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ORIGINAL PAPER

Xenophobic attacks, migration intentions, and networks: evidence from the South of Africa

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Abstract We investigate how emigration from a developing region is affected by xenophobic violence at destination. Based on a unique household survey collected in Mozambique in summer 2008, a few months after a series of xenophobic attacks in South Africa that killed dozens and displaced thousands of immigrants from neighboring countries, we estimate migration intentions of Mozambicans before and after the attacks, controlling for a placebo period. We focus on the role of family and social networks in the sending community in shaping changes in the expressed intentions to migrate. We find that the

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migration intention of household heads decreases after the violence, especially for those household heads with many children whose families have *no* access to social networks. The results illustrate that networks at origin insure risks related to migration and that, when deciding to migrate, workers tend to care more about the future of their offspring than their own health.

Keywords Violence · Risk · Migration · Household behavior · Mozambique

JEL Classification O1 · R2 · J6 · D1

1 Introduction

Migration is one of the most important ways through which workers can increase wages and their families' welfare. While the overall effects of migration on host and source countries alike seem to be beneficial, natives in host countries tend to fear that migrants increase unemployment among domestic workers and cause lower wages. History is full of examples in which domestic workers took violent actions against immigrants in order to deter migration. Examples include the anti-immigrant violence in nineteenth century New York, which was documented by Asbury (1927), the recent violence against Hispanic migrants in the USA, or the xenophobic violence in Eastern Germany after German reunification.

It remains an open question how this form of violence affects migration and migration intentions. We here investigate how migration intentions from a developing region are affected by xenophobia and violent actions in a more developed host country. For this purpose, we investigate a hand-collected survey administrated to more than 1,000 households in Mozambique in summer 2008, a few months after a series of xenophobic attacks in South Africa that killed dozens and displaced tens of thousands of migrants from neighboring countries. Hence, we use the South African xenophobic attacks as a natural experiment to measure how emigration intentions at origin change when there is an exogenous increase in the risks involved in migration. In particular, we explore the role of family and social networks in the sending community in shaping the decision to migrate. Our identification strategy is based on the comparison of migration intentions of Mozambicans *before* and *after* the attacks occurred in May 2008, using retrospective information and a *placebo period* in which no violence occurred. We further control for differing characteristics of the household samples (from a wide range of survey demographic measurements) and previous migration behavior.

We find that other things equal, the intention of the head of the household to migrate after the attacks is lower than before; it decreases from 37 to 33 %. The sensitivity of migration intentions to violence is larger for household heads with many children younger than 15 years, decreasing the migration intention by 11 percentage points (p.p. thereafter). Evidently, people are not only concerned about their own health but also about the welfare of their

offspring. Most importantly, the sensitivity of migration intentions is highest for households with many young children and little access to social networks. For such households, the intention falls by almost 15 p.p. Social networks thus provide insurance against the consequences small children suffer when the household head may be harmed by xenophobic violence and consequently would not be able to provide.

The small but growing body of literature on violence and migration has focused on out-migration decisions in high-level violence environments (see Mesnard (2009) on out-migration flows from Colombia, for example). Yet, very little is known on how violence and xenophobic feelings in host countries affect migration intentions and behavior in source countries. To the best of our knowledge, this paper is the first that measures how violence or other types of xenophobic behavior in host countries affect migration intentions. We further show the significant difference social networks in the sending community may make for the migrant.

We use intentions to migrate, not real migration decisions. A host of papers has looked at migration intentions (for instance, Drinkwater and Ingram 2009; Epstein and Gang 2006; Fouarge and Ester 2007; Liebig and Sousa-Poza 2004; Papapanagos and Sanfey 2001; Lam 2002; Burda et al. 1998). Manski (1990) has questioned the general use of migration intentions data as a proxy for actual migration, but emigration intentions have been shown to be a good predictor of future actual emigration behavior (see, for example, Van Dalen and Henkens 2008). It has also been argued that intentions are a monotonic function of the underlying driving variables that motivate migration (Burda et al. 1998). Finally, using migration intention data avoids the sample selection difficulties that arise from the use of the host country data (see Liebig and Sousa-Poza 2004; Van Dalen and Henkens 2008). Nonetheless, we admit that there may be some degree of mismatch between emigration intentions and their actual realization.

Our results show that violence in the host country reduces the expressed intention to migrate. Violence has the smallest effect on people who live in small households and have few children and the largest on people with many household members whose family is badly connected to social networks. Migration intentions of household heads with large families who have a good social network are much less sensitive to violence than the ones with bad networks.

This confirms that social networks are an important insurance mechanism in developing economies. What is new about our paper is that networks insure risks related to migration[1] rather than help to finance migration or to find a job

[1]The theoretical literature suggests that small groups or networks (e.g., Genicot and Ray 2003; Ambrus et al. 2010), with members who care for or trust each other and can punish reneging members, can achieve high levels of insurance (e.g., Altonji et al. 1992; Foster and Rosenzweig 2001; La Ferrara 2002). The empirical evidence from a set of developing countries is consistent with these predictions (Ligon 1998; Fafchamps and Lund 2003; Dubois et al. 2008; Ambrus et al. 2010).

in the host country. For the migrants, networks at origin are important to support the household left behind and help buffering the potential consequences of violence in the host country. Furthermore, we find the fact noteworthy that (a) better access to social networks reduces the sensitivity of migration intentions to violence although (b) access to networks in Mozambique cannot provide protection against violence in South Africa, making us believe that migrant workers care more about the future of their offspring than about their own health.

The next section provides the necessary background on the two economies, Mozambique and South Africa, on the xenophobic violence in 2008, and the role of networks in Mozambique. Section 2 presents an illustrative model and Section 3, the data. Section 4 discusses our empirical strategy that builds on the difference between the before-and-after-violence intention to migrate and the comparison with a placebo period that cannot be affected by the violence. Section 5 presents the main results, and Section 6 discusses a number of potential concerns about statistic identification. We then conclude.

2 Background: Mozambique and the violence in South Africa

Mozambique is one of the poorest countries in the world with a GDP per capita of $446 at current US dollars in 2008. Out of 22.7 million population, 70 % of Mozambicans live below the poverty line—and 35 % below the extreme poverty line (PRSP 2007). Mozambique has had slow economic growth until the beginning of the 1990s, poor levels of education, especially of women, low productivity, and lack of employment opportunities. Basic infrastructure is lacking in many rural areas, whence the isolation of communities and poor integration of rural–urban markets (AfDB/OECD 2003, 2008). Faced with such poverty, migration is one of the few ways to improve the situation of a family. Because of its geographic proximity and much more advanced development, South Africa (SA) is the main destination of Mozambican migrant workers. SA is the African superpower and ranks as an upper-middle income economy with a GDP per capita of $5.666 in current US dollars in 2008. The economic gap between Mozambique and SA in terms of development and growth is striking. Hence, South Africa seems to offer large economic advantages to potential migrants in Mozambique.

Panel A of Table 1 shows recent statistics about the stock of international migrants from Mozambique to OECD countries collected by Docquier et al. (2009). This dataset is collected from the population censuses in host countries where information about (legal) migration flows by country of origin is available. The figures are quite similar to our representative household survey from two southern Mozambican provinces (panel B) and the bulk of migrant workers from Mozambique going to South Africa.

Our empirical strategy is based on the comparison of migration intentions before and after xenophobic attacks, that is, the third quarter in 2007, compared to the third quarter in 2008, and the placebo period, the first quarter in

Table 1 International migration in Mozambique

Panel A: Mozambican immigrants by OECD country of destination[a]		
	1990 (%)	2000 (%)
South Africa	95.50	93.80
Other OECD country	4.50	6.20
Panel B: Mozambican emigrants by country of destination (2008)[b]		
	Past migrants (%)	Current migrants (%)
South Africa	90.30	97.90
Other African countries	8.30	1.50
Other (Europe/USA)	1.30	0.60

[a]Source: Docquier et al. (2009)
[b]Source: our survey in Southern Mozambique

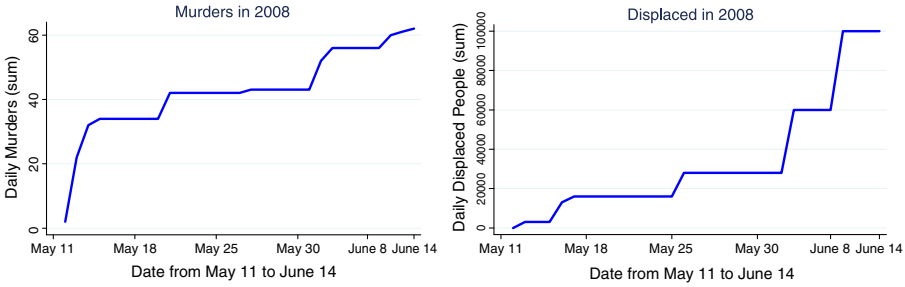
2008. The next table indicates that macroeconomic changes are not a driver of changes in intentions that we will observe.

Table 2 presents figures on inflation and GDP variation. There is no particular change in the third quarter (our period of reference) in 2007 and 2008 in both countries. The inflation rate in 2007 and 2008 in both countries follows the same trends in all terms of the year. At the end of 2007, cumulative price variation was 8.2 % in Mozambique and 7.1 % in South Africa. The numbers are slightly higher in 2008 (10.3 and 11.5 %, respectively). GDP has the same trend, without large changes between quarters in the 2 years, with the exception of the third quarter of 2008 where GDP in Mozambique fell by 0.14 %. If anything, this fall in the GDP should have triggered stronger migration intentions, had the xenophobic attacks not occurred.

