Household Vulnerability and Population Mobility in Southwestern Ethiopia

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Abstract

We examine the relationship between household vulnerability to economic and environmental shocks and the risk of local mobility, internal migration, and international migration among adults ages 16-69 in a sample of 3,695 households in southwestern Ethiopia. We use longitudinal survey data from two points in time to define recent migration and household exposure to environmental, health, and income shocks. Results from logistic regression models indicate that households that experience shocks utilize internal migration as a strategy to reduce demand on food and resources rather than as a strategy for income maximization or risk diversification. Results from logistic regression models predicting remittances among internal and international migrants are consistent with this interpretation. Migrants from households that experienced crop loss or failure or the loss of livestock are substantially less likely to remit home than migrants from households not experiencing agricultural shocks.

Extended Abstract

Introduction

Economic and environmental shocks are often associated with increased household vulnerability to food insecurity, particularly in low-income countries. Adverse events such as crop failure, job loss, or the death of a family member burden households by decreasing earnings as well as increasing expenditures, which can lead to impoverishment and changes in dietary practices. Models of household economies in developing countries underscore the role of income pooling and risk diversification as strategies used by households to protect themselves against shocks. Migration is often the primary way in which households diversify income and mitigate vulnerability. In this paper we examine the links between household vulnerability and local mobility, internal migration, and international migration in a sample of households in southwestern Ethiopia.

Preliminary results from logistic regression models provide strong evidence that households under economic duress shed members through internal migration. Extended kin and non-relative household members are most likely to migrate than children of the household head when households experience shocks, as are individuals living in large, extended households. While the literature points to migration as a strategy for income maximization and risk diversification, we find that migrants from more vulnerable households are less likely to remit. We suggest that this pattern is consistent with households shedding members to reduce the demands for food and other resources. In addition, we find that household vulnerability reduces the likelihood of local mobility. Most local moves out of the household are associated with marriage, which is costly in the study population. Under these conditions, marriage is likely to be postponed until the economic situation of the household improves. Lastly, we find no link between vulnerability and international migration, which tends to be organized by professional recruiters rather than being initiated by individuals or households.

Data & Methods

The data for this paper come from two rounds of the Jimma Longitudinal Family Survey of Youth (JLFSY) conducted by investigators from Brown University and Jimma Univeristy, Ethiopia. The 2005-06 round one JLFSY household survey interviewed 3,695 randomly selected households in a regional urban center of 120,000, and in three nearby market towns and the rural

communities adjacent to the market towns. The survey questionnaire collected demographic information, including current and lifetime migration experience for all household members and surviving children of the household head who had established independent households or were resident in other locations. The questionnaire also collected information on household assets and migration and exchange networks, among other topics. A round two household survey was conducted approximately two years later in 2007-08. The round two survey questionnaire updated the migration and other demographic status data for all household members and adult children of the household head, and collected more detailed data on the health and mortality status of current and former household members as well as recent economic shocks to the household. Attrition between survey rounds was relatively low with approximately 90 percent of the households interviewed at round one completing round two questionnaires.

Jimma Zone, which encompasses the study area, is in southwestern Ethiopia, and has a semi-tropical climate with reliable rain fall and rich agricultural soils. The city of Jimma Town and the surrounding towns are connected by paved roadways to the capital city of Addis Ababa, which is approximately six hours driving time to the northeast. The rural population is ethnically Oromo and Moslem, and the city and town populations are ethnically and religiously mixed. The rural economy is dominated by small landholding households with a mixture of staple crops for household consumption and cash crops. The primary cash crops are coffee and chat, a mildly narcotic leaf that is chewed as a stimulant and is popular in East Africa and Yemen. The primary economic activities in the towns are small commerce and services, and agricultural trade. The city of Jimma Town is the zonal center for health and administrative services, a major regional market center, and the location of a regional university with a resident student population of approximately 15,000-20,000.

We use the round two questions on migration and independence from the household in the 24 month interval between the two survey rounds to define four migration statuses: local mover, internal migrant, international migrant, and stayer. Local movers left the household to establish a new household or join another household within the study area (Jimma Zone). Internal migrants left the study area for another location within Ethiopia, and international migrants left the county. Both internal and international migrants may or may not have established or joined a different household. Finally, stayers remained resident in the household for the entire period between survey rounds.

