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# Intrahousehold Bargaining and Resource Allocation in Developing Countries<sup>1</sup>

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*Many key development outcomes depend on women's ability to negotiate favorable intrahousehold allocations of resources. Yet it has been difficult to clearly identify which policies can increase women's bargaining power and result in better outcomes. This paper reviews both the analytical frameworks and the empirical evidence on the importance of women's bargaining power. It argues that there is sufficient evidence from rigorous studies to conclude that women's bargaining power does affect outcomes. But in many specific instances, the quantitative evidence cannot rigorously identify causality. In these cases, a combination of quantitative and qualitative evidence may suggest policy levers. Taken together, there are sufficient data in place to support a greatly expanded focus on intrahousehold outcomes and bargaining power. Additional data at the individual level will allow for further and more detailed research. A growing literature supports the current conventional wisdom – namely, that the patterns of evidence suggest that women's education, incomes, and assets all are important aspects of women's bargaining power. JEL codes: O12, O20, R2*

Over the past several decades, development policy makers have grown increasingly aware of the importance of gender issues to development effectiveness. One of the central messages from research on gender is that many key development outcomes seem to depend on women's ability to negotiate favorable intrahousehold allocations of resources. The development literature suggests that women's bargaining power within households is linked to variables such as the health and education of children and the general well-being of women and girls. In addition, women's bargaining power may affect many aspects of household production, including the allocation of labor to activities such as housework, agricultural work, and wage work. Since the 1980s, researchers and practitioners have made the

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case that the dynamics of household decision making and resource allocation play a central role in mediating the impact of many projects and policies.

In response to these concerns, academics have developed a number of theoretical models of the household and have conducted extensive empirical work to understand intrahousehold bargaining processes. However, policy makers find it difficult to digest this literature and to fully understand its implications for project planning and evaluation. This paper examines the quantitative empirical literature on intrahousehold resource allocation. The paper explains why the literature has struggled to arrive at definitive conclusions, and it identifies insights, lessons, and implications for policy makers.

The paper begins by reviewing the analytical frameworks for intrahousehold issues. Because this intrahousehold literature is quite heterogeneous, it is useful in each instance to consider the “players” in the bargaining negotiations. In addition to bargaining between spouses, bargaining may exist between parents and children and various other members of the household. The academic literature has focused on finding rigorous ways to demonstrate causality, and the next section focuses on the challenges of proving causation rather than simply correlation. Next, the paper turns to the empirical measures of bargaining power that have been used, followed by a discussion of the types of outcomes that have been shown to be affected by women’s bargaining power. A central question is how different outcomes are affected by women’s bargaining power. The paper concludes by explaining how policy makers can effectively use the findings.

## Frameworks for Empirical Work on Intrahousehold Issues

A range of empirical research focuses on issues of intrahousehold bargaining, resource allocation, and decision making. Although some research explicitly analyzes intrahousehold bargaining, other research implicitly considers bargaining while examining the impact of a variety of factors on household outcomes. In broad terms, the research falls into four categories: (1) tests of the unitary model of the household, (2) tests of efficiency in household allocations, (3) empirical estimates of the determinants of resource allocation within the household, and (4) experiments that are designed to provide an understanding of the processes of intrahousehold decision making. Each of these strands of literature asks different questions and provides different information.

### *Testing the Unitary Model of the Household*

Early models of the household assumed a unitary framework; in other words, they treated the household as a single production or consumption unit. This

approach simply assumes away all of the dynamics of decision making within the household. Generally, a unitary model implies that the distribution of income or assets or other measures of bargaining power within the household (holding all else constant) does not affect outcomes. Qualitative research and field experiences have challenged these notions, and theoretical models have been developed that use a bargaining framework. An extensive body of literature developed to demonstrate the variety of circumstances under which the unitary model did not hold.<sup>2</sup>

Early work focused on demonstrating that the unitary model was not appropriate by testing its predictions. Typically, these papers presented evidence that the outcomes of households' decisions were affected by the allocation of resources within the household in ways that violated the predictions of the unitary model. For example, the unitary model predicts that the outcomes of household decisions should depend only on total household income and should not be affected by the distribution of individual shares of income within the household. In 1995, Alderman et al. argued that it was time to "shift the burden of proof." They claimed that there was sufficient evidence against the unitary model of the household such that anyone who used it should be expected to justify that its use was appropriate for the analysis and understanding of a particular situation.

New theoretical work developed three broad categories of models of household decision making: cooperative bargaining models, collective models, and noncooperative bargaining models.<sup>3</sup> Cooperative bargaining models use a game theoretic model of the household in which bargaining power is a function of the outside options of the two bargaining individuals. The individual's outside option is the welfare that he or she would receive if he or she were not a member of the household. The critical insight that these models offer is that policies that change the external options of individuals will affect their bargaining power within the household and thus will affect outcomes. For example, a policy that increases women's wages may increase women's bargaining power within the household regardless of whether a woman actually works in the paid labor force. Similarly, strengthening women's rights upon divorce gives women more bargaining power within marriage.

Cooperative bargaining models are a subset of models broadly labeled collective models. They assume that households can at least achieve Pareto efficiency; in other words, the outcome is one in which no one could be better off without making someone else in the household worse off. In collective models, the sharing rule can be identified from the data, allowing for different preferences and various outside factors to affect this rule. These collective models provide insights into how to test and reject unitary models.

### *Testing for Efficiency*

A final broad category of household models consists of noncooperative models. These models do not assume that the household reaches Pareto-efficient allocations in either production or consumption. Instead, this literature offers a framework for testing whether households attain efficient allocations. A series of empirical papers have tested the efficiency assumptions of both the cooperative bargaining models and the collective models. Some of these papers explicitly use a noncooperative bargaining model to motivate the tests, whereas others skip the noncooperative models and go directly to testing for Pareto-efficient or cooperative outcomes. The tests may focus on either production or consumption decisions.

