families. *Journal of Labor Economics* 4: S1-S39.
- Behrman, Jere R. (1997) "Intrahousehold Distribution and the Family," in Mark R. Rosenzweig and Oded Stark, eds., *Handbook of Population and Family Economics*, Amsterdam: North-Holland Publishing Company, 107-168.
- Behrman, J. (1988a) Intrahousehold Allocation of Nutrients in Rural India: Are Boys Favored? Do Parents Exhibit Inequality Aversion? *Oxford Economic Papers*, 40:32-54,.
- Behrman, J. (1988b) Nutrition, health, birth order and seasonality: Intrahousehold allocation in rural India. *Journal of Development Economics*, 28:43-63,.
- Behrman, Jere R. and Knowles, J. C. (1999) Household Income and Child Schooling in Vietnam, *World Bank Economic Review* 13:2, 211-256.
- Behrman, J., Pollak, R. and Taubman, P. (1982) Parental Preferences and Provision for Progeny, *Journal of Political Economy* 90: 52-73.
- Behrman, J., Pollak, R. and Taubman, P. (1995) The Wealth Model: Efficiency in Education and Equity in the Family," in J. Behrman, R. Pollak, and P. Taubman, *From Parent to Child: Intrahousehold Allocations and Intergenerational Relations in the United States*, Chicago, IL: University of Chicago Press.

- Bernheim, D., Shleifer, A., and Summers, L. H. (1985) "The Strategic Bequest Motive." *Journal of Political Economy* 93 (6): 1045-1076.
- Bishai, D., Pariyo, G. and Hill, K. (2003) Far above rubies: The association between bride price and extramarital liaisons in Uganda. Unpublished paper, Department of Population and Family Health Sciences, Johns Hopkins Bloomberg School of Public Health.
- Bloch, F. and Rao, V. (2002) Terror as a bargaining instrument: A case study of dowry violence in rural India. *American Economic Review* 92 (4): 1029–1043.
- Bottinici, M. and Siow, A. (2003) Why dowries? *American Economic Review*, 93 (4): 1385-98.
- Cain, M. (1981) Risk and insurance: Perspectives on fertility and agrarian change in India and Bangladesh. *Population and Development Review*, 7: 435-474.
- Cain, M. (1986) The consequences of reproductive failure: Dependence, mobility and mortality among elderly of rural South Asia. *Population Studies*, 40: 375-388.
- Case, A., Lin, I.-F. and McLanahan, S. (2000) How hungry is the selfish gene? *Economic Journal* 110 (466): 781-804.
- Cigno, A. (1991) *Economics of the Family*, Oxford: Oxford University Press.
- Cox, D. (1987) Motives for Private Income Transfers. *Journal of Political Economy*, 95: 508-546.
- Davis, P. (2005) Power-Resources and Social Policy in Bangladesh: A Life-History Perspective, DPhil thesis, University of Bath.
- De Janvry, A., Finan, F., Sadoulet, E. and Vakis, R. (2006) Can conditional cash transfers serve as safety nets in keeping children in school and from working when exposed to shocks? *Journal of Development Economics* 79: 349-373.
- De la Brière, B., Sadoulet, E., de Janvry, A. and Lambert, S. (2002) The Roles of Destination, Gender and Household Composition in Explaining Remittances: An Analysis for the Dominican Sierra, *Journal of Development Economics* 68, 309-328.
- Deolalikar, A. (1993) Gender differences in the returns to schooling and in school enrolment rates in Indonesia. *Journal of Human Resources* 28 (4): 899-932.
- Doss, C. R. (1999) 'Intrahousehold resource allocation in Ghana: The impact of the distribution of asset ownership within the household,' in Peters, G. H., and von Braun, J. (eds.), *Food security, diversification and resource management: Refocusing the role of agriculture?* Dartmouth Publishing, Aldershot, UK.
- Drimie, S. (2003) HIV/AIDS and Land: Case studies from Kenya, Lesotho, and South Africa. *Development Southern Africa* 20 (5): 647-658.
- Estudillo, J., Quisumbing, A. R. and Otsuka, K. (2001) Gender Differences In Land Inheritance, Schooling, and Lifetime Income: Evidence from the Rural Philippines, *Journal of Development Studies* Vol.37, No.4, April 2001, pp.23-48.
- Fafchamps, M. and Quisumbing, A. R. (2005a) Marriage, Bequest, and Assortative Matching in Rural Ethiopia, *Economic Development and Cultural Change* 53(2): 347-380.

