

## Credit and Financial Markets

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### Introduction

Reacting to a widespread belief that alleviating credit constraints would free many households from a poverty trap, the development community sponsored numerous subsidised rural credit schemes in the 1960s and 1970s. Unfortunately, these schemes generally met with failure and are also blamed for having inhibited the development of rural financial markets.<sup>1</sup> These failures also gave rise to renewed enthusiasm for exploring how rural credit markets function, in order to improve their efficiency, thereby accelerating development.<sup>2</sup> This enthusiasm was shared by both the donor community and developing country governments (see, for example, Kenya 1986).

This chapter examines credit and other financial markets in the micro-economic context of our study communities. Detailed information was gathered through a credit module administered during the fourth round of the survey [June 1992], eliciting information about participation and volume of transactions related to rotating savings and credit associations [referred to as *roscas* hereafter], land secured loans, other loans such as those for inputs received in-kind, interhousehold credit, and marriage-related payments.

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<sup>1</sup> This disappointing performance is blamed on the inadequacy of the implementing institutions. Deschamp et al (1989) document how the performance of the 1975-76 Kenya Agricultural Sector Loan 1 project for which subsidized credit was a major component was plagued by a quagmire of managerially weak, politically interfered with, and corrupt institutions. Elsewhere and more generally, Braverman & Guasch (1986) argue that subsidized credit transfers incomes to loan recipients but understates the cost of credit to different sectors, distorting the real price of investment opportunities. They further demonstrate that only a small fraction of smallholders in low income countries - 5% in Africa and 15% in Asia and Latin America - have benefited from subsidized credit but that by contrast, 5% of the borrowers received 80 percent of available credit.

<sup>2</sup> Bell (1990), however, notes that rural credit markets become better functioning in the course of development, so that well-functioning rural credit markets are a consequence rather than a cause of general development.

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Detailed analysis shows limited long term credit contracts due in part to the absence of suitable collateral, but numerous short term credit contracts made possible by linking coffee sales and credit transactions through cooperative marketing organizations. The incidence and mean value of this form of credit is greater in Kenya, where coffee processing and marketing arrangements afford more opportunities for closer contact between credit parties, opening avenues for minimizing information asymmetries. This coffee-anchored credit is mainly as input in-kind, although the use of inputs is not restricted to coffee production. In both communities but especially in Kenya, such credit is also used for food procurement, for meeting school fees, and other social needs. Formal credit here is therefore not exclusively production related. Not surprisingly, wealthier households borrow proportionately more. Households with greater human capital, however, do not seem to be able to borrow more, holding other variables constant..

In addition to formal credit, limited interhousehold borrowing and lending was also observed. The number of such loans is marginally greater in Kenya, but the average loan size is somewhat greater in Tanzania. Lending households are relatively better off in Tanzania but worse off in Kenya. These neighbourhood and kinship loans are modest in size, and are mostly used on school fees and food. Roscas occur in both villages, although there are more in Kenya. The probability of observing a household participating in roscas increases with the head's reasoning ability, with the head being female rather than male, and with total household expenditure; but decreases with the likelihood of observing at least one household resident member in employment. Household size, size of land holding, and number of schemes in which a household participates impact positively on the value of rosca contributions. Other asset and wealth variables have no discernable impact. Food purchase ranks high among uses of income from roscas, although agricultural inputs, livestock, construction and procurement of used clothing for trade are also important uses. Marriage related payments are more important for households in Tanzania where amounts owed by and to households are huge; these may serve an insurance purpose.

### What Shapes Rural Credit Markets

Recent literature [Binswanger & Rosenzweig 1986; Udry 1990; Siamwalla et al 1990; Bell 1990, and Aleem 1990] suggests that rural credit markets in developing countries are influenced by the peculiar strategies adopted by lenders in response to problems associated with the screening of loan applicants, credit obligations avoidance, and enforcement of contracts. A main feature of the resource exchanges constituting credit transactions is the uncertainty of delivery of future resource claims by borrowers ultimately unable to repay.<sup>3</sup> Because borrowers differ with regard to ability to pay, lenders desire to know the default risk from each potential debtor. Borrowers also have varying degrees of willingness to repay, so that lenders would want to ensure that borrowers take adequate measures to increase the likelihood for repayment. It is also not always easy to get borrowers to repay. While these problems are not peculiar to developing countries, they have greater relevance and impact owing to the presence of more extensive information asymmetries and poor collateral bases that limit the scope for contract enforcement.<sup>4</sup>

For agricultural communities, the marked delay between expenditure on inputs and receipt of money from crop sales makes seasonal credit quite important (Bell 1989). When production outcomes are uncertain, fluctuating widely from year to year, there is an additional desire for income smoothing across years. Thirdly, households with long-run investment opportunities seek interannual credit in order to fund such investments

Imperfections in rural credit markets guarantee economic rents to households who do in the end receive loans, leading to a persistent under-supply of credit.<sup>5</sup> Where such demand as well

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<sup>3</sup>Failure to repay may result from either sheer bad luck, lack of commitment, poor planning or unwillingness to satisfy credit obligations due to higher utility under default.

<sup>4</sup>See Hoffman & Stiglitz (1990). These problems are part of what is now referred to as the imperfect information paradigm, which has been found to offer a more satisfactory explanation for higher rural interest rates than either the monopoly power explanation or the competitive market view that they result from high default rates in otherwise perfect markets. Other peculiarities with rural credit markets such as failure of interest to effectively ration credit, coexistence of formal and informal credit transactions, market segmentation, limited penetration of commercial lenders, interlinkages between informal credit and transactions in other markets are all better explained by this paradigm.