A general finding from this literature is that the unitary model typically fails to explain household decisions. Bargaining power and other factors within the household frequently affect the outcomes of household decisions. The unitary model, however, is not always completely rejected. Studies in some contexts support collective models that assume efficiency in allocation (e.g., [Bobonis 2009](#); [Chen 2009](#); [Quisumbing and Maluccio 2003](#)), whereas other analyses would only be consistent with noncooperative bargaining models (e.g., [Udry 1996](#); [McPeak and Doss 2006](#); [Katz 1995](#)).

### *Determinants of Household Decision making and Resource Allocation*

A larger set of empirical papers examines the determinants of resource allocation within the household. Most of these papers do not explicitly use a theoretical model of household bargaining to frame their questions. Frequently, these studies simply include gender-linked variables as potential determinants of household outcomes. Many of these studies include measures that would be considered indicators of women's bargaining power, such as land rights ([Allendorf 2007](#)) or asset ownership ([Beegle et al 2001](#); [Quisumbing 1994](#)). They provide empirical evidence of influences on intrahousehold resource allocation.

### *Experimental Games*

A relatively new approach has been to use experimental games to understand how decisions are made within households. These games allow researchers to test how different levels of resources and communication can affect decisions. Although it may be a challenge to extrapolate from the experimental setting to predict real world outcomes, these games provide some insights into decision-making processes, which can be difficult to observe outside of an experimental setting.

Iversen et al. (2006), who examine trust and contributions between husbands and wives in Uganda, report one such game. Initially, each couple received UGX 4,000. For each participating couple, it was randomly decided whether the amount was given entirely to the husband, entirely to the wife, or split evenly. Then, each partner made a contribution to a common pool, and the total contributions to the pool were increased by 50 percent. The pool was then allocated between the spouses. It was randomly determined whether the husband or wife decided how to allocate the money or whether it was split evenly between them. The two random-assignment components of the game make it possible to identify the effects. The authors find that couples do not maximize surplus. A greater proportion of the surplus is realized when women are in charge of the cooperative account.

Another study randomized the level of communication between the spouses in a game setting in the Philippines (Ashraf 2009). Subjects were given a sum of money and asked either to deposit the money in an individual account or to receive a certificate to spend on a particular category of goods. Couples were randomly assigned to one of three groups. In one group, information on financial decision making was kept private from the spouse. In the second group, spouses knew one another's options and eventually learned their decisions, but they made their decisions simultaneously without communication. In the third group, spouses were able to discuss and negotiate before making their decisions. The researchers found strong evidence of strategic behavior between spouses. This study suggests ways that, in a controlled setting, researchers can randomize the information that each spouse has and thus can make direct observations of the intra-household bargaining process.

The evidence that spouses behave strategically demonstrates that it is important for policy makers to consider how policies and projects affect behavior within households. It should not simply be assumed that households will make decisions that maximize total household resources.

## Who Is Bargaining?

Especially in the rural areas of developing countries, households often include multiple adults involving several generations. However, theoretical models usually only include two decision makers. Although these two decision makers do not have to be a husband and wife, there are often elements of the model that implicitly or explicitly assume that this is the case. The same is true in empirical studies, which often consider bargaining between only two individuals, usually husband and wife. Other dimensions of household structure are simply absorbed by control variables for household characteristics. Thus, the literature often implicitly assumes that within multimember households, the only bargaining is between

the husband and wife; other members are assumed to be passive or unimportant to the bargaining process.

Frequently, households that are not headed by a couple are dropped from a sample. This method is expedient in that it allows for an analysis of bargaining between a husband and wife, but it may critically assume away many other important facets of women's bargaining power. Men and women who never marry or who are divorced might be expected to differ from those who are married and to have different access to resources. For example, in an analysis of improved maize technology adoption in Ghana, [Doss and Morris \(2000\)](#) find that although women farmers are less likely to adopt improved varieties of maize and fertilizer, gender differences in adoption are explained by gender-linked differences in access to complementary inputs. However, in female-headed households, women are less likely to adopt improved varieties even after controlling for these other factors. Thus, women farmers in male-headed households appear to be able to bargain within their households to obtain some of the unobservable factors that are needed to adopt these technologies, whereas those in female-headed households are not able to do so. If only couple-headed households were included in the analysis, this insight would not have emerged.

Although it would be possible to use a bargaining framework to analyze households with two decision makers who are not a couple, such as an adult child and older parent or two siblings, another set of implicit assumptions makes this difficult. When examining the impact of bargaining power on outcomes, the patterns are only visible if we have a way to compare across groups. Ideally, we are interested in whether an individual who has more bargaining power is able to obtain his or her preferred outcome, but information on preferred outcomes is rarely available. Instead, analyses typically assume that men and women have different preferences regarding outcomes, and these studies empirically demonstrate that outcomes differ depending on the levels of women's bargaining power. If men and women had the same preferences, then differential bargaining power between men and women would not affect outcomes. Thus, to analyze the impacts of bargaining, people must be grouped by preferences. Because preferences are not readily observed, the literature relies on the assumption (which is not obviously well founded) that preferences are systematically related to gender. It may be possible to make similar assumptions for adult children and parents given sufficient sample sizes; adult children and their parents may have different preferences, even when they live together. Generally, however, the literature focuses only on gender differences as a proxy for differences in preferences.<sup>4</sup>

The literature on intergenerational transfers is one of the few areas where the analysis does not always focus on bargaining between a husband and a wife. For example, [Jensen \(2004\)](#) analyzes what happened to transfers from adult children to elderly parents after the end of apartheid in South Africa, a moment when



elderly blacks began receiving state pensions. Although he does not explicitly discuss this as a bargaining issue between children and parents, Jensen analyzes the extent to which children continued to provide transfers to their parents once the parents received state support. He finds that each rand of public pension to the elderly reduced transfers from their children by ZAR 0.25–0.30. Thus, one interpretation is that parents and children bargain over transfers, and the benefits of the program are shared.

