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**The Decision to Migrate and  
Social Capital: Evidence from  
Albania**

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Enrico Mattei and University of Sussex

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#### Summary

The objective of this paper is to determine whether the participation in social organizations, which are commonly defined as a form of social capital, represents a complement or a substitute with respect to emigration. The nature of the relationship depends on the motivations behind the two choices, which induce the households to join a group and to invest in migration. To address this research question a bivariate probit model is employed, in that the decision to migrate and to join a social organization are estimated simultaneously. Both temporary and permanent emigration of the household are addressed. The results of the empirical estimation reveal that families participating in social organizations are more likely to send siblings abroad permanently, as they may receive from the social network important information that is crucial for permanent emigration. Hence, social capital performs a role as complement to permanent emigration. On the other hand, social capital is associated with a lower probability of moving temporarily. This may indicate that families resort to social capital rather than to temporary circular migration to overcome contingent liquidity constraint and therefore social capital is a substitute for temporary emigration.

**Keywords:** International Migration, Social Capital, Information Network

**JEL Classification:** O15

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# **The decision to migrate and social capital: Evidence from Albania**

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## **Abstract**

The objective of this paper is to determine whether the participation in social organizations, which are commonly defined as a form of social capital, represents a complement or a substitute with respect to emigration. The nature of the relationship depends on the motivations behind the two choices, which induce the households to join a group and to invest in migration. To address this research question a bivariate probit model is employed, in that the decision to migrate and to join a social organization are estimated simultaneously. Both temporary and permanent emigration of the household are addressed. The results of the empirical estimation reveal that families participating in social organizations are more likely to send siblings abroad permanently, as they may receive from the social network important information that is crucial for permanent emigration. Hence, social capital performs a role as complement to permanent emigration. On the other hand, social capital is associated with a lower probability of moving temporarily. This may indicate that families recourse to social capital rather than to temporary circular migration to overcome contingent liquidity constraint and therefore social capital is a substitute for temporary emigration.

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## **1 Introduction**

The fall of the communist regime gave birth to a massive migration movement, which was, to a large extent, the most significant social, political and economic phenomenon experienced by Albania. Initially, this outflow was due to the end of the controls on internal and external migration, although in a more advanced phase, the political instability and the economic downturn gave further impetus to emigration. Italy and Greece are the most important host destinations for Albanian migration. Albania, notwithstanding its effort to build the foundations for a market-based economy, remains one of the poorest countries in Europe. Per capita income is one of the lowest among the transition economies and poverty is pervasive, with 25 percent of the population living in poverty (World Bank, 2007). The poverty experienced by households induced strong migration pressures. The government of Albania estimates that the number of Albanians abroad in 2005 was over one million, representing 30 percent of the total population.

The economic literature has recognized that social network and peer groups play a strong role in challenging poverty and vulnerability, in particular in the context of poorly developed credit and insurance markets. Self-help groups are found to be a crucial source of income for certain vulnerable categories, such as women (La Ferrara 2002b). Social capital is associated with higher per capita consumption expenditures and a lower probability of poverty (Grootaert, 2000; Grootaert et al., 2002; Narayan and Pritchett, 1997). While the link between social capital and poverty has been investigated empirically, the link between social capital and migration has been relatively under-researched. Given the high rate of emigration and suitable conditions for the generation of social capital, Albania represents an ideal case to study this particular connection.

The research question addressed in this paper concerns the type of relationship existing between social capital and out-migration. In this context social capital is captured by the participation in groups of people who get together regularly either to do an activity or to talk about things. In particular the analysis aims to determine whether the participation in social organizations represents a complement or a substitute with respect to emigration. The nature of the relationship depends on the motivations behind the two choices, which induce households to join a group and to invest in migration. In the case where the two decisions are driven by common underlying factors, it can be expected that social capital and migration act as substitutes for one another.

First, social capital helps reduce risks, as a social network can provide support in case of unanticipated adverse shocks. This is particularly relevant in situations of poorly developed insurance markets, where insurance crucially depends on social connections (Fafchamps and Gubert, 2007a; Fafchamps and Lund, 2003). By the same token, the migration decision can be

generated from a risk-sharing behaviour (Halliday, 2006; 2008; Lucas and Stark, 1985; Rosenzweig and Stark, 1989; Yang and Choi, 2007). If risk reduction is the main engine for both investments, then an individual values two alternative options in order to mitigate eventual risks (i.e., social capital or alternatively migration). Another market failure common in developing countries is represented by poor or non-existing credit markets. In this context, both social capital (Besley, 1995; Grootaert et al., 2002; La Ferrara, 2002b) and migration (Lucas, 1987; Rozelle et al., 1999; Taylor, 1992; Taylor and Wyatt, 1996; Taylor et al., 2003) represent an alternative measure which assists households in coping with financial constraints. This example suits the Albanian context well, as the credit markets suffer from imperfections. For example, only one-third of all farm households are able to access credit from a private bank, if they were to ask for a small loan to start a business, at an interest of about 11 percent (World Bank, 2007).

On the contrary, it can be the case that the decision to participate in social capital activities reflects the need to share information. Social capital often operates through diffusing information regarding opportunities, related to labour and credit markets (Granovetter, 1995). Moreover, the social networks facilitate the flow of information and knowledge between economic agents, whereby actions are stimulated, transaction costs are reduced and additional income is generated (Barr, 2000; Coleman, 1988; Tiepoh et al., 2004). At the same time, migration is a risky investment and its costs can be reduced by means of a network of social connections. The members of the social group in origin countries can act as a channel to spread important information that facilitates migration (Massey and Espinosa, 1997; Palloni et al., 2001; Winters et al., 2001). Under this circumstance, migration and social capital may perform a role of complement for one another.

The migration literature to date is replete with contributions that consider social capital as an instrument for transmitting information that facilitates migration. On the contrary, to my knowledge, there are no empirical contributions that investigate the alternative role of social capital in migration, whereby social connections become a substitute for migration as a risk-coping mechanism.

The remainder of the paper is organized as follows. Section 2 presents a brief review of the literature. Section 3 presents a comparison between temporary, permanent and non-migrant families on the basis of selected characteristics. In Section 4 the individual determinants of group formation are studied, building on the work of Alesina and La Ferrara (2000). Section 5 presents the empirical methodology. Section 6 presents the econometric results and section 7 provides a summary and conclusions.

## 2 Literature

The research question above implies that a detailed analysis of the determinants of social capital on the one hand and migration, on the other, are defined. While in the economics literature the decision to migrate has been widely analysed, both theoretically and empirically, theoretical models explaining individual motives for the participation in social groups are limited. As is well known, the migration decision exhibits many similarities with an investment decision and, for this reason, original models of migration described migration as an investment that increases the productivity of personal resources (Sjaastad, 1962). Conversely, rather than considering migration as an individual decision, the *New Economics of Labour Migration* (NELM), introduced by Stark and Bloom (1985), emphasized the role played by the family and it diminishes the prominence of migration returns as the sole determinant of the choice. The contributing insight of the authors is that the decision to migrate may take place within a family or a household context, rather than being entirely a decision exercised in isolation by the individuals. Moreover, income gains from migration should be accompanied by other objectives, such as the minimization of risks or the relaxation of constraints in credit and insurance markets. These collateral motivations are interpreted as push factors in migration.

First of all, migration, by means of the remittances inflow, may perform the role of intermediate investment, whereby households can alleviate capital constraints to eventually initiate or enhance self-employment activities. This mechanism is analysed in Lucas (1987) where the emigration is associated in the long-run with increased crop productivity and cattle accumulation. These effects are the consequence of migrant's earnings, which are eventually used in activities not otherwise accessible, such as financing physical investments, new production techniques or for the purposes of insurance. In Rozelle et al. (1999) migrant remittances have a statistical and positive effect on agricultural productivity, as measured by production per unit of land, whereas in Taylor et al. (2003) they enhance cropping income. The existence of such effects can be justified only if capital constraints bind, as under perfect capital markets, the impact should be zero. In Taylor (1992) and Taylor and Wyatt (1996) the authors report that remittances have a more than unitary effect on household-farm income, indicating that they allow for the relaxation of credit constraints on household production.

A second motivation for migration under the NELM framework is that there might be a family risk-sharing behaviour behind the decision, which can induce moving even in the absence of wage differentials. This strategy only requires that earnings at destinations are not correlated or inversely correlated with earnings in origin locations. This is, for example, the result reported in Rosenzweig and Stark (1989), where the households are able to cope with uncertainty and smooth

consumption by means of marriage-cum-migration. Halliday (2006; 2008) finds that the households respond to adverse shocks by re-allocating labour within the family and by increasing the number of male family members living abroad. Remittances from overseas migrants serve as insurance for relatives back home, suggesting that migration is among the mechanisms adopted by households to cope with risks. In Lucas and Stark (1985) and Stark and Lucas (1988) the families most exposed to risks during drought tend to receive greater remittances from urban migrants, which act as insurance during droughts. Yang and Choi (2007) report a considerable response of remittances to income shocks, caused by rainfall. In their paper, a change in household domestic income is negatively associated with a change in remittances, implying that any decline in income, due to rainfall shocks, is replaced by new inflows of remittances to the household.

Within the context of risk diversification, the existence of a social network makes migration a reliable and a relatively risk-free resource, implying that strong ties with current or former migrants influence, *ceteris paribus*, the probability of migration of others within the social network. This hypothesis emphasizes the importance not only of close ties within the families, as predicted by the NELM, but also of diffuse ties within the community, strengthening the validity of the so called social capital theory.

According to this theory, social networks influence the costs and the benefits of migration, and this in turns expands the migration opportunities. In Palloni et al. (2001) the hazard of out-migration is larger among those who have connections with an older migrant, compared to those lacking this source of social capital. The analysis is computed controlling for the influence exerted by conditions which are common among the individuals of the same network. Massey and Espinosa (1997) find that social capital, proxied by friends and relatives with previous migration experience, helps initiate migration between Mexico and the United States and facilitates additional US trips. In their analysis, the strongest role is performed by migration specific social capital, which are connections generated over the course of migration itself. Mora and Taylor (2005) report that the number of family members previously migrated to US is by far the most statistically significant factor influencing migration. Winters et al. (2001) find a positive influence of migrant networks on both the decision to migrate and on the number of migrants that a household sends to US. In McKenzie and Rapoport (2006) community emigration experience, proxying for migration network, influences the impact of wealth on the probability of household head migration. For a high level of network, the budget constraint is less binding and therefore migration possibilities are extended to the less well off-families. To correct for the possible endogeneity of the migration network, the authors introduce demand-side variables of the destinations, as is found a regular pattern of migration trips from Mexican villages to specific US destinations. In Stecklov et al. (2008) whether

the role of the network has a gender component is investigated. It is found that while the family network has a positive influence on emigration, regardless of the gender of the mover, the community network is not-gender neutral, in that the community migration experience influences female but not male emigration. Moreover, female migration is largely affected by a network, composed of female family members, with past emigration experience.