<sup>5</sup>Due to information asymmetries, limited possibility of confluence between lender and borrower optimal behavior, and the resulting trade-off between interest rates and default, competition is unlikely to remove economic rents in the credit markets, so that borrowers able to get loans earn economic rents in the form of borrower surplus.

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as that for other intertemporal needs<sup>6</sup> cannot be met through formal intertemporal markets, economic agents are forced to rely on surrogates. These include tying intertemporal transactions with those in other markets and falling back on arrangements through which information on potential credit contract parties becomes available as a by-product of production, processing and marketing activities or social interactions. Since intertemporal behavior includes considerations for risk minimization, and given the absence or thinness of insurance markets in rural areas of developing countries, borrowing partly acts as a substitute for insurance [Binswanger & Rosenzweig, 1986], so that credit and insurance transactions become somewhat interwoven.

#### **Market Penetration and Borrowing**

Commercialization of agriculture promotes input application as farmers perceive greater opportunities for increasing returns from different crop enterprises. Due to the absence of synchrony between cash outlays and inflows in an agricultural economy, households find it necessary to borrow to finance land preparation, planting and input applications in advance of sales. The resulting increase in production gives rise to marketing agents that initially function as conduits for produce and payments. Owing to the regularity of the resulting contact with farmers, information on borrowing abilities becomes readily available, reducing asymmetries between parties. This reduces screening and monitoring costs, so that credit transactions secured against crop sales become possible. Marketing arrangements ensuing from commercialization of agriculture therefore create unique opportunities for interlinking transactions, segmenting the credit market across households, crop, and geographic lines.<sup>7</sup> The degree of segmentation depends on the extent that regular transactions lead to regular contact that provides information to both parties.<sup>8</sup>

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<sup>6</sup> Following Binswanger & Rosenzweig (1986), such needs include evening out incomes and consumption over time, minimizing exposure to risks and disaster, and making provision for dealing with unforeseen future difficulties.

<sup>7</sup> In communities with mixed crop enterprises marketed through different channels, segmentation may result from differential abilities by the different marketing organisations to have access to information from producers and hence ability to minimize screening and enforcement costs.

<sup>8</sup> In his study of credit markets in Nigeria, Udry (1990) found that more than 90% of the value of loan transactions were either between individuals in the same village or among kinship groups in which collateral was hardly required.

By these arguments, we expect active credit markets in these coffee-anchored communities, since input applications and the peculiar ways of handling coffee proceeds expose households here to commercialized production. Other opportunities for penetration in the local and international markets such as those accompanied by the introduction and popularisation of horticultural crops, participation in regular labor markets, commercial dairy production, and establishment of other businesses help in the commercialization process. Since local credit markets develop in response to existing credit needs, differences in the degree of market penetration in the two communities show up in the structure and characteristics of observed local credit transactions. Considering the theoretical importance of regular contact in the reduction of information asymmetries and resulting encouragement of credit transactions, we further expect most interhousehold credit contracts to be restricted to households within close proximity and kinship.

### **The Importance of Collateral**

Collateral requirements are credit markets' responses to information asymmetries and contract enforcement problems in situations where kinship, geography, and interlinked market participation are inadequate. Collateral helps in distributing risks between borrowers and lenders, thereby protecting the latter's interests.<sup>9</sup> Without collateral, lenders tend to lend only to residents not immigrants, to borrowers with land and buildings rather than tenants, and in small rather than large amounts. Where information asymmetries are such that lenders have to insist on collateral,

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<sup>9</sup> Collateral requirements are viewed differently by borrowers and lenders depending on their respective attitudes towards risk. Using collateral in credit transactions leads to a subtle form of interlinkage of contingent markets, since then borrowers lose pledged assets in the event of default. Binswanger and Rosenzweig (1986) argue that collateral functions as a substitute for interest rate adjustments, particularly where there are either ceilings or anti-interest legislation. Utility-maximizing borrowers default when utility under default is higher than under repayment. Under default, utility is lower when borrowers are immobile or easily traceable, their assets easy to trace and liquidate, and when information on default can be easily transmitted to other potential lenders. Binswanger and Rosenzweig (1986) further argue that any given return on a loan can be realised using different combinations of interest rate and collateral value combinations; if the lender is risk-neutral, the borrower not known to default intentionally, and both lender and borrower have the same information on the probability distribution of potential project outcomes, the lender is indifferent between whether he uses interest rates or collateral to attain desired expected returns.

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the credit market theoretically disappears for the collateral poor.<sup>10</sup> In other words, the collateral requirement further segments the credit markets, giving greater access to those households with existing collateral or regular production of crops that can be used as collateral.

By implication, we expect limited long term credit contracts but active short term contracts in these communities. In Tanzania, property rights over land parcels, readily acknowledged as the rural asset with the highest collateral value, are not officially vested with the households, since all land in Tanzania is state property. Similarly, although households in Kenya according to the law exercise full rights over their titled land parcels, there are no proper mechanisms for full appropriability and transfer. For both communities, therefore, land holdings have low collateral value, and land secured, long term credit contracts are unlikely to be common.<sup>11</sup> By contrast, we expect a preponderance of short term credit transactions in the two communities organised around agricultural produce marketing channels. Since sale proceeds from cash crops are exclusively channelled through the marketing organizations, the enforcement problem is unlikely to be important. We therefore expect an active credit market between cash crop households and marketing institutions in the two communities. The development of this segment of the credit market is thus a consequence of the extent of regularity of contact and opportunities for alternative produce flows.<sup>12</sup> Considering that households' creditworthiness in these circumstances is predicated on coffee fortunes, we further hypothesize low mean values of credit contracts on account of collapsed coffee prices obtaining during 1991-92.