Much of the research that focuses on bargaining within married couples has significant intergenerational implications. Decisions about how much education or health care to provide to individual children or how to bequeath other assets across generations have significant implications for the intergenerational transmission of poverty and the potential for upward mobility across generations. However, children are not typically modeled as actors in these scenarios.

A number of researchers have emphasized that simply analyzing the bargaining power of women within the household ignores the bargaining that occurs at the broader level, within the kinship network, community, or nation. Folbre (1994) encourages us to examine the broader structures of constraint that shape the choices that men and women make: “Constraints are defined here as the assets, rules, norms and preferences that delimit what people want and how they can go about getting what they want” (p.54). Time and money are the most basic assets, in her understanding. However, she insists that rules and norms are important to understanding the choices that people make. Similarly, Agarwal (1997) lists four dimensions that have been neglected in the bargaining literature, including “the inter-related nature of bargaining within and outside the household, the embeddedness of households within a wider institutional environment, and the role of groups or coalitions as determinants of bargaining power” (p. 37). Goldstein and Udry (2008) examine the power of individuals within the community and demonstrate that power affects whether an individual has secure tenure to land and thus whether the land is fallowed at efficient levels. Changing community norms and institutions affect household decisions regardless of whether they are explicitly included in an empirical analysis. If they are not included in the analysis, the results may be incomplete or misleading.

## Identifying Bargaining Power

It is not possible to measure women’s bargaining power; bargaining power is fundamentally unobservable. At best, we can find good proxies for women’s bargaining power. Which particular proxies are useful depends on the questions at hand. There are many good indicators of women’s bargaining power, such as measures that are correlated with bargaining power. However, often we want to understand

causal relationships so that we know how to bring about change. The challenge is to understand when we have identified causal relationships and when we have only identified correlations.

One goal of the empirical literature on women's intrahousehold bargaining power is to provide policy guidance on effective policy instruments that can strengthen women's positions or achieve other desired outcomes. This task requires unraveling the complicated channels of causation that link interventions to outcomes to determine which measures can effectively influence policy. A clear picture of causal relationships fundamentally depends on the rigor of the estimation techniques applied. To identify the causal effects of policy or other interventions on outcomes resulting from women's bargaining power (or lack thereof), three approaches are used.

### *Institutional Changes*

The first approach is that of a "natural experiment." Specifically, the researcher uses a change in policy or some factor outside of the control of the household or community as a "before and after" experiment to reveal the impact of the intervention on outcomes. Women's legal rights are one such set of changes. For example, [Rangel \(2006\)](#) considers a change in marriage law in Brazil. The new law extended alimony rights and obligations to couples living in consensual unions. Rangel treats this legal change as a redistribution of bargaining power in favor of women. The author compares the hours worked by female adults and investment in children's education in households composed of married couples (which were not affected by the law) with the same variables in households composed of cohabiting couples (which were affected by the law) before and after the implementation of the law. The change in the law resulted in more leisure for women and a reallocation of resources toward the schooling of older girls.

[Deininger et al. \(2010\)](#) study a change in inheritance law in two Indian states, Maharashtra and Karnataka, which elevated the status of daughters with respect to inheritance of family land, making their rights equal to those of sons. The educational attainment of women whose fathers died before the change in the law was compared to the educational attainment of women whose fathers died after the reform. The change in the inheritance regime had a positive impact on girls' schooling. [Adam et al. \(2011\)](#) compare suicide rates among married and unmarried women before a family law reform in Ontario, Canada, that improved women's financial position upon divorce. The change in legislation reduced suicide rates among older married women but did not affect younger unmarried women. There was no impact on male suicide rates.

All three of these studies demonstrate a causal relationship between a policy that increased women's bargaining power and desired outcomes, including



increased children's education and lower suicide rates among older married women.

Prices and other market forces can also generate exogenous changes. [Qian \(2008\)](#) analyzes exogenous changes in men's incomes from orchard-based crops and women's incomes from growing tea in China. She compares the sex ratios and educational attainment of boys and girls in cohorts born in tea-planting communities with the same variables in non-tea-planting communities before and after the agricultural reforms. Counties with more tea production had higher ratios of girls to boys; those with more orchards had lower ratios. The survival rates of girls were higher when women had more bargaining power due to higher incomes.

Changes in sources of income that are outside of the realm of household decision making are also used. [Duflo \(2003\)](#) explores the fact that eligibility to participate in a cash-transfer program in Africa targeted at elder citizens began at age 60 for women and 65 for men. Comparing children's health status in households with an eligible elder to those with an elder member who is not yet eligible, the author finds that income directed to women has positive effects on children's well-being, whereas income that goes to men has no effect. [Jensen \(2004\)](#) uses the same policy shift to examine transfers from adult children to elderly parents.

In all of these cases, the exogenous shift in female bargaining power translates into positive outcomes for women and their children. These case studies provide important demonstrations of the pathways through which increases in women's bargaining power have a positive impact.

### *Instrumental Variables Approach*

A second methodological approach is to find instrumental variables that correlate with the measure of bargaining power but not directly with the outcome measure. Many of the studies discussed throughout this paper that use income or assets as an indicator of bargaining power use this approach. Several authors use rainfall patterns as an instrument for agricultural production ([Doss 2001b](#), [Duflo and Udry 2004](#)). [Brown \(2003\)](#) investigates how the size of a woman's dowry affects the intrahousehold allocation of time between household chores and leisure as well as the share of household spending that goes to women's goods. To account for unobservable confounding factors that affect both dowry and women's bargaining position in the household, the author uses regional grain shocks in the year preceding marriage and the sex composition of the siblings of both the bride and the groom as instruments for dowry. Larger dowries are associated with more potential leisure time for wives. One of the advantages of this approach is that large-sample household survey data sets often include variables that can be used as instruments.