To measure economic shocks and household vulnerability we construct three indicator variables and a fourth composite index based on questions from the round two questionnaire. Agricultural shock equals one if in the last 12 months the household experienced the loss or death of oxen or cows, or experienced crop damage or crop loss due to drought, excessive rain, or other causes. Health shock equals one if in the last 12 months a household member had a serious illness lasting at least 3 months, had a severe physical injury that caused a disability, or if the household experienced the death of a member or close relative for whom it had to pay for the burial. Income shock equals one if in the last 12 months a household member loss a job or if in the last three months the household experienced food insecurity. We also took the sum of these three variables to form a composite shock index that ranges from 0 to 3. The three shock variables measure actual events that are often associated with economic setbacks for households and in the case of food insecurity, with reduced dietary diversity and/or caloric intake.

In addition to the measures of household vulnerability, we construct three measures of household financial capital (Agricultural assets index, Business ownership, and a Wealth index); three measures of household social capital (number of household head or spouse's siblings living in Addis Ababa or other locations outside of the study area, and an index of social network resource and assistance exchanges); and measures of household size and structure. Finally, we include in our analysis individual-level characteristics that are often associated with migration, including gender (Male), highest completed year of school, age, and relationship to household head. With the exception of the household vulnerability measures, all the other variables are taken from the round one survey. To assess the direction and strength of the relationships between the household- and individual-level attributes and recent migration we use multinomial regression models. We use binary logistic regression to model the likelihood of sending remittances to the household among recent internal and international migrants. We restrict the analysis to adults ages 16-59 who were household members at the time of the round one survey.

Results

Table 1 presents descriptive statistics for the household- and individual-level attributes by migration status. During the approximately 24 month interval between the survey rounds 8 percent of adults moved to a different household in the study area, close to 6 percent were internal migrants, and slightly less than 3 percent of adults migrating internationally. The most

common internal destination was Addis Ababa followed by smaller regional cities, and the most common international destination was Sudan followed by the Gulf states. Most local moves are associated with marriage and the establishment of a new household. On average households experienced some type of shock during the inter-survey period with income shock the most common experience followed by agricultural shock. In general, household vulnerability appears to be most common among stayers and internal migrants and least common among local movers, but the pattern is not especially consistent or strong. There also does not appear to be a clear relationship between migration and household financial capital. On the other hand, the relationship between social capital and migration is clear and strong. Internal migrants are much more likely than others to have relatives in Addis Ababa and in other parts of Ethiopia, and they are more likely to be members of active exchange networks. In general migrants tend to come from households with more working-age adults and are more likely than stayers to come from extended or complex households and female headed households. While males and females are approximately equally likely to be local movers or internal migrants, there is a very strong female bias among international migrants. The predominance of females among international migrants is due to the extensive recruitment of young Ethiopian women into foreign domestic work. On average internal migrants are more educated than other migrants and especially stayers. Internal migrants have a mean of 8.9 completed years of school compared to a mean of 5.8 years among stayers.

Table 2 presents odds ratios from the multinomial logistic regression models predicting local mover, internal migrant, and international migrant versus stayer. We estimated two models, one with the three individual measures of household shocks, and one with the single composite shock index. We also estimated as series of interaction models that included interaction terms for the shock variables and the household financial and social capital variables to test whether financial and social capital buffered households against the full impacts of shocks on migration. None of the interaction terms were statistically significant.

The results in Table 2 indicate shower a higher risk of internal migration among individuals in households that experienced health or income shocks. On the other hand local mobility appears to be less likely in the presence of income shocks and perhaps other shocks as well. Consistent with other studies, access to extended kin in internal destinations increases the chances of internal migration, and appears to discourage local moves and international migration.

There is also evidence that being from large and extended households increases the chances of being a local mover or an international migrant. The chances of being a migrant also vary significantly by individual characteristics. Males are significantly less likely to be local movers or internal or international migrants than females. These gender differences stem in part from the tendency for patrilocal residence among young rural couples and the recruitment of young women into domestic work in international locations and in urban locations inside Ethiopia. Both local moves and internal migration are also more common among more educated adults, and local moves and international moves are more common among younger adults. Finally, local moves and internal migration are significantly more likely to occur among household members who are not children of the household head compared to the children of the head. These other household members are evidently more weakly tied to the household and thus more likely to move out either locally or to other locations.