Social capital refers to intangible resources available to individuals by means of a network of relationships. The membership in inter-personal networks and social institutions allow individuals to build up other forms of capital, which benefit their position in society. In the various definitions used to explain the meaning of social capital it appears that one of its ultimate results is the mutual benefit of the network members and of the society as a whole. In their seminal contribution, Putnam et al. (1993) show that the different social structure of Italian regions, characterized by horizontal links in the North and hierarchical organizations in the South, has a large effect on the economic performance of the regions. Knack and Keefer (1997) indicate that trust has a positive impact on economic growth, and the scope of the influence is larger, the poorer are the countries, because of their less-developed financial sector, insecure property rights, and the poor enforceability of contracts.

The literature has also emphasized that an important benefit emerging from the existence of social networks is the reduction of risks. Consumption smoothing and risk sharing through informal arrangements with family and friends are among the set of strategies that households employ to cope with risks under weak formal institutions. The literature that analyses the effects of family-based income transfers on consumption smoothing is vast (among others, Deaton, 1992; Gertler and Gruber, 2002; Jalan and Ravallion, 1999; Ligon et al. 2002; Townsend, 1994). However, a growing body of evidence has shown that risk-sharing is not complete within village, but it is limited to the members of one sub-network, such as ethnic groups or family and friends. Fafchamps and Lund (2003), for example, demonstrate the crucial importance of the networks of friends and relatives in the case of unanticipated shock, which provide support by means of gifts and zero interest loans. However, they find that these informal arrangements do not extend to the village as a whole, because of the difficulty for villagers to monitor each other. In Fafchamps and Gubert (2007a) gift and loans serve a risk-sharing purpose among people connected by network ties, but again the households do not engage in links that are optimal from the point of view of income risk-sharing. For this type of network to be optimal implies different income profiles between connected households but this is satisfied only with increasing social and geographical distance. The problem of enforcement and the rising costs of links with distance reduce the chance that such optimal arrangements take place (Fafchamps and Gubert, 2007b).



Another important benefit arising from social capital, which proves crucial in developing countries, is related to the credit transactions, as far as social capital directly increases access to credit. Households participating in local associations are more likely to receive loans and they also receive larger amount of credits, because social capital helps build trust, as suggested by Grootaert et al. (2002). This emerges even if the purpose of the association is beyond financial objectives. La Ferrara (2002b) reports that 64 percent of individuals in a sample of 300 are able to borrow from self-help groups active in local areas in case of need. Ethnic identity sharply influences the individual capacity to borrow from the group through its effect on reciprocity as well as enforcement. This is because within ethnic groups social sanctions are more likely to apply and social norms respected. In this respect, La Ferrara (2003) shows that kinship networks are a valuable mechanism of access to informal credit as the non-anonymity of the dynastic link contributes to the support of the self-enforcing agreement.

### **3 The data**

The data for the analysis are taken from a sample, consisting of a total of 3,840 Albanian households, surveyed in the Albania Living Standard Measurement Survey (ALSMS) 2005, by the World Bank and Albania Institute of Statistics. This round of the LSMS was conducted in the field between May and July 2005 and additional visits to agricultural households followed in October. The survey gathers information at individual, household as well as community levels, which include among other things, modules on migration, fertility and social capital.

The sample for this analysis includes 3,094 families, located both in rural and urban areas, and it includes only the households whose heads are of working age. International migration, as well as internal migration, can be classified according to different criteria, namely whether it is a temporary or a permanent phenomenon. Permanent migration defines a move which lasts for a long period, and which may not imply a return to the place of origin. Conversely, temporary migration occurs if an individual moves abroad and intends to return home after a short period of time. The literature shows that the motivations behind returning can be found, among others, in stronger preferences for consumption at home than abroad (Djajic and Milbourne, 1988), in higher purchasing power in the origin than in destination countries (Dustmann, 1997; Stark et al.1997) or in specific location preferences (Dustmann, 2001; Hill, 1987). Yang (2006) distinguishes between life-cycle and target-earning type of considerations for explaining return migration. This study supports the life-cycle approach, in that improved economic conditions in destination countries reduces migrants returns, although it does not neglect the possibility that some migrants are motivated by target- earning considerations.

The permanent migration status in the ALSMS 2005 is captured through a fertility module, which records the full list of children, who no longer are resident with the family because of migration. In this respect here are classified as permanent migration households, the families who have at least one child who migrated abroad and who is no longer a member of the household. On the contrary, temporary migration households are those whose heads spent at least one month in a foreign country and returned to the family of origin.<sup>1</sup> Clearly, the proxy used for permanent migration has some limitations as it assumes that the children will permanently stay abroad given that they are no longer part of the family, and not through information on time abroad or the reported intention of the movers. Unfortunately, there is no way to capture the future intentions of those individuals who were abroad at the time of the interview. It should be noted that the approach used here to classify permanent migration has been used extensively in the literature (Carletto et al., 2006; Pinger, 2007; World Bank, 2007). Finally only the most recent episodes of migration are considered here and in both cases, an individual is a migrant if the move occurred within the last year.

Table 1 presents a comparison between temporary, permanent and non-migrant families on selected characteristics, providing the proportion of households belonging to the different categories. In 2004, five percent of the families in the sample invested in temporary migration and four percent in permanent migration, with no overlap between the two migration groups. Overall 279 families, corresponding to nine percent of the sample, send at least one family member abroad, either temporarily or permanently. These figures suggest that emigration in Albania is still a substantial phenomenon. In spite of the mass emigration that occurred after 1990, and continued till the end of the 1990s, emigration continues even in the face of improved economic conditions. It should be noted that the above rates are based on household-level data, and therefore disguise the effect of multiple migrants per household. This implies that the emigration rates for the population as a whole might be notably larger.

The temporary migration households are mostly headed by males and this draws a significant distinction between the gender attribute of the temporary migration families and the non-migration households. This conclusion is suggested by the z-score for the difference in proportions reported in Table A1. On the contrary, 11 percent of permanent migration households have a female head and this latter proportion is in line with the non-migration households (Table A2).

The temporary migrant families are overall less educated than non-migrant ones, in that the migration families, compared to the non-migrant ones, are largely represented in the primary

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<sup>1</sup> This is done in agreement with McKenzie and Rapoport (2007), where the migrant households are defined through the emigration of the household head.

education group and are less likely to be in the university category, with a statistically significant difference (Table A1). A similar picture emerges for the permanent migration families as, compared to the non-migrant counterparts, are more represented in the primary education group and less represented in the secondary and vocational categories, and the difference in proportions is statistically significant (Table A2). In terms of educational attainment, the heads of temporary and permanent migration families display respectively one and two less years of schooling compared to non-mover households.

TABLE 1: HERE

The literature traditionally predicts that migrants are highly educated, given that schooling plays an important role in alleviating the costs and the risks of migration. It is also true, however, that the educational gap between migrants and non-migrants is influenced by the geographical proximity of the home with the destination nation. The closer the destination, the smaller are the emigration costs and the less emigrants are positively selected in terms of education level. For example, the literature on Mexican-US migration finds that Mexican migrants are not endowed with particularly high education levels (Hatton and Williamson, 2004; Mora and Taylor, 2005; Stark and Taylor, 1991). The Albanian case may corroborate this stylized fact, as temporary movers, who mainly chose the nearby destinations of Italy and Greece, are endowed with less than average years of education.

The distinction between migration and non-migration households appears also in terms of location. Families with temporary movers are more likely to belong to the central and mountain areas of Albania compared to non-migration ones. On the contrary, households in the permanent migration group are disproportionately located in the coastal area. The literature suggests that the characteristics of sending communities influence the duration of stay, with migrants from communities with better economic opportunities remaining longer in the destinations (Reyes, 2001). This result is in agreement with the present analysis, in that Tirana and the coastal districts are the regions registering the higher per capita consumption levels (World Bank, 2007) and the larger permanent migration. Migration tends to be a rural phenomenon, regardless of the type of migration. Both temporary and permanent migration household are significantly more likely to be drawn from rural areas than non-mover families.

The data also allow on the extension of the summary analysis, given the availability of additional information related to temporary return migrants. Table 2 shows the responses on selected variables, which describe the motivation and typology of stay abroad for temporary moves. First, it is clear that temporary migrations have a very short duration, with nearly 70 percent of the respondents staying in destination countries for less than six months. Nearly all migrants who have

already been abroad previously plan to move again in the future for a short period of time. The occasional nature of temporary migration can be further inferred from the fact that only in a limited number of cases, the spouse and eventually the children follow the head of the household to the destination countries. In the literature this type of migration is defined as circular in that migrant workers move frequently between the host and the source country and they stay at destination only for a short period, such as the harvest season (Dustmann and Weiss, 2007). The reason for returning to Albania eventually results from an ex-ante intention. Many individuals move to perform a pre-arranged a seasonal job, which has a limited duration, or they returned for family reasons. Only in few cases did an unsuccessful experience abroad motivate the return (no residence, no work or expulsion). Finally, the individual network which provides help for migration consists of contacts, family or friends at destination, rather than in Albania.

The final issue regards the link between social capital and migration. It should be noted that the measurement of social capital for empirical use has encountered several concerns given the difficulties in finding an appropriate proxy for it. A well applied strategy is to focus on one of its component, namely the participation in group associations (Alesina and La Ferrara, 2000; Costa and Kahn, 2003; La Ferrara 2002a; Glaeser et al. 2000; Glaeser et al. 2002).<sup>2</sup> As Putnam suggests, involvement in social groups and associations is conducive to generating the beneficial effects of social capital, and therefore social capital and group membership are likely to be highly correlated. The participation in associations comprises the membership in groups of people who get together regularly to do an activity or talk about things. The household is defined as a member of a group if the head of the household declares an attachment to one or more associations of the following type: labour related, village, cultural, religious, environmental, youth, veterans, sport, ethnic or other associations.