- Fafchamps, M., and Quisumbing, A. R. (2005b) Assets at Marriage in Rural Ethiopia, *Journal of Development Economics* 77 (1): 1-25.
- Fafchamps, M. and Quisumbing, A. R. (2006) Household formation and marriage markets, *Handbook of Development Economics*, T. P. Schultz, ed., forthcoming.
- Floro, M. S. (2006) Review of Quisumbing, Agnes R., Jonna P. Estudillo and Keijiro Otsuka. 2004. *Land and Schooling: Transferring Wealth Across Generations*. Baltimore, MD: Johns Hopkins University Press, *Feminist Economics* January/April 2006: 307-312.
- Foster A. (1998) 'Marriage market selection and human capital allocations in rural Bangladesh' mimeo, University of Pennsylvania, Philadelphia, PA.
- Garg, A. and Morduch, J. (1998) Sibling Rivalry and the Gender Gap: Evidence from Child Health Outcomes in Ghana, *Journal of Population Economics* Vol. 11 (4): 471-93.
- Gillespie, S. and Kadiyala, S. (2005) HIV/AIDS and Food and Nutrition Security: From Evidence to Action, *Food Policy Review* 7, Washington, D.C.: International Food Policy Research Institute.
- Gilligan, D. (2006) Credit Constraints, Childhood Nutritional Status, and Adult Nutrition Outcomes, Unpublished manuscript, International Food Policy Research Institute, Washington D.C.
- Gilligan, D. and Hoddinott, J. (2005) The Impact of Food Aid on Consumption and Asset Levels in Rural Ethiopia. Unpublished manuscript, International Food Policy Research Institute, Washington D.C.
- Gitter, S. (2005) Conditional cash transfers, credit, shocks, and education: An impact evaluation of Nicaragua's RPS. Unpublished paper, Department of Agricultural and Applied Economics, University of Wisconsin-Madison.
- Goody, J. R. (1973) Bridewealth and dowry in Asia and Eurasia. In J. Goody and S. J. Tambiah. *Bridewealth and Dowry*. Cambridge: Cambridge University Press.
- Gopal, G. (2001) Law and legal reform. In A. R. Quisumbing and R. S. Meinzen-Dick (eds). *Empowering women to achieve food security*, 2020 FOCUS 6. Washington, D.C.: International Food Policy Research Institute.
- Haddad, L. and Hoddinott, J. (1994) Women's Income and Boy-Girl Anthropometric Status in the Cote d'Ivoire, *World Development* Vol. 22(4), pp. 543-554.
- Haddad, L. J., Pena C., Nishida C., Quisumbing A. R. and Slack, A. (1996) Food security and nutrition implications of intrahousehold bias: A review of literature. Food Consumption and Nutrition Division Discussion Paper No.19. Washington, D.C.: International Food Policy Research Institute.
- Haddad, L., Hoddinott, J. and Alderman, H. (eds.) (1997) *Intrahousehold Resource Allocation: Methods, Models, and Policy*, Baltimore, MD: The Johns Hopkins University Press for the International Food Policy Research Institute.
- Hall, R. E. and Mishkin, F. S. (1982) The Sensitivity of Consumption to Transitory Income: Estimates from Panel Data on Households, *Econometrica*, Vol. 50, pp. 461-481.