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<sup>10</sup>This is because expected returns in these circumstances are likely to be lower than the interest rate that would adequately compensate lenders for lack of collateral. Where insurance and futures markets are incomplete, credit also substitutes for insurance, so that the utility loss for specified loan terms differs depending on collateral ownership. Such loss is greater for collateral poor borrowers whose incremental borrowing has a higher insurance premium.

<sup>11</sup>See Pinckney and Kimuyu (1994) and chapter 10 for an expanded discussion on why land tenure difference in the two communities do not lead to more long term loans in Kenya.

<sup>12</sup>These two points are not necessarily mutually exclusive, since the strength of contact is a function of the exclusivity of the dealings, so that farmers using a number of alternative marketing channels are unlikely to be as well known to any one marketing institution as farmers using only one marketing channel.

### **Rotating Saving and Credit Organizations [Roscas]**

In addition, it is expected that households in these communities will complement formal credit sources with resources from kinships, neighbours, and employers. Roscas are important here, since they offer opportunities for mobilizing resources for consumption and production. Roscas using a fixed cycle of recipients are noted for treating their members differently; some receive credit, while others are drawing on accumulated savings. Random and bidding roscas have been developed to deal with this problem. In a random rosca, participants periodically contribute fixed amounts and use lots to randomly allocate the contributions. This process is repeated during subsequent meetings until each member has had an opportunity to collect the takings, following which either the process begins all over again or the association is altogether disbanded. Alternatively, in a bidding rosca the organization invites bids from participants to establish priority for allocating takings. In this set up, participants offering highest bids collect the takings and opt out of subsequent bids so that each member has a chance of collecting the taking once during a rosca cycle.

Besley et al (1993) argue that roscas are ineffective as institutions for hedging against risk because collection of takings will not synchronize with participants financial needs. Even under bidding, participants can only hope to handle situations which occur once, since each collects the takings once during a specific cycle. Also, in rural developing areas where households face covariate risk, participation in the rosca may decline exactly when the recipient household most needs the income. Nevertheless, roscas have proven useful in dealing with single, financially demanding events. More fundamentally, roscas facilitate the mediation of funds by encouraging collective small scale capital accumulation and savings, in ways that keep local capital in circulation provided participants can apply rosca takings immediately. Some roscas encourage capital accumulation through in-kind contributions, such as when participants contribute fencing poles, pieces of roofing material, or contribute human effort in raising granaries and constructing

water tanks using materials from third party sources. Irrespective of the format, roscas increase welfare by minimizing the utility cost of saving during a rosca cycle.<sup>13</sup>

Roscas are likely to be most attractive to those household members who have regular income, have an expected lumpy purchase (such as consumer durables or school fees), and have a lack of collateral. Thus, households that regularly engage in the labor market, and household members without access to coffee income are most likely to participate in roscas. Considering that men usually receive coffee income, women are likely to be the main participants in roscas.<sup>14</sup>

### **Credit in the Study Communities**

#### *Land Secured Loans*

No land secured loans were reported in Tanzania. In Kenya, only two households had land-secured loans, one from a commercial bank and another from a non-bank financial institution established to finance longer term agricultural development (the Agricultural Finance Corporation, or AFC). The loan contract with this institution was originally taken with a commercial bank to finance a passenger minibus, subsequently written off following a road accident. (Although the vehicle was insured, delays in payment by the insurance company during which time the recipient was unable to make payments led to a marked loss for this household from the accident.) In the circumstance, the household transferred the loan contract to the AFC whose loan terms are softer.<sup>15</sup> Even then, the household was unable to meet its obligations and at the time of our interview, the land holding pledged as collateral was threatened with liquidation. The other loan

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<sup>13</sup>The credit component ensures this, since all except the last recipient can expect to meet the indivisible expenditure sooner than under autarky.

<sup>14</sup> Unfortunately, we are unable to pursue this distinction in this paper because our credit module did not elicit enough information for gender analysis. Alila (1992) in a study on Western Kenya found that membership to revolving saving and credit schemes was predominantly women, and that lots were used at the beginning of the scheme to decide the sequencing of recipients from initial membership. Subsequently, sequencing was on a rotating basis

<sup>15</sup>Not only are the AFC interest rates lower than those offered by commercial banks, but the management is in addition easier to negotiate with in the event of inability to repay. There are indeed times when AFC has been known to write-off major agricultural loans often for the benefit of politically favoured borrowers.

from a commercial bank was used to procure a commercial plot in a neighbouring trading centre, and its repayment was on schedule.<sup>16</sup>

The absence of land secured loans in Tanzania was expected given the land tenure system. That there were only two land secured loans in Kenya may seem surprising initially. However, although households hold title to their land in Kenya, land titling is only part of a larger set of attributes necessary for full appropriability.<sup>17</sup> For assets such as land, appropriability is possible only when property rights are well defined and backed by mechanisms for enforcing third party transfers. This requirement is outrightly violated where full ownership rights are not vested with the potential borrowers, as in Tanzania.

Even in Kenya, land tenure arrangements are subject to institutional and cultural provisions that limit full appropriability and transferability. Indeed, past complaints by relatives with traditional secondary rights to land which has been sold have led to state intervention requiring that all interested parties concur before any proposed land transfer can be effected. As a result, land parcels in Kenya are not easily transferable despite titling; the indigenous tenure system continues to exert an influence on the community (see Chapter 10). The collateral value of land parcels in this community is therefore marginal on that account. Differences in land tenure systems in the two communities are, therefore, immaterial from the point of view of the collateral value of landholdings. Other possible forms of collateral for these households either depreciate (vehicles) or face moral hazard (livestock). Since formal financial institutions providing long term credit insist on collateral pledges, there is limited access to long term credit in either community.