#### TABLE 2: HERE

Participation rate in Albania is quite low. Only 676 households out of 3,094 - corresponding to 22 percent of the families - report membership of at least one association. In the whole sample, the average number of group membership is 0.3 per household. The most important associations are labour type groups, which include farmer, irrigation activities, traders or business, professional and trade unions. About 36 percent of the household indicate these as being the most relevant groups. Political associations are indicated as the most relevant by 15 percent of the

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<sup>2</sup> The variable proxying for social capital in this analysis is different from what is typically used in the empirical literature that focuses on social capital in a migration context. In the latter, the social network has a strong migration component, being captured by past emigration experience of family and friends. Here, however, given the larger role that is given to social capital, as it is assumed that social capital not only helps providing information for emigration but it serves as risk coping mechanism, a more general definition is applied.

families, village type groups by 11 percent and finally religious groups by eight percent (see Table 3). Very few pay fees to the organizations. About a fifth of members of religious and political organizations contribute with money, and less than ten percent pay in the other organizations.

Placed in a comparative setting, the participation rates in Albania are lower than in other countries, both developed and developing. For example, Beugelsdijk and van Schaik (2005) report that the average group participation within seven western European countries is 62 percent for passive membership, and 41 percent for active membership. Active membership requires not only membership but also active voluntary work for the association. In US, Alesina and La Ferrara (2000) and Glaeser et al (2002) quote that at an individual level, 71 percent of respondents participate in at least one group, and the average group membership is 1.8 per person. In South Africa group participation involves 71 percent of the households, with an average number of membership in 1.3 groups (Maluccio et al., 2000). In Tanzania La Ferrara (2002a) report that 72 percent of individuals are members of some groups, and the average number of group membership is 1.6 per person.

TABLE 3: HERE

A possible explanation for such low participation in Albania is that during transition many networks of agricultural and industrial cooperatives and work units, which were active during the communist period, were closed or disintegrated (World Bank, 2002). After the shutting down however no other economic organizations were developed to replace the old ones. Other types of non-production, non-business associations such as religious organizations, charity groups, self-help organizations, and public interest groups have been developed, but they lack mission and participation. Moreover, Albanians demonstrate a sceptical feeling towards agricultural and industrial associations, which remind them of the socialist cooperatives from older times.

The preliminary analysis of social capital and migration in Table 4 reveals that families participating in social organizations are poorly represented in the temporary migration category. The second column of the table reveals that on the whole sample, five percent of the households engage in temporary migration. However, if we consider only the households participating in associations, the proportion reduces to three percent and it reaches six percent among the non-participating ones. Moreover, the difference in proportions between participating and non-participating groups is statistically significant. This may provide preliminary evidence that the participation in social groups performs the role of substitute for temporary emigration, as social capital satisfies the same objectives that motivate emigration. In contrast, the permanent migration

households appear to be equally represented in the different sub-samples, as indicated in the third column of the same table.

TABLE 4: HERE

#### 4 Some background theory on social capital

In analysing the effect of social capital on a particular outcome there is a fundamental challenge determined by the fact that individuals choose the persons they want to be friends with as well as of the groups they want to be a member. It is argued that people select as friends those persons that are similar to them (Mouw, 2006). Moreover, it is possible that much of the estimated effect of social capital is generated by the fact that “common social capital grouping are subject to common human capital influence” (Palloni et al., 2001). The kinship or friendship links underline the existence of shared common characteristics, which induce similar behaviour among the individuals within the group. In this respect, the casual effect of social capital on a particular outcome may simply be the spurious result of a correlation between unobservable common features which, in the first instance, determine participation in a specific group and influence the behaviour within the group. Therefore, to avoid the introduction of biases in estimation, one should net out the effect of common human capital influences that exist within the network. Social capital is thus treated as “an endogenous outcome of decisions that are contemporary to the behavioural migration choice” (Durlauf, 2002), and estimation requires the use of instrumental variable techniques.

In order to uncover adequate identifying instruments for estimation, a theory which explains the observed differences in the social capital among the individuals is helpful. In this regard, the theoretical model developed by Alesina and La Ferrara (2000) is employed here, where the heterogeneity of the population is identified as one of the determinants of group participation.

The model considers a community where only two types of individuals live: individual type B and type W. The utility from group participation is influenced by individual characteristics along with the composition of the group:

$$u_i = u(\alpha_i^B, P_W) \text{ if } i \in B \quad (1)$$

$$u_i = u(\alpha_i^W, P_B) \text{ if } i \in W \quad (2)$$

$$u_\alpha(\cdot) < 0, u_p(\cdot) < 0$$

where  $P_B$  ( $P_W$ ) denotes the proportion of type B (W) participating in social groups, while the parameter  $\alpha$  identifies individual preference toward participating in a group. The model assumes a preference toward homogeneity and that a higher value of the parameter  $\alpha$  denotes a lower interest in group participation.

Given the reservation utility  $\bar{u}$ , individual  $i$  of type B and of type W choose to participate if respectively:

$$u(\alpha_i^B, P_W) \geq \bar{u} \text{ and } u(\alpha_i^W, P_B) \geq \bar{u}$$

which implies that:

$$\alpha_i^B \leq g(\bar{u}; P_W) \text{ and } \alpha_i^W \leq g(\bar{u}; P_B)$$

Given the same cumulative distribution of  $\alpha_i^B$  and  $\alpha_i^W$ , denoted by  $F(\cdot)$ , the total mass of individuals of type B and W who chose to participate in social activities is represented by:

$$\tilde{B} = F(g(\bar{u}, P_W)) * B \quad (3)$$

$$\tilde{W} = F(g(\bar{u}, P_B)) * W \quad (4)$$

And therefore, the aggregate level of participation is:

$$S = \frac{\tilde{B} + \tilde{W}}{B + W} \quad (5)$$

An equilibrium is a group composition  $(P_B^*, P_W^*)$ . The equilibrium condition is defined by a situation where for both types, none of the group members wish to leave and none of the non-members wish to join. In equilibrium, the proportion of type B in the group ( $P_B$ ) must be given by:

$$P_B = \frac{\tilde{B}}{\tilde{B} + \tilde{W}} \quad (6)$$

$$P_W = 1 - P_B \quad (7)$$

The aggregate level of participation  $S$  is the share of the total population who participates to a group. Combining equation (3.5) with (3.3) (3.4) (3.7) and then setting  $\omega = \frac{W}{W + B}$ , it follows that:

$$S = F(g(1 - P_B^*)) * (1 - \omega) + F(g(P_B^*)) * \omega \quad (8)$$

Notice that  $\omega$  represents the degree of heterogeneity of the population.

Equation (8) states that group participation is influenced by the degree of heterogeneity in the society, with higher fragmentation implying lower participation. The authors demonstrate that a shift toward a more heterogeneous society, in which the fraction of the most abundant type W decreases and the fraction of the minority type B increases, induces a loss in participants of the type W, which is not compensated by an increase in participation of type B, thereby the total overall participation reduces.

This conclusion is supported by Knack and Keefer (1997) who state that social capital is undermined by heterogeneity. The greater the distance in preferences embedded in a polarized society, the greater the increase in the probability of unstable policy coalitions and this negatively affects trust among individuals. Moreover, on the one hand, polarized societies lack common

backgrounds among individuals, and this hinders self-enforcing agreements, and on the other, they are characterised by rent-seeking behaviour, which reduces trust.

For empirical purposes, to proxy for the population heterogeneity, the literature widely uses an index of ethno-linguistic fragmentation (ELF), which is computed as follows:

$$Fragmentation_i = 1 - \sum_j p_{ji}^2 \quad (9)$$

where  $i$  indicates the geographic unit of observation such as districts,  $j$  the different ethnicity groups and  $p_{ji}$  is the proportion of ethnicity  $j$  in the population of district  $i$ .<sup>3</sup> Clearly, ethnicity is only one of the possible dimensions along with the fragmentation index can be computed, as the population may differ with respect to other characteristics, such as religion, economic activity or education. As it will be discussed later, in this analysis only the fragmentation in ethnicity and in economic activity are used.

## 6 Econometric and Methodology

To estimate the effect of social capital on out-migration, an impact dummy that captures the participation in a social organization is introduced in a probit migration function. However, to control for the existence of the unobservable heterogeneity described above, which may bias the estimated parameters of a single equation probit model, a structural approach is adopted, employing a recursive model, which treats social capital as an endogenous regressor. The recursive structure is modelled by a reduced form equation of the potentially endogenous variable (i.e., social capital) and a structural form equation that defines the outcome of interest.

Let  $y_1^*$  and  $y_2^*$  be, respectively, household's unobservable propensity to migrate and the household's unobservable propensity to participate in group associations.

$$y_1^* = \mathbf{x}_1' \boldsymbol{\beta}_1 + u_1 = \delta_2 y_2 + \mathbf{z}_1' \boldsymbol{\delta}_1 + u_1 \quad (10)$$

$$y_2^* = \mathbf{x}_2' \boldsymbol{\beta}_2 + u_2 \quad (11)$$

$y_1$  and  $y_2$  are dichotomous variables observed according to the rule:

$$y_j = 1 \text{ if } y_j^* > 0 \text{ and } y_j = 0 \text{ if } y_j^* \leq 0 \quad j=1, 2$$

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<sup>3</sup> The index of heterogeneity measures the probability that two individuals, randomly drawn from a district, belong to different ethnicities. This index has been used among others by Alesina et al. (1999); Alesina and La Ferrara (2000); Easterly and Levine (1997) and La Ferrara (2002a).



In particular,  $y_1 = 1$  captures the extent of migration and  $y_2 = 1$  captures group participation. Consistent estimators of this model could be produced applying a two-steps procedure, where two probit functions are sequentially estimated and the first stage participation predictions are used in estimating the second stage migration function. However, this methodology has the potential pitfall that it fails to account for possible correlations between the disturbances in the two equations and for this reason it is potentially inefficient (Greene, 1998). A consistent estimator (and one that is fully efficient) is represented by the bivariate probit model described in Greene (2000).