## *Randomized Experiments*

The third and final methodological approach is to use experimental games or randomized control trials (RCTs) to isolate the relationships between bargaining power and outcomes. The experimental games discussed above are a means to analyze the processes of decision making. In RCTs, participants are randomly assigned to a treatment or control group. In practice, the randomization may be at the community level, such as when programs are rolled out over time. However, the choice of which communities receive the program first is randomly assigned. Although there are many RCTs, relatively few of them are designed explicitly to analyze bargaining within the household.

Many conditional cash-transfer programs have been implemented using a randomized roll out so that the effects can be studied. They include programs in Mexico (Behrman and Hoddinott 2005; Bobonis 2009), India (Lim et al. 2010), and Nicaragua (Maluccio and Flores 2005), among others. All of these studies find a positive impact of these transfers on the health and education outcomes of children.

RCTs have become viewed as the “gold standard” for project evaluation, and a number of concerns have been raised about their limitations and usefulness. A consensus is emerging that randomized experiments are powerful tools for evaluation under some circumstances, but they must be used as one element of a toolkit along with other evaluation approaches (see Ravallion 2009 and Barrett and Carter 2010 for reviews of the usefulness of RCTs).

## Indicators and Proxies for Bargaining Power

In many cases, researchers find variables that seem to be related to women’s bargaining power and that are highly correlated with good outcomes but that actually occur within settings where no causal relationship can be convincingly demonstrated. This situation raises complicated questions: are we merely observing associations or are we observing variables that are in fact causally related to desirable outcomes? We cannot reject a causal relationship just because we cannot convincingly demonstrate causality; weak econometric identification does not imply the absence of a causal relationship.

In this vein, there are many examples of gender-linked policies and variables that are correlated with good outcomes and that may, in fact, be good policy instruments.

### *Income and Employment*

Women’s earned income is a measure that we would expect to be clearly related to women’s bargaining power. Earning money may give women direct bargaining

power. If women control the money that they earn, then they may have the ability to directly influence outcomes that require expenditures. In a cooperative bargaining framework, even the potential to earn money increases women's outside options and gives them more bargaining power.

It can be difficult to show that women's earned income is causally related to outcomes because income is generally an endogenous variable. Estimations that use earned income usually use either changes in policy or an instrumental-variables approach to deal with the endogeneity issues. [Luke and Munshi \(2011\)](#) estimate the impact of women's earned income from tea estates in India and find that higher women's income reduces the likelihood that children will marry a relative or be schooled in the ancestral location. The variation in tea-estate elevation is used to predict women's income because women pick tea and elevation affects its value. Qian's (2008) analysis, discussed above, demonstrates that the exogenous increase in income from changes in the relative prices of men's and women's crops in China increases the survival rate of girls relative to boys.

Working outside the home and earning an income may provide bargaining power in another form. Women who work outside of their home may learn social and other skills needed to navigate the work environment. These skills may translate into increased bargaining power within the home.<sup>5</sup> However, women who possess these skills may also be the ones who successfully seek jobs. [Connelly et al. \(2010\)](#) study women in China who have migrated to the city to work and returned home. They find statistically significant effects from women's migration but no clear pattern of whether the effects are positive or universal.

In addition, women's labor-force participation may directly affect many of the outcome variables of interest for reasons unrelated to bargaining power. For example, household expenditure patterns may differ depending on whether the wife works outside of the home. Participating in the labor force changes the value of time and household expenditure patterns; more money might be spent on transportation, food that is less time intensive to prepare, and clothing that is appropriate for work. These changes in expenditure would not necessarily be caused by increases in the woman's bargaining power.

Work itself may be empowering or disempowering. The income from working may give women the bargaining power to affect household decisions. Employment may also expose women to new situations and new information, which may further increase their bargaining power. However, working may also increase women's overall workload and may put them in unsafe or difficult situations.

One way to identify the differences between income and work is to consider unearned or transfer income. Unearned income should be less related to labor supply. For example, [Schultz \(1990\)](#) used transfers and income from property as a measure of unearned income to identify bargaining-linked determinants of labor supply and fertility. An individual's unearned income reduced his or her labor

supply, but it had less of an effect on the spouse's labor supply. This approach resolves the issues of confounding work and bargaining power, but it raises some additional concerns. Women who receive transfers may be substantially different from those who do not. There may be unobservable differences among them that determine the outcomes. Furthermore, income from property or some types of pensions may be related to previous labor decisions.

Evaluations of conditional cash-transfer programs, which transfer money to women as an incentive for children to attend school and receive health care, indicate that these transfers to women do improve children's school attendance and health care (Berhman and Hoddinott 2005; Maluccio and Flores 2005; Bobonis 2009; Lim et al 2010). However, it should be noted that the comparison is with households that received no transfers rather than with households in which men received the transfers.

The studies that meet the criteria for rigorous empirical analysis demonstrate that increasing women's income influences women's bargaining power and improves household outcomes. Many additional studies indicate that increasing women's income, whether employment income or transfer income, may improve outcomes.

### *Assets*

The ownership of and control over assets may also be related to bargaining power. Intuitively, we would expect that owning assets provides women with more bargaining power by, for example, providing women with better options outside of the household. In addition, assets may provide income, both directly through rents and indirectly through their use in production activities. Assets may also provide a sense of security (perhaps itself related to outside options).