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<sup>16</sup> The original values of the two land-secured loans were Ksh 430,000 and 5,000; the first grew to 511,000 by the time of the interview due to the accrual of penalties and interest. The households reported interest rates of 12 and 19 percent for these two loans. There was limited information on the smaller loan as the husband was usually non-resident, and the respondent was either unwilling or unable to provide all the loan details.

<sup>17</sup> Other conditions necessary for assets to have collateral value include absence of uninsurable, asset-specific risks, minimum vulnerability to moral hazard and accrual of returns to owners during the life of the loan.

### *Short Term Formal Borrowing*

As hypothesized, a large proportion of the households from both communities participated in short term credit transactions with the coffee marketing organizations (Table 8.1). Eighty-five contracts of this nature were reported in Tanzania, with five households participating in two transactions each. More than three quarters of the households therefore took part in these short term credit transactions. Because the contracts relate to inputs in-kind, about half the borrowers in Tanzania did not know the actual value of their loans. In previous years, inputs were simply provided to the farmers; without the cost of inputs deducted from the payments received by the society as a whole rather than from individual accounts. The change to deducting the cost of inputs received explicitly from each member's account was therefore new, and some farmers did not understand the change. In Kenya, 107 of these short term contracts were reported, 7 households holding 3 such contracts and 22 households 2 contracts each, all with the local coffee cooperative societies. These represent 79 percent of all households.

The mean loan values were Ksh 1,157 in Tanzania and Ksh 2,772 in Kenya (Table 8.2). Thus, credit through the cooperative was more widespread and more significant in value in Kenya. This difference partly results from the greater importance of the coffee sector in the Kenyan community. At 15% per annum, interest rates for these contracts in Kenya were lower than rates on loans from commercial sources. In Tanzania, borrowers did not know the interest rate, if any, that the marketing organization charged on the inputs provided on credit.<sup>18</sup>

The cooperative movement embodies the most active segment of the credit market in these communities as it offers the greatest potential for minimizing information asymmetries and reducing screening, incentive and enforcement problems and costs. The cooperatives are built around coffee processing and marketing and function as exclusive agents through which the crop is sold, opening opportunities for linking agricultural produce and credit markets.<sup>19</sup> Over the years,

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<sup>18</sup> These cooperative organizations do not borrow funds from commercial sources for in order to lend to farmers. Instead, they receive credit at subsidized terms from national level cooperatives or parastatals. In some cases, the apex organization exploits lags in payment flows to accumulate funds which they subsequently lend to farmers through grassroots marketing cooperative organizations.

<sup>19</sup> There were reports of some coffee smuggling from some parts of Kilimanjaro into Kenya to receive higher prices, but transport costs were high enough from our study site to make such transactions unprofitable.

TABLE 8.1: SOURCE AND INCIDENCE OF LOAN CONTRACTS

| Loan Type                   | Number of Contracts |            |
|-----------------------------|---------------------|------------|
|                             | Tanzania            | Kenya      |
| <b>Land Secured:</b>        | <b>0</b>            | <b>2</b>   |
| Commercial Banks            | 0                   | 1          |
| Non-Bank Financial Inst.    | 0                   | 1          |
| <b>Cooperative Movement</b> | <b>85</b>           | <b>107</b> |
| <b>Other:</b>               | <b>9</b>            | <b>17</b>  |
| Relatives                   | 3                   | 3          |
| Other                       | 6                   | 14         |
| <b>Total Contracts</b>      | <b>94</b>           | <b>126</b> |

Notes: Five households in Tanzania had 2 loans each from the cooperative movement, so that only a total of 89 households or 74% were involved in credit transactions. In Kenya, 22 households had 2 loans and 7 households 3 loans each from the movement, so that only 91 households or 81% of the households were involved in these loan transactions.

as a byproduct of regular contact, the cooperatives have accumulated substantial information on coffee farmers' scale of operation. The cooperatives' marketing and lending roles have worked well, and, in Kenya, the cooperatives have developed significant capacity for addressing farmers' credit needs. Generally, credit dues are netted out of coffee payments to borrowing households, and have first claim over sale proceeds<sup>20</sup> This trader-lender phenomenon limits opportunities for produce diversion in avoidance of credit repayment.<sup>21</sup> Most loans are repayable within a crop cycle and used to finance farm inputs, usually in the form of input credit; in Kenya, cash loans are frequently used to meet other expenses, including school fees and bulk food purchases. In Tanzania, on the other hand, almost all loan transactions were input in kind, and were therefore almost exclusively production related. As shown in Table 8.3, only 5 percent of the loans in Tanzania were used for purposes other than agricultural inputs; the corresponding figure in Kenya

<sup>20</sup> In the recent past with the fall in coffee prices, some farmers were found to collect near zero payments once the value of loans was deducted.

<sup>21</sup> It is reported that where there are well-organised commodity markets, different marketing agents can cooperate among themselves to enforce payment and circumvent attempts by unscrupulous borrowers to divert produce in an attempt to avoid credit deductions. Bell (1990) reports incidents where new marketing agents received loan repayments by asking older marketing agents to help with collection.

TABLE 8.2: VALUE AND INTEREST TERMS OF LOAN CONTRACTS

| Loan Type          | Value and Interest Rate |         |
|--------------------|-------------------------|---------|
|                    | Tanzania                | Kenya   |
| Land Secured:      |                         |         |
| Mean Value         | -                       | 225,000 |
| Mean Interest Rate | -                       | 15.5%   |
| Cooperative Loans: |                         |         |
| Mean Value         | 1.157                   | 2,772   |
| Mean Interest Rate | (2)                     | 15%     |
| Other Loans:       |                         |         |
| Mean Value         | 337                     | 1,162   |

Notes. 1. Loan values are in Kenya shillings. In Tanzania, 76% of the loans were less than Ksh 1000, and only 2% were above Ksh 5,000. By contrast, 43% of the loans in Kenya were over Ksh 2,000. 2. Loan recipients in Kenya reported interest rates ranging from 8 to 20% per annum. Only one borrower in Tanzania knew the rate of interest for the loan.