The key reason for the use of the bivariate probit in this application relates to the notion that both outcomes being modelled are potentially jointly determined, and/or the unobservables influencing the outcomes are simultaneously correlated through some process or other. Therefore, we assume that  $u_1$  and  $u_2$  are bivariate normal, with zero means, unit variance and covariance  $\rho$ . Given the possibility of a non-zero covariance across the error terms, the system of equation is also referred to as a seemingly unrelated regression model (SURE). Despite the two equations in the system contain their own vector of coefficients ( $\beta_1, \beta_2$ ) and for this reason may appear unrelated, the link in the error terms between the two equations is exploited. The estimated  $\rho$  captures the relationship between the unobservables governing the two decisions. The test on  $\rho = 0$  is interpretable as a test on the exogeneity of the social capital variable and in the situation of  $\rho = 0$  the model collapses into two separate independent probit models.

The maximum Likelihood function of the simultaneous model is expressed as:

$$L = \prod_{y_1=1, y_2=1} G(\mathbf{x}'_1\beta_1, \mathbf{x}'_2\beta_2; \rho) \prod_{y_1=1, y_2=0} G(\mathbf{x}'_1\beta_1, -\mathbf{x}'_2\beta_2; -\rho) \prod_{y_1=0, y_2=1} G(-\mathbf{x}'_1\beta_1, \mathbf{x}'_2\beta_2; -\rho) * \prod_{y_1=0, y_2=0} G(-\mathbf{x}'_1\beta_1, -\mathbf{x}'_2\beta_2; \rho) \quad (12)$$

To ensure identification, a set of instrumental variables are required. These should affect the group participation ( $y_2$ ), but should be orthogonal to the error process in the migration equation ( $y_1$ ). For this purpose, building on the theoretical model outlined, an index of fragmentation is computed, capturing the degree of heterogeneity in Albanian society.

## 7 Empirical Evidence

### 7.1 Single Probit Estimation

In this analysis, consistently with the NELM models in migration, the family, rather than the single individual, becomes the unit of analysis, given that household members act collectively to

maximize utility.<sup>4</sup> Migration is thus considered part of a household strategy to minimize risks or overcome liquidity constraints in credit and insurance markets. To capture both temporary and permanent emigration experience, two alternative dependent variables are used in formulating the migration function.

The set of explanatory variables ( $X_j$ ) includes the demographic characteristics of the household, captured by the age and the gender of the household head.<sup>5</sup> The gender of the household head should influence the decision to migrate, as female headed households may be more vulnerable to risks and therefore recourse to migrate more often. Second, to proxy for the human capital potential of the family, the education of the household head is used. The benefits and costs of migration are influenced by human capital, as the returns to migration and the costs and risks of emigration select the individuals in terms of skill levels. For example, low rewards to education in destination markets together with limited risks of emigration because of near-by destinations, are found to be responsible for a low propensity to migrate among the highly educated. Third, to control for unobservable geographical fixed effects, location dummies are introduced along with a dummy variable for urban households. The key social capital variable, indicating whether the household participates in group associations is introduced.

Two measures of household assets are introduced, namely an agriculture landholding variable and an index that records the ownership status of different non productive assets.<sup>6</sup> Given that the sample is composed by both rural and urban households, the landholding represents a good proxy for wealth in rural areas, whereas the non-productive index is better designed for the urban families. These variables measure the household income generation potential and the ability to secure against risk. On the one hand, wealthier households are less exposed to risks and therefore they should have a lower propensity to migrate. On the other, poorer families may lack resources to finance migration, and therefore a greater capital should enlarge emigration propensity.

The non-productive index is computed as follows. Given a vector of variables capturing wealth,  $W = (W_1, W_2, \dots, W_j)$ , the index for the single household ( $I_i$ ) is computed applying the principal component technique:

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<sup>4</sup> The NELM models were originally developed in a context of rural-urban migration. However, the extension to international migration from developing to developed countries is straightforward given the high income differentials and the low wage correlations between the source country and the foreign destinations (Taylor and Martin, 2001).

<sup>5</sup> The household size is often used as additional demographic factor affecting migration. However, in this study it does not influence emigration propensity and for this reason it was removed.

<sup>6</sup> The choice of the non-productive asset to control for wealth in the migration equation is done in line with Rozelle et al. (1999) and Taylor et al. (2003). Alternatively, the household total consumption can be used, as it is considered a good proxy for household life-time resources. However, in this study, the consumption variable does not exert a statistically effect on household migration and for this reason it was not used.

$$I_i = a_1 * \left( \frac{W_{i1} - W_1}{s_1} \right) + a_2 * \left( \frac{W_{i2} - W_2}{s_2} \right) + \dots + a_J * \left( \frac{W_{iJ} - W_J}{s_J} \right)$$

where  $a_j$  is the *first principal component* for the  $j$  th asset,  $W_{ij}$  indicates whether the household  $i$  owns the specific asset  $j$  and  $W_j$  and  $s_j$  represent, respectively, the mean and the standard deviation of the ownership of asset  $j$  among the households. Computationally, the principal components are assigned so that the maximum discrimination in asset ownership is provided. In this way, the decomposition of the covariance matrix of the asset variables allows us to define a series of uncorrelated linear combinations of the variables that contain most of the variance. The advantage of this index is that it aggregates into a single measure a range of different variables, which individually may not be sufficient to differentiate the welfare characteristics of the household. In this study, the assets and dwelling characteristics that enter the index are: the area of the dwelling, water and sanitary facilities of the house, the possession of coloured television, phone and terrace. Table A3 provides a summary output of the variables.

The asset index could be endogenous to the migration decision, as it may be influenced by migrant remittances. For example, the assets that enter the index may be purchased through remittances. To limit the potential endogeneity, the index is computed considering the dwelling condition and the durable ownership in 1990.<sup>7</sup>

The land variable may also be endogenous, as remittances from past migration may be used to buy land. It should be noted however that the land purchase activity in Albania is underdeveloped, despite the right of private property is guaranteed and the transactions are allowed by law. Different factors are responsible for such low development. The land owners are now entitled to land property rights but after 50-years of collective property, are reluctant to sell land. The process of registration is constrained by conflicts between past and present owners, irregular title deeds, high costs of transactions and by the introduction of regulation on the documentation required for the transaction of land (Sabates-Wheeler and Waite, 2003). Consequently to these inefficiencies, the modification in the structure of land and real estate ownership is limited, and this significantly reduces the potential endogeneity of the land variable.

Column (1) of Tables 5 and 6 reports the results of the single equation probit model, based on the two different migration measures. Table A5 in the Appendix reports the marginal effects. Overall, the estimated coefficients have the expected sign and the regression models display a reasonable fit to the data, as indicated by the Pseudo  $R^2$  measures. The age of the head of the

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<sup>7</sup> The correlation coefficient between the asset index at the time of the survey and in 1990 is 0.60. This indicates that eventual asset depletions that occurred between 1990 and 2005 did not alter the relative position in the welfare distribution of the households.

household dampens the temporary migration incentive, as suggested by the negative and statistically significant coefficient of the age variable in Table 5, while it increases permanent emigration of the siblings (Table 6). This may indicate that the role of the migrant is assigned to the head when the family is young and then it transfers to the children when the head ages.

TABLE 5: HERE

Temporary migration is significantly influenced by the gender of the head. In particular, being a male head increases the probability of temporary migration by one percentage point. This result may suggest that female heads are not in the condition to migrate. In this sample, 77 percent of female heads are either divorced or widow, whereas among male heads the proportion falls to one percent. This eventually implies that the duties connected to the status of single parent reduce the chance to move abroad, even if these families are likely to be the most at need to move. The gender of the household head, on the contrary, has no influence on permanent migration of the siblings as indicated by the non-significant effect of the male dummy. Education is not related to migration decision, as suggested by the negative but non-significant coefficient of the human capital variable. Location marginally influences the likelihood of temporary migration, in that living in Tirana compared to the mountains reduces emigration by 0.7 of a percentage point.

An interesting feature is that wealthier households are less likely to migrate, both permanently and temporarily, as indicated by the negative and statistically significant coefficient of the non-productive asset variable, even if the magnitude of the effect appears negligible. A one unit increase in the wealth index, which is expressed in standard deviation, reduces the probability of temporary migration and permanent migration respectively by 0.2 and 0.6 of a percentage point, on average and *ceteris paribus*. This may indicate that well-off families have less need of capital through migration, and only those families living in poverty recourse to migration as a means to escape from it. Vullnetari (2007) reports that emigration for Albanians represents a survival strategy. The shortages of job opportunities during the 80s, the high inflation and unemployment, which followed the ultra-liberal reforms in the 90s, and the loss of savings, houses and properties after the collapse of the pyramid scheme in 1997, produced a mass emigration, which became the only means of survival for many households. Albanians consider migration “as the most effective way of coping with the country’s disastrous economic conditions” (King, 2005). Other studies document a negative link between emigration and welfare, corroborating the idea that migration helps mitigate the lack of financial resources (Rozelle et al., 1999; Taylor et al., 2003).

Controlling for wealth, the ownership of land positively influences the probability of both types of migration. This may indicate that land ownership increases the need for capital, to engage

in productive activities in rural areas. The existence of imperfections in land and capital markets renders households with more agriculture landholding more capital constrained. Land, on the one hand, creates demand for complementary investments, but on the other does not represent a direct source of capital to secure against risk. The positive effect of land on emigration is also found in Massey and Espinosa (1997), Rozelle et al. (1999), Taylor and Wyatt (1996) and Taylor et al. (2003).

Finally, the estimated coefficient of social capital reveals that the participation in social organizations reduces the probability of temporary migration by 0.4 of a percentage point, on average and *ceteris paribus*. In contrast, social capital does not influence the permanent migration of siblings. This result may tentatively suggest that social capital substitutes for temporary migration, in that the household may benefit from social relationships as a source of finance in the case of need. It seems that sibling migration and social membership may respond to different strategies as indicated by the statistically insignificant impact of social capital on migration for this group.

TABLE 6: HERE

As mentioned above, however, the single equation probit model fails to control for the correlation in unobservables, influencing both the participation in a specific group and the behaviour within the group. This omission could potentially bias the estimated parameters in this probit model. It is to addressing this particular issue that attention now turns.

