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# Microfinance and gender empowerment

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ABSTRACT

In this paper, we develop a theoretical model of household production, bargaining and credit to analyse how access to microcredit affects intra-household decision-making and welfare, and identify conditions under which female household members are most likely to benefit. We show that, consistent with ethnographic accounts of the impact of microcredit programmes on poor households, access to loans can lead to a variety of outcomes for intra-household decision-making and welfare depending on initial conditions and that, in some instances, women borrowers may experience a decline in welfare. We identify two instances in which a woman is most likely to benefit: when there is scope for investing the loan profitably in a joint activity, and when a large share of the household budget is devoted to household public goods.



## 1. Introduction

Over the past 30 years, microfinance practitioners and policy-makers have gravitated towards the view that targeting women in microcredit programmes is the most effective means to deliver wider social benefits. Providing women access to credit, it is argued, would strengthen their bargaining position within the household, and women are more likely than men to spend resources in ways that benefit the entire household (Armendariz de Aghion and Morduch, 2005; Khandker, 2003; Pitt et al., 2006).

Indeed, there exists a large body of evidence which shows that, controlling for total household resources, increasing resources in the hands of female household members has a greater impact on family welfare (Thomas, 1990, 1994; Lundberg et al., 1997; Thomas et al., 2002; Duflo, 2003). And bargaining models of the household with non-cooperation or divorce as the threat-point would lead to the same prediction if women are assumed to have a stronger preference than men for family-related goods (Bergstrom, 1996; Lundberg and Pollak, 1993). However, making predictions about the potential impact of microfinance on the basis of this theory and evidence is far from straightforward: while women may readily keep control over cash transfers, access to credit necessarily triggers a complex decision-making process – including decisions about whether to participate in a credit programme, how to invest the loan, and how to divide the proceeds of the investment – in which household members have the incentive to make strategic choices to protect their individual welfare. This complexity is also highlighted by congruent evidence that many women borrowers relinquish the use of their loans, in part or in whole, to their spouses (Goetz and Gupta, 1996; Kabeer, 2001; Ngo, 2008; Rahman, 1999).

In this paper, we develop a theoretical model of household production, bargaining and credit to analyse how access to microcredit would affect intra-household decision-making and welfare and, in particular, identify conditions under which female household members are most likely to benefit. Our main interest is in patriarchal societies where social norms may impose strong restrictions on the type of productive activities a married woman may undertake. Therefore, we distinguish between three types of productive activities for men and women: (i) activities which a household member may carry out autonomously, (ii) activities which, given traditional gender roles, would require the active cooperation of both spouses, and (iii) activities which conflict with socially defined gender roles such that one would be willing to engage in them only after he or she has exited the marriage and gained pariah status within the community.

We show that access to microfinance can lead to a variety of outcomes for intra-household decision-making and welfare depending on initial conditions, consistent with ethnographic accounts of the impact of microcredit programmes on poor households (Kabeer, 2001; Rahman, 1999). A woman with few skills to carry out an productive activity that is sanctioned by socially defined gender norms is unlikely to experience an increase in bargaining power within the household from access to a credit programme. On the other hand, a

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woman who has sufficient skills to invest the loan profitably in an autonomous activity may have her husband veto the loan, or appropriate it for his own use, to retain his own bargaining power. We identify two instances in which a woman is most likely to experience an improvement in welfare; namely, when there is scope for investing the loan profitably in a joint activity, and when a large share of the household budget is devoted to household public goods. The reason is that under either of these conditions, an investment in a household activity causes a comparatively small shift in intra-household bargaining power, and therefore household members are less likely to exercise a veto or appropriate a loan to preserve their future bargaining position. We also identify a situation – namely, when a household member's welfare under non-cooperation is low compared to that from exiting the household – when access to the credit programme may actually weaken his or her bargaining position.

A number of recent papers in the literature have used theoretical models of intra-household bargaining to analyse household choices regarding the control and use of microcredit loans. Ligon (2002) showed, using a framework of dynamic household bargaining, that even if a woman is able to invest a loan profitably in an autonomous activity, her bargaining position in the household may be undermined if the initiative causes her income stream to become more uncertain. In this case, she would be better off handing over the loan money to her husband rather than investing it herself. Van Tassel (2004) showed that relinquishing control of a loan can be a way for a woman to ensure that her husband helps to repay the debt and thereby secure access to future credit in the event that the current loan project fails.

The key innovations in our theoretical framework compared to these contributions is the introduction of a sphere of joint production, and the incorporation of household public goods into the model. Allowing households to vary in terms of the scope of joint production, and the share of expenditures on household public goods, leads to the afore-mentioned predictions of heterogeneity in impact; and enable us to formally identify the conditions under which women are most likely to benefit from access to such programmes in patriarchal societies. Our characterisation of the role of joint production in household bargaining is anticipated by Kanbur and Haddad (1994). However, to our knowledge, the implications of these results for microfinance programmes have not previously been considered; furthermore, we provide a generalisation of the results in Kanbur and Haddad (1994).