Table 2 Macroeconomic indicators for Mozambique and SA

Quarter	CPI variation 12 months (average)		GDP variation (%) quarter var.	
	2007	2008	2007	2008
Mozambique				
1	11.04	9.62	1.33	4.52
2	9.04	10.35	1.62	1.2
3	8.55	10.68	1.77	−0.14
4	8.16	10.33	1.93	3.4
Annual	8.2	10.3	6.7	6.3
South Africa				
1	6.1	10.6	2.01	−3.4
2	7.1	12.2	2.72	3.66
3	7.2	13.1	2.16	0.9
4	9	9.5	2.7	0.8
Annual	7.1	11.5	5.5	3.7

CPI variation is the change from one quarter with respect to the same quarter in the previous year. Change in GDP is the variation with respect to January of each year (so that the cumulated variation in the first quarter is from January 1 to March 30 and the annual variation is from January 1 to December 31). Sources: World Bank, Instituto Nacional de Estatística (INE) and Statistics South Africa



Source: Authors' calculation from several newspapers, magazines and news cables (e.g. CNN, BBC, ABC, Le Monde, El Pais, Times ZA, The Guardian)

Fig. 1 Xenophobic attacks in SA: cumulative distribution of killed and displaced people over time (May–June 2008). Source: Authors' calculation from several newspapers, magazines and news cables (e.g., CNN, BBC, ABC, Le Monde, El Pais, Times ZA, The Guardian)

In May 2008, xenophobic violence exploded in South Africa. Violence was sudden; death and displacement rates reached a peak within weeks, as plotted in Fig. 1.

Since the early 1990s, there had been isolated attacks on foreigners, but the scale and intensity of violence with which the events occurred were unpredictable for both national government and international organizations (Crush 2008). The xenophobic riots in May 2008 constitute the first sustained nationwide eruption of social unrest since the end of Apartheid. Between May 11 and June 14, 62 people, the majority of them foreign nationals, were killed by mobs in Johannesburg, Cape Town, Durban, and elsewhere. Xenophobic riots targeted foreigners living in townships and informal settlements in the main urban settlements of Gauteng and Western Cape provinces. The intensity of violence varied between provinces; in the Gauteng region, the immigrants were exposed to intensive violence, and victims often fled to escape imminent danger of being hurt or murdered. In the Western Cape province, many fled in anticipation of the violence to come. The last reported attacks happened around 1 month later the 14th of June, when a Mozambican man was burned alive in Atteridgeville township of Pretoria. At a stock of some ten thousand migrants in the affected region and 62 murders, there was a substantial risk, which explains the high displacement figures. Around 38,000 refugees were officially reported by the United Nations, but estimates of the number of the displaced range between 80,000 and 200,000. (Igglesden et al. 2009).

3 An illustrative model

A simple model illustrates and sharpens our two main hypotheses. The model is not meant to explain migration decisions in general terms or to generate deep theoretical insights. Rather, it is supposed to explain heterogeneity, i.e.,

why the migration decisions of some groups would react to violence in South Africa more intensively than others.

In our model, households are heterogeneous with respect to two characteristics: first, the number of small children, and second, access to social networks. With respect to wages in Mozambique and South Africa we assume households to be homogeneous. This is correct with respect to wages in South Africa but is a simplification with respect to Mozambique. Heterogeneity will be taken into account in the empirical analysis by controlling for wealth (as reliable income data are not available).

Consider a household which maximizes its utility over two periods. The household takes decisions in line with the unitary model. In the first period, the household can send one household member to South Africa to work. In the beginning of the second period, the household member in question works in Mozambique. We choose this setting to simplify that permanent migration could be incorporated into the model but would not add much. Moreover, most of the migrants from Mozambique are temporary.

We first look at the migration decision when there is no risk of violence. Assume that the household maximizes the sum of utilities over the migration decision m, where $m = 1$ stands for migration and $m = 0$ for staying in Mozambique. To make things simple, assume that time discount is nil, then the utility of a family is $U = U_1(w(m), c(m), N) + U_2(w, N)$. The household's first-period utility depends on the wage it is paid, the costs of migrations, and the number of young children N. If the household member migrates to South Africa, the household receives $w_{SA} > w_{MO}$, i.e., the wage in South Africa is higher than the wage in Mozambique. The household member then has to pay migration costs c. If he does not migrate, he receives w_{MO} and incurs no migration cost. In the second period, the household always receives w_{MO}. The household consumes any income it has in the period in which it accrues. Put differently, there is no access to credit markets.

In this simplistic model, it is immediately clear that the household member will migrate if and only if the net benefit of migration $w_{SA} - w_{MO} - c > 0$. As we are not interested in knowing about migration decisions in general, we do not impose structure on the utility function with respect to the number of children N. Rather, we want to know which groups should be most and least affected by the violence in South Africa. We, hence, allow for the risk of violence in South Africa to affect the second-period wage in Mozambique. Without violence, the wage at home would not be affected by migration, but when the household member becomes a victim of violence in South Africa, his productivity will be severely affected. The household member takes a risk to die or be severely hurt. Consequently, the expected wage in Mozambique in the second period can be written as $E(w_{MO2}(m = 1)) < w_{MO2}(m = 0)$.

To derive predictions about the type of household members most affected by the violence in South Africa, it suffices to assume that $\delta^2 U/\delta N \delta w > 0$ (at least for a sufficiently large wage shock). This means that a decrease in the expected wage w will affect the utility of a family with many young children more strongly than one with less. The idea behind the assumption is that when

there is a negative wage shock, the household may not have enough income to feed its children, leading to famine, illness, or children's death, which strongly affects the utility of the household. Our assumption is founded on a very simple fact. To keep a child healthy, a minimum amount of calorie intake per day is required. A family with fewer children, other things equal, can adapt its consumption pattern to a change in income in a way that all children stay healthy, but a household with more children will ultimately reach the critical calorie level. The above involves the following:

H.1. Migration intentions are more sensitive to violence when there are many young children in the household.

The effect of access to a network is also quite simple: households that are in a network can get some transfer compensating in part for the wage loss. Consequently, the decrease in second-period consumption will be weaker, increasing the willingness to migrate even in the presence of violence in the host country. We can state this as follows:

H.2. Migration intentions when there are many young children in the household are most sensitive to violence when the household has weak or no access to social networks.

Notice that we assume network membership to be exogenous and that we are not concerned about investments in the network or how the transfer is paid back. We simply consider that network access can overcome (partially) the credit constraints many developing economies suffer from.

4 Data

The data used in our empirical analysis is based on a unique survey conducted by Gallego and Mendola in 42 communities (both urban and rural) in two provinces (Maputo and Gaza) in the South of Mozambique. The survey was conducted in August 2008 and contains information on household migration intentions after South African xenophobic attacks along with detailed demographic characteristics of household members, migration status, educational levels, household asset endowments, and formal and informal social networks from a sample of 1,002 households.

The sample is representative at the regional level, and demographic, ethnic, and community characteristics are very similar to distributions of the general population living in the south of Mozambique (Maputo and Gaza provinces). The sampling design was subject to a standard two-stage procedure, which first selects communities (enumeration areas) and then households. In particular, our sampled communities were chosen randomly, weighting by the number of individuals using the most recent national census implemented in 2007 by the Mozambican National Statistical Institute (INE). In each community, the population has been canvassed prior to the beginning of the survey to identify two groups, i.e., households with at least one current international migrant

and households with no migrants. The target number of households was drawn randomly from each of the two subgroups, in the same proportion as the actual migration rate.

The survey instruments were designed as to collect detailed data on both household migration experience and social network participation in Mozambique. One specific module of the questionnaire was devoted to collect information on the effect of xenophobic attacks in South Africa on migration intentions of Mozambicans. The survey respondent is typically the best informed adult in the household. Although the survey instruments follow the methodology of the Living Standard Measurement Studies of the World Bank, they were tailored to allow accurate measurement of migration experience of each adult member in the household and migration intentions for different periods of interest.

With respect to migration intentions, retrospective information was asked on current migration intention (in August 2008) and past migration intention (1 year earlier) of household members. The brief period of time that elapsed between the time of the survey and the xenophobic attacks should foster a good perception of current and past intentions. Moreover, we can control for a "good old times" bias and for any other aggregate shock that might affect migration intentions even in the absence of xenophobic attacks by using the same information relative to a "placebo" period (when no major occurrence had arisen).[2]

Thus, the survey questions are as follow: (a) "Do you or any member of your household have any intention to migrate to South Africa in the next 6 months?", (b) "Are you aware of the xenophobic attacks occurred in South Africa in the last few months?" (c) "Did you or any member of your household have any intention to migrate to South Africa in the last year?" (d) "Did you or any member of your household have any intention to migrate to South Africa in the last 6 months?" (placebo period). Answers to migration intentions were chosen from the preset list of four alternatives: "no intention," "weak intention," "strong intention," and "surely."

The survey instruments include socioeconomic and demographic characteristics followed by information on migration experience and group participation. Data on migration of household members were also gathered, including information on duration and destination of migration and whether migration involved moving costs and remittances. In addition, a community questionnaire was implemented to the community leader to collect information on the institutional and market organization, community infrastructure, and social cohesion.

Overall, 95 % of our sample households report to be aware of the xenophobic attacks that occurred in South Africa in May 2008. Positive migration intentions are plotted in Fig. 2. A 33 % of our sampled household respondent had no intention to migrate in 2008 compared to 37 % 6 months and 1 year

[2]See Vicente (2010) for a paper using a similar methodology.