## 7.2 Bivariate Probit Estimation

A structural, recursive model is now estimated, where the determinants of migration are analysed along with the determinants of group participation, in accordance with the system of equations presented in (10) and (11). The vector ( $X_2$ ) of explanatory variables for social capital includes the same set of variables used in the migration equation, since it is assumed here that the two decisions are taken simultaneously at the household level. The factors that affect migration are therefore also supposed to influence the decision to participate in group associations. Moreover, in agreement with the theoretical literature on social capital (Alesina and La Ferrara, 2000; La Ferrara 2002a), a measure of heterogeneity in the population is used in the social capital function, providing the role of identifying instrument.

The population heterogeneity can be captured by the index of fragmentation, described above and computed for various dimensions, such as ethnicity, religion, economic activity or

education. In this analysis however only the fragmentation in ethnicity and economic activity are used, given that heterogeneity in education and in religion failed to provide good instruments.<sup>8</sup> For heterogeneity in ethnicity,  $j$  represents the following races: Albanian, Greek, Roma, Macedonian, Montenegrin, Vllaha and other. For heterogeneity in activity,  $j$  represents self employed, worker in a household farm, employed in government, public sector, army or state owned enterprise, employed in a private enterprise or other private company, and unemployed. The geographic units of observation for the computation of the index are the 36 Albanian districts.

As reported in Table A4, the level of activity heterogeneity in the population is quite high, indicating a 80 percent chance that two individuals in the same district are employed in different activities. On the contrary the average index of ethnic fragmentation is very low, suggesting little evidence of ethnic heterogeneity in Albania. This is not surprising as 98 percent of the population belongs to the Albanian majority ethnic group.<sup>9</sup> For this reason, the preferred measure of heterogeneity is represented by the activity index and the ethnicity index is included only to provide a robustness check. In addition, it can be argued that the higher the ethnic fragmentation in a country, the higher the level of ethnic tension, which then influences a predisposition towards emigration. According to this notion, the index of ethnic fragmentation may fail to exert the role of instrument as it may be correlated with the probability of emigration. However, given that ethnic fragmentation in Albania is very limited, this concern should not represent an issue for this analysis.

The results of the structural model are presented in columns (2) to column (7) of Tables 5 and 6. The explanatory variables in the social capital equation overall exert well determined effects, which are robust in all the specifications. The coefficient of age is positive, indicating that participation monotonically intensifies with increasing age. This may indicate that siblings of young age increase family duties and reduce the time available for social activities in “young families”. This result is not entirely in agreement with existing studies in that social capital is found to increase with age but then decline. For example, Glaeser et al. (2002) find that social capital displays an inverted U-shape pattern over the life-cycle, with a trough in participation between 40 and 49 years of age. This is interpreted as organization membership being a proxy for the stock of

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<sup>8</sup> The education fragmentation index resulted not correlated with group participation while the religious heterogeneity was correlated with emigration probabilities and therefore it was not orthogonal to the error process in the migration equation.

<sup>9</sup> The theoretical model predicts that heterogeneity negatively influences group participation. Given the low level of ethnic heterogeneity, one may expect very high participation rates in Albania. However, as already noted, this is not the case, as the participation rates in Albania are very low. To reconcile the theoretical prediction and the empirical evidence, one may consider the peculiar economic background of Albania. The sceptical feeling of Albanians towards group associations, developed after the collapse of the communist regime, may constitute a strong determinant that adds to ethnic fragmentation in explaining group participation.

social capital, which depreciates among the elderly. To determine the existence of such effects, the square of age was introduced, but the quadratic effect was not found to be statistically significant.

Participation in female headed households is lower compared to the male headed ones, as women may carry the burden of both job and household care and thus have less time to engage in social organizations. Moreover, women are probably more likely to exploit informal social networks, rather than the formal types. Education increases participation, with the coefficient of years of completed schooling being positive and statistically significant. The same effect is found in Alesina and La Ferrara (2000), Glaeser et al. (2000), Glaeser et al (2002) and La Ferrara (2002a). This is consistent with the idea that more educated people have higher confidence in their ability to influence social political decisions and for this reason they are more likely to be involved in social interactions. In addition, this result emphasizes the possibility that schools are an important place for teaching social skills as well as that larger benefits from social interactions result with a higher level of human capital. Urban families are more likely to invest in social capital, suggesting that social meeting are more easily performed in cities rather than in remote rural areas. Urban public transportation connections may facilitate interactions and increase the variety of organizations, which may better suit individual preferences.

The negative relationship between wealth and social capital may indicate that, when financial markets are imperfect, the households eventually recourse to social capital to overcome liquidity constraints. Richer households are not financially constrained and do not need to employ this strategy in case of need. Moreover, Glaeser et al. (2002) suggest that for higher opportunity costs of time, the level of social capital might decline, and this produces a negative association between income and social capital. Nevertheless, their empirical evidence does not support this view, as the estimated coefficient of household income yields a positive sign in the analysis. The positive link between the probability of being member of a group and household income is also reported in Alesina and La Ferrara (2000) and Glaeser et al. (2000), indicating that in their analysis social capital is a normal good. In La Ferrara (2002a) the relationship between wealth, proxied by a non-productive asset index, and social capital not only is increasing but is also concave, as suggested by the positive coefficient of wealth and the negative coefficient of its square. Finally, the coefficients of land and its square indicate that families owning plots of agriculture land are more likely to join social groups and that the relationship is concave.

The estimated coefficient of the activity fragmentation, reported in columns 2 of Tables 5 and 3.6 is negative. As anticipated and in agreement with the theoretical background, the probability of participating in social groups reduces with more fragmented communities, even if the coefficient is marginally insignificant in the temporary migration specification. As a robustness

check, in columns 4, activity fragmentation is replaced by ethnicity fragmentation. Not only do the heterogeneity coefficients remain negative and well determined in all specifications, but the coefficients of the other covariates are not affected by the use of the alternative identifying instruments. Finally, when both measures are introduced, their coefficients remain negative and there is little material change to the estimated effects of interest.

As already discussed, the ethnicity fragmentation may not be independent of the migration decision, as ethnic sorting as well as ethnic tension may represent motivations for emigration. To provide evidence of the validity of both instruments, the fragmentation indices are introduced into a migration probit model. The tests on the significance of the coefficients may corroborate their usefulness in the current application. As indicated by the orthogonality test, provided in the Tables 5 and 6, the instruments are orthogonal to the error process in the migration equations, providing support to the identification of the rho term.

Turning to the migration estimates, the effect of the covariates can be evaluated in terms of their marginal effects. It should be noted that three types of marginal effects can be computed in a bivariate probit model, namely the marginal effect based on the marginal probability, the marginal effect based on the joint probability and the marginal effect based on the conditional probability. In this analysis, the first represents the marginal effect of the covariates on the unconditional probability of migrating. The second is the effect on the joint probabilities of migrating and participating in a group, while the third is the effect on the probability of migrating, conditional on participating in social groups. Appendix B provides a detailed description of the different formulae.

For comparison purposes with the single probit estimation, only the marginal effects based on the marginal probabilities will be discussed. The computed marginal effects are reported in Table A5. For some variables a substantial variation occurs compared to the single probit estimation. The coefficients of the education variable are now negative and statistically significant, both in the temporary and in the permanent migration specifications, suggesting that human capital is not a critical asset for emigration in the Albanian context. The marginal effect based on the marginal probabilities indicates that an additional year of schooling of the head is associated with respectively 0.1 and 0.2 percentage point decrease in temporary and permanent emigration. This is a common finding when migrants face low returns to migration in a foreign market and when international destinations are at short distance (Hatton and Williamson, 2004). This feature characterises emigration from Albania and is also well documented for Mexico-US migration (Mora and Taylor, 2005; Taylor, 1987; Winters et al., 2001). Even if migrants from Albania used to be endowed with higher than average education, in more recent years this feature reversed, as a larger number of less educated individuals migrated. The deterioration of the level of education among



migrants is due to the fact that older cohorts, endowed with less education, add to the mass of movers, as a consequence of economic hardship (World Bank, 2007). The present study, which considers the most recent wave of emigration, confirms this finding.

Compared to the mountain regions, temporary emigration is less likely to occur from coastal areas, while permanent emigration from central regions. Families from coastal and central areas are respectively 0.7 percentage point more likely to migrate temporarily and 1.5 percentage point more likely to migrate permanently, on average and *ceteris paribus*.

Finally, the interpretation of the estimated correlation coefficient  $\rho$  has importance in that it represents a test on the exogeneity of the social capital variable. If  $\rho$  is not statistically different from zero, social capital is assumed exogenous and the model collapses into two separate independent probit models. The Wald tests on the significance of  $\rho$  dictates the choice of the appropriate methodology for temporary and permanent migration. In particular, the test on the one hand indicates that two independent equations should be applied for temporary migration, and on the other it supports the use of a bivariate model for estimating the effect of social capital on permanent migration. In the latter case, the estimated correlation across the errors in the two equations suggests that the unobservables that determine social capital and permanent migration are negatively correlated. Given the significant correlation, a single probit model for permanent migration yields biased estimates as it misleadingly attributes part of the effect of the unobservables to social capital. The effect of the unobservables appears to counteract the social capital effect, producing a downward bias in the coefficient from a single probit model.

In summary, the analysis suggests that families participating in social organizations are more likely to send siblings abroad permanently. In particular, the marginal effect based on the use of the marginal probabilities indicates that participation in social groups augments the probability of permanent migration by 11 percentage points (Table A5). It is possible that families receive from the social network important information that is crucial for emigration and hence social capital performs a role that complements permanent emigration. A different picture emerges for temporary migration. Social capital is associated with a lower probability of moving temporarily. This may indicate that families rely on social capital rather than temporary circular migration to overcome contingent liquidity constraint and therefore social capital is a substitute for temporary migration. The preliminary descriptive analysis in Section 3, reveals that the information and help for temporary migration is provided by family and friends at destinations, rather than by contacts in Albania. This corroborates the hypothesis that social capital does not represent an informative resource for temporary moves.

The theory on social capital suggests that the relationship between social capital and migration may be twofold. On the one hand, as just assessed, social capital influences migration, but on the other migration may influence social capital in that “social capital depreciates when people leave their community” (Glaeser et al. 2002). In this regard, a variable proxying for the community level of migration is introduced. The variable that is designed to proxy for this effect captures the existence of out-migration from the community. This variable is computed from a qualitative question rather than through counting the effective proportion of out-migration from the community.<sup>10</sup> Table 7 reports the estimates.

