Substitute or Complement? Formal and Informal Methods of Saving: The Case of Unskilled Workers in the Cut Flower Industry in Ethiopia

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Why people in developing countries with access to formal bank use informal methods of saving, given the riskiness and inflexibility of informal financial institutions? In Ethiopia, commercial banks are competitively opening their branches around the cities and holding seminars to teach how to use bank accounts and open bank accounts for workers in cut flower farms who can earn small but regular incomes. However, workers' usage of bank accounts is relatively low and use ROSCAs (*Equb* in Ethiopia) more, even though they answered they prefer to use bank accounts in our field survey. Why they use ROSCAs in the availability of access to formal bank? In order to explore this question, we use primary data collected from 604 production workers in cut flower farms located around the capital city Addis Ababa on January 2018, which includes detailed financial activities information, risk preferences, time preferences, financial literacy, cognitive skills, non-cognitive skills, social network, and socio-economic characteristics of these workers. Estimation results by recursive simultaneous bivariate probit estimation reveal that using *Equb* significantly increases the probability of using bank accounts, and the estimated marginal effect is 0.291 ($p<0.01$). We find that correlation between error terms of the two equations is negative and significant, which indicates the probability of using both saving methods are simultaneously determined. If workers own assets (land and livestock), which can be regarded as buffer stocks in time of need, the probability of using bank accounts increases. Workers with more risk aversion have more probability of using *Equb*. We also find that the probability of using *Equb* is positively correlated the perceived amount of credit limits. This means that *Equb* itself might be a tool for risk coping strategy for the poor. Interestingly, if workers have a high degree of social connectedness, the probability of participating in *Equb* significantly increases, while the probability of using bank accounts decreases (not significant). Given that the majority of workers are migrants and had no experience in informal saving groups before they entered these farms, social interactions at workplace might play a significant role in risk coping strategy. The empirical results suggest that informal and formal methods of saving are complementing each other, and people in developing counties, especially from vulnerable population like unskilled production workers, use these two methods of saving strategically and link between the two sectors. Policy interventions which aim to improve access to formal financial institutions might be not effective if it is not followed by formal risk sharing instruments since informal saving works as an informal insurance for the vulnerable people in developing countries who cannot carry out any coping mechanisms in the face of a shock.

Table 1. The probability of saving through bank and *Equb* (Bivariate Probit Estimates)

VARIABLES	=1 Bank Savings	=1 *Equb* Savings
= 1 if the worker saves through *Equb*	1.191***	
	(0.171)	
= 1 if the worker owns land	0.465**	-0.007
	(0.181)	(0.158)
= 1 if the worker owns livestock	0.459***	-0.052
	(0.154)	(0.149)
Log of total food expenditures	0.064	0.223**
	(0.102)	(0.103)
Risk averse (1-8, 8: the most risk averse)	-0.010	0.051**
	(0.024)	(0.022)
Time inconsistent preference (1-12, 12: The most inconsistent time preference)	-0.041**	0.021
	(0.017)	(0.015)
Financial literacy (0-5, 5: the highest number of correct answers)	-0.019	0.010
	(0.061)	(0.056)
Social network size (0-5, 5: the highest degree of social connectedness)	-0.017	0.081**
	(0.039)	(0.041)
=1 if the worker is paid via bank accounts	1.245***	0.003
	(0.324)	(0.261)
Log likelihood value	-577.916	
Disturbance correlation (Rho)	-0.930	
Chi squared (prob.)	15.416 (0.000)	
P-value of goodness-of-fit score test	0.493	

Note: 1. Sample size: 604 workers who have saved in the past 12 months.
2. Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1.
3. Controls include farm, gender, age, marital status, ethnicity, education level, migrant, family size, the amount of remittance, shock, participation of social group within farms, proportion of friend in the worker's social network, proportion of weak-ties in the worker's social network, non-cognitive skills (grit personal trait), and cognitive skills (math skills and digit span)