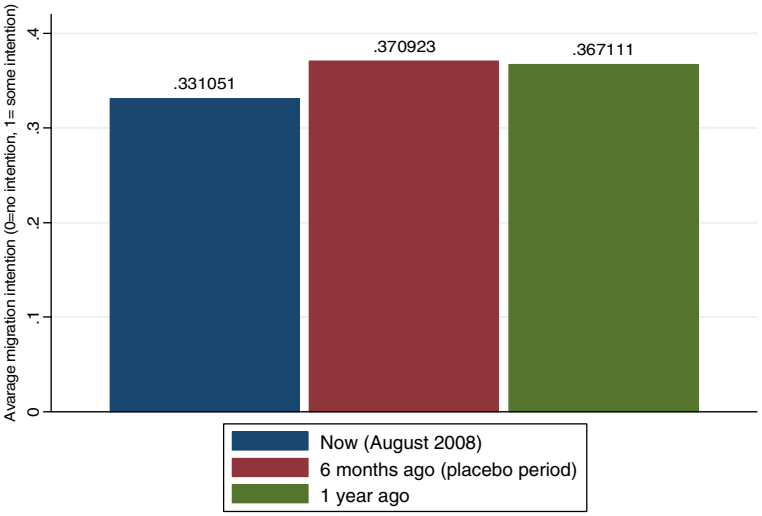


Fig. 2 Incidence of positive migration intention over time

Table 3 Migration intentions over time (in percentage)

	Now (Aug 2008)	1 year earlier (Aug 2007)	6 months earlier (Jan 2008) placebo period	Total
No intention	66.89	63.29	62.91	64.36
Weak intention	9.05	10.79	12.35	10.73
Strong intention	11.31	11.84	11.63	11.59
Surely	12.75	14.08	13.11	13.31
Total	100	100	100	100

Table 4 Migration intentions over time by household size (in percentage)

	Now (Aug 2008)	1 year earlier (Aug 2007)	6 months earlier (Jan 2008) placebo period	Total
HH subsample with small household size (<4)				
No intention	73.31	74.48	73.62	73.81
Weak intention	9.63	5.39	9.07	8.0
Strong intention	6.59	9.34	7.77	7.9
Surely	10.47	10.79	9.54	10.27
HH subsample with big household size (>7)				
No intention	50.96	50.98	60.22	54.06
Weak intention	18.5	17.59	10.6	15.56
Strong intention	13.87	13.89	13.66	13.81
Surely	16.67	17.53	15.52	16.57

Table 5 Migration intentions over time by HH group membership/social network (in percentage)

	Now (Aug 2008)	1 year earlier (Aug 2007)	6 months earlier (Jan 2008) placebo period	Total
HH subsample with no group membership				
No intention	61.82	61.67	66.89	63.46
Weak Intention	10.93	12.32	8.84	10.7
Strong intention	10.92	11.37	9.97	10.75
Surely	16.33	14.64	14.31	15.09
HH subsample with group membership				
No intention	67.34	66.3	66.92	66.85
Weak Intention	10.41	12.41	9.64	10.82
Strong intention	14.37	12.36	14.99	13.91
Surely	7.88	8.93	8.46	8.42
Total	100	100	100	100

before the year of the survey. The difference between 1 year before and the placebo moment 6 months before is negligible, while the difference to 2008 is statistically significant. Descriptive statistics of main variables of interest can be found in Tables 3, 4 and 5.

Table 3 presents the distribution of migration intentions across the four categories over the periods of reference, and we observe a decrease of any positive migration intention from 2007 to 2008. The tables show some asymmetries in

Table 6 Summary statistics of household level controls

Variable	Obs	Mean	SD	Min	Max
Female HH head (%)	2,706	0.39	0.49	0	1
Age of HH head	2,706	45.76	16.63	16	99
HH size	2,706	5.41	3.03	1	15
Number of Female in HH	2,706	2.75	1.80	0	11
Number of children in HH (<5 years)	2,706	0.66	0.88	0	6
Average HH years of schooling	2,706	4.04	2.81	0	14
HH head occupation-farmer (%)	2,706	0.36	0.48	0	1
Wealth Index	2,706	0.00	2.15	−3.7	7.3
HH migration experience (current)	2,706	0.39	0.49	0	1
HH migration experience (past)	2,706	0.26	0.44	0	1
Being informed about attacks in SA	2,706	0.95	0.21	0	1
Ronga	2,706	0.13	0.34	0	1
Chope	2,706	0.01	0.09	0	1
Changana	2,706	0.83	0.37	0	1
Other ethnicity	2,706	0.03	0.16	0	1
No religion	2,706	0.12	0.32	0	1
Catholic	2,706	0.17	0.38	0	1
Spiritism	2,706	0.44	0.50	0	1
HH in urban area (%)	2,706	0.37	0.48	0	1
Community variables					
Paving roads	2,706	0.11	0.32	0	1
Primary school	2,706	0.66	0.48	0	1
Bank	2,706	0.04	0.19	0	1
Market	2,706	0.39	0.49	0	1
Health center	2,706	0.20	0.40	0	1

migration intention between subgroups of population, such as households with different sizes or households with different levels of "social networks," which we will control for in regressions.

Descriptive statistics for control variables such as demographics, education, wealth, international migration experience, and community characteristics are presented in Table 6. The average household size is 5.4 members; 38 % of households have a female head and 38 % had at least one current international migrant in the household; 27 % have past migration experience. Household wealth is measured through a synthetic asset index weighting the ownership of various durable goods and the dwelling conditions. The methodology uses principal components analysis (see Filmer and Prichett 2001). A large number implies a better position of the household.

5 Empirical strategy

The estimation approach is based on comparing migration intentions in the periods before May 2008 and after while controlling for differing characteristics of the household samples (from a wide range of survey demographic measurements) and differing time perception. We estimate migration intentions as follows:

$$P_{it} = \beta_0 + \beta_1 M_{it} + \beta_2 X_i + \gamma T_1 + \varepsilon_{it}$$

where P_{it} is an indicator for migration intention in household i in year t (with t = August2007, August2008); T_1 is a dummy that takes the value one if the observation comes from the period after attacks (August 2008), and zero otherwise; M_{it} measures the migration experience in the household at present and in the past; and X_i is a vector of individual and family characteristics, including age education, household demographics, and community of residence. Standard errors are estimated allowing for clustering at household level as the error is serially correlated.

The main identification issue of this equation estimation arises from the fact that the estimated coefficient γ captures not only the effects of the attacks but also of any other time-varying factors contemporaneous with the attacks that might have affected migrants' intention behavior. To disentangle the effects of xenophobic attacks from any other time trend effects of the economy, besides controlling for a wide range of household and community characteristics as well as community fixed effects, we include the "placebo period effect" in the equation as follows:

$$P_{it} = \beta_0 + \beta_1 M_{it} + \beta_2 X_i + \gamma T_1 + \varphi T_2 + \varepsilon_{it}$$

where T_2 takes value one if the observation comes from the placebo period (January 2008). We expect the coefficient of this variable to be nonsignificant, as no major changes occurred with respect to August 2007. Yet, in order to

control for migration seasonality issues, we further include as an extra control whether households experienced seasonal migration of household members. Overall, given that most of our covariates are time-invariant, our estimation strategy allows us to estimate the change in the expressed emigration attitude.

Furthermore, we investigate whether the household sensitivity to xenophobia at destination varies systematically according to key exogenous sociodemographic characteristics. Given the issues—pointed out by Ai and Norton (2003)—in the estimation of the marginal effects of interaction variables in logistic regressions, we present marginal impact effects of heterogeneous "before-and-after estimates" across subsamples of households. In particular, we estimate heterogeneous effects with respect to the household structure and its engagement in community-based social networks. With respect to the former, we divide the sample into two subsamples according to the household size and composition. With respect to social network participation, the subsample consists of households with and without membership in community-based socioeconomic groups. We estimate heterogeneous effects across the intersection of the above-mentioned subsamples of households to test whether demographic attributes combined with social networks participation increase (or decrease) the cost of migration due to high risk at destination.

6 Results

6.1 Baseline regressions

Table 7 summarizes probit regression results, where the dependent variable is a binary variable equal to 1 if the household respondent reports a positive intention to emigrate of any household member (i.e., whether the answer to migration intentions reported above is any of the following alternatives: "weak intention," "strong intention," or "surely"). The dependent variable is equal to 0 if the answer is "no intention."[3]

In order to directly interpret the results, we report marginal (or discrete) effects, which are the changes in the predicted probability associated with changes in the explanatory variables. In Table 7, we begin with a restricted specification and then include household and community controls, community fixed effects, and other specific controls related to the "placebo effect." Controls include gender, age, and occupation of household head, household size, number of females and children (0–4) in the household, household ethnicity and religion, average years of schooling in the household, and a household

[3]Since the ordered probit results are harder to summarize, we use the dichotomous measure by aggregating the different degrees of positive migration intentions and estimate probit specification. Yet, we also run ordered probit regressions using the four categories, and results are available upon request.