The community migration variable has the expected sign, as a higher community migration reduces social capital. In particular, the computed marginal effect based on the marginal probability reveals that living in communities which experience out-migration reduces the probability of group participation by four percentage points. This effect is consistent with the evidence in Glaeser et al. 2002, where mobility through migration negatively influences the number of organizations in which one participates. It is worth noting that the estimated coefficients of the other covariates are robust to the inclusion of the community migration variable, as the coefficients remain stable in terms of both its magnitude and significance.

TABLE 7: HERE

### **7.3 Types of organization**

The group participation measure did not distinguish between the types of association a household belongs to. However, it has been recognized that some organizations are characterized by a higher co-operative nature than others. For example, Knack and Keefer (1997) discriminate religious, education, art and youth organizations on the one hand, and welfare, trade union and professional ones on the other. The latter appear to act as rent-seeking organizations, whereas the former are more prone to involve social interactions, which are beneficial for trust building and co-operative behaviour.

This distinction would ideally enhance the previous analysis, in that the link between migration and membership in co-operative groups can be assessed. Unfortunately, the decomposition of social capital into sub-groups introduces a problem of small cell sizes, as the joint event of migration and sub-groups participation occurs in a very limited number of cases. For this reason, the analysis cannot be developed further.

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<sup>10</sup> This variable is drawn from a community questionnaire where the questions are administered to a group of persons reputed to be best informed within a community.

## 8 Summary and Conclusion

The paper studies the relationship between social capital and household out-migration from Albania. In particular the analysis attempted to determine whether the participation in social organizations, which are commonly defined as a form of social capital, represents a complement or a substitute for emigration. The nature of the relationship depends on the motivations behind the two choices, which induce the households to join a group and to invest in migration.

In the case where the two decisions are driven by common underlying factors, such as risk reduction or the relaxation of financial constraints, it can be expected that social capital and migration act as substitutes for one another. In this perspective, participation in social organizations and migration are alternative mechanisms to achieve one goal. On the contrary, insofar as the decision to participate in social capital activities reflects the need to share information, migrant households may benefit from the existence of such informative networks and social groups can act as a channel to spread important information that facilitates migration. Under this circumstance, migration and social capital may perform a role of complements for one another.

Two types of international migration have been analysed in this study. These are short period temporary migration of the household head and permanent migration, characterised by a longer duration abroad and eventually no-return to the place of origin. The empirical analysis based on a univariate probit suggests that the participation in social organizations reduces the probability of temporary migration by 0.4 of a percentage point, on average and *ceteris paribus*. This negative relationship can derive from the fact that social capital substitutes for temporary migration. In Albania temporary migration is often characterised by frequent back and forth movements between host and home countries, which may occur in case of liquidity needs. Families in case of adverse shocks eventually recourse to social capital and treat it as an alternative to temporary migration, in order to overcome contingent liquidity constraints.

A second finding is that the error terms in the permanent migration and in the group participation functions are correlated. Therefore, the casual effect of social capital on permanent migration may be driven by unobservable common features which, in the first instance, determine the participation in a specific group and influence the behaviour within the group. On the contrary, such a correlation is not evident for temporary migration. The bivariate probit estimation for permanent migration reveals that families participating in social organizations are more likely to send siblings abroad permanently. The participation in social groups augments the probability of permanent migration by 11 percentage points. It is possible that families receive from the social network important information that is crucial for permanent emigration of the siblings and hence social capital performs a role as complement to permanent emigration.

Other empirical findings are that education has either no or even a negative effect on migration, suggesting that human capital is not a critical asset for temporary and for permanent migration in the Albanian context. Wealthier households are less likely to migrate, both permanently and temporarily, but the magnitude of the effect appears negligible. Well-off families have eventually less need of capital through migration, and only those families living in poverty recourse to migration as a means to escape from it. Controlling for wealth, the ownership of land positively influences the probability of both types of migration. This may indicate that land ownership increases the need for capital, to engage productive activities in rural areas.

In agreement with the theoretical background, participation in social groups is found to reduce in more fragmented communities.

Social capital is a valuable asset for households, as informal arrangements are among the set of strategies that households employ to cope with risks under weak formal institutions. This asset represents a risk free and cost-free mechanism that helps families achieve a better and more secure standard of living. On the contrary, despite its large benefits, migration imposes heavy social costs. The separation of families due to migration may create problems to all generations of children, parents and grandparents. The elderly lose their social support, while women feel great psychological stress, consequent on the emigration of men in their household. Insofar as social capital represents a substitute strategy, at least to temporary migration, its benefits should not be underestimated. Albania faces a crucial problem in this regard, as the disintegration of the old agricultural and industrial networks has limited the availability of social organizations and therefore has constrained the possibility for social capital to properly develop. Alternative economic organizations should be developed to replace the old ones, with a clear statement of their mission. This would help Albanians overcome their sceptical feeling against associations, which remind them the old times of the socialist cooperatives.

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## Appendix A

**Table A1 Summary Statistics and Tests for Differences in Proportions. Temporary Migration**

	Temporary Migrants ( $p_M$ )	Non-migrants ( $p_N$ )	z-scores
Male	0.99	0.91	3.48***
Education attainment			
Primary	0.59	0.45	3.43***
Secondary	0.15	0.18	-0.96
Vocational	0.20	0.25	-1.41
University and post	0.06	0.12	-2.28***
Location			
Coastal	0.20	0.26	-1.67*
Central	0.32	0.24	2.27***
Tirana	0.12	0.25	-3.70***
Mountain	0.36	0.25	3.07***
Urban	0.40	0.60	-4.96***

Notes:\*\*\* denotes statistical significance at 1% level. \*\*denotes statistical significance at 5% level. \* denotes statistical significance at 10% level using two tailed tests. The proportions are calculated for migrants and non-migrants separately. To receive 100% one should add vertically the proportions within each group of variables.

The non-parametric t-test is computed as:  $[p_M - p_{NM}] / [\bar{p}(1 - \bar{p})/n_M + \bar{p}(1 - \bar{p})/n_{NM}]^{1/2} \sim N(0, 1)$

where  $p_M$  and  $p_{NM}$  represents, respectively, the proportion of migrant and non-migrant families in each category;  $\bar{p}$  represents the fraction of families in each category: it is computed as the sum of the absolute number of migrant families and the absolute number of non-migrant families for each category divided by the total number of families.  $n_M$  denotes the number of migrant families while  $n_{NM}$  denotes the number of non-migrant families, which is respectively 157 and 2,816.

**Table A2: Summary Statistics and Tests for Differences in Proportions. Permanent Migration**

	Permanent Migrants ( $p_M$ )	Non-migrants ( $p_N$ )	z-scores
Male	0.89	0.91	-0.75
Education attainment			
Primary	0.72	0.45	5.86***
Secondary	0.02	0.18	-4.59***
Vocational	0.16	0.25	-2.27***
University and post	0.11	0.12	-0.33
Location			
Coastal	0.4	0.26	3.44***
Central	0.17	0.24	-1.79**
Tirana	0.19	0.25	-1.51
Mountain	0.24	0.25	-0.25
Urban	0.43	0.60	-3.73***

Notes: see notes to Table A1. The number of migrant families and non-migrant families which is respectively 122 and 2816

**Table A3: Summary statistics of the variables entering the non-productive wealth index**

	Mean	Standard Deviation	Min	Max
Area of dwelling	2.79	0.99	1	5
Water Facilities	0.62	0.49	0	1
Sanitary Facilities	0.74	0.44	0	1
Phone	0.29	0.46	0	1
Coloured Television	1.07	0.45	0	4
Terrace	0.67	0.47	0	1

Notes: the dwelling area variable is characterised as follows. 1 stands for less than 40 sq metres area; 2 for 40-69 sq metres; 3 for 70- sq metres; 4 for 100- sq metres; 5 for more than 130 sq metres.

**Table A4: Summary statistics and description of the variables**

Variable	Description	Mean	Std. Dev.
Temporary Migration	=1 if household head migrated abroad temporarily after 2004; 0 otherwise	0.05	0.22
Temporary Migration	=1 if the household has a member who migrated abroad temporarily after 2004; 0 otherwise	0.11	0.31
Permanent Migration	=1 if the household has a member who migrated abroad permanently after 2004; 0 otherwise	0.04	0.19
Social Capital	=1 if the household is member of groups, organizations, networks and associations; 0 otherwise	0.22	0.41
Age	Age of Household Head	47.44	9.58
Male	=1 if household head is male; 0 otherwise	0.92	0.28
Education	Number of years of completed schooling of household head	10.53	3.75
Coastal	=1 if the household resides in the Central area; 0 otherwise	0.26	0.44
Tirana	=1 if the household resides in Tirana; 0 otherwise	0.24	0.43
Central	=1 if the household resides in the Central area; 0 otherwise	0.24	0.43
Urban	=1 if the family resides in an urban settlement; 0 otherwise	0.58	0.49
Land	Total area of agriculture plot. Thousands square meters	4.52	19.77
Land Squared	Square of land	411.24	9845.63
Asset Index	Index of assets owned in 1990. Principal component method	0.01	1.45
<i>Instruments</i>			
Activity Fragmentation	Index of Activity Fragmentation	0.80	0.06
Ethnicity Fragmentation	Index of Ethnic Fragmentation	0.03	0.06
Community Migration	=1 if the community experienced occasional or a lot of migration abroad; 0 otherwise	0.80	0.40