Our assumptions relating to the different spheres of production within the household are motivated by ethnographic studies which indicate that the scope for women to invest capital in purely autonomous activities is often circumscribed by gender norms that delineate the division of labour and responsibilities between men and women in the household and the wider community (Johnson, 2004; Kabeer, 1998, 2001; Mayoux, 1999; Rahman, 1999). In particular, social conventions and gender norms regarding the division of labour may oblige women to remain near the home to take care of children, or restrain their ability to travel to markets.

Limitations on women's self-employment opportunities within socially prescribed gender norms have been widely documented. For example, in Bangladesh, where the practice of purdah puts considerable limits on women's mobility in the public space, women who invest their loans in their own activities remain bound to home-based activities (e.g. poultry or milk cow rearing) in line with traditions stipulating that these activities are managed by women. Loans used by men and women in joint enterprises also retain the same gender structure, for example with women making puffed rice or sweet, which are then sold by their husbands (Anderson and Eswaran, 2007; Hashemi et al., 1996; Kabeer, 1998).

Our focus on cooperation in the household also echoes recent concerns about the consequences of excluding men in microfinance (Armendariz de Aghion and Roome, 2008) or health (Mullany et al., 2005) programmes, when their participation is important for programme success; and evidence that household enterprises that are managed with the cooperation of both spouses are more likely to make efficient use of capital injections (de Mel et al., 2009).

The model on household production, bargaining and credit is developed and analysed in Section 2 of the paper. In Section 3, we illustrate the model's predictions using numerical simulations and by drawing on ethnographic studies of the outcomes of microcredit programmes. Section 4 concludes with further discussions of our theoretical results.

## 2. A model of household bargaining, joint production and credit

Imagine a household consisting of a husband, $h$ and a wife $w$. They can engage in production in a number of different activities, represented by the set $\mathcal{S}$. Each productive activity requires assets that are specific to that activity – for example, a husking machine for husking paddy – and so we represent household assets by a vector $\mathbf{k}=(k_1,..., k_S)$, where $k_s$ is the value of assets specific to activity $s$. Each activity also involves performing various tasks that, because of the prevailing gender-related norms, can only be performed by a man, while others can only be performed by a woman. Therefore, a unit of effective labour by the husband in an activity is not equivalent to a unit of effective labour by the wife, and output depends on the specific levels of each. Each spouse is endowed with one unit of labour per period. Formally, output in activity $s$ is given by

$$y_s = g_s(k_s, l_s)$$
$$l_s = \gamma_s \left(l_s^h\right)^{\theta_s} \left(l_s^w\right)^{1-\theta_s}$$

where $l_s^h$, $l_s^w$ measure the labour input by the husband and the wife, respectively, in activity $s$. The parameter $\theta_s$ captures the relative importance of male and female labour, and $\gamma_s$ the combined skill level of the couple, in the activity concerned. We assume $g_s(.)$ is weakly increasing and concave in both inputs.

Since we wish to examine the effects of credit on bargaining and cooperation within the household, we consider the case where the household has three productive activities: $\mathcal{S}=\{m,f,c\}, \theta_m=1, \theta_f=0, \theta_c \in (0,1)$ (the letters stand for 'male', 'female' and 'cooperative'). Thus, the husband and wife can undertake production independently in activities $m$ and $f$ respectively, but some labour input from both is required for positive output in activity $c$.

The husband and the wife have control rights over the output from activities $m$ and $f$ respectively. Either spouse may have full control rights over output in activity $c$, without affecting our analysis: we posit that, under non-cooperation, neither spouse provides labour for this activity, which is always an equilibrium of the game, and thus output would equal zero. Therefore, in the absence of an agreement about the allocation of labour and expenditures, each spouse devotes all her labour to her own activity. The resulting autarkic incomes are given by $y_a^h = g_m(k_m, \gamma_m)$, $y_a^w = g_f(k_f, \gamma_f)$.

Although $h$ and $w$ would also engage in autonomous production in the event of divorce, their incomes in this case need not correspond to their autarkic income levels. This is because social norms may impose (or relax) constraints on the types of assets that they can control and the types of activities they can undertake within a marriage. Therefore, we represent income levels following divorce by a different set of variables, $\mathbf{y}_e = (y_e^h, y_e^w)$.

At the end of production, total household income is given by $y=\sum_{s\in S} y_s$ (we assume, for ease of notation, that each output has a price of 1). The income can be spent on a private consumption good for either spouse or on one of two household public goods. We denote by $\mathbf{x}=(x_h, x_w, q_1, q_2)$ a consumption bundle for the household, where $x_i$ is the level of spending on person $i$'s private good and $q_1$ and $q_2$ are the levels of spending on the household public goods.