Table 7 Probit marginal effects of positive migration intentions

	(1)	(2)	(3)	(4)	(5)	(6)
Tdummy (Aug 2008)[a]	−0.040***	−0.039**	−0.041**	−0.043**	−0.046**	−0.046**
	(0.015)	(0.016)	(0.018)	(0.019)	(0.019)	(0.019)
Tdummy		0.003	0.003	0.003	0.004	0.004
(Jan 2008)-placebo		(0.009)	(0.010)	(0.011)	(0.011)	(0.011)
HH migration				0.240***	0.262***	0.263***
experience (current)				(0.039)	(0.041)	(0.041)
HH migration				0.163***	0.189***	0.188***
experience (past)				(0.047)	(0.048)	(0.048)
Seasonal migration				−0.010	−0.027	−0.033
experience				(0.083)	(0.086)	(0.085)
Female HH head			−0.073*	−0.081**	−0.076*	−0.071*
			(0.039)	(0.039)	(0.041)	(0.040)
Age of HH head			−0.000	0.004	0.003	0.003
			(0.005)	(0.005)	(0.006)	(0.006)
Age of HH head			−0.000	−0.000*	−0.000	−0.000
squared			(0.000)	(0.000)	(0.000)	(0.000)
HH size			0.035***	0.016	0.023**	0.023**
(including migrants)			(0.011)	(0.011)	(0.011)	(0.011)
Number of females			0.001	0.018	0.018	0.018
in the HH			(0.017)	(0.017)	(0.017)	(0.017)
Number of children			−0.011	−0.016	−0.022	−0.020
in the HH			(0.026)	(0.025)	(0.026)	(0.026)
(<5 years old)						
Average HH years			−0.003	−0.023	−0.054**	−0.053**
of schooling			(0.021)	(0.021)	(0.022)	(0.022)
Average HH years			−0.001	0.001	0.003	0.003
of schooling squared			(0.002)	(0.002)	(0.002)	(0.002)
HH head			−0.142***	−0.143***	−0.167***	−0.166***
occupation-farmer			(0.039)	(0.039)	(0.042)	(0.042)
Wealth index[b]			0.034***	0.031***	0.029**	0.028**
			(0.011)	(0.011)	(0.013)	(0.013)
Wealth index squared			−0.006*	−0.007*	−0.006*	−0.005
			(0.003)	(0.003)	(0.003)	(0.003)
Urban area			−0.075*	−0.079*	0.119	0.128
			(0.041)	(0.041)	(0.296)	(0.297)
Being informed about						−0.104
attacks in SA						(0.103)
Ethnicity, religion	Yes	Yes	Yes	Yes	Yes	Yes
controls						
Community controls	No	No	Yes	Yes	No	No
Community fixed	No	No	No	No	Yes	Yes
effects						
Observations	2,701	2,701	2,701	2,701	2,701	2,701

Robust standard errors clustered at household levels in parentheses. The dependent variable is a discrete variable equal to 1 if the household respondent reports a positive intention of emigration (0 otherwise). Columns 5–6 show estimates with fixed effects at the community level. Further household characteristics include ethnic group (Changana, Ronga, Chope, other minorities) and religion (Catholic, Presbyterian, Methodist, Anglican, Baptist, Adventist, Islam, tradition spiritism, others). Community level characteristics include the quality of roads, school, health facilities, formal bank and market availability

[a]Reference category is August 2007

[b]Wealth index is the first component of a principal component analysis, which uses dwelling conditions and asset ownership of the HH

*$p < 0.1$; **$p < 0.05$; ***$p < 0.01$

wealth indicator. The last two variables are included also in squared terms as to allow for a potential nonlinear relationship between migration intentions and the household skill and wealth position. We further include a dummy variable for urban areas and community-level characteristics, such as the quality of roads, school and health facilities, formal bank, and market availability. We finally rule out any unobservable community-level characteristics potentially associated with variation in migration intentions, and we fully focus on the within-community variation by running specifications with community fixed effects (where the community is our primary sampling unit). Including community fixed effects allow us to control for any difference across communities which might affect the level of migration, such as differences in attitudes towards migration, migration history and networks, infrastructure, and labor market characteristics.

In all specifications, with both controls and community fixed effects, Mozambicans' migration intentions are estimated to decrease after the xenophobic shock occurred in South Africa. Adding controls for the household migration experience does not reduce the significance of the post-attack drop nor its dimension. In particular, in the less parsimonious specification, other things being equal, the average propensity to migrate after the attacks is lower than before by 4.6 p.p. hereafter). Importantly, the placebo period has no effect on migration intentions while controlling also for seasonal migration experience. The community fixed effects estimates in the two last columns of Table 7 show that if there are differences in the labor market conditions as well as migration experience across communities, they are ruled out by focusing on variation within communities.

It is worth noting that there is a significant nonlinear relation between the wealth index and the intention to migrate. In particular, at low levels of wealth, a marginal increase in wealth raises propensity to migrate. For better-off households, instead, a marginal increase in wealth decreases migration intention. This reflects the fact that migration is both a costly and risky process but also remunerative in terms of remittances, such that poorer households facing less credit constraints may *need* to migrate more than richer households.[4]

Overall, our results on the time dummies suggest that a drop in the propensity to migrate between August 2008 and August 2007 is attributable to South African violence episodes that occurred in May 2008. The above results represent an average from very heterogeneous households.

6.2 Migration intentions, household size and access to social networks

To learn more about how different types of households behave and what role social networks play, we run the same probit regressions in a set of population

[4]The estimated parameters of wealth index and the square term, in any specification of Table 7, show that the maximum on the relation between migration intention and wealth belongs to the relevant interval of the wealth index (see Tables 6 and 7 for a comparison).

subsamples according to some predetermined household characteristics. These models assess whether and how much these household characteristics reduce (or increase) the cost of xenophobic violence at destination. Tables 8, 9, and 10 present probit marginal effects for a set of subgroups defined by observable household attributes correlated with both migration intentions and the risky

Table 8 Heterogeneous probit model marginal effects

Panel A: HH size	Low (<4)	High (>6)
Tdummy (Aug 2008)[a]	0.005	−0.109***
	(0.028)	(0.034)
Tdummy (Jan 2008)	0.004	0.011
	(0.017)	(0.020)
HH migration experience (current)	0.186***	0.266***
	(0.063)	(0.063)
HH migration experience (past)	0.212***	0.149**
	(0.066)	(0.073)
HH and community controls	Yes	Yes
Observations	1,398	905
Panel B: no. of children (<15 years old)	Low (<2)	High (>4)
Tdummy (Aug 2008)[a]	−0.003	−0.111***
	(0.029)	(0.035)
Tdummy (Jan 2008)	−0.016	0.005
	(0.016)	(0.018)
HH migration experience (current)	0.178***	0.203***
	(0.062)	(0.059)
HH migration experience (past)	0.067	0.100
	(0.071)	(0.070)
HH and community controls	Yes	Yes
Observations	1,216	950
Panel C: no. of females	Low (<2)	High (>4)
Tdummy (Aug 2008)[a]	−0.013	−0.136***
	(0.025)	(0.041)
Tdummy (Jan 2008)	−0.010	0.017
	(0.012)	(0.021)
HH migration experience (current)	0.212***	0.331***
	(0.062)	(0.070)
HH migration experience (past)	0.214***	0.046
	(0.064)	(0.081)
HH and community controls	Yes	Yes
Observations	1,383	733

Robust standard errors clustered at household level in parentheses. The dependent variable is a discrete variable equal to 1 if the household respondent reports a positive intention of emigration (0 otherwise). We distinguish between "low" and "high" subgroups by using always the first two and the last two quantiles of all demographic variable distribution

*$p < 0.1$; **$p < 0.05$; ***$p < 0.01$

[a]Control variables are seasonal migration experience, female HH head, age of HH head, age of HH head squared, HH size, number of females in the HH, number of children in the HH (<5 years old), average HH years of schooling, average HH years of schooling squared, HH head occupation—farmer, wealth index, wealth index squared, ethnicity, religion, urban area, community characteristics (paved road, primary school, bank, market, health facility)

Table 9 Heterogeneous probit model marginal effects

Panel A: community group membership				
	No group member		Group member	
Tdummy (Aug 2008)[a]	−0.061***	−0.061***	−0.008	−0.002
	(0.020)	(0.021)	(0.041)	(0.041)
Tdummy (Jan 2008)		−0.002		0.013
		(0.014)		(0.019)
HH migration experience (current)	0.269***	0.269***	0.134*	0.134*
	(0.046)	(0.046)	(0.070)	(0.070)
HH migration experience (past)	0.193***	0.193***	0.093	0.093
	(0.060)	(0.060)	(0.077)	(0.077)
HH and community controls	Yes	Yes	Yes	Yes
Observations	1,996	1,996	684	684
Panel B: informal social networks				
	No inter-HH exchange		Inter-HH exchange	
Tdummy (Aug 2008)	−0.073***	−0.069***	0.026	0.021
	(0.019)	(0.021)	(0.042)	(0.042)
HH migration experience (current and past)		0.007		−0.008
		(0.014)		(0.017)
Migration experience before the war	0.279***	0.280***	0.101	0.101
	(0.045)	(0.045)	(0.081)	(0.081)
Tdummy (Jan 2008)-placebo	0.209***	0.209***	0.087	0.087
	(0.058)	(0.058)	(0.077)	(0.077)
HH and community controls	Yes	Yes	Yes	Yes
Observations	1,799	1,799	884	884

Robust standard errors clustered at household level in parentheses. The dependent variable is a discrete variable equal to 1 if the household respondent reports a positive intention of emigration (0 otherwise). Group membership is a binary variable equal to 1 if any member of the household has participated in any of the following community group: ROSCAs, bank, farmers association, burials association, ONGs actions, self-help religious group, political group, women group, civic group, migrant's group, young group, and others. Give or receive a binary variable equal to 1 if the HH has given or received products or services in the last month from at least one of the following key persons in the community: traditional leader, elected leader, teacher, agricultural agent, priest, neighbors, health provider, healer, or employer

*$p < 0.1$; **$p < 0.05$; ***$p < 0.01$

[a]Control vars are as in Table 8

nature of migration behavior, that is (a) the number of household members (both adults and children), (b) the degree of household engagement in community-based social networks (i.e., household membership in a community group and household engagement in informal exchanges of goods or services with other households in the community); and (c) the intersection of both household structure and social networks.