**Table A5: Marginal and Impact Effects in the migration equations**

	Probit				SURE			
	Temporary Migration	Permanent Migration	Temporary Migration	Permanent Migration	Temporary Migration	Permanent Migration	Temporary Migration	Permanent Migration
	Pr (y = 1)	Pr (y = 1)	Pr (y <sub>1</sub> = 1)	Pr (y <sub>1</sub> = 1)	Pr (y <sub>1</sub> =1; y <sub>2</sub> =1 )	Pr (y <sub>1</sub> =1; y <sub>2</sub> =1 )	Pr (y <sub>1</sub>   y <sub>2</sub> = 1)	Pr (y <sub>1</sub>   y <sub>2</sub> = 1)
Social capital	-0.004	-0.004	0.054	0.099	0.001	0.003	0.004	0.016
Age	-0.001	0.002	-0.002	0.002	-0.00001	0.0001	-0.00004	0.0003
Male	0.010	-0.013	0.015	-0.018	0.0001	-0.0001	0.0004	-0.001
Education	-0.0004	-0.001	-0.001	-0.002	0.00001	0.00004	0.000004	0.00003
Coastal	-0.004	0.008	-0.007	0.006	-0.00001	0.0005	-0.0001	0.001
Tirana	-0.007	0.003	-0.010	0.005	-0.0001	0.00004	-0.0003	0.0003
Central	0.002	-0.009	0.001	-0.015	0.0001	0.0001	0.0003	-0.0005
Urban	0.0003	0.004	-0.001	0.002	0.00003	0.0002	0.0001	0.001
Land	0.001	0.001	0.001	0.001	0.0001	0.0002	0.001	-0.002
Asset Index	-0.002	-0.006	-0.002	-0.006	-0.00002	-0.0002	-0.0001	-0.001
Activity Fragmentation	-	-	-	-	-0.0001	-0.001	-0.0004	-0.002
Ethnicity Fragmentation	-	-	-	-	-0.0002	-0.001	-0.001	-0.003

Notes: columns (1) and (2) produces the marginal effect of single equation migration probit. Columns (3) and (4) produce the marginal effect based on the marginal probability in a bivariate probit model, where  $y_1$  refers to migration outcome. Columns (5) and (6) produce the marginal effect on the joint probability of migration and group participation, where  $y_1$  refers to migration outcome and  $y_2$  to group participation. Columns (7) and (8) produce the marginal effect on the conditional probability

The marginal effect of land in the probit is computed as:

$\partial \text{Prob}(y=1) / \partial L = \phi(X'\beta) * (\beta_L + 2 \beta_{Lsq} * \bar{L})$ , where  $\beta_L$  is the coefficient of land,  $\beta_{Lsq}$  is the coefficient of land squared,  $\bar{L}$  is the sample mean of land,  $\phi(\cdot)$  is the pdf and  $X'\beta$  is the linear prediction.

The marginal effect of land based on the marginal in the bivariate probit is computed as:

$\partial \text{Prob}(y=1) / \partial L = \phi(X_1'\beta_1) * (\beta_{1L} + 2 \beta_{1Lsq} * \bar{L})$ , where  $X_1'\beta_1$ ,  $\beta_{1L}$  and  $\beta_{1Lsq}$  are respectively the linear prediction, the coefficient of land, and the coefficient of land squared in the migration equation.

The marginal effect of land on the joint probability in the biprobit model is given by:

$\partial \text{Prob}(y_1=1, y_2=1) / \partial L = \{ \cdot \} (\beta_{1L} + 2 \beta_{1Lsq} * \bar{L}) + \{ \cdot \} (\beta_{2L} + 2 \beta_{2Lsq} * \bar{L})$ , where the curly brackets correspond to the curly brackets in equation (2) of Appendix B, where  $\beta_{1L}$  and  $\beta_{2L}$  are the coefficient of land respectively in the migration and social capital equations,  $\beta_{1Lsq}$  and  $\beta_{2Lsq}$  are the coefficient of land squared in the two equations.

The marginal effect of land on the conditional probability in the biprobit model is given by:

$\partial \text{Prob}(y_1=1 | y_2=1) / \partial L = \{ \cdot \} (\beta_{1L} + 2 \beta_{1Lsq} * \bar{L}) + \{ \cdot \} (\beta_{2L} + 2 \beta_{2Lsq} * \bar{L})$ , where the curly brackets correspond to the curly brackets in equation (3) of Appendix B

## Appendix B

### Computation of the marginal Effects

The bivariate binary choice model is given by:

$$y_1^* = \mathbf{x}_1' \boldsymbol{\beta}_1 + u_1$$

$$y_2^* = \mathbf{x}_2' \boldsymbol{\beta}_2 + u_2$$

where  $y_1$  and  $y_2$  are dichotomous variables observed according to the rule:

$$y_j = 1 \text{ if } y_j^* > 0 \text{ and } y_j = 0 \text{ if } y_j^* \leq 0, j=1, 2$$

and  $u_1$  and  $u_2$  are bivariate normal, with zero means, unit variance and covariance  $\rho$ .

There are several marginal effects can be computed in a bivariate probit model (Greene, 1996; Greene, 1998)

i) Given the marginal probability of  $y_1=1$ :

$$\text{Prob}(y_1=1 | \mathbf{x}_1, \mathbf{x}_2) = \Phi(z_1)$$

the marginal effect on the marginal probability is given by :

$$\frac{\partial \Phi}{\partial x} = \phi(z_1) \beta_{1x} \quad (1)$$

ii) Given the bivariate probability of positive outcomes, namely  $y_1=1$  and  $y_2=1$ :

$$\text{Prob}(y_1=1, y_2=1 | \mathbf{x}_1, \mathbf{x}_2) = \Phi_{BVN}(z_1, z_2, \rho)$$

$$\text{where } z_1 = \mathbf{x}_1' \boldsymbol{\beta}_1 \text{ and } z_2 = \mathbf{x}_2' \boldsymbol{\beta}_2$$

the marginal effect on the joint probability is given by :

$$\frac{\partial \Phi_{BVN}}{\partial x} = \{ \phi(z_1) * \Phi[(z_2 - \rho(z_1)) / \sqrt{1 - \rho^2}] \} \beta_{1x} + \{ \phi(z_2) * \Phi[(z_1 - \rho(z_2)) / \sqrt{1 - \rho^2}] \} \beta_{2x} \quad (2)$$

iii) Given the probability of  $y_1=1$  conditional on  $y_2=1$

$$\begin{aligned} \text{Prob}(y_1=1 | y_2=1, \mathbf{x}_1, \mathbf{x}_2) &= \text{Prob}(y_1=1, y_2=1 | \mathbf{x}_1, \mathbf{x}_2) / \text{Prob}(y_2=1 | \mathbf{x}_1, \mathbf{x}_2) \\ &= \Phi_{BVN}(z_1, z_2, \rho) / \Phi(z_2) \end{aligned}$$

the marginal effect on the conditional probability is given by:

$$\frac{\partial \text{Pr ob}(y_1 | y_2 = 1, \mathbf{X}_1, \mathbf{X}_2)}{\partial x} = \left\{ \frac{g_1}{\Phi(z_2)} \right\} \beta_{1x} + \left\{ \frac{1}{\Phi(z_2)} (g_2 - \Phi_{BVN} \frac{\phi(z_2)}{\Phi(z_2)}) \right\} \beta_{2x} \quad (3)$$

where  $g_1 = \{ \phi(z_1) \Phi[(z_2 - \rho(z_1)) / \sqrt{1 - \rho^2}] \}$  and the subscripts 1 and 2 are reversed to obtain  $g_2$

**Table 1: Household characteristics of recent temporary/permanent international migrants. 2004**

		Temporary	Permanent	No Migration
% of households in temporary/permanent/ no migration condition	Total	0.05	0.04	0.91
	Gender of head:			
	Male	0.99	0.89	0.91
	Education attainment of the head:			
	Primary	0.59	0.72	0.45
	Secondary	0.15	0.02	0.18
	Vocational	0.20	0.16	0.25
	University and post	0.06	0.11	0.12
	Location:			
	Coastal	0.2	0.4	0.26
	Central	0.32	0.17	0.24
	Tirana	0.12	0.19	0.25
	Mountain	0.36	0.24	0.25
	Urban	0.40	0.43	0.60
Summary	Education Years of head	10	9	11
Total		157	122	2816

Notes: the proportions are calculated for temporary, permanent and non-migrants separately. To receive 100% one should add vertically the proportions within each group of variables. The number of families in the temporary, permanent and no migration categories are respectively 157, 122 and 2,816. The association membership pertains to the following type of groups: labour related, village, cultural, religious, environmental, youth, veterans, sport, ethnic or other.

**Table 2: Selected characteristics of recent temporary international migration. 2004**

Variables	Description	Percent
Duration of the stay:	less then 6 months	68
Reason for migration	To work, look for work	92
Prearranged job	Yes	70
Stayed abroad with spouse	Yes	4
Stayed abroad with children	Yes	6
Reason for returning Albania	Could not get residence	5
	Could not get work	4
	Permit expired	9
	No intention to stay	6
	Accumulated enough money	2
	Seasonal work	31
	Got expelled	4
	Family reasons	17
	Other	21
Planning to migrate again	yes	82
Migrated before	Yes	90
Duration previous migration	less then 6 months	63
Provider of information	Family, relatives or friends in Albania	11
	Family, relatives or friends abroad	34
	Previous personal experience	52
	Other	3
Total		157

**Table 3: Most important associations**

<b>Type of association</b>	<b>Percent</b>	<b>Number of households</b>
Labour Associations	36.09	244
Political Associations	15.68	106
Neighbourhood /village council of dignitaries	10.8	73
Religious groups	7.69	52
Youth groups	4.44	30
Cultural association	2.81	19
Sports group	2.07	14
Association for water supply	1.63	11
Veterans associations	1.63	11
Ethnic-based community group	1.63	11
Association for environment protection	1.04	7
NGO	0.74	5
Association for the consumers' protection	0.3	2
Other	13.46	91
Total		676

**Table 4: Social Capital and Migration**

	<b>Temporary</b>		<b>Permanent</b>		<b>No-migration</b>	
	<b>Percent</b>	<b>Number</b>	<b>Percent</b>	<b>Number</b>	<b>Percent</b>	<b>Number</b>
Full Sample	0.05	157	0.04	122	0.91	2816
Association membership	0.03	21	0.04	25	0.93	630
No association membership	0.06	136	0.04	97	0.90	2185
z-score	-2.64		-0.37		2.27	

Notes: in the sample 676 households participate in social groups, while 2,418 do not participate. The non-parametric z-score is performed on the difference in proportion between the association membership and the non-membership, within the different migration categories. See the note to Table A1 for the statistics of the test.