TABLE 8.3: MAIN USES OF SHORT TERM FORMAL CREDIT

( % loan contracts)

| DECLARED USE          | Tanzania | Kenya |
|-----------------------|----------|-------|
| Farm inputs           | 92.5     | 64.6  |
| Farm Implements       | -        | 2.4   |
| School Fees           | 3.2      | 13.4  |
| Food                  | 2.1      | 2.4   |
| Land Purchase         | -        | 1.6   |
| Construction of House | -        | 3.1   |
| Livestock Purchase    | -        | 3.2   |
| Finance Minibus       | -        | 0.8   |
| Miscellaneous Use     | 2.1      | 8.7   |

s 35%. In addition, inputs received from the society in Tanzania were exclusively for coffee; in Kenya, this did not hold, as inputs for maize and other crops came through the society.

Obviously, coffee ownership is a necessary condition for membership and thus borrowing from the coffee marketing organizations, so that non-coffee households are excluded from this source of credit. Among the coffee owners in Kenya, borrowing is limited based on the previous three years of coffee sales. For borrowing less than this maximum, much of the choice rests with the household. In Tanzania, households have less discretion, as the society in some cases simply gave inputs to the farmers, without the farmers have a clear understanding of the terms of the loan.

Table 8.4 examines attributes of borrowing and non-borrowing households. Borrowers are more prosperous on most counts than non-borrowing households: they own more assets (in value terms), enjoy higher total incomes, net more income from agricultural activities, and have more to spend. Access to cooperative credit in these communities discriminates against households with limited endowments, with implications for long term accumulation and income distribution.

In Tanzania, heads of borrowing households are relatively older and marginally less educated, but scored marginally higher on reasoning ability and cognitive skills. By contrast, heads of borrowing households in Kenya are relatively younger, more educated and scored significantly higher on reasoning ability and cognitive skills.<sup>22</sup> Decision makers from borrowing households in Kenya, therefore, demonstrate significantly better human capital attributes than non-borrowing households, indicating greater potential for engaging in progressive resource exchanges such as those realised through credit contracts. The same differences are not apparent in Tanzania, possibly because of the nature of the credit market.

There is no difference in household size or prevalence of male-headed households in Tanzania. In Kenya, borrowing households by contrast are larger. The proportion of male-headed households in Kenya is also larger among borrowers, suggesting that the processes that generate

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<sup>22</sup> See Chapter 12 for a discussion of the reasoning ability and cognitive skills tests, which measure abstract reasoning ability and reading and mathematics skills.

TABLE 8.4: Comparative Attributes of Borrowing and Non-Borrowing Households

| Tanzania                                   |           |               | Kenya     |               |
|--------------------------------------------|-----------|---------------|-----------|---------------|
|                                            | Borrowers | Non-Borrowers | Borrowers | Non-Borrowers |
| <b>Human Capital of Head of Household:</b> |           |               |           |               |
| Age                                        | 57.4      | 54.4          | 50.7      | 57.1          |
| Education                                  | 4.2       | 4.9           | 4.8       | 2.8**         |
| Reasoning Ability                          | 16.8      | 15.8          | 18.2      | 17.3          |
| Cognitive Skills                           | 23.8      | 22.5          | 24.9      | 20.9*         |
| <b>Wealth (Ksh):</b>                       |           |               |           |               |
| Livestock Assets                           | 6749      | 6110          | 3637      | 3781          |
| Other Assets                               | 8161      | 1563          | 1432      | 593***        |
| Agr. Incomes                               | 15740     | 12647         | 18788     | 12785***      |
| Total Incomes                              | 19877     | 13663***      | 24742     | 16043***      |
| Expenditure                                | 29417     | 21914***      | 39465     | 24461***      |
| <b>Household Size</b>                      | 4.9       | 4.9           | 5.3       | 4.0**         |
| <b>Gender of HH Head:</b>                  |           |               |           |               |
| Male                                       | 0.75      | 0.73          | 0.77      | 0.63          |
| <b>N</b>                                   | <b>89</b> | <b>26</b>     | <b>92</b> | <b>19</b>     |

Notes: Figures are means. Assets, incomes and expenditure are in Kenya shillings. One, two and three asterisks refer to 10%, 5% and 1% levels of significance respectively.

women headship such as non residence of husband, widowhood and separation work against access to credit in this community.

To further explore the impact of gender on access to credit, we compare female and male headed borrowing households in Table 8.5. Female-headed households are invariably less prosperous on all counts. They also own less land. Heads are less well educated although the difference in cognitive skills is not significant. Female headed households are significantly smaller in Kenya. These households therefore suffer from the circular effects of reduced leverage, with