Results show that larger households are more sensitive to the xenophobic shock; in other words, the average decrease in migration intentions after the shock is mostly due to large households' responses. Furthermore, other things equal, households with more children (i.e., more than four children of 0–15 years old) are less likely to migrate after the shock by 11 p.p. (panel B Table 8).

Table 10 Heterogeneous probit model marginal effects

	No group member	Group member	No group member	Group member
Panel A: HH size	Low (<4)		High (>7)	
Tdummy (Aug 2008)[a]	−0.018	0.058	−0.141***	−0.075
	(0.031)	(0.055)	(0.041)	(0.072)
Tdummy (Jan 2008)	0.001	0.012	0.000	0.028
	(0.021)	(0.028)	(0.027)	(0.036)
HH migration experience (current)	0.210***	−0.063	0.282***	0.307**
	(0.078)	(0.077)	(0.079)	(0.129)
HH migration experience (past)	0.273***	0.105	0.150	0.104
	(0.086)	(0.095)	(0.094)	(0.123)
HH and community controls	Yes	Yes	Yes	Yes
Observations	1,101	288	614	282
Panel B: no. of children (>15 years old)	Low (<2)		High (>4)	
Tdummy (Aug 2008)[a]	−0.030	0.103	−0.145***	−0.061
	(0.029)	(0.091)	(0.038)	(0.083)
Tdummy (Jan 2008)	−0.019	−0.007	−0.005	0.022
	(0.016)	(0.044)	(0.025)	(0.027)
HH migration experience (current)	0.274***	−0.275***	0.248***	0.178
	(0.069)	(0.085)	(0.076)	(0.113)
HH migration experience (past)	0.048	−0.157**	0.201**	−0.157
	(0.082)	(0.077)	(0.089)	(0.130)
HH and community controls	Yes	Yes	Yes	Yes
Observations	973	237	662	276
Panel C: no. of females	Low (<4)		High (>6)	
Tdummy (Aug 2008)[a]	−0.040	0.060	−0.166***	−0.106
	(0.026)	(0.068)	(0.050)	(0.081)
Tdummy (Jan 2008)	−0.020	0.012	0.008	0.027
	(0.014)	(0.027)	(0.029)	(0.031)
HH migration experience (current)	0.277***	−0.134	0.372***	0.535***
	(0.073)	(0.095)	(0.081)	(0.133)
HH migration experience (past)	0.228***	0.195*	0.042	0.213
	(0.087)	(0.116)	(0.106)	(0.156)
HH and community controls	Yes	Yes	Yes	Yes
Observations	1,044	324	514	213

Robust standard errors clustered at household level in parentheses. The dependent variable is a discrete variable equal to 1 if the household respondent reports a positive intention of emigration (0 otherwise). We distinguish between "low" and "high" subgroups by using always the first two and the last two quantiles of all demographic variable distribution

*$p < 0.1$; **$p < 0.05$; ***$p < 0.01$

[a]Control vars are as in Table 8

In addition, we run regressions differentiating households according to the number of female members as to control for the fact that while household heads are keen to insure welfare of their family, women's labor supply at home might perform an insurance function at household level. Yet, this is not the case as results go in same direction as the above with xenophobic attacks affecting more the intention to migrate of households with many females (panel C Table 8). This reflects the strong patriarchal structure of

the Mozambican society, particularly in the south of the country, and the extremely low participation of women in the labor market as well as in several aspects of the local socioeconomic life. We have also run robustness checks including adult children, who through their work may provide some insurance in case the household head is affected by violence, but nothing changes (see Table 14 in the Appendix).

Table 9 reports the same regression specification as the above across subsamples of households, according to their engagement in community-based social networks. Results show that households with no group membership or no informal social networks are less likely to migrate after the shock by more than 6 p.p. This seems to suggest that people who do have access to a social buffer have a much lower sensitivity of migration intentions than people who have no access to social networks.

In Table 10, we further explore the interplay between family structure and social insurance in affecting risky migration behavior. Results show that social networks do not have the same "mitigating effect" on migration intentions when people have few children or households are small. Large families with no social networks, however, significantly decrease their likelihood to migrate by 15 p.p. This seems to suggest that, according to the theory, having a family (and children) has a deterrent effect in risky migration behavior, but if the family is "well connected," this mitigating effect disappears.

6.3 Alternative specifications

So far, we have run separate regressions for household subsamples to allow for the effect of xenophobic attacks to interact with household-level characteristics. In order to test whether the difference between our heterogeneous before-and-after estimates are statistically significant, we run specifications with controls for the interactions between the xenophobic shock—as well as the placebo variable—and household-level characteristics that influence both the degree of risk and insurance. Results reported in Tables 15, 16, 17, and 18 in the Appendix test the main effects of the xenophobic attacks and the household-level characteristics, while also testing if the xenophobic shock has an effect on the slopes of these characteristics. Because the interpretation of interaction effects is complicated in probit regression (Ai and Norton 2003), we only report the coefficients (not odds ratios) and concentrate on significance and direction.[5]

[5]We also run additional models to estimate interaction effects. We run both linear probability models and probit model marginal effects using the command *inteff* in Stata developed by Norton et al. (2004). The latter command allows to compute the correct marginal effect and significance of the interaction variable in a probit model. Results are consistent with those reported in Tables 15, 16, 17, and 18 in the Appendix (results available upon request).

In Table 15, we test interaction effects of the xenophobic shock with household demographic characteristics, i.e., household size, number of children, and number of females, using the latter as continuous (panel A) and discrete variables (panel B). The same variables are interacted with the placebo period. Table 16 adds to models in Table 15 community fixed effects as controls. In Table 17, we test interaction effects with household group participation. Overall, compared to models in Tables 8 and 9, we find consistent results for household-level variables and interaction terms. While the main effect of the time dummy for the xenophobic shock is not significant, the time dummy interacts significantly with the three household demographic characteristics. This is to say that household demographic characteristics have a significant impact on the difference of migration intentions before and after the xenophobic shock. In particular, large households and households with many children and females are significantly more sensitive to the xenophobic shock with respect to smaller households or families with few dependents. Households with group membership, on the other hand, are not significantly more (or less) sensitive to the xenophobic shock, whilst the latter still has a significant negative main effect on migration intentions.[6]

Finally, Table 18 reports regression results including interaction effects of time dummies with the three groups of demographics combined with household group participation. In particular, building from models in Table 10, we estimate an equation that allows for differences in migration intentions among four groups: small households with group membership, large households with group membership, small households with *no* group membership, and large households with *no* group membership. The estimation of a specification with three dummy variables (and one base category) allows us to assess the proportionate difference in migration intentions with respect to the base group. Results show that households with many children and no group membership are significantly more sensitive to the xenophobic shock with respect to small households with no group membership (base group)—but the same does not hold for large households with group membership, whose coefficient is not significant. This seems to suggest that the latter group of households is more protected via group membership. Meanwhile, Table 11 shows occupation of migrants at destination.

Overall, the results are consistent with our predictions: violence has the smallest effects on migration intentions in households without kids and the largest on people with kids whose family is badly connected. People with kids who have a good network will be less sensitive than the ones with bad networks.

[6]We also test interaction effects of informal social ties as a measure of social networks, finding similar results as using household group participation (results available upon request).

Table 11 Occupation at destination (in percentage)

	Current migrants
Farm worker	1.23
Non-farm worker/employee	5.19
Self-employed	2.31
Informal worker (trader, street vendor)	12.68
Student	4.12
Domestic worker	3
Miner	15.75
Skilled worker	7.22
Unkilled worker	15.2
Unknown	21.02
Unemployed	4.08
Other	8.2
Type of contract of current migrants at destination (%)	
Permanent	20.06
Temporary	44.78
Seasonal	6.74
NR	28.41
Total	100

7 Robustness and discussion

On the most general level, it could be argued that social networks are not exogenous to migration behavior. There is indeed ample evidence that immigrants' social networks in the country of destination are important, because former migrants help newcomers to settle down, while far less evidence exists on the role of group participation and social arrangements at origin (see Munshi and Rosenzweig 2009, for an exception). However, we have evidence that indicates that it this is not the case in Mozambique. Rather, family plays an important role on migration behavior (see Table 12).

Household with migrants in our survey answered that the main source of help in the migration process was family members at origin or destination (46 % for current migrants and 51 % for returned migrants), followed by their

Table 12 Source of help on the migration process

	Current migrants	Past migrants
Family in Mozambique	33.75	33.89
Family abroad	12.97	17.94
Friends in Mozambique	4.53	2.99
Friends abroad	5.16	1.33
Previous experience	34.69	24.58
Neighbours	0.78	0.66
Government	0.78	3.32
Recruitment agency	4.69	11.63
Other	2.66	3.65

own experience (34 % for current migrants and 24 % for returned migrants). In addition, family members give housing at destination to the new migrants (40 % of current migrants live with some family members). Second, as we have included community fixed effects in our estimates, we do control for the community migration network (i.e., the proportion of former migrants in a given community), which could lower the costs of migrating and finding a job at destination (Massey 1988; Massey et al. 1994; McKenzie and Rapoport 2010).[7]

Further evidence stems from the SA Census in 2001[8] that shows that Mozambicans are low-skill migrants, and they do not cluster in one particular occupation as would be the case if a migration network is acting at destination. Migrants serve in different occupations, e.g., agricultural, mining, construction, and retail trade (see panel A and panel B of Table 13).