Land is the most important asset in most developing countries. Thus, land ownership has often been used as a proxy for bargaining power. However, the concept of ownership for land is complicated, especially in developing countries. In many places, land is not formally titled. The full legal bundle of rights, including the right to sell, bequeath, mortgage, and use may not be held by one person (see Bomuhangi et al. 2011). Especially for women, formal rights to land may not actually mean that they have control over it. However, it seems clear that women's land rights should be associated with higher bargaining power for women.

As countries become more urbanized and fewer households depend upon agriculture for their survival and livelihood, other assets, especially housing, become more significant. Relatively few empirical studies have analyzed how housing ownership affects women's bargaining power. Datta (2006) uses interviews with women in an urban settlement where squatter communities were settled and titles were issued jointly to husbands and wives. Women were able to use their formal rights over housing to negotiate better intrahousehold outcomes.

Other assets may also be important. These assets may include livestock, agricultural equipment, consumer durables, businesses, and financial assets. Relatively little information has been available on the individual-level ownership of assets, and it has been difficult to meet rigorous standards to determine causal relations. A number of studies demonstrate positive relationships between women's asset ownership and household outcomes. Doss (2006) uses both a measure of farmland and a broader measure that includes farmland, savings, and business to show that women's asset ownership is associated with a higher budget share spent on food and education in Ghana. Beegle et al. (2001) use the wife's perception of her share of assets owned by her and her husband, including the house that they occupy, vehicles, appliances, jewelry, furniture, and utensils. Ownership of these assets is associated with obtaining prenatal care. Friedemann-Sánchez (2006b) considers a broader range of assets, moving beyond physical assets to include social networks to examine the impacts on household outcomes and women's well-being.

To deal with the concern that women's current assets may be a result of women's bargaining power rather than a source of it, several studies have used the assets that women bring to marriage as a measure of bargaining power. For example, Quisumbing and Maluccio (2003) use both current assets and assets at the time of marriage to analyze the expenditure patterns of households in Bangladesh, Ethiopia, Indonesia, and South Africa. The results vary by country; in Bangladesh, women's assets at marriage increase the share of expenditures on education, whereas men's assets at marriage increase the share of expenditures on food.

Recent data collection efforts have begun to include information on asset ownership at the individual, as opposed to the household, level. Doss et al. (2011) have demonstrated the extent of gender asset and wealth gaps in Ecuador, India, and Karnataka, India. A strong case can be made that assets provide an important source of bargaining power for women. However, this has been difficult to prove quantitatively given the many endogeneity challenges. Although the relationship between bargaining power and asset ownership may go in both directions—women with more bargaining power may be better able to acquire and retain assets, and assets may confer additional bargaining power—the evidence strongly suggests that women's land rights and ownership of other assets are associated with positive outcomes. Thus, assets offer another policy lever to increase women's bargaining power and promote good outcomes. Programs and policies should not only provide women with opportunities to acquire land and other assets but also develop ways to ensure that women are able to retain assets.

### *Human Capital*

Education is often included in household and intrahousehold analyses because it may affect outcomes both directly and indirectly. Analyses using a unitary-

household framework for consumption decisions frequently include measures of women's education because it is expected that educated women will consume different goods and categories of goods than women without education. In addition, education affects a woman's outside options and thus her bargaining power. Both the level of a woman's education and her level of education relative to her husband's may be associated with her bargaining power. For example, [Thomas \(1994\)](#), who includes the education levels of both the husband and the wife, finds that women's education levels have a larger effect on the health of daughters than on that of sons, whereas the opposite is true for fathers.

### *Other Proxies for Bargaining Power*

A number of other factors affect the outcomes of household decision making and are often discussed as measures of bargaining power. These factors involve many of the challenges discussed above. It is difficult to demonstrate causal relations and directions. In addition, some of these measures may simply be indicators of women's bargaining power but not factors that can be targeted to impact outcomes.

For example, [Rao \(1997\)](#) uses men's consumption of alcohol as a determinant of marital violence. Women who have less bargaining power may remain in marriages where their husband consumes alcohol and becomes violent. [Wu and Li \(2011\)](#) show that women whose first child was a boy or who ever gave birth to a boy have better health and nutritional status.

Another set of measures that is used as a proxy for women's bargaining power is the decision-making process within the household. Whether women are able to make decisions about whether to sell key assets ([Reggio 2011](#)) or whether they are able to make decisions about food preparation and consumption ([Patel et al. 2007](#)) may be good indicators of women's bargaining power. As will be discussed below, household decision-making indicators are also used as measures of the outcomes of bargaining power.

Finally, women's own perceptions of appropriate social norms may be correlated with their bargaining power and thus may be correlated with outcomes. [Mabssout and Van Staveren \(2010\)](#) use women's attitudes about what they refer to as "gendered institutions" (whether they agree with practices such as female genital mutilation and violence against women) as a correlate of bargaining power. These authors embed their analysis into a consideration of social norms within the community and find that institutional-level bargaining power variables affect women's decision-making power.

Many of these measures serve as good proxies for bargaining power. However, it is less clear that they actually serve as levers that policy makers can use to change outcomes. The measures that intuitively seem to be the best at capturing bargaining power pose significant challenges to the processes of actually



demonstrating causality. It is difficult to rigorously prove that income and asset ownership provide women with bargaining power and that providing women with these resources improves their well-being. However, these are the variables that seem to have the strongest logical links to bargaining power, even though they are the most difficult to identify as causally related. This may be a case where the challenges of econometric identification are not reflective of the strength of the underlying causal relationship.