- Hallman, K. (2000) Mother-father resource control, marriage payments, and girl-boy health in rural Bangladesh. Food Consumption and Nutrition Division Discussion Paper 93. International Food Policy Research Institute, Washington, D.C.
- Hoddinott, J. (1992) Rotten kids or manipulative parents? Are children old age security in western Kenya?" *Economic Development and Cultural Change*, 40: 545-565.
- Hoddinott, J. and Haddad, L. (1995) Does female income share influence household expenditures? Evidence from Cote D'Ivoire, *Oxford Bulletin of Economics and Statistics*, Vol. 57, pp. 77–95.
- Hoddinott, J. and Quisumbing, A. R. (2003) Investing in children and youth for poverty reduction. Unpublished manuscript, International Food Policy Research Institute, Washington D.C.
- Hoogeveen, H., van der Klaauw, B., and van Lommel, G. (2003) On the timing of marriage, cattle, and weather shocks in rural Zimbabwe. Technical Report, World Bank Policy Research Working Paper 3112.
- Hulme, D., Moore, K., & Shepherd, A. (2001) Chronic poverty: meanings and analytical frameworks, CPRC Working Paper 2.
- Hyslop, D. (2001) Rising US earnings inequality and family labor supply: The covariance structure of intrafamily earnings. *American Economic Review* 91 (4): 755-777.
- Jacoby, H. G. (1994) Borrowing constraints and progress through school: evidence from Peru. *Review of Economics and Statistics*, 76:151-160.
- Jacoby, H. G., and E. Skoufias. 1997. Risk, financial markets, and human capital in a developing country. *Review of Economic Studies* 64 (3): 311-335.
- King, E. and Alderman, H. (2001) Education. In A. R. Quisumbing and R. S. Meinzen-Dick (eds.) *Empowering women to achieve food security*, 2020 FOCUS 6. Washington, D.C.: International Food Policy Research Institute.
- King, E. and Bellew, R. (1991) Gains in the Education of Peruvian Women, 1920-1980. IN Barbara Herz and Shahidur Khandker, eds. *Women's Work, Education and Welfare in Peru*. Washington: World Bank, pp. 205-232.
- King, E. M. and Lillard, L. A. (1987) Education policy and schooling attainment in Malaysia and the Philippines. *Economics of Education Review* 6: 67-181.
- Leibenstein, H. (1957) *Economic Backwardness and Economic Growth*. New York: Wiley.
- Leibenstein, H. (1975) The economic theory of fertility decline. *Quarterly Journal of Economics* 89:1-31.
- Levison, D. (1991) Children's Labor Force Activity and Schooling in Brazil, University of Michigan dissertation.
- Lloyd, C.B. and Blanc, A. K. (1996) Children's Schooling in sub-Saharan Africa: The Role of Fathers, Mothers and Others. *Population and Development Review*, vol., issue 2, pp 265-298.

- Lundberg, S., Pollak, R. and Wales, T. J. (1997) Do husbands and wives pool their resources? Evidence from the United Kingdom child benefit, *Journal of Human Resources*, Vol. 32, pp. 463–80.
- Meier, G. and Rauch, J. R. (2000) *Leading issues in economic development*, 7th ed. Oxford: Oxford University Press.
- Miller, B. (1997) *The endangered sex: Neglect of female children in rural North India*. Delhi: Oxford University Press.
- Montgomery, M. and Trussell, J. (1986) Models of marital status and childbearing. *Handbook of Labor Economics*, Vol. 1. Elsevier Science, pp. 928-956.
- Moore, K. (2001) Frameworks for understanding the inter-generational transmission of poverty and well being in developing countries. CPRC Working Paper 8. Manchester, IDPM/Chronic Poverty Research Centre (CPRC).
- Morduch, J. (2000) Sibling Rivalry in Africa. *American Economic Review* Vol. 90 (2): 405-409.
- Neri, M. C., Gustafsson-Wright, E., Sedlacek, G., da Costa, D. R. and Carvalho, A. P. (2000) Microeconomic Instability and Children's Human Capital Accumulation: The Effects of Idiosyncratic Shocks to Father's Income on Child Labor, School Drop-Outs and Repetition Rates in Brazil, *Ensaio Econômicos da EPEGE* 394. Escola de Pós-Graduação em Economia, Rio de Janeiro.
- Nugent, J. (1985) The old age security motive for fertility. *Population and Development Review*, 11: 75-97.
- Parish, W. and Willis, R. (1993) Daughters, education, and family budgets: Taiwan experiences. *Journal of Human Resources* 28 (4): 962-898.
- Patrinos, H.A. and Psacharopoulos, G. (1992) Socioeconomic and Ethnic Determinants of Grade Repetition in Bolivia and Guatemala. Policy Research Working Paper Series 1028, World Bank, Washington, D.C.
- Quisumbing, A. R. (1994) Intergenerational transfers in Philippine rice villages: Gender differences in traditional inheritance customs. *Journal of Development Economics*, 43:167-196, 1994.
- Quisumbing, A. R. (2005). A drop in the bucket? The impact of food aid after the 1998 floods in Bangladesh. Unpublished paper (January 2005).
- Quisumbing, A. R. (2006) The long-term impact of credit constraints on assets, intergenerational transfers, and consumption: Evidence from the rural Philippines. Unpublished paper, International Food Policy Research Institute, Washington D.C.
- Quisumbing, A. R. and Maluccio, J. A. (2003) Resources at marriage and intrahousehold allocation: Evidence from Bangladesh, Ethiopia, Indonesia, and South Africa. *Oxford Bulletin of Economics and Statistics* 65 (3): 283–328.
- Quisumbing, A. R. and Meinzen-Dick, R. S. (2001). Overview. In A. R. Quisumbing and R. S. Meinzen-Dick (eds.) *Empowering Women to Achieve Food Security*, 2020 FOCUS 6, Washington, DC: International Food Policy Research Institute.