Panel C of Table 13 also shows that Mozambican migrants spread over four provinces located in the north region of South Africa (North West, Gauteng, Mpumalanga, and Limpopo), which is consistent with the idea of cross-border migration phenomenon between Mozambique and South Africa. The path of location is similar to the flows of migrants from other African countries (with Zimbabwe as the main sending country after Mozambique), but different from the location of non-African migrants who cluster mainly on two provinces, Western Cape (the region of Cape Town) and Gauteng (the region of Johannesburg).

We are, hence, confident that group participation in Mozambique is exogenous to migration behavior and labor market outcomes (wages) of immigrants in South Africa, as well as to the migrant's likelihood to be hit by xenophobic attitudes in regions of destination. Finally, by comparing migration intentions from different communities in a single 1-year period (before and after exogenous xenophobic shocks), we are much less concerned about the interaction between community networks and labor market outcomes in Mozambique as well. This is so because access to groups and social networks is not an open process, but there are frictions to participation such as transactions costs, imperfect commitment, asymmetric information, lack of enforceability, or any other process that limits informal social arrangements (see Fafchamps 1992; Ligon et al. 2002). Thus, we can rule out the possibility that households start joining networks at origin due to xenophobic attacks at destination over such a short period of time.

[7]Notice also that we do not look at the onset of the migration phenomenon in Mozambique when social help through networks would be particularly important. Rather, migration between Mozambique and South Africa is a long-lasting and widespread phenomenon. While Mozambicans have historically been the main labor force for South African mines, most of today's migration from Mozambique is not permanent (life cycle) but temporary or circular migration, for which the role of networks is believed to be less important (Massey et al. 1994). From our survey, we know that 80 % of the current migration is temporary migration. The average duration of the migration spell by returned migrants is 9 months.

[8]The most recent South African census refers to the year 2007, but there is no information on the country of origin for migrants. The census of 1996 shows the same path as for the 2001 census presented here.

Table 13 Characteristic of migrants in South Africa by country of origin

	Mozambique	Other African countries	Non-African countries
Panel A: education			
Less than primary completed	46.20	16.61	1.68
Primary completed	46.35	35.28	13.06
Secondary completed	6.88	36.98	57.78
University completed	0.57	11.13	27.48
Panel B: occupation			
Agriculture, fishing, and forestry	23.16	9.33	1.99
Mining	23.09	18.27	1.93
Manufacturing	8.00	9.53	17.32
Electricity, gas, and water	0.23	0.55	0.84
Construction	12.57	4.91	4.87
Wholesale and retail trade	13.24	12.21	18.20
Hotels and restaurants	1.03	2.60	3.28
Transportation and communications	2.10	3.31	5.22
Financial services and insurance	0.26	3.04	4.93
Public administration and defense	0.72	3.22	3.14
Real estate and business services	1.97	8.27	12.89
Education	0.18	3.23	5.30
Health and social work	0.52	3.66	5.72
Other services	1.80	3.34	4.55
Private household services	4.57	6.81	0.30
Unknown	6.57	7.72	9.55
Panel C: location			
Western Cape	0.30	6.24	18.23
Eastern Cape	0.02	1.91	4.80
Northern Cape	0.01	0.97	0.35
Free State	2.38	5.45	1.74
KwaZulu-Natal	2.49	6.85	13.63
North West	14.50	11.96	2.35
Gauteng	46.12	46.79	55.02
Mpumalanga	22.43	11.46	2.03
Limpopo	11.75	8.37	1.83

Source: South African Census 2001, IPUMSI

A number of additional concerns should be briefly discussed. The first question is whether networks may affect labor outcomes in South Africa. Consider that people who are better connected in Mozambique would receive higher wages. We would then measure a simple wage effect rather than the insurance effects of social networks against the risk of death or injury of the household head. The wage effect would, however, not explain why it is particular for families with young children whose migration intentions are affected by social networks. Moreover, we know that migrants from Mozambique sell their work on the South African spot market to South Africans. (Table 11 lists the distribution of occupations among our sampled individuals employed in SA.)

Being connected in Mozambique, thus, should not substantially affect the South African labor market outcome. Network membership may affect the wage in Mozambique, though. But if anything, this would make our results

even stronger, because it would imply that connected people would be less and not more likely to migrate.

A second related question is whether being a network member could reduce the risk of being harmed in South Africa. However, it seems little convincing to believe that network membership in Mozambique could help people against street violence in South Africa, where people who would be identified as nonnatives could become victim at any time during the riots.

A third concern is that people with higher levels of trust in the society as a whole participate more in social networks and also are more willing to take the risk and migrate to South Africa. If this was the case, we would be capturing a spurious relation between networks and migration intentions. Yet, this argument would entail that people's trust should be related to both Mozambican and South African society in the same way, which is unlikely given the large differences between the two countries. And, this argument would still fail to explain why it is particular in large families where migration intentions decrease.

8 Concluding remarks

A unique representative household survey collected in Southern Mozambique in summer 2008 shows that migration intentions to South Africa have been affected substantially after violent xenophobic attacks. Migration arguably has important effects on the development of both South Africa and other African countries. However, given anti-immigration feelings and xenophobic behavior, not only in South Africa, it is of interest to understand how these attitudes at destination affect out-migration behavior in countries of origin.

Our identification strategy is based on the comparison of migration intentions of Mozambicans before and after the attacks occurred in May 2008 and on the use of a placebo period in which no violence occurred. Our results show that, other things equal, the migration intention of household heads decreases by no less than 4 p.p. after the attacks. We also estimate heterogeneous before-and-after effects across subsamples of households according to some predetermined sociodemographic characteristics. We find that the impact of violence on migration intentions is largest for household with many young children. Access to social networks seems to mitigate the perceived danger, though. Indeed, the sensitivity of migration intentions is much higher for household heads with many young children whose families have *no* access to social networks. For these household heads, the intention falls by 15 p.p. Social networks, hence, seem to play an important role in the migration decision, in that they act as an insurance device against the risks associated with migration. Indeed, networks in migrant-sending communities can insure families against the income losses owing to injury or death of the household head.

According to our study, violence in a destination country may constitute a massive obstacle for migrants, in particular for those that leave large families behind with little access to social insurance arrangements. Yet, access to social networks in the country of origin cannot offer protection against violence in the host country to the migrants themselves, so that our findings suggest that migrant workers care more about the future of their offspring than about their own health.

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Appendix

Table 14 Heterogeneous probit model marginal effects

Panel A: no. of "adult children" (>15 years old)	Low (<1)	High (>2)
Tdummy (Aug 2008)[a]	−0.008	−0.117***
	(0.026)	(0.035)
Tdummy (Jan 2008)	0.019	−0.009
	(0.016)	(0.021)
HH migration experience (current)	0.220***	0.292***
	(0.056)	(0.072)
HH migration experience (past)	0.179***	0.172**
	(0.060)	(0.088)
HH and community controls		
Observations	1,509	763
Panel B: no. of male "adult children" (>15 years old)	**Low (<0)**	**High (>2)**
Tdummy (Aug 2008)[a]	−0.011	−0.112***
	(0.023)	(0.033)
Tdummy (Jan 2008)	0.015	−0.019
	(0.014)	(0.017)
HH migration experience (current)	0.238***	0.214***
	(0.051)	(0.067)
HH migration experience (past)	0.183***	0.142*
	(0.057)	(0.086)
HH and community controls		
Observations	1,754	947

Robust standard errors clustered at household level in parentheses. The dependent variable is a discrete variable equal to 1 if the household respondent reports a positive intention of emigration (0 otherwise). We distinguish between "low" and "high" subgroups by using always the first two and the last two quantiles of all demographic variable distribution

*$p < 0.1$; **$p < 0.05$; ***$p < 0.01$

[a]Control vars are as in Table 8

Table 15 Probit model of positive migration intentions—interaction effects with demographics

	(1)	(2)	(5)	(6)	(9)	(10)
Panel A						
Tdummy (Aug 2008)	0.143	0.115	0.014	−0.004	0.110	0.086
	(0.116)	(0.119)	(0.083)	(0.086)	(0.103)	(0.105)
Tdummy (Jan 2008)-placebo		−0.057		−0.036		−0.049
		(0.055)		(0.047)		(0.044)
HH size*Tdummy (Aug 2008)[a]	−0.050**	−0.044**				
	(0.021)	(0.021)				
HHsize[a]	0.048	0.042				
	(0.032)	(0.032)				
HH size*Placebo_Tdummy (Jan 2008)[a]		0.012				
		(0.008)				
Nchildren*Tdummy (Aug 2008)[a]			−0.060*	−0.050		
			(0.031)	(0.032)		
No. of children[a]			−0.049	−0.059		
			(0.052)	(0.052)		
Nchildren*placebo_Tdummy (Jan 2008)[a]				0.020		
				(0.015)		
Nfemale*Tdummy (Aug 2008)[a]					−0.076**	−0.067**
					(0.031)	(0.031)
No. of females[a]					0.093**	0.084*
					(0.045)	(0.046)
Nfemale*placebo_Tdummy (Jan 2008)[a]						0.019*
						(0.011)
HH migration experience (past)	0.446***	0.446***	0.440***	0.441***	0.446***	0.446***
	(0.121)	(0.121)	(0.122)	(0.122)	(0.121)	(0.121)
HH migration experience (current)	0.714***	0.714***	0.720***	0.720***	0.713***	0.714***
	(0.107)	(0.107)	(0.107)	(0.107)	(0.107)	(0.107)
Constant	−0.770*	−0.742*	−0.681	−0.663	−0.758*	−0.734*
	(0.426)	(0.427)	(0.419)	(0.419)	(0.426)	(0.426)

Table 15 (continued)