## Bargaining Over What? Measuring Outcomes

What are the outcomes that bargaining power affects? Although there may be intrinsic reasons to focus on bargaining power, most of the literature takes the view that bargaining power matters because it is instrumental in determining real outcomes. What variables appear to be affected by intrahousehold bargaining? How are these measures altered by the distribution of bargaining power within the household? Are the effects large enough to matter? These are some of the questions addressed in this section, which focuses on the links established in the empirical literature between intrahousehold bargaining power and a variety of outcome measures. This section aims to discuss two insights that may help us to better understand these links. First, the literature indicates a number of outcomes that are influenced by women's bargaining power within the household. However, more research is needed to better understand the causality of the links. Second, this section discusses the uses and limits or challenges of measures that are used in this literature. Some of these measures are more useful than others, and not all outcomes are typically measured at a level of disaggregation sufficient to reveal the effects of intrahousehold bargaining.

One challenge to better understand these links is that direct information on women's preferred outcomes is rarely available. Instead, the literature tends to rely on what [Thomas \(1990\)](#) refers to as an "inferential approach." When the proxy for women's bargaining power has a significant impact on the outcome in question, then the inference is that women prefer this outcome. For example, if women own more household assets and more of the household budget is spent on food, it is inferred that women prefer to spend more money on food and are able to use their increased bargaining power to obtain this outcome. Thus, a necessary condition for finding that men's and women's bargaining power within marriage matters is that they have different preferences. If their preferences do not systematically differ, the impact of women's bargaining power will be underestimated and will likely not be well understood by policy makers.

In one of the few studies that asks directly about preferences, [Kusago and Barham \(2001\)](#) ask each member of a couple in Malaysia how they would spend

the equivalent of an additional USD 40 across 13 expenditure categories. They then calculate a measure of preference heterogeneity within the household. When this measure is included, it improves the estimation of expenditure decisions. Some demographic studies examining fertility decisions explicitly ask both husbands and wives about their preferences, especially with regard to the number of desired children (e.g., Bankole 1995). Prabhu (2010) asks both husbands and wives about their willingness to pay for malaria vaccines, eliciting different preferences. However, most analyses of bargaining within the household simply assume that men's and women's preferences differ.

### *Consumption*

Consumption measures, broadly defined, are a measure of people's well-being. Consumption or expenditure measures are often used as a better measure of well-being than income because incomes fluctuate more than expenditures. Thus, examining consumption outcomes may provide direct or indirect evidence of the allocation of resources among household members.

Because most household surveys do not include individual-level expenditures or consumption data, it is not possible to tell which individuals consume particular goods. For any goods that are public or shared goods within the household, it is impossible to attribute expenditure to individuals without making strong assumptions. In the case of private goods, those consumed by individuals, it may be possible to obtain information about the level of expenditures on men's goods, women's goods, or children's goods. For example, Dunbar et al. (2010) categorize clothing expenditure in this way. Deaton (1989) uses adult clothing as a private good to analyze expenditures patterns for children. These two studies do not explicitly examine bargaining power; they test for evidence of gender discrimination in expenditure patterns. Although Deaton finds no evidence of gender bias in expenditure patterns in Côte d'Ivoire or Thailand, Dunbar et al. find a bias in favor of boys in Malawi.

When data are not available on private or individual-level consumption, studies have shown that women's bargaining power affects the household budget shares spent on food, education, recreation, health, private adult goods, or other categories of goods (see Quisumbing and Maluccio 2003; Duflo and Udry 2004; Doss 2006). The various measures of bargaining power, including agricultural income and assets, have an influence on household expenditure patterns. The strength of this approach is that it does not require detailed expenditure data. However, it only allows for an analysis of the patterns of expenditure; it cannot provide information on who benefits from the expenditures.

Finally, transfer payments reallocate resources out of the immediate household, usually into the household of close family members. For example, Khemani

(1999) examines the factors that influence transfers to parents in Indonesia and finds that women with more bargaining power are more likely to make transfers to their own parents but not to the parents of their husband.

Bargaining power may also affect direct measures of consumption rather than expenditures. For example, Beegle et al. (2001) find that when a woman owns a share of the household assets, she is more likely to receive prenatal care and to give birth in a hospital or private doctor's office. They examine the level of services received rather than the amount of money spent on them.

Many different measures of bargaining power appear to be correlated with household expenditure patterns and individual consumption outcomes. Endogeneity concerns remain; measures of bargaining power, especially income and asset ownership, may be related to consumption in many ways in addition to their relationship to bargaining power. As more data become available on individual consumption, it may be possible to identify the bargaining effects on consumption by specific household members.

### *Production*

Intrahousehold decision making may affect production decisions in household enterprises as well as consumption decisions. A wide range of production decisions, especially agricultural production decisions, have been modeled as the outcomes of intrahousehold decision making. Although the welfare effects of production decisions are not necessarily immediate, a household's production decisions will eventually affect the size of the total surplus that is available to its members. In particular, household production decisions will affect the levels of total household production and the distribution of the goods produced among household members.

In a model of the household with unitary production decisions, agricultural inputs would be allocated across plots based on their marginal output rather than based on which household members controlled the plot. Thus, analyzing the allocation of inputs, such as fertilizer or seeds, is an outcome measure that indicates the bargaining power of individuals. Udry (1996) finds that fertilizer and labor are not allocated efficiently across men's and women's plots in Burkina Faso.

Although fallow is not a purchased input, it is a critical input for soil fertility. Udry and Goldstein (2008) use the amount of time that individuals allow their fields to be fallow as indicators of their power within households and communities. They conclude that "the intensity of investments on different plots cultivated by a given individual corresponds to that individual's security of tenure over those specific plots and, in turn, to the individual's position in the political hierarchy relevant to those specific plots" (p. 981).

McPeak and Doss (2006) analyze the decision among pastoralists in Northern Kenya of where to locate during each season and whether to sell milk. In the region studied, men traditionally decide where to locate, and women control the use of milk. As opportunities to sell milk arise, decisions over whether to sell milk to a market and how much to sell are contested between husbands and wives. The authors find that the presence of market opportunities leads husbands to locate the household farther from town to limit milk sales.