Table 3 presents the odds ratios from the logistic regression models predicting remittances among internal and international migrants. Migrants who come from households that experienced an agricultural shock are only one-third as likely to send money back home compared to migrants from households that did not experience this type of shock. Remittance behavior does not appear to vary by the other two types of shocks, health and income shocks. The other significant predictors of remittance behavior are type of migration, age, and relationship to household head. International migrants are close to four times as likely to remit as internal migrants, older migrants are more likely to remit than younger migrants, and children of the household heads are more likely to remit than household heads or other household members.

Preliminary Conclusions

Overall these preliminary findings suggest that households shed members in the form of internal migration during times of crisis when they experience health or income shocks. The absence of any evidence that migrants from vulnerable households are more likely to remit, and the strong evidence that migrants from households that experience agricultural shocks are less likely to remit, provides additional support for this interpretation. In general, internal migrants appear to be from two disparate groups, more educated youth who are likely in search of better employment opportunities, and adults from large households experiencing severe resource constraints. In both cases internal migration appears to be more likely when the household has

extended kin living in other locations. For households experiencing shocks, internal migration is a way to reduce the demands on limit food and resources and not a way to generate additional income. Moreover, we find that households are more likely to shed other members (composed of extended kind or non-relatives) instead of children of the household head or the head or spouse of the head. Extended members are more loosely tied to the households than members of the nuclear family, and are therefore the first to be shed in times of crisis. Local mobility, in contrast, tends to be tied to the life course (such as an adult child moving out to marry and establish a new household). Households experiencing shocks are less likely to have the resources to fund a wedding. In addition, if the shocks themselves are tied to local conditions then these same conditions will discourage the establishment of a new household in the local area. Lastly, we do not find that international migration is linked to household vulnerability. International migration from the study area is organized by professional recruiters and follows its own rhythm. We find that international migrants are much more likely to remit than internal migrants, indicating that international migration may function as a household-level income generation strategy.

Table 1. Selected Sample Characteristics, Adults Ages 16-59, JLFSY Southwest Ethiopia, 2005/2008

	Mean/Percent			
	Stayers	**Local movers**	**Internal migrants**	**International migrants**
Household vulnerability				
Agricultural shock	27.2%	24.0%	19.9%	28.0%
Health shock	6.3%	7.0%	10.5%	5.0%
Income shock	52.2%	49.0%	55.3%	57.0%
Composite shock index	1.02	0.94	1.03	1.00
Household financial capital				
Agricultural assets index	0.11	0.13	-0.09	0.23
Business ownership	3.8%	5.6%	6.6%	4.1%
Wealth index	0.04	0.05	0.42	0.02
Household social capital				
Head/spouse siblings in Addis Ababa	0.37	0.32	0.60	0.25
Head/spouse siblings in other places	1.47	1.12	2.23	0.91
Network exchange index	0.08	0.09	0.15	0.12
Household size and structure				
Dependents (ages 0-14, 60+)	2.44	2.33	2.17	2.66
Working-age adults (15-59)	3.70	4.49	4.34	4.44
Simple (nuclear)	69.4%	61.0%	58.1%	61.2%
Extended (3 generations)	6.6%	12.7%	8.6%	11.2%
Complex	24.0%	26.3%	33.3%	27.6%
Female head	16.1%	22.0%	19.5%	18.7%
Individual-level characteristics				
Male	49.8%	46.0%	49.8%	20.0%
Years of school	5.81	7.04	8.90	6.79
Age at baseline	29.16	23.74	21.52	20.17
Household head or spouse	51.2%	2.9%	7.5%	6.7%
Child of household head	40.8%	79.8%	66.5%	77.2%
Other member	8.0%	17.4%	25.9%	16.0%
Type of community				
Rural	34.9%	31.4%	21.7%	38.1%
Semi-urban	26.7%	32.7%	27.4%	23.5%
Urban	38.4%	35.9%	50.9%	38.4%
Total number of individuals	**9636 (83.6%)**	**771 (8.0%)**	**544 (5.6%)**	**268 (2.8%)**