Table 8.5: Comparative Attributes of Male and Female Headed Borrowing Households

|                        | Tanzania    |               | Kenya       |               |
|------------------------|-------------|---------------|-------------|---------------|
|                        | Male Headed | Female Headed | Male Headed | Female Headed |
| <b>Human Capital:</b>  |             |               |             |               |
| Age                    | 59.5        | 59.1          | 51.4        | 44.9*         |
| Education              | 4.6         | 3.1           | 5.1         | 3.7           |
| Reasoning Ability      | 16.8        | 16.6          | 18.8        | 16.3          |
| Cognitive Skills       | 23.0        | 24.5          | 25.7        | 22.4          |
| <b>Wealth:</b>         |             |               |             |               |
| Livestock Assets       | 6731        | 6807          | 3829        | 2989***       |
| Other Assets           | 2029        | 1348          | 1638        | 738***        |
| Abri. Incomes          | 17190       | 11323***      | 20829       | 11890***      |
| Total Incomes          | 21937       | 13604***      | 27656       | 14892***      |
| Expenditure            | 31577       | 22839***      | 41882       | 31292**       |
| Land Holding           | 5.1         | 4.2           | 2.6         | 1.4***        |
| <b>HH size</b>         | 5.0         | 4.5           | 5.8         | 3.5***        |
| <b>Amount Borrowed</b> | 1054        | 622**         | 4722        | 908***        |
| <b>N</b>               | <b>67</b>   | <b>22</b>     | <b>71</b>   | <b>21</b>     |

Notes: Monetary figures are in Kenya shillings. Human capital and occupational attributes refer to household heads. One, two and three asterisks refer to 10%, 5% and 1% significance levels respectively.

the result that the mean amounts borrowed by male headed households are many times greater: about twice in Tanzania and more than 5 times in Kenya.<sup>23</sup>

<sup>23</sup> A borrowing regression, not reported here, yields a strong, negative impact on borrowing in Kenya for female headed households, even when holding constant assets, land size, and income. There is no significant relationship in Tanzania.

*Interhousehold Borrowing and Lending:*

In addition to borrowing from formal sources and participating in savings and credit schemes, households in the communities also lend to and borrow from each other. as shown in Table 8.6, twelve percent and fifteen percent of the households in Tanzania and Kenya, respectively, report lending to others, with a substantial proportion of loans going to non-relatives. These loans are small with few exceptions, averaging a few hundred Kenya shillings, and ranging from Ksh 5 to 5,000 in Kenya, and Ksh 20 to 6060 in Tanzania. Borrowing from other households is reported by 8% and 15% of households in Tanzania and Kenya, respectively. Borrowers report a higher mean value for loans in Kenya, at more than Ksh 1100, compared to only 400 in Tanzania. Borrowers report that most of their loans are from non-relatives in both communities. Both borrowers and lenders report that these credit contracts are interest free; the cost of the loans to the borrowers seems to be reciprocity, since most are extended to households that are part of social networks. Two borrowers in Tanzania report that these loans were used to buy food, 3 to pay school fees, and the rest on miscellaneous uses. In Kenya, 4 borrowers report that these loans were used on school fees, 3 to buy food, and one each to help build a house, buy land and buy a cow. Note that when farmers indicate a use for a loan, in most cases the loan provides only a small part of the total financing of the enterprise.

What kind of households lend to others? A comparison of lending and non-lending households (Table 8.7) shows that in Tanzania, lending households have more assets in value terms, generate more incomes including agricultural, have more land and spend more than non-lending households; all of these differences except agricultural income are statistically significant. Lending households in Tanzania are therefore evidently better off than the non-lending. In Kenya, however, this distinction between lending and non-lending households regarding relative wealth does not occur. The two types of household are remarkably similar on all variables reported in the table. The only difference which is substantial in size and statistically significant is on cognitive skills, for which non-lending households score higher.

Table 8.6: Incidence of Lending by Households

|                                 | Tanzania | Kenya |
|---------------------------------|----------|-------|
| Households lending to Others(%) | 12.1     | 15.0  |
| Mean Loan value (kshs)          | 809      | 588   |
| Recipients(%):                  |          |       |
| Sons                            | 0.0      | 5.5   |
| Daughters                       | 0.0      | 11.1  |
| Other Relative                  | 21.4     | 38.9  |
| Non-relatives                   | 76.6     | 44.5  |

Table 8.7: Comparative Attributes of Lending and Non-Lending Households

|                   | Tanzania  |             | Kenya     |             |
|-------------------|-----------|-------------|-----------|-------------|
|                   | Lending   | Non-Lending | Lending   | Non-Lending |
| Education(yrs)    | 4.4       | 4.3         | 4.4       | 4.5         |
| Reasoning Ability | 15.8      | 16.7        | 17.4      | 18.2        |
| Cognitive Skills  | 25.6      | 22.8        | 20.9      | 24.8*       |
| Livestock Assets  | 9845      | 6185**      | 4049      | 3591        |
| Other Assets      | 2588      | 1692*       | 1395      | 1277        |
| Agri. Income      | 20951     | 15540       | 14953     | 18328       |
| Total Income      | 25787     | 17540**     | 22492     | 23391       |
| Expenditure       | 44658     | 25562***    | 36176     | 37162       |
| Land Holding      | 6.7       | 4.8         | 2.4       | 2.2         |
| Male Heads        | 85%       | 74%         | 77%       | 75%         |
| Farmer Heads      | 85%       | 89%         | 83%       | 78%         |
| Adult Equivalents | 5.4       | 4.8         | 4.7       | 5.2         |
| <b>N</b>          | <b>13</b> | <b>102</b>  | <b>17</b> | <b>94</b>   |

Notes: One, two and three asterisks indicate 10%, 5% and 1% significance levels Human capital variables refer to the household head.

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In Kenya, lending may be playing an insurance role; households of all income levels may lend money at times of relative prosperity in order that they might be able to borrow in times of relative financial strain. In Tanzania, on the other hand, it appears as if the wealthy are lending out of their relative abundance, perhaps in order to maintain their social standing in the community..