	(1)	(2)	(5)	(6)	(9)	(10)
Panel B						
Tdummy (Aug 2008)	−0.027	−0.029	−0.022	−0.017	−0.022	−0.026
	(0.063)	(0.067)	(0.061)	(0.066)	(0.059)	(0.063)
Tdummy (Jan 2008)-placebo		−0.004		0.011		−0.008
		(0.038)		(0.041)		(0.038)
ManyHHmembers*Tdummy (Aug 2008)[b]	−0.249**	−0.233**				
	(0.103)	(0.107)				
ManyHHmembers[b]	0.026	0.009				
	(0.141)	(0.144)				
ManyHHmembers*placebo_Tdummy (Jan 2008)[b]		0.033				
		(0.062)				
Manychildren*Tdummy (Aug 2008)[b]			−0.261**	−0.261**		
			(0.107)	(0.112)		
Manychildren[b]			−0.390***	−0.390***		
			(0.147)	(0.150)		
Manychildren*placebo_Tdummy (Jan 2008)[b]				−0.001		
				(0.061)		
Manyfemales*Tdummy (Aug 2008)[b]					−0.301***	−0.276**
					(0.108)	(0.112)
Manyfemales[b]					0.090	0.064
					(0.146)	(0.148)

Table 15 (continued)

	(1)	(2)	(5)	(6)	(9)	(10)
Manyfemales*placebo_Tdummy (Jan 2008)[b]						0.052
						(0.062)
HH migration experience (past)	0.454***	0.454***	0.435***	0.435***	0.430***	0.430***
	(0.120)	(0.120)	(0.123)	(0.123)	(0.121)	(0.121)
HH migration experience (current)	0.686***	0.686***	0.754***	0.754***	0.746***	0.746***
	(0.104)	(0.104)	(0.108)	(0.108)	(0.105)	(0.105)
Constant	−0.770*	−0.768*	−0.669	−0.675	−0.711*	−0.707*
	(0.427)	(0.427)	(0.419)	(0.419)	(0.425)	(0.425)
HH and community controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,701	2,701	2,701	2,701	2,701	2,701

Robust standard errors clustered at household level in parentheses. In panel A, the household size, no. of children and no. of females in the household are measured as continuous variables. In panel B, the household size, no. of children, and no. of females in the household are measured as dummy variables equal to 1 if the number is equal or higher than 6, 4, and 4, respectively

*$p < 0.1$; **$p < 0.05$; ***$p < 0.01$

[a]The dependent variable is a discrete variable equal to 1 if the household respondent reports a positive intention of emigration (0 otherwise)

[b]Control vars are as in Table 8

Table 16 Probit model of positive migration intentions—interaction effects with demographics

	(1)	(2)	(5)	(6)	(9)	(10)
Panel A						
Tdummy (Aug 2008)	0.143	0.112	0.008	−0.011	0.112	0.088
	(0.121)	(0.124)	(0.087)	(0.090)	(0.109)	(0.111)
Tdummy (Jan 2008)-placebo		−0.063		−0.038		−0.048
		(0.058)		(0.050)		(0.048)
HH size*Tdummy (Aug 2008)[a]	−0.052**	−0.045**				
	(0.021)	(0.021)				
HHsize[a]	0.072**	0.066*				
	(0.033)	(0.034)				
HH size*placebo_Tdummy (Jan 2008)[a]		0.014				
		(0.009)				
Nchildren*Tdummy (Aug 2008)[a]			−0.062*	−0.052		
			(0.033)	(0.034)		
No. of children[a]			−0.069	−0.080		
			(0.052)	(0.052)		
Nchildren*placebo_Tdummy (Jan 2008)[a]				0.022		
				(0.016)		
Nfemale*Tdummy (Aug 2008)[a]					−0.080**	−0.071**
					(0.032)	(0.033)
No. of females[a]					0.077	0.068
					(0.050)	(0.050)
Nfemale*placebo_Tdummy (Jan 2008)[a]						0.019
						(0.012)
HH migration experience (past)	0.521***	0.521***	0.514***	0.515***	0.521***	0.521***
	(0.126)	(0.126)	(0.126)	(0.126)	(0.125)	(0.125)
HH migration experience (current)	0.807***	0.807***	0.677***	0.677***	0.716***	0.716***
	(0.110)	(0.110)	(0.114)	(0.114)	(0.112)	(0.112)
Constant	−0.024	0.008	0.077	0.097	0.004	0.028
	(0.503)	(0.503)	(0.492)	(0.492)	(0.500)	(0.501)

Table 16 (continued)

	(1)	(2)	(5)	(6)	(9)	(10)
Panel B						
Tdummy (Aug 2008)	−0.033	−0.036	−0.028	−0.021	−0.027	−0.031
	(0.067)	(0.071)	(0.065)	(0.070)	(0.062)	(0.066)
Tdummy (Jan 2008)-placebo		−0.006		0.013		−0.008
		(0.040)		(0.044)		(0.041)
ManyHHmembers*Tdummy (Aug 2008)[b]	−0.259**	−0.239**				
	(0.109)	(0.113)				
ManyHHmembers[b]	0.063	0.043				
	(0.145)	(0.149)				
ManyHHmembers*placebo_Tdummy (Jan 2008)[b]		0.040				
		(0.066)				
Manychildren*Tdummy (Aug 2008)[b]			−0.277**	−0.277**		
			(0.115)	(0.120)		
Manychildren[b]			−0.475***	−0.475***		
			(0.146)	(0.149)		
Manychildren*placebo_Tdummy (Jan 2008)[b]				0.000		
				(0.066)		
Manyfemales*Tdummy (Aug 2008)[b]					−0.320***	−0.293**
					(0.115)	(0.120)
Manyfemales[b]					0.048	0.020
					(0.154)	(0.156)

Table 16 (continued)

	(1)	(2)	(5)	(6)	(9)	(10)
Manyfemales*placebo_Tdummy (Jan 2008)[b]						0.056
						(0.067)
HH migration experience (past)	0.533***	0.533***	0.513***	0.513***	0.510***	0.510***
	(0.125)	(0.125)	(0.126)	(0.126)	(0.125)	(0.125)
HH migration experience (current)	0.772***	0.773***	0.702***	0.702***	0.700***	0.700***
	(0.109)	(0.109)	(0.112)	(0.112)	(0.111)	(0.111)
Constant	−0.047	−0.043	0.052	0.046	0.037	0.041
	(0.501)	(0.501)	(0.497)	(0.497)	(0.500)	(0.502)
HH controls	Yes	Yes	Yes	Yes	Yes	Yes
Community fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,701	2,701	2,701	2,701	2,701	2,701

Robust standard errors clustered at household level in parentheses. In panel A, the household size, no. of children and no. of females in the household are measured as continuous variables. In panel B, the household size, no. of children and no. of females in the household are measured as dummy variables equal to 1 if the number is equal or higher than 6, 4, and 4, respectively

*$p < 0.1$; **$p < 0.05$; ***$p < 0.01$

[a]The dependent variable is a discrete variable equal to 1 if the household respondent reports a positive intention of emigration (0 otherwise)

[b]Control vars are as in Table 8 plus community fixed effects

Table 17 Probit model of positive migration intentions—interaction effects with group participation

	(1)	(2)	(3)	(4)
Tdummy (Aug 2008)	−0.159***	−0.160***	−0.173***	−0.174***
	(0.054)	(0.058)	(0.057)	(0.061)
Tdummy (Jan 2008)		−0.002		−0.002
		(0.037)		(0.040)
Group*Tdummy (Aug 2008)	0.120	0.140	0.126	0.149
	(0.124)	(0.127)	(0.131)	(0.135)
Group participation	−0.207	−0.227*	−0.166	−0.190
	(0.127)	(0.131)	(0.136)	(0.141)
Group*placebo_Tdummy (Aug 2008)		0.039		0.047
		(0.064)		(0.068)
HH migration experience (current)	0.645***	0.645***	0.712***	0.712***
	(0.107)	(0.107)	(0.111)	(0.111)
HH migration experience (past)	0.466***	0.466***	0.534***	0.534***
	(0.123)	(0.123)	(0.128)	(0.128)
HH and community controls	Yes	Yes	Yes	Yes
Community fixed effects	No	No	Yes	Yes
Observations	2,701	2,701	2,701	2,701

Robust standard errors clustered at household level in parentheses. The dependent variable is a discrete variable equal to 1 if the household respondent reports a positive intention of emigration (0 otherwise). Control vars are as in Table 8 (col. 1 and 2) plus community fixed effects (col. 3 and 4). Group is a dummy variable equal to 1 if the household is a member of one community group
*$p < 0.1$; **$p < 0.05$; ***$p < 0.01$

Table 18 Probit model of positive migration intentions—interaction effects with demographics and group participation

