
Economic Transfers Through Social Networks and Financial Trickle-Down in Kenya's Smallholder Sector

By Heidi Hogset

Informal Finance and Social Networks

Social networks provide various services that justify their characterization as important components of people's social capital. Among these, dissemination of information and provision of informal finance represent services of economic importance to farmers. The study this brief summarizes explores whether informal finance through social networks among smallholder farmers provide financial services that enable them to adopt beneficial agricultural innovations, and whether these services act as substitutes or complements to the more formal sources of finance. A study of informal finance through social networks may inform both (i) further innovation of institutions within the micro-finance sector and (ii) policies intended to empower the poor and improve their access to financial services of any kind.

This extremely informal finance market is non-anonymous in the sense that an agent's identity influences her participation in the market. The quantities of economic transfers through networks are therefore assumed to be a function of characteristics of both the recipient and the provider of transfers, and of the relationship between them, including the structure of the social network surrounding their relationship.

The main questions this study seeks to answer are (a) who are the contributors to and beneficiaries of economic transfers through social networks, and (b) what determines the quantities of such transfers. This is done by modeling the decision made by a provider of transfers, which can easily be decomposed into a sequence of two decisions: (i) whether to provide anything at all to a particular person (participation), and (ii) if yes, how much to provide (level). This is reflected in the two-step presentation of results below.

The data used in this study were collected during 2003-2004 in two sites in Kenya: Manyatta Division in Embu District, and the former Madzuu Division (now divided between several new political entities) in Vihiga District, in Eastern and Western Province, respectively. The data include transfers that were provided both as gifts and as loans. Three types of transfers are considered: cash transfers, transfers in kind, and exchange labor. It is assumed that the purpose of a transfer influences both its amount or value and the terms on which it is given. The following represent preliminary empirical results from this study.

Cash Transfers

Whether or not an individual participates in cash transfers through social networks depends less on who the particular person is than on who her

network contacts are. Apparently, one is less likely to be a cash recipient if one owns a lot of land, and less likely to be a cash provider if one is old, but these variables are only marginally statistically significant. Persons with secondary education or more are less likely to be *recipients* of cash transfers, and persons with technical school, college, or more are more likely to be *providers* of cash transfers. This reflects the propensity of higher educated people to have higher cash incomes that make them less dependent on social networks as sources of credit, and render them more able to assist others who are liquidity constrained.

If one receives transfers, it is statistically significantly more likely to be a cash transfer if the network contact providing assistance is a school teacher, civil servant, military officer, petty trader, or a business owner, all occupations associated with higher and steadier cash incomes than that enjoyed by the average farmer. A provider of transfers is more likely to give cash if the network contact being assisted is a priest, missionary or preacher. This may reflect that those pursuing religious vocations depend on support from their parishes for their subsistence, as well as that they act as middlemen for charitable causes.

One is also more likely to engage in cash transfers with network members of the same sex or of the same extended family, whether as recipient or provider of the transfer. Indeed, the coefficients on family member are positive and highly significant in the participation regressions for all three types of transfers.

The probability that a network member provides cash transfers to a respondent is *increasing* in distance between the two parties to the transfer, while, conversely, the probability that the respondent provides cash transfers to a network member is *decreasing* in distance. This reflects the asymmetric relations that underpin long-distance connections, with family displaced to cities providing a unidirectional flow of remittances. In comparison, the distance variables are not significant in any of the other regressions, indicating that distant contacts only participate in networks for cash transfers, not transfers in kind or of exchange labor.

While *participation* in cash transfer networks does not depend much on one's identity, *levels* of transfers do. One is likely to receive larger transfers if one has at least completed primary education, and a civil servant or a military officer, i.e., someone holding a well-paid salaried position, both receives and provides larger amounts. Amounts of cash transfers are decreasing in age, and women receive smaller amounts than men.

Farmers raising cash crops both receive and provide smaller amounts of cash through their networks, which represents a puzzling contrast to civil servants and military officers, since one would expect both groups to have steady cash earnings. One possible explanation may be that the cash crop producers in the sample are dominated by coffee farmers who at the time of data collection had not received payment for deliverances for several years, and therefore paradoxically were among the most liquidity constrained members of the study sample. The physical distance between participants in transfer networks, belonging to the same sex and having family relations all apparently matter little to the *amounts* of cash transfers reported.