#### *Marriage Exchanges*

In a sense, marriage commitments not immediately met represent intertemporal resource exchanges, provided the commitments are eventually honoured. For those owed, the possibility of successfully demanding part of what is due provides some form of insurance for difficult times.<sup>24</sup> Delayed marriage payments also represent some form of loans to those owing, who expect to meet their marriage-related resource obligations in the future. Sixty-three percent of the households in Tanzania owe payments to the wife's parents, and 22% in Kenya. The mean amount owed was Ksh 6,480 in Tanzania -- more than per capita annual expenditure-- and Ksh 1,148 in Kenya (Table 8.8).

Household heads were also owed payments from their sons-in-law; this is the case for 36% of the households in Tanzania and 4% in Kenya. The mean values of payments owed were Ksh 15,650 in Tanzania and Ksh 12,800 in Kenya -- that is, two to three times mean expenditure per capita. The total amounts owed were Ksh 657,280 in Tanzania and Ksh 60,400 in Kenya. Potential amounts tied up in marriage related exchanges are therefore enormous, the actual values being substantially higher in Tanzania. Such huge potential marriage exchanges may have contributed to the relatively large families found in the communities. In any event, these considerable marriage-related obligations tie together the welfare of families related by marriage, formalizing the obligation to assist each other in time of need.

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<sup>24</sup> It may be partly because of this insurance need that in many cases the total marriage payments due appear exorbitant; in this way, those owed can always have some outstanding claims on which they can fall. One respondent in Tanzania of about 60 years of age and married for forty years, when asked when he would ever be able to pay his marriage obligations, laughed and replied that he would pay whenever his father-in-law asked. Asked where the resources would come from, he replied, "From my sons-in-law who owe me for my daughters!"

Table 8.8: Marriage-Related Obligations

|                                                       | Tanzania | Kenya  |
|-------------------------------------------------------|----------|--------|
| Payment Owed to Father of Wife:                       |          |        |
| Incidence (% of HH)                                   | 62.9%    | 22.2%  |
| Mean amounts owed(kshs)                               | 6,480    | 1,148  |
| Total Owed, all households                            | 473,030  | 26,400 |
| Payments Owed to HH by Husbands of Married Daughters: |          |        |
| Incidence                                             | 36.2%    | 4.4%   |
| Mean Amounts Owed(kshs)                               | 15,650   | 12,801 |
| Total Owed, all Hhs                                   | 657,281  | 60,400 |

*Participation in Roscas<sup>25</sup>*

Only 4.3% of the households in Tanzania participated in rotating savings and credit schemes, with each participating household in one scheme only. In Kenya, on the other hand, 49 households participated, 65.3% in only one scheme each, 20% in 2 schemes, 10% in 3 schemes, 2% in 4 schemes and one household in 5 schemes (Table 8.9). Of the five households from Tanzania participating in these schemes, one used the takings to complete the construction of a house, one to buy food, one each to buy food and pay school fees, and the other to offset some miscellaneous commitments (Table 8.10). In Kenya, such takings were used by one household to purchase livestock, to buy food by 26.5%, to pay school fees by 20.4%, to purchase farm implements by 4% and by 6% of the households to purchase used cloths for household use and for sale. One Kenya household used rosca takings to clear an earlier food-related debt, another purchased commercial animal feeds and yet another to settle a medical bill.<sup>26</sup> The mean receipts from these schemes were low: Ksh 280 in Tanzania and 964 in Kenya. Participation and receipts were therefore higher in Kenya, and the receipts were not concentrated in any one use. Specifically, households did *not* tend to use these receipts primarily for indivisible goods, in

<sup>25</sup> Results presented in this section form part of an article submitted to *World Development*.

<sup>26</sup> Ten of the households from this community did not declare the use for rosca money.

Table 8.9: Participation, Contributions, and Receipts from Roscas

|                                     | Tanzania | Kenya |
|-------------------------------------|----------|-------|
| Membership to Roscas(No. of HH):    |          |       |
| One scheme                          | 5        | 32    |
| Two schemes                         | 0        | 10    |
| More than two schemes               | 0        | 7     |
| Total                               | 5        | 49    |
| Contributions During Last 4 Weeks:  |          |       |
| % of Participants Contributing      | 40       | 88    |
| Mean Contributions (Kshs)           | 540      | 68    |
| Most Recent Receipts:               |          |       |
| % of Participants Reporting Receipt | 100      | 79.2  |
| Mean Receipts                       | 280      | 964   |

Notes: Receipts reflect only the two largest roscas, so that means are understated for households participating in more than two schemes.

Table 8.10: Main Uses of Rosca Receipts (% of Participating Households)

|                           | Tanzania | Kenya |
|---------------------------|----------|-------|
| Build house               | 20.0     | -     |
| Buy food                  | 20.0     | 26.5  |
| School fees               | 20.0     | 20.4  |
| Farm inputs               | 20.0     | 4.1   |
| Buy cow                   | -        | 2.0   |
| Promote/start business(1) | -        | 6.1   |
| Repaid earlier debt       | -        | 2.0   |
| Medical expenses          | -        | 2.0   |
| Home improvement(2)       | -        | 4.1   |
| Household items(3)        | 20.0     | 10.2  |
| Unspecified               | -        | 20.4  |
| Participating Households  | 5        | 49    |

Notes: 1. Two households in Kenya bought second hand clothing for sale and another bought piglets for raising for eventual sale. 2. One household repaired a water tank and the other bought iron sheets for re-roofing the main house. 3. Household items were dominated by clothes for daily wear. Some of the households in Kenya had just joined these roscas and were still waiting for their first turn.

contrast to what is assumed in much of the theorizing about roscas in, for example, Besley, Coates and Lounry (1994).

