

SIEPR

policy brief

Stanford Institute for Economic Policy Research

on the web: <http://siepr.stanford.edu>

Internal Migration and Social Safety Nets in India

By *Melanie Morten*

Introduction

Internal migration is a significant phenomenon. The UN estimates that one-eighth of all people in the world migrate within their countries of birth, a rate more than four times that of international migration (UNDP 2009). Developing countries are no exception. In China, each Chinese New Year more than 200 million migrant workers return back to their villages to spend time with their families, an annual mass migration clogging roads and rail. In India, migration, often short-term, is common, with laborers migrating away from villages towards cities to work in factories and other industries. What do increasing rates of mobility mean for poor rural households in developing countries?

There are some important reasons why the economic effects of migration may differ in developing countries compared with developed economies. One is that markets for insurance and credit are often missing in developing countries. As a result, households often insure each

other through complex systems of inter-household loans and transfers. Perhaps in a good year a farmer may help out a struggling neighbor; in a bad year, the neighbor helps him. What will happen to the system of informal insurance as households start to migrate? If a farmer's son goes to the city for work, the farmer could become less reliant on his neighbor for an infusion of cash, destroying the reciprocal relationship and leaving his neighbor without a safety net. On the other hand, perhaps the migrant son will be able to help both out if there is a bad shock that affects them both, therefore strengthening the informal network.

To understand the economic benefits of migration, as well as design policies to help households address income risk, it is necessary to therefore understand how households make decisions about migration and informal insurance

continued on inside...

About The Author

Melanie Morten is an Assistant Professor of Economics in the Stanford Economics Department. She is a development economist who works on migration and risk sharing. She was a postdoctoral research scholar at the Minneapolis Federal Reserve from 2013 to 2014, and received her PhD in Economics from Yale University in 2013.



SIEPR *policy brief*

at the same time. This study looks at the economic effects of temporary migration in South India, in particular.

Setting: ICRISAT villages in South India

The project looks at six villages in Southern India, in Andhra Pradesh and Maharashtra. These villages are the home to a unique and very important data collection project that began in 1976, implemented by the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT). To understand the economic lives of rural households, ICRISAT surveyed them for ten years between 1976-1985. In 2001, ICRISAT returned to these villages to resurvey original households and add new ones. The

very rich resulting dataset gives a unique window into the economic conditions faced by households in rural India, as well as how they have changed over time. For example, the increasing importance of migration in households' income sources is seen in Table 1, which compares incomes between 1975-1978 (collected during the first wave of data) and between 2001-2004 (collected during the more recent data)¹.

We use these data to establish several facts to understand more about temporary migration. These facts help guide a model by which

¹ The negative income share of agriculture that appears in some villages in Table 1 is a result of correctly valuing household labor in the profit calculation: once household labor is correctly priced at the market wage, agricultural profits are often negative.

we may understand the implications of increasing levels of migration, both for those who chose to migrate, as well as those who are indirectly affected by migration, such as neighbors in the village.

Migration is more common

when rainfall is bad: In the ICRISAT villages, 35–60 percent of household income comes from agricultural activities. The most important time for rainfall for crops is the annual monsoon, which occurs between June and September. Rain during this period is critical for the cropping season. Farmers wait until the rains come, and then plant and grow crops that are harvested in November. A bad rainfall means that income and work opportunities in the village will be slim.

Table 1
Share of different sources of households' net annual income.

Source of income	Aurepalle		Dokur		Shirapur		Kalman		Kanzara		Kinkheda	
	1975-78	2001-04	1975-78	2001-04	1975-78	2001-04	1975-78	2001-04	1975-78	2001-04	1975-78	2001-04
Crops	29.8	-4.5	46.1	4.4	33.7	-5.8	46.0	-14.9	43.9	-3.0	43.4	27.3
Livestock	25.5	10.6	2.0	9.4	15.0	30.4	0.8	12.9	9.0	11.6	13.1	5.1
Farm labor	32.8	19.1	46.3	13.2	42.6	14.5	42.1	14.8	38.7	33.0	40.8	28.1
Nonfarm labor	11.6	8.9	1.1	8.7	0.2	6.3	4.1	10.7	2.6	7.3	5.3	1.9
Caste occupation	—	29.2	—	6.2	0.2	1.0	—	5.0	—	5.5	—	1.7
Migration	—	12.6	—	20.7	—	2.4	—	1.7	—	4.6	—	2.6
Other nonfarm activities	0.3	24.1	4.5	37.2	8.3	51.3	7.0	69.8	5.8	40.9	-2.6	33.2
Total	100	100	100	100	100	100	100	100	100	100	100	100
Absolute level (Rs)	2361	25814	2967	32671	2955	41665	1942	33493	3856	29836	2522	33426
Equivalent level at 2001-04 prices (Rs)	16117	25814	20253	32671	20445	41665	13257	33493	26323	29836	17217	33426

Source: ICRISAT (2007)



We see that temporary migration out of the village increases in years in which the monsoon is bad, and decreases in years in which the monsoon is good. This suggests that households are using migration as a mechanism to respond to the shocks they face in the village. When there is a bad rainfall and wages are low they can leave the village and look for work elsewhere, returning later in the year.