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Tdummy (Aug 2008)	−0.067	−0.077	−0.048	−0.050	−0.061	−0.075	−0.075	−0.088	−0.056	−0.059	−0.068	−0.084
	(0.068)	(0.071)	(0.069)	(0.073)	(0.064)	(0.068)	(0.072)	(0.076)	(0.074)	(0.078)	(0.068)	(0.071)
Tdummy (Jan 2008)	0.009	−0.011	0.011	0.007	0.010	−0.019	0.011	−0.015	0.014	0.007	0.012	−0.021
	(0.030)	(0.045)	(0.031)	(0.048)	(0.030)	(0.045)	(0.033)	(0.048)	(0.033)	(0.052)	(0.033)	(0.049)
ManyHHmembers_group*Tdummy (Aug 2008)	−0.135	−0.098					−0.143	−0.098				
	(0.170)	(0.171)					(0.180)	(0.181)				
FewHHmembers_group*Tdummy (Aug 2008)	0.179	0.192					0.188	0.204				
	(0.168)	(0.177)					(0.176)	(0.186)				
ManyHHmembers_nogroup*Tdummy (Aug 2008)	−0.245**	−0.233*					−0.254**	−0.238*				
	(0.113)	(0.120)					(0.120)	(0.128)				
ManyHHmembers_group	−0.308	−0.345					−0.292	−0.337				
	(0.225)	(0.228)					(0.228)	(0.232)				
FewHHmembers_group	−0.297*	−0.310*					−0.218	−0.234				
	(0.162)	(0.168)					(0.174)	(0.180)				
ManyHHmembers_nogroup	−0.192	−0.204					−0.170	−0.187				
	(0.178)	(0.181)					(0.185)	(0.188)				
ManyHHmembers_group*placebo_Tdummy		0.074						0.090				
		(0.092)						(0.098)				
FewHHmembers_group*placebo_Tdummy		0.026						0.033				
		(0.084)						(0.088)				
ManyHHmembers_nogroup*Placebo_Tdummy		0.024						0.033				
		(0.077)						(0.084)				
Manychild_group*Tdummy (Aug 2008)			−0.109	−0.082					−0.122	−0.093		
			(0.203)	(0.204)					(0.218)	(0.218)		
Fewchild_group*Tdummy (Aug 2008)			0.109	0.118					0.122	0.134		
			(0.151)	(0.160)					(0.159)	(0.168)		
Manychild_nogroup*Tdummy (Aug 2008)			−0.283**	−0.293**					−0.296**	−0.305**		
			(0.113)	(0.121)					(0.121)	(0.130)		

Table 18 (continued)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Manychild_group			−0.656***	−0.683***					−0.706***	−0.736***		
			(0.220)	(0.223)					(0.224)	(0.228)		
Fewchild_group			−0.204	−0.212					−0.147	−0.159		
			(0.166)	(0.173)					(0.177)	(0.184)		
Manychild_nogroup			−0.404**	−0.395**					−0.454***	−0.445**		
			(0.166)	(0.170)					(0.170)	(0.175)		
Manychild_group*placebo_Tdummy				0.053						0.059		
				(0.078)						(0.086)		
Fewchild_group*placebo_Tdummy				0.017						0.025		
				(0.094)						(0.099)		
Manychild_nogroup*Placebo_Tdummy				−0.018						−0.018		
				(0.077)						(0.084)		
Manyfemale_group*Tdummy (Aug 2008)					−0.195	−0.151					−0.212	−0.162
					(0.195)	(0.195)					(0.211)	(0.211)
Fewfemale_group*Tdummy (Aug 2008)					0.154	0.173					0.163	0.187
					(0.148)	(0.155)					(0.156)	(0.163)
Manyfemale_nogroup*Tdummy (Aug 2008)					−0.291**	−0.266**					−0.305**	−0.277**
					(0.119)	(0.126)					(0.126)	(0.134)
Manyfemale_group					−0.355	−0.399					−0.321	−0.370
					(0.242)	(0.244)					(0.252)	(0.254)
Fewfemale_group					−0.169	−0.188					−0.136	−0.160
					(0.153)	(0.159)					(0.163)	(0.169)
Manyfemale_nogroup					−0.083	−0.109					−0.098	−0.126
					(0.194)	(0.196)					(0.205)	(0.207)

Table 18 (continued)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Manyfemale_group*placebo_Tdummy						0.088						0.099
						(0.084)						(0.093)
Fewfemale_group*placebo_Tdummy						0.039						0.047
						(0.085)						(0.090)
Manyfemale_nogroup*placebo_Tdummy						0.051						0.056
						(0.079)						(0.085)
HH migration experience (current)	0.599***	0.599***	0.618***	0.618***	0.652***	0.652***	0.673***	0.673***	0.703***	0.703***	0.723***	0.724***
	(0.110)	(0.110)	(0.107)	(0.107)	(0.107)	(0.107)	(0.114)	(0.114)	(0.112)	(0.112)	(0.112)	(0.112)
HH migration experience (past)	0.455***	0.455***	0.456***	0.456***	0.469***	0.469***	0.524***	0.524***	0.529***	0.529***	0.540***	0.540***
	(0.123)	(0.123)	(0.125)	(0.125)	(0.123)	(0.123)	(0.129)	(0.129)	(0.129)	(0.129)	(0.128)	(0.128)
HH and community controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Community fixed effects	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,701	2,701	2,701	2,701	2,701	2,701	2,701	2,701	2,701	2,701	2,701	2,701

Robust standard errors clustered at household level in parentheses. The dependent variable is a discrete variable equal to 1 if the household respondent reports a positive intention of emigration (0 otherwise). Control vars are as in Table 8 (col. 1–12) plus community fixed effects (col. 6–12). Household size, no. of children and no. of females in the household are measured as dummy variables equal to 1 if the number is equal or higher than 6, 4, and 4, respectively. In col. 1–12, base group is HHs with few members (of any category, i.e., total, children 0–15, female) and no group participation (same results hold when the base group is HHs with few members and group participation). Group is a dummy variable equal to 1 if the household is a member of one community group

*$p < 0.1$; **$p < 0.05$; ***$p < 0.01$

References

AfDB/OECD (2003) African Economic Outlook 2002/2003. Country studies: Mozambique. OECD and African Development Bank, Paris
AfDB/OECD (2008) African Economic Outlook 2008. Country studies: Mozambique. OECD and African Development Bank, Paris
Ai C, Norton E (2003) Interaction terms in logit and probit models. Econ Lett 80:123–129
Altonji L, Hayashi F, Kotliko L (1992) Is the extended family altruistically linked? Direct tests using micro data. AER, 1177–98
Ambrus A, Mobius M, Szeidl A (2010) Consumption risk-sharing in social networks. NBER working papers 15719, National Bureau of Economic Research
Asbury H (1927) The gangs of New York: an informal history of the underworld. Dorset, New York
Burda MC, Härdle W, Müller M, Werwatz A (1998) Semiparametric analysis of German east-west migration intentions: facts and theory. JAppEconometrics 13(5):525–541
Crush J (2008) The perfect storm: the realities of xenophobia in contemporary South Africa. The Southern Africa Migration Project, Migration Policy Series, 50
Docquier F, Lowell B, Marfouk M (2009) A gendered assessment of highly skilled emigration. Pop&DevRev 35(2):297–322
Drinkwater S, Ingram P (2009) How different are the British in their willingness to move? Evidence from international social survey data. Reg Stud 43(2):287–303
Dubois P, Bruno J, Magnac T (2008) Formal and informal risk sharing in LDCs: theory and empirical evidence. Econometrica 76(4):679–725
Epstein GS, Gang IN (2006) The influence of others on migration plans. RevDevE 10(4):652–665
Fafchamps M (1992) Solidarity networks in preindustrial societies: rational peasants with a moral economy. EcDev&CultChge 41(1):147–174
Fafchamps M, Lund S (2003) Risk sharing networks in rural Philippines. JDevE 71(2):261–287
Filmer D, Prichett L (2001) Estimating wealth effects without expenditure data or tears: an application to education enrolments in states of India. Demography 38(1):115–132
Foster A, Rosenzweig M (2001) Imperfect commitment, altruism and the family: evidence from transfer behavior in low-income rural areas. ReStat 83(3):389–407
Fouarge D, Ester P (2007) Determinants of international and regional migration intentions in Europe. Office for Official Publications of the European Communities, Luxembourg
Genicot G, Ray D (2003) Group formation in risk-sharing arrangements. ReStud 70(1):87–113
Igglesden V, Monso T, Polzer T (2009) Humanitarian assistance to internally displaced persons in South Africa: lessons learned following attacks on foreign nationals. Forced Migration Studies Programme, University of the Witwatersrand
La Ferrara E (2002) Inequality and group participation: theory and evidence from rural Tanzania. JPubE 85(2):235–73
Lam K-C (2002) Interaction between economic and political factors in the migration decision. JCE 30(3):488–504
Liebig T, Sousa-Poza A (2004) Migration, self-selection and income inequality: an international analysis. Kyklos 57:125–146
Ligon E (1998) Risk sharing and information in village economics. ReStud 65(4):847–864
Ligon E, Thomas J, Worrall T (2002) Informal insurance arrangements with limited commitment: theory and evidence from village economies. ReStud 69(1):209–244
Manski CF (1990) The use of intentions data to predict behaviour: a best-case analysis. JofASA 85(412):934–940
Massey DS (1988) International migration and economic development in comparative perspective. Pop&DevRev 14:383–414
Massey DS, Goldring LP, Durand J (1994) Continuities in transnational migration: an analysis of 19 Mexican communities. AJof S 99:1492–1533
McKenzie D, Rapoport H (2010) Self-selection patterns in Mexico-U.S. Migration: the role of migration networks. Rev Econ Stat 92(4):811–821
Mesnard A (2009) Migration, violence and welfare programmes in rural Colombia. IFS Working Paper W09/19
Norton E, Wang H, Ai C (2004) Computing interaction effects and standard errors in logit and probit models. Stata J 4(2):154–167

Papapanagos H, Sanfey P (2001) Intention to emigrate in transition countries: the case of Albania. JPopE 14(3):491–504
PRSP (2007) Republic of Mozambique: poverty reduction strategy paper. IMF Country Report No 07/37
Van Dalen HP, Henkens K (2008) Emigration intentions: mere words or true plans? Explaining international migration intentions and behaviour. Discussion Paper 2008–60, Tilburg University, Center for Economic Research
Vicente P (2010) Does oil corrupt? Evidence from a natural experiment in West Africa. JDevE 92(1):28–38