**Table 5: Household head temporary migration. Probit and SURE estimations**

Variables	Probit	SURE					
	Temporary Migration	Social Capital	Temporary Migration	Social Capital	Temporary Migration	Social Capital	Temporary Migration
Social Capital	-0.215* (0.112)		1.003 (0.891)		0.959 (0.778)		0.879 (0.841)
Age	-0.045*** (0.005)	0.014*** (0.003)	-0.046*** (0.005)	0.014*** (0.003)	-0.046*** (0.005)	0.014*** (0.003)	-0.046*** (0.005)
Male	0.986*** (0.367)	0.207** (0.104)	0.931*** (0.361)	0.213** (0.104)	0.931*** (0.361)	0.212** (0.104)	0.935*** (0.362)
Education	-0.016 (0.013)	0.070*** (0.008)	-0.031** (0.015)	0.071*** (0.008)	-0.031** (0.015)	0.070*** (0.008)	-0.030** (0.015)
Coastal	-0.173 (0.120)	0.233*** (0.076)	-0.225* (0.120)	0.279*** (0.075)	-0.223* (0.119)	0.243*** (0.077)	-0.221* (0.121)
Tirana	-0.375*** (0.140)	-0.041 (0.084)	-0.341** (0.142)	-0.016 (0.082)	-0.342** (0.141)	-0.044 (0.084)	-0.345** (0.141)
Central	0.086 (0.105)	0.328*** (0.079)	0.013 (0.099)	0.398*** (0.077)	0.014 (0.098)	0.372*** (0.079)	0.017 (0.100)
Urban	0.014 (0.125)	0.214*** (0.071)	-0.026 (0.116)	0.208*** (0.071)	-0.025 (0.117)	0.209*** (0.071)	-0.025 (0.118)
Land	0.045** (0.020)	0.011*** (0.004)	0.040** (0.019)	0.011*** (0.004)	0.041** (0.019)	0.011*** (0.004)	0.041* (0.019)
Land Squared	-0.001* (0.001)	-0.00002** (0.00001)	-0.001* (0.001)	-0.00002** (0.00001)	-0.001* (0.001)	-0.00002** (0.00001)	-0.001* (0.001)
Asset Index	-0.086** (0.044)	-0.048** (0.023)	-0.072* (0.042)	-0.047** (0.023)	-0.072* (0.042)	-0.041* (0.023)	-0.073* (0.042)
Activity Fragmentation		-0.646 (0.417)				-0.713* (0.419)	
Ethnicity Fragmentation				-1.046** (0.428)		-1.084** (0.426)	
Constant	-0.435 (0.481)	-2.210*** (0.424)	-0.248 (0.468)	-2.742*** (0.209)	-0.250 (0.468)	-2.126*** (0.425)	-0.256 (0.472)
N	3094	3094	3094	3094	3094	3094	3094
Pseudo R2	0.14						
Rho			-0.704 (0.574)		-0.676 (0.492)		-0.625 (0.517)
Wald test of rho=0		Chi2(1)=1.50 P-value: 0.22		Chi2(1)=1.89 P-value: 0.17		Chi2(1)=1.46 P-value: 0.23	
Orthogonality of instrument		Chi2(1)=0.06 P-value: 0.80		Chi2(1)=0.95 P-value: 0.33		Chi2(2)=1.03 P-value: 0.60	

Notes: robust standard error in parenthesis. \* denotes significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

**Table 6: Permanent migration. Probit and SURE estimations**

Variables	Probit	SURE					
	Permanent Migration	Social Capital	Permanent Migration	Social Capital	Permanent Migration	Social Capital	Permanent Migration
Social Capital	-0.077 (0.111)		0.789* (0.473)		0.796* (0.453)		0.888* (0.458)
Age	0.041** (0.004)	0.014*** (0.003)	0.036*** (0.005)	0.014*** (0.003)	0.036*** (0.005)	0.014** (0.003)	0.036*** (0.005)
Male	-0.195 (0.151)	0.208** (0.104)	-0.219 (0.148)	0.215** (0.104)	-0.220 (0.148)	0.213** (0.104)	-0.221 (0.147)
Education	-0.012 (0.013)	0.071*** (0.008)	-0.025* (0.013)	0.072*** (0.008)	-0.025* (0.013)	0.071*** (0.008)	-0.026** (0.013)
Coastal	0.137 (0.124)	0.237*** (0.076)	0.087 (0.123)	0.289*** (0.075)	0.088 (0.123)	0.247*** (0.076)	0.083 (0.122)
Tirana	0.056 (0.139)	-0.047 (0.082)	0.068 (0.134)	-0.018 (0.081)	0.069 (0.134)	-0.047 (0.082)	0.071 (0.133)
Central	-0.185 (0.135)	0.318*** (0.076)	-0.235* (0.130)	0.395*** (0.076)	-0.237* (0.130)	0.367*** (0.077)	-0.241* (0.129)
Urban	0.081 (0.118)	0.203*** (0.069)	0.036 (0.114)	0.197*** (0.069)	0.036 (0.114)	0.199*** (0.069)	0.031 (0.113)
Land	0.026*** (0.008)	0.010*** (0.004)	0.022*** (0.009)	0.011** (0.004)	0.023** (0.009)	0.010* (0.004)	0.022** (0.009)
Land Squared	-0.0002 (0.0001)	-0.00002* (0.00001)	-0.0002 (0.0001)	-0.00002* (0.00001)	-0.0002 (0.0001)	-0.00002* (0.00001)	-0.0002 (0.0001)
Asset Index	-0.106** (0.042)	-0.044* (0.023)	-0.092** (0.041)	-0.044** (0.022)	-0.092** (0.041)	-0.038 (0.023)	-0.091** (0.041)
Activity Fragmentation		-0.757* (0.421)				-0.824** (0.418)	
Ethnicity Fragmentation				-1.105** (0.435)		-1.147*** (0.430)	
Constant	-3.706*** (0.347)	-2.109*** (0.422)	-3.365*** (0.366)	-2.735*** (0.209)	-3.360*** (0.365)	-2.023*** (0.421)	-3.320*** (0.362)
N	3094	3094	3094	3094	3094	3094	3094
Pseudo R2	0.11						
Rho		-0.502* (0.276)		-0.507* (0.264)		-0.566** (0.275)	
Wald test of rho=0		Chi2(1) = 3.30 P-value: 0.07		Chi2(1) = 3.68 P-value: 0.06		Chi2(1) = 4.22 P-value: 0.04	
Orthogonality of instrument		Chi2(1)= 1.00 P-value: 0.32		Chi2(1)= 1.10 P-value: 0.29		Chi2(2)= 1.90 P-value: 0.39	

Notes: robust standard error in parenthesis. \* denotes significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.



**Table 7: SURE estimations with control for community out- migration. Temporary and permanent migration**

Variables	SURE							
	Social Capital	Temporary Migration	Social Capital	Temporary Migration	Social Capital	Permanent Migration	Social Capital	Permanent Migration
Social Capital		1.124 (0.829)		1.028 (0.842)		0.775* (0.449)		0.874** (0.433)
Age	0.015*** (0.003)	-0.046*** (0.005)	0.014*** (0.003)	-0.046*** (0.005)	0.014*** (0.003)	0.036*** (0.005)	0.014*** (0.003)	0.036*** (0.005)
Male	0.205** (0.104)	0.928*** (0.360)	0.210** (0.104)	0.931*** (0.361)	0.206** (0.104)	-0.218 (0.148)	0.210** (0.104)	-0.220 (0.147)
Education	0.071*** (0.008)	-0.032** (0.015)	0.071*** (0.008)	-0.032** (0.015)	0.072*** (0.008)	-0.025* (0.013)	0.072*** (0.008)	-0.026** (0.013)
Coastal	0.226*** (0.077)	-0.230* (0.120)	0.236*** (0.077)	-0.226* (0.121)	0.231*** (0.076)	0.088 (0.123)	0.240*** (0.076)	0.083 (0.122)
Tirana	-0.110 (0.098)	-0.338** (0.143)	-0.132 (0.010)	-0.341** (0.142)	-0.116 (0.098)	0.068 (0.134)	-0.135 (0.099)	0.071 (0.134)
Central	0.313*** (0.078)	0.010 (0.098)	0.358*** (0.079)	0.013 (0.098)	0.303*** (0.076)	-0.234* (0.131)	0.352*** (0.077)	-0.240* (0.129)
Urban	0.210*** (0.071)	-0.024 (0.115)	0.203*** (0.071)	-0.024 (0.116)	0.197*** (0.069)	0.037 (0.114)	0.191*** (0.069)	0.032 (0.113)
Land	0.011*** (0.004)	0.040** (0.019)	0.011*** (0.004)	0.040** (0.019)	0.010*** (0.004)	0.023*** (0.009)	0.010*** (0.004)	0.022** (0.009)
Land Squared	-0.00002** (0.00001)	-0.001* (0.001)	-0.00002** (0.00001)	-0.001* (0.0007)	-0.00002** (0.00001)	-0.0002 (0.0001)	-0.00002** (0.00001)	-0.0002 (0.0001)
Asset Index	-0.045* (0.023)	-0.071* (0.041)	-0.037 (0.023)	-0.072* (0.042)	-0.041* (0.023)	-0.093** (0.041)	-0.034 (0.023)	-0.091** (0.041)
Activity Fragment.	-0.677 (0.412)		-0.755* (0.415)		-0.793* (0.421)		-0.872** (0.419)	
Ethnicity Fragmentat.			-1.172*** (0.428)				-1.240*** (0.435)	
Community Migration	-0.114 (0.083)		-0.144* (0.083)		-0.112 (0.083)		-0.142* (0.0834)	
Constant	-2.084*** (0.426)	-0.242 (0.463)	-1.963*** (0.429)	-0.246 (0.466)	-1.98*** (0.431)	-3.372*** (0.364)	-1.854*** (0.430)	-3.328*** (0.360)
N	3094	3094	3094	3094	3094	3094	3094	3094
Rho	-0.788 (0.565)		-0.723 (0.549)		-0.494* (0.260)		-0.557** (0.258)	
Wald Test of rho=0	Chi2(1) = 1.94 P-value: 0.16		Chi2(1) = 1.73 P-value: 0.19		Chi2(1) = 3.60 P-value: 0.06		Chi2(1) = 4.68 P-value: 0.03	
Orthogonality of instrument	Chi2(1)= 0.06 P-value: 0.80		Chi2(2)= 1.03 P-value: 0.60		Chi2(1)= 1.00 P-value: 0.32		Chi2(2)= 1.90 P-value: 0.39	

Notes: robust standard error in parenthesis. \* denotes significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

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