Households move in and out of migration status: On average, 20 percent of households in the villages have a migrant any given year, but this masks considerable heterogeneity in which households are migrating, in which years. We see that households migrate some years, and don't migrate other years — 40 percent of households have tried migrating at least once over the four years, but conditional on migrating at least once, the household only sends out a migrant on average every second year.

Again, this suggests that migration is not simply an annual rite, perhaps in the off-season, but that households adapt to their opportunities and choose when to use migration options. Of course, there are some households that are more likely than others to ever participate in any sort of migration. The typical migrant is a male who comes from a household with little land. But even among this group of households migration appears to be more of an “on demand” option, rather than one exercised every year.

Households make transfers to other households: Economists have studied the effects on informal risk sharing in village economies for many years. The underlying economic hypothesis is that

households do not like variation in income, and so they try to smooth out income shocks year to year. Much of this literature has in fact used data from these very same ICRISAT villages (see, for example, Townsend 1994). Looking at the new wave of data, it appears that there is reasonably good insurance happening between households. A household's consumption still does depend on its income, but the correlation is much lower than if it was not giving and receiving loans and transfers from others when they receive bad shocks.

However, transfers may provide less insurance in places with more migration: Systems of informal insurance often rely on social mechanisms and trust to keep the system working smoothly. There are several possible scenarios running through a householder's mind: Why would I want to lend my neighbor some money today if he might pack up and migrate tomorrow? Or, if I have a son who can migrate, why should I help out my neighbor when I know I don't need his help in the future because I can always ask my son for help? Or, perhaps my son migrating could help both of us, especially if we both get hit by a bad shock (such as a late monsoon) at the same time.

The household data suggests that the first scenario seems to hold more consistently: Households seem to be more self-reliant, and the informal safety net weaker, when more people are migrating.

Understanding how households make migration and informal insurance decisions jointly

Such data gives some context as to why it is important to consider

migration and informal insurance at the same time. However, to understand the implications of insurance, as well as to provide policy implications, we need to characterize the decision making process of the household. We do this by constructing a theoretical model of household decision making.

Households can choose to participate in informal transfers with other households, but they can threaten to walk away from any agreement. This constraint, known as limited commitment (Ligon, Thomas and Worrall 2002), means that people who have high income today and who could share some with a neighbor might want to keep more of their income and consume rather than trust that their neighbor will return the loan or transfer in the future. This would generate the pattern of “some, but incomplete” insurance that we see in the data. The question is then whether the threat of walking away becomes stronger when people can migrate, perhaps because it is easier for them to make it on their own once they are earning extra income in the city.

To include this important channel, we model the migration decision of the household. The migration decision occurs after they see what the opportunities are in the village, matching the fact we see that migration is responsive to rainfall. Once the migrants earn money they then also send money back home, and some of this may be shared with neighbors. As a result, migration changes the “size” of the economic pie, but can also affect the “slices,” or how the pie is divided amongst households. The overall effect of migration will therefore depend on whether the

increase in resources is larger than any, potentially negative effects from a change in the distribution of resources.

Example of policy implications: India's employment guarantee

One example that illustrates the policy importance of the fact that households make joint migration and insurance decisions is considering the welfare effect of the Mahatma Gandhi National Rural Employment Act (MGNREGA), the largest public works program in the world. This program provides a guarantee of 100 days of employment to every rural household. How might an employment guarantee policy change the decision to migrate, and how might it also change the decision to participate in informal risk sharing? What is the joint impact of the policy once we consider how households might change their behavior in response to it?

We simulate the policy impact of a scheme that provides the same characteristics of the MGNREGA policy. The program provides low-wage work and so acts as an income transfer scheme. The work opportunities will be attractive to people who have a low current income level.

First, consider the case in which there is no migration. The employment guarantee policy will have the largest possible effect if households are totally uninsured (that is, that they can only consume the income that they have today). In this case, the MGNREGA will act as a targeted income transfer, providing the most income to those households that are the poorest, and so will have a very large welfare benefit.