Receipts were rather rare in Kenya. Half of the households in Kenya had to wait for at least 8 months for their turn and about 75% for one year or more. In Tanzania, the turns by the 5 participating households had a two months maximum. Since the time gap between turns depends on total membership, roscas in Kenya are by implication many times larger than those in Tanzania, and their potential takings larger on that account.

The households with land-secured loans and larger short term input credit from cooperative marketing organizations did not participate in roscas. Further, most of the households participating in more than one scheme belonged to the lowest income tercile, as did most of the households relying more on remittances and gifts as incomes sources. Detailed comparisons of participant and non-participant households indicate that in Kenya, participants own fewer assets, generate less income from agriculture and from all sources, and own less land than non participants. They are, however, larger in household size, spent more, and have more heads who are female or employed. and trader-farmer heads.<sup>27</sup> These associations therefore attract households from the lower income levels with limited alternative avenues for accumulation, and are an important complement to the financial markets in these rural communities.

But what factors influence participation in roscas? Based on the above comparative analysis, we hypothesized that household size and having a female head should impact positively on the probability of participating in roscas, which should, on the other hand, decline with improvement in general prosperity. In pursuit of these hypotheses, we conducted a probit analysis of the Kenyan data (Table 8.11).

The results indicate that the probability of a household participating in roscas increases with household expenditure, with headship by persons with better reasoning ability, and when the household is headed by a female. By contrast, the employment dummy elicits a negative coefficient. Since this dummy assumed a value of 1 for households with at least one resident

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<sup>27</sup>These results are somewhat replicated in Tanzania although the low level of participation, with only 4.3% participation in roscas does not permit meaningful comparative analysis.

Table 8.11: Probit Results for Participation in Roscas in Kenya

| VARIABLES               | ESTIMATES OF COEFFICIENTS |
|-------------------------|---------------------------|
| Intercept               | -5.16<br>(-2.00)          |
| HH Head's Attributes:   |                           |
| Reasoning Ability Score | 0.0297<br>(1.60)          |
| Female                  | 0.535<br>(1.74)           |
| Log of Expenditure      | 0.429<br>(1.74)           |
| Employment Dummy        | -0.422<br>(-1.76)         |
| Pearsons Chi-square     | 110.2                     |
| L R Chi-square          | 140.2                     |
| LR for Normal           | -70.1                     |
| Rosca Participants      | 49                        |
| Sample Size             | 110                       |

Note: The employment dummy assumes a value of 1 for households with at least one resident member in either regular or casual employment. Figures in brackets are t- ratios.

member in employment and zero otherwise, the results imply that the probability that a household participated in roscas declined with incidence of employment. Employment here is representing both higher regularity of income, which should lead to greater participation in roscas, and a greater ability to access formal sector financial markets, which should lead to less participation in roscas. The latter effect apparently dominates here.

## Summary and Conclusion

Only two land secured credit transactions were reported in the two communities, underscoring the virtual absence of long term credit contracts in rural East Africa. This is accounted for by the fact that landholdings, the only rural assets considered to have high collateral value, are not fully appropriable. This is the case in both communities despite major differences in official land tenure systems.

Fortunately, early involvement of the communities in coffee production created avenues for commercialized production, making possible a mechanism for dealing with information asymmetries, thereby facilitating credit transactions. A large proportion of households now participate in credit transactions, dominated by input credit organized through coffee marketing organizations. The incidence of participation in these cooperative-based credit transactions is greater in Kenya, where coffee is more important and the households are more involved in the societies. The development of the cooperative sector in Tanzania was unquestionably harmed by the eight-year ban on cooperatives implemented by President Nyerere between 1976 and 1984.

This form of credit is, however, is short term, with most accounts settled within a single crop cycle. The actual mean values are considerably higher in Kenya on account of higher coffee earnings here relative to Tanzania. The credit in Kenya is used not only for inputs into coffee, but also to purchase inputs for other crops, pay school fees, purchase food, and meet other obligations. Since the value of such credit moves in the same direction as coffee fortunes, movements in coffee prices have a double impact on these communities' economic prospects.

Households with credit contracts from coffee marketing organizations are more prosperous than the rest. Considered as a group, women headed borrowing households are less prosperous than those that are male headed, and borrow significantly less, especially in the Kenyan community. Such households, therefore, perform badly in terms of access to credit and amount borrowed, presumably as a circular effect of the circumstances that lead to female headship in these patrilineal communities. Modelling of borrowing behaviour reveals major structural differences in the two communities relating to the impact of human capital attributes and loan characteristics.

Participation in roscas is more prevalent in the Kenyan community. These associations attract relatively poor households headed by women and persons with relatively high reasoning ability. Participation in these organizations seems consumption driven, and is evidently of benefit to households that would otherwise find difficulty in aggregating savings.

The incidence of marriage-related payments is higher in Tanzania where marriage obligations are phenomenal. More generally, households in these communities use marriage relations as social insurance mechanisms, and the expectation of marriage related exchanges may partly account for the large families found in rural East Africa.

In these communities, there are limited opportunities for long term credit transactions necessary for major investments. Although there are active short term credit markets in both communities, these are critically anchored on coffee fortunes. These communities are in dire need for more diversified credit sources. As coffee marketing is liberalized, the ability of the societies to secure loans using coffee as collateral is likely to erode. Alternate sources are unlikely to come through informal money lenders, who are virtually absent in East Africa. The informal networks still exist, however, through roscas, friends and relatives, which provide loans for both production and consumption. But sources of multi-year financing are sorely lacking. This must act as a hindrance on long-term investments in the communities, and thus on productivity growth in the long run. Furthermore, in Tanzania the lack of cash credit and credit for non-coffee inputs could act as a significant brake on short-run productivity.<sup>28</sup>

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<sup>28</sup> We return to this theme in Chapter 12 below.

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