To summarize, people receive transfers in cash either as remittances from distant networks contacts, or from local network contacts who have a higher education, and hold salaried jobs or engage in remunerative off-farm businesses. The amounts they receive are higher if they have some education, or hold well-paid jobs. It is apparently those who *have* cash who engage in cash transfers. Cash transfers are decreasing in age for both recipient and provider, and women receive smaller amounts.

Transfers in Kind

The contrast between networks for transfers in cash and in kind is striking - participation in transfers in kind depends very much on one's identity, and not so much on who one's network contacts are. An individual is more likely to participate in transfers in kind if she is a woman who owns her land holding, alone or jointly with a spouse, and less likely if she has a higher education.

One is also more likely to participate in such transfers, both as recipient and provider, the older

one is, although for recipients of transfers the age effect is not significant. Participants in such networks tend to be family members. The gender (female) variable is positive and significant for both recipients and providers of transfers in kind. Thus, participation in networks for transfers in kind is dominated by women with low education but who state that they own their farms, alone or together with a spouse, which suggests that they are women of some social status and with resources. This means transfers in kind appear to take place between similar agents who tend to be of intermediate social status.

The people who are most likely to engage in transfers in kind, are not the ones who make the highest value transfers. The *level* of transfers in kind is *less* for women, both when receiving and providing, and it is *decreasing* in age, which is the opposite of the result found for *participation* in transfers in kind. One is also less likely to engage in high-value transfers in kind if one owns one's holding alone, while the value of transfers in kind is increasing in the amount of land one cultivates. Note that females who own land alone tend to be widows. The value of transfers in kind peaks for both recipients and providers at around 7-8 acres of land, which is in the upper tail of the farm size distribution in the sample.

Higher-value transfers in kind tend to be borrowing of farm inputs and implements, such as chemical fertilizers and ox-carts for transportation of manure. This is a market where farmers with larger holdings are most active. In comparison, the transfers (elderly) women engage in, are transfers of food and other consumption goods, which are very frequent (in some cases almost daily), but low-value transfers.

Exchange Labor

People who participate in transfers of labor tend to be family members, and of the same sex, yet females are more likely to be recipients than providers of exchange labor. People with secondary education or more tend to be providers of exchange labor. There are weak effects for age and holding size, but none for cash crops. Apparently, the probability you will either receive or provide exchange labor increases with age, and it decreases with holding

size. Thus, it looks like labor exchange is something that predominantly takes place within families, and the beneficiaries tend to be women, often elderly women with small holdings.

Summary

Identification of recipients and providers of economic transfers through social network helps us understand to what extent this informal financial market complements the formal market, or possibly fails to do so.

The preliminary regression results presented here suggest that cash transfers through social networks are dominated by remittances from distant family members, and by transfers from local persons in well-paid jobs, who may be wooed as useful network members to have. But the amounts one may receive through such sources are higher the higher one's own cash income is, i.e., those who are most cash constrained are excluded also in this market.

The market for transfers in kind may be the one that most resembles the stylized model of an income-pooling rural village, with women exchanging food, and farmers exchanging farm inputs and implements. But this market is segmented, with farmers engaging in infrequent, higher-value transfers, while women, often elderly women, engage in frequent, but low-value transfers.

The exchange of labor may be a useful way for villagers to assist each other with labor-intensive farm investments, such as the construction of farm structures. But the data suggests that exchange labor is mostly done for charity, to help elderly women with small farms.

Policy Implications

To ensure adequate access to credit for the most cash constrained who are excluded even from cash transfers through social networks, one may consider a microfinance scheme that plays the same role for these people as "rich" friends do for those who are lucky enough to have that, assisting with cash needs not necessarily meant for income-generating purposes.

The wealth, age and gender bias in the market for transfers in kind, may be addressed through partnerships with self-help groups, to substitute the lack of resource pooling across gender and age barriers.

Mobilization of exchange labor for labor-intensive farm investments may be suboptimal and in need of external inducement. In the past, village-wide projects have helped many households make such investments. To compensate for poor autonomous labor mobilization, such projects should be repeated with some frequency, as older investments decay, and new farm units are established.

About the Author

Heidi Hogset is a Ph.D candidate in the Department of Applied Economics and Management at Cornell University. This brief is based on her paper with the same title, which is part of her dissertation entitled “Social Networks and Technology Adoption”.

Further Readings

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