Table 2. Odds Ratios from Multinomial Logistic Regression Predicting the Odds of Mobility versus Remaining at Home, Adults Ages 16-59, JLFSY, Southwest Ethiopia, 2005/2008

	Local mover				Internal migrant				International migrant			
	Model 1		Model 2		Model 1		Model 2		Model 1		Model 2	
	OR		OR		OR		OR		OR		OR	
Household vulnerability												
Agricultural shock	0.87				1.03				0.85			
Health shock	0.90				1.38	**			0.65			
Income shock	0.86	*			1.35	***			1.18			
Composite shock index			0.88	***			1.21	***			0.90	
Household financial capital												
Agricultural assets index	1.00		1.00		1.02		0.99		1.02		1.00	
Business ownership	1.34		1.35		1.25		1.23		1.15		1.13	
Wealth index	0.80	***	0.80	***	1.10		1.10		1.00		0.95	
Household social capital												
Head/spouse siblings Addis Ababa	0.96		0.96		1.04		1.04		0.92		0.92	
Head/spouse siblings other places	0.94	***	0.94	***	1.04	***	1.04	***	0.90	***	0.90	
Network exchange index	1.01		1.01		1.02		1.01		1.02		1.02	
Household size and structure												
Dependents (ages 0-14, 60+)	0.97		0.97		0.96		0.96		1.03		1.03	
Working-age adults (ages 15-59)	1.26	***	1.26	***	1.01		1.02		1.13	***	1.13	***
Simple (ref.)												
Extended	1.78	***	1.79	***	0.94		0.94		1.46	*	1.43	
Complex	0.91		0.92		0.93		0.92		1.16		1.16	
Female head	1.18		1.18		0.74	**	0.75	**	0.87		0.89	
Individual-level characteristics												
Male	0.75	***	0.75	***	0.75	***	0.75	***	0.20	***	0.20	***
Years of School	1.04	***	1.04	***	1.12	***	1.12	***	1.00		1.00	
Age at baseline	0.97	***	0.97	***	1.00		1.00		0.97	***	0.97	***
Child of head (ref.)	--		--		--		--		--		--	
Household head or spouse	--		--		0.15	***	0.14	***	0.12	***	0.12	***
Other member	2.00	***	2.00	***	2.51	***	2.52	***	1.02		1.03	

Community type												
Urban (ref.)												
Rural	1.12		1.12		1.21		1.12		1.17		1.11	
Semi-urban	1.44	***	1.44	***	1.01		1.00		0.97		0.94	
Pseudo R-squared	0.11		0.11		0.11		0.11		0.11		0.11	
Log likelihood ratio	-5493	***	-5494	***	-5493	***	-5494	***	-5493	***	-5494	
Total number of individuals	11219		11219		11219		11219		11219		11219	***

Table 3. Odds Ratios from Logistic Regression Predicting Remittances among Internal and International Migrants, JLFSY Southwest Ethiopia, 2005/2008

	Model 3 OR		Model 4 OR	
Household vulnerability				
Agricultural shock	0.34	***		
Health shock	1.40			
Income shock	1.00			
Composite shock index			0.81	*
Household financial capital				
Agricultural assets index	0.88		0.81	
Business ownership	1.66		1.61	
Wealth index	0.82		0.80	
Network exchange index	1.01		0.98	
Household size and structure				
Dependents (ages 0-14, 60+)	0.98		0.97	
Working-age adults (ages 15-59)	0.98		0.99	
Simple (ref.)				
Extended	0.92		0.97	
Complex	0.72		0.71	
Female head	1.04		1.05	
Individual-level characteristics				
Internal migrant (ref.)				
International migrant	3.92	***	3.69	***
Male	1.33		1.31	
Years of school	1.02		1.02	
Age at baseline	1.08	***	1.08	***
Child of head (ref.)				
Household head or spouse	0.36	**	0.35	**
Other member	0.46	**	0.47	**
Type of community				
Rural	1.25		0.98	
Semi-urban	0.80		0.85	
Urban (ref.)				
Pseudo R-squared	0.18		0.11	
Log likelihood ratio	-342.73		-346.98	
Total number of individuals	812		812	