Intrahousehold bargaining seems likely to influence the adoption of new agricultural technologies, but this issue is seldom examined in the extensive literature on the adoption of agricultural technology. Unfortunately, this literature rarely examines the intrahousehold dynamics of adoption decisions or even the specific characteristics of individuals within the household. Many papers include the gender of the farmer or the gender of the household head as a determinant, but they do not consider technology adoption within an intrahousehold context or bargaining framework.<sup>6</sup> Several studies, however, have analyzed the allocation of labor across crops when new crops or technologies were introduced. In perhaps the earliest empirical paper in the intrahousehold literature, Jones (1983) examined the patterns of labor allocation on rice fields and millet and sorghum fields in Cameroon. She found that women did not allocate labor to men's fields even when it would have resulted in higher household yields. Von Braun (1988) demonstrates that when women have insufficient bargaining power within the household, the benefits of new technologies may be taken over by men, even when the technologies were designed specifically to target women. Thus, labor allocation has a clear impact on the levels of household production.

The insights, lessons, and challenges identified are clear: intrahousehold dynamics affect agricultural production decisions in myriad ways. As attention in the development community is moving toward an emphasis on agriculture and women's role in agricultural production, it may be especially important and insightful to understand bargaining within agricultural households. The older literature tells us that bargaining is important, but new work will be needed to determine how agricultural production decisions are made within households. This work will be especially important as labor patterns change within the agricultural sectors of developing countries. Where men are increasingly involved in work outside the household, women will take on greater responsibilities within agriculture. Understanding the intrahousehold dimensions of this transition will be important and insightful.

### *Labor Allocation*

Labor allocations may be related to production, as noted above in examples of agricultural production. We may measure labor force participation, labor allocated to

agricultural production, or labor allocated to household production. Intrahousehold decisions also affect household labor earnings, income distribution, and the types of labor that are performed. Finally, labor that is not allocated to any type of production may be consumed as leisure, which directly affects well-being.

The amount of labor that women spend in the labor force (e.g., hours worked) may be determined as part of an intrahousehold decision-making process. However, it is a difficult measure to interpret from the perspective of women's well-being. Women with more bargaining power may choose to work in the labor force, which gives them further bargaining power by providing them with outside networks and income. Moreover, women, especially women from poor households, may work in the labor force because they have no other options. Thus, working in the market may have positive or negative impacts on women's well-being. Schutlz's (1990) finding that increased unearned income reduces labor supply suggests that, given the opportunity, individuals prefer to work fewer hours.

The allocation of labor to household chores may also be a result of intrahousehold bargaining. Zhang and Chan (1999) find that dowry and bride price in Taiwan affect the number of hours that the husband spends doing household chores. More research has been conducted using household chores as an outcome measure in developed countries than in developing countries (for example, see Hersch and Stratton 1994).

Another possible outcome measure is leisure time. We would expect that individuals with more bargaining power would have more leisure. However, good measures of leisure time are not often available, and this measure has not been used in analyses in developing countries.

Thus, although labor allocations often reflect relative bargaining power within the household, it is not always clear that these measures indicate the well-being of individuals. Unless there is a specific policy reason to focus on labor allocations, other outcome measures would likely offer more insight into individual welfare. Without knowing the preferences of the individuals involved in the bargaining regarding their own labor allocation, it is difficult to draw useful conclusions about well-being.

### *Children's Outcomes*

Much of the intrahousehold resource-allocation literature has suggested that resources in the hands of women have a larger positive impact on outcomes for children than similar amounts of resources held by men. Policy makers are often interested in targeting outcomes for children, especially health and education outcomes. Among the outcomes commonly used as indicators of well-being are anthropometric measures, such as height for age, weight for height, and BMI. Although these are useful outcome measures, they are not often collected in

surveys that also include good indicators of bargaining power. Duflo (2003) provides an exception and analyzes the impacts of a program providing pensions to black South Africans using weight for height and height for age as the outcome measures. The weight for height for girls was higher in households with a woman eligible for the pension.

Much of the previously cited evidence indicates positive effects on children's education, especially girls' education, of women's increased bargaining power. Educational attainment, as a completed measure of educational investment, may be the best measure of children's education. Enrollment and expenditure on education are measures of the intention for children to obtain education, but they do not necessarily capture whether children have been successful at school. However, when short-term impacts are studied, the increased enrollment of children, especially girls, may be the appropriate education-outcome measure.

### *Decision making and Perceptions*

A final, broad category of outcome measures is related to the organization or processes that guide activities inside the household. These are not themselves measures of outcomes, but they are measures that affect outcomes broadly across or within the household. Examples include who makes key decisions within the household, individuals' perceptions of gender roles, and perceptions of social norms.

The question of who makes decisions within the household is sometimes used as an outcome variable because it seems to capture an aspect of women's bargaining power. We might assume that women who have more bargaining power are more involved in decision making. For example, Allendorf (2007) demonstrates that women's land ownership increases the probability that women have the final say on their own health care and that they make decisions on large and small household expenditures. Connelly et al. (2010) use questions about who usually makes decisions within the family with respect to issues such as children's education, family planning, large purchases, investments, and the woman's own migration. In this latter study, women who were returned migrants to Chinese households had different decision-making power than those who had not migrated, but the direction of the impact varied across decisions. These studies indicate that women's bargaining power affects the process of household decision making and gives women more voice and power.

It is challenging to ensure that decision-making questions capture the key issues of interest. It may be the case that women make the decisions but are nevertheless constrained or conflicted by the preferences of their husbands. For example, women without their own incomes may be given a budget for food and household expenses. They control how to spend it, but they are responsible for



using it to provide meals. Thus, the cultural context is important, and caution should be used when interpreting these results across countries.