- Quisumbing, A. R. and Hallman, K. (2006) Marriage in Transition: Evidence on Age, Education, and Assets from Six Developing Countries, in Lloyd, Cynthia B., Jere R. Behrman, Nelly P. Stromquist, and Barney Cohen (eds.) *The Changing Transitions to Adulthood in Developing Countries: Selected Studies*, Panel on Transitions to Adulthood in Developing Countries, Committee on Population, Division of Behavioral and Social Sciences and Education, Washington, DC: National Academies Press.
- Quisumbing, A. R., Estudillo, J. P. and Otsuka, K. (2004) Land and Schooling: Transferring Wealth Across Generations. Baltimore, MD: Johns Hopkins University Press for the International Food Policy Research Institute.
- Quisumbing, A. R., Payongayong, E., Aidoo, J. B. and Otsuka, K. (2001) Women's Land Rights in the Transition to Individualized Ownership: Implications for the Management of Tree Resources in Western Ghana. *Economic Development and Cultural Change* 50(1): 157-182.
- Rao, V. (1993) The rising price of husbands: A hedonic analysis of dowry increases in rural India. *Journal of Political Economy* 101 (4): 666-677.
- Rosenzweig, M. R. and Stark, O. (1989) Consumption smoothing, migration, and marriage: Evidence from rural India. *Journal of Political Economy* 97(4): 905-926.
- Rubalcava, L. and Thomas, D. (2002) Family bargaining and welfare, mimeo, RAND, Santa Monica, CA.
- Schuler, S. R., S. M. Hashemi, and A. P. Riley. 1997. Men's violence against women in rural Bangladesh: Undermined or exacerbated by microcredit programs? Paper presented at the 1997 Annual Meetings of the Population Association of America, Washington, D.C., March.
- Schultz, T. P. (1990) Testing the neoclassical model of family labor supply and fertility. *Journal of Human Resources* 25 (4): 599-634.
- Sen, A. (1990) More than 100 million women are missing. *New York Review of Books*, 37, pp. 61-66.
- Skoufias, E. and Quisumbing, A. R. (2005) Consumption insurance and vulnerability to poverty: A synthesis of the evidence from Bangladesh, Ethiopia, Mali, Mexico and Russia. *European Journal of Development Research* 17(1): 24-58.
- Smith, L. C., Ramakrishnan, U., Haddad, L., Martorell, R., and Ndiaye, A. (2003) The Importance of Women's Status for Child Nutrition in Developing Countries. Research Report No. 133. International Food Policy Research Institute, Washington, D.C.
- Stark, O. and Levhari, D. (1982) On migration and risk in LDCs. *Economic Development and Cultural Change* 31(1): 191-6.
- Strauss, J. and Thomas, D. (1995) Human Resources: Empirical Modeling of Household and Family Decisions. in Jere R. Behrman and T.N. Srinivasan (eds.) *Handbook of Development Economics*, Volume 3A, Amsterdam: North-Holland Publishing Company, pp. 1883-2024.
- Strauss, J. and Thomas, D. (1998) Health, Nutrition, and Economic Development. *Journal of Economic Literature* Vol. 36(2), pp. 766-817.

Strickland, R. (2004) To have and to hold: Women's property and inheritance rights in the context of the HIV/AIDS in Sub-Saharan Africa. International Center for Research on Women Working Paper.

Thomas, D. (1990) Intrahousehold resource allocation: An inferential approach. *Journal of Human Resources* 25 (4): 635–64.

Thomas, D. (1994) Like Father, Like Son; Like Mother, Like Daughter: Parental Resources and Child Height. *Journal of Human Resources* Vol. 29(4), pp. 950-989.

Thomas, D., Contreras, D. and Frankenberg, E. (2002) Distribution of power within the household and child health, mimeo, RAND, Santa Monica, CA.

Townsend, R. (1994) Risk and Insurance in Village India. *Econometrica* 62: 539-591.

World Bank 2001. *Engendering development through gender equality in rights, resources, and voice*. World Bank Policy Research Report. Washington, D.C.

Zeldes, S. P. (1989) Consumption and Liquidity Constraints: An Empirical Investigation. *Journal of Political Economy* 97: 305-346.

Zhang, J. and Chan, W. (1999) Dowry and wife's welfare: A theoretical and empirical analysis. *Journal of Political Economy* 107 (4): 786-808.