We then consider the benefit of the policy in cases in which households could borrow and save. Here, the benefit is smaller, because households were already able to save and not be so exposed to bad income shocks. Next, we consider the case where households are participating in informal insurance. Informal insurance helps households smooth bad income shocks, and so we would expect the benefit of the MGNREGA policy to be smaller than if households were not able to smooth such shocks. However, when there is informal insurance, providing the program itself changes the incentives for households to participate in the informal insurance. In such cases, the program potentially “crowds out” informal insurance, because the cost of being independent has been reduced, and so incentives to provide as much insurance have decreased. As a result, the program causes a change in how resources are distributed between households, leading to a smaller welfare gain than if this channel were ignored.

We then compare what happens when we also have migration. Migration itself is a form of insurance, and so we might expect that MGNREGA, as it is a scheme focused on rural areas, reduces the incentive for households to migrate (and empirical work has in fact found evidence of this; see, for example, Imbert and Papp 2014). However, in order to evaluate the benefits of the policy it is important to account for the fact that migration is one way in which households respond to the risky income environment they face. As a result, the welfare effect of the MGNREGA policy is smaller once

this channel is incorporated because migration had been a mechanism for households to smooth income shocks. Now households move away from migration towards the publicly provided insurance, and so the net benefit of the program is smaller as it causes households to substitute away from pre-existing mechanisms to reduce household risk.

We also consider the effects of the employment program if the household also has access to borrowing/savings or informal insurance. The same pattern holds as in the condition without migration. The benefit of the policy when households can borrow or save is smaller. Once the additional response of households in providing less informal insurance in response to the higher value of being independent and not part of the informal insurance arrangement is taken into account, the final welfare benefit of the NREGA is yet smaller still.

Overall, we estimate that the benefit of such a policy could be up to 50–65 percent smaller once the household responses are accounted for than without accounting for such behavior changes. Here, the final benefits of such a policy crucially depend on how households will respond on both the migration and the insurance dimension.

Conclusion

Migration is increasingly important for rural households in India, and is used as a short-term and temporary way of reacting to negative agricultural shocks faced in the village. However, new opportunities such as migration arise may also put pressure on

continued on flap...

informal institutions that have arisen to help address important market failures. As a result, migration will affect not only those who chose to participate, but also those who are financially or socially linked with households who migrate. One important informal institution is the provision of informal insurance between households. If migration allows households to become more self-reliant, this may cause such arrangements to break down.

Understanding how households make migration and informal insurance decisions jointly is a key concern for designing effective development policies. For example, the potential welfare gain of a policy designed to provide an

employment guarantee is 50–65 percent lower after household risk sharing and migration responses are considered. While the current work is focused on migration, it is reasonable to think that many other decisions that poor households make may also be jointly determined with informal insurance. A fruitful avenue for future research may be to examine the implications of the joint determination of informal risk sharing and investment or production decisions.

References

Imbert, Clement and John Papp, “Short-Term Migration, Rural Workfare Programs and Urban Labor Markets: Evidence from

India”, mimeo, 2014.

ICRISAT, “Changes in Agriculture and Village Economies,” Research Bulletin No. 21, 2007.

Ligon, Ethan, Jonathan Thomas and Tim Worrall, “Informal Insurance Arrangements with Limited Commitment: Theory and Evidence from Village Economies,” *The Review of Economic Studies*, 2002.

Morten, Melanie, “Temporary Migration and Endogenous Risk Sharing in Village India,” mimeo, 2013.

Townsend, Robert, “Risk and Insurance in Village India,” *Econometrica*, 1994.

UNDP, “Human Development Report 2009,” 2009.

SIEPR *policy brief*

Stanford University
366 Galvez Street
Stanford, CA 94305
MC 6015

A publication of the
Stanford Institute for
Economic Policy Research

Non-Profit Org.
U.S. Postage
PAID
Palo Alto, CA
Permit No. 28

SIEPR

About SIEPR

The Stanford Institute for Economic Policy Research (SIEPR) conducts research on important economic policy issues facing the United States and other countries. SIEPR's goal is to inform policymakers and to influence their decisions with long-term policy solutions.

Policy Briefs

SIEPR policy briefs are meant to inform and summarize important research by SIEPR faculty. Selecting a different economic topic each month, SIEPR will bring you up-to-date information and analysis on the issues involved.

SIEPR policy briefs reflect the views of the author. SIEPR is a non-partisan institute and does not take a stand on any issue.

For Additional Copies

Please see SIEPR website at
<http://SIEPR.stanford.edu>.