The ability to make decisions within the household may also be seen as a measure of women's empowerment. To the extent that the objective of policy is to empower women, this may be a way to capture effects, especially in the short run. However, if policy makers are concerned about women's empowerment because this will result in better or more effective outcomes for women and girls, then the policy focus should be on the final outcomes.

### *Other Outcomes*

Women's bargaining power may also directly affect their well-being, including reducing the violence that they face. [Panda and Agarwal \(2005\)](#) find that land ownership reduces women's experiences of domestic violence in India. Similarly, [Rao \(1997\)](#) finds that an inadequate dowry is correlated with violence against women in India. [Luke and Munshi \(2011\)](#) use marital violence as an outcome measure in India and find that among the former slave castes, an increase in total household income reduces the probability of domestic violence, but women's share of household income increases the probability of violence. Thus, it should not simply be assumed that all of the measures of women's bargaining power directly and necessarily benefit women's welfare. The relationships, especially with regard to domestic violence, are often complex and culturally specific.

Although the ownership of assets is most often used as a proxy for bargaining power, it is also an outcome variable that may be of interest. Some projects specifically seek to increase women's asset ownership, whereas others might use it as one of a set of measures of women's economic benefits. A number of studies focus on identifying the determinants of women's land rights (see [Deere et al. 2004](#)), although many of these studies do not explicitly use a bargaining framework.

Land or housing ownership is rarely modeled as the outcome of a bargaining process between spouses, but it may be modeled as a bargain across generations. Asset ownership may be the outcome targeted by development interventions, including microfinance or legal literacy programs.

Although children's nutrition and health are often used as outcome measures, women's health outcomes are also improved by increasing women's bargaining power ([Beegle et al. 2001](#); [Wu and Li 2011](#)). In fact, many outcomes are improved by increasing women's bargaining power. Some of these outcome measures are direct policy goals, such as improving the health and education of women and children. Others are intermediate steps and may reflect women's empowerment, such as women's roles within household decision making.

## Conclusions

It is challenging to show empirically that women's bargaining power has a positive impact on desired outcomes, especially for women and their children. However, considerable evidence indicates that intrahousehold dynamics affect household decisions. Development programs may deliberately or inadvertently alter the bargaining power of individuals within households. As a result, bargaining power should be an important component of both *ex ante* and *ex post* project evaluation, along with the direct outcomes of the program. Analyses that are sufficiently rigorous to meet the standards of the economics profession often take advantage of unusual natural experiments that allow for causation issues to be addressed in very specific and usually very limited settings. The academic literature is generally interested in showing unambiguous causal relationships. Many research questions are relevant for an academic audience, but these questions may be less directly useful for policy purposes. The most rigorous form of analysis, RCTs, can often address problems of endogeneity and selection, yet relatively few RCTs have yet focused on explicitly identifying the role of women's bargaining power in determining favorable outcomes, especially (as noted above) for the health and education of women and their children. Although this approach may provide some empirically rigorous findings in specific cases, there are many programs and policies that cannot use this approach for evaluation.

Thus, we must draw insights and lessons from these analyses and determine their relevance to a broader set of issues. The key insight or lesson is that there are critical ways in which women's bargaining power influences the outcomes of household decisions.

For policy evaluation, the fundamental challenge is to design the implementation of the policy or program in such a way that it is susceptible to evaluation using the techniques described above. If the policy is an institutional change, then it is valuable to collect data on households both before and after the change. In addition, if the policy can ethically be implemented in such a way as to affect some groups but not others, then it becomes possible to examine the changes within each group over time. This difference-in-difference approach allows for comparisons between those affected and those not affected, both before and after the implementation. More important insights would likely be obtained if the policy could be implemented so that the order of implementation is randomized; groups that had experienced the policy could be compared with those that had not. In the many instances where these approaches are not possible, having data available to serve as instruments for some of the key variables would help to differentiate causality from mere correlation of variables.

Although rigorous empirical analyses are important, it is also important to conduct qualitative research in the areas in which the projects will be implemented.

Statistical analyses can indicate correlations. However, because there is not always sufficient information (or appropriate information) to sort out causality, it may be helpful to draw on qualitative information to understand causation. This may involve interviews and focus groups designed to help the researcher identify whether correlations have a causal relationship. In some sense, it would be ideal to show rigorously that every policy or program intended to strengthen women's bargaining power has a demonstrable impact. In practice, however, this would be a poor use of limited resources. Instead, we should continue to conduct rigorous analyses where possible. What we learn about intrahousehold bargaining and its impacts can then inform program design and evaluation procedures.

The broader literature includes many papers that are less econometrically rigorous but that nonetheless provide additional useful information for policy making. Given the convincing evidence that bargaining power is important in specific cases, we should be more willing to accept the findings of less rigorous studies as well as those that simply demonstrate correlations.

Taken together, there are sufficient data already in place to support a greatly expanded focus on intrahousehold outcomes and bargaining power. Additional data at the individual level will allow for further and more detailed research. A growing body of literature is exploring the current conventional wisdom—namely, that the patterns of evidence suggest that women's education, incomes, and assets are important aspects of women's bargaining power.

## Notes

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2. Reviews of this literature include [Strauss and Thomas \(1995\)](#) and [Doss \(1996\)](#).

3. See [Doss \(1996\)](#) for a discussion of the various models and approaches to empirically distinguish among them.

4. [Luke and Munshi \(2011\)](#) are an exception to this and use the difference in preferences among women of different castes in India for the effects of women's incomes on household decisions.

5. [Friedemann-Sánchez \(2006a\)](#) provides a useful discussion of how women use work to bargain within households.

6. See [Doss \(2001a\)](#) for a discussion of gender and agricultural technology in Africa.

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