Agency, Education and Networks: Gender and International Migration from Albania

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Abstract

Our paper examines the causes and dynamics of the shift in the gender composition of migration, and more particularly, in the access of women to migration opportunities and decision making. We do this in the context of Albania, a natural laboratory for studying migration developments given that out-migration was practically eliminated from the end of WWII to the end of the 1980s. We use micro-level data from the Albania 2005 LSMS including migration histories for family members since migration began. Our analysis, based on discrete-time hazard models, shows an impressive expansion of female participation in international migration. Female migration, which we find to be strongly associated with education, wealth, and social capital, appears responsive to economic incentives and constraints. Yet, using unique data on the dependency of female migration to the household demographic structure as well as the sensitivity of female migration to household-level shocks, we show that it is the households themselves that are the decision-making agents behind this economic calculus and there is little to suggest that increased female migration signals the emergence of female agency.

Key Words: migration, gender, shocks.

JEL: J16, O15.

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1. Introduction

Unraveling the complex relationship between gender and migration is a primary focus of recent migration research (Kanaiaupuni 2000; Cerrutti and Massey 2001; Davis and Winters 2001). One central aspect of this puzzle relates to the shift and variation in the gender composition of international migration (Castles and Miller 2003; Pfeiffer, Richter et al. 2007). While women comprise roughly half of the world's international migrant population (Zlotnik 1999), the proportion varies considerably by region, and there are countries, such as Philippines, Sri Lanka, and Indonesia, where the majority of emigrants are female (United Nations 2006; Martin 2007). Variation in the gender distribution of migration is at least partly understood by local culture, which plays a critical role in deciding whether married or unmarried women can migrate or not (Boyd and Grieco 2003). In patriarchal, traditional societies, men are generally the frontrunners of international migration and female migration in such settings is in the context of tied-migrants – either joining a spouse or other family members. At some later stage the cultural taboo against female migration appears to relax and women are gradually incorporated in the migration process. This appears to be the case for Mexico, where most migration research is focused, and where women may be increasingly independent agents of migration (Kanaiaupuni 2000; Cerrutti and Massey 2001). Unraveling the puzzle behind the shift in the gender composition of migration remains a critical challenge – one that is made more complicated by complex, circular causality linking gender, migration and development over time, both locally as well as in migrant destinations.

There are both descriptive and analytical components to our inquiry. The descriptive focuses on whether or not and at what rate are women incorporated into a migration stream which is initially dominated by males. There is little, if any, empirical evidence describing the evolution of the gender composition of migration for a nation over time, from an initial state of no migration to one where migration becomes a normative practice. The difficulty of migration data collection may partly explain this lacuna (Zlotnik 1990; Cerrutti and Massey 2001), as well as the fact that local data collection efforts rarely predate the onset of international migration movements. The second and analytical component of our study, aims to deconstruct the causal process driving changes in female participation in international migration. This requires an understanding of the

manner by which gender operates in the migration equation and how this function may or may not change over time (Boyd 1989; Pedraza 1991; Pfeiffer, Richter et al. 2007).

Cumulative causation offers one obvious direction to explore, both because it is widely integrated in theories of gender and migration, and because it describes a dynamic process (Massey and Garcia Espana 1987; Curran, Garip et al. 2005). Migration networks have been shown to be gendered (Davis and Winters 2001; Curran and Rivero-Fuentes 2003), offering one possible explanation for the differential patterns of male and female migration. Yet, specification problems may greatly complicate causal inference when estimating the role of migration networks on current migration patterns (Palloni, Massey et al. 2001; Munshi 2003). Education, whose impact on migration may be different for men and women (Kanaiaupuni 2000), offers another potentially key ingredient given the importance of differential educational discrimination across local and destination labor markets (Massey, Arango et al. 1993).

Finally, and in spite of critiques of the term "agency" and its endogeneity to social structure (Loyal and Barnes 2001), female agency becomes a central element in this analysis because of its role in migration (Morokvasic 1984; Hondagneu-Sotelo 1992). Agency in our study refers to the ability to "…act(s) and bring(s) about change…" as developed in Sen's work (Sen 1999). The expansion of female agency then refers to the increased capacity for women to take actions to change their own or their family's well-being. From this respect, it remains unclear from the literature whether increased incorporation of women into the migration process, both as familial migrants and as economic migrants, signals strengthening independence and empowerment over the course of development or whether female migration is primarily a response to household migration strategies.

We examine these questions in the context of Albania, a setting which provides unique insights into the evolution of female migration and the mechanisms that underlie this gendered process. Although internal migration has also been large and might well be affected by similar factors shaping international migration, our analysis will focus on the determinants of the first international move, as the expected effects and policy implications are likely to differ from internal movements.

Within a few short years following the opening of its borders to international migration in 1990, Albania witnessed a remarkable out-migration, primarily to Greece and Italy, with about one-fifth of the country's population estimated to have left (King and Vullnetari 2003; Carletto, Davis et al. 2006). Whereas most migration from Albania at the start of the 1990s was male-dominated, a decade later women comprised 41 percent of Albanians in Italy and Greece (Vullnetari 2007). We use nationally representative survey data from Albania from 2005, including a unique retrospective module on migration of sons and daughters of respondents, to examine the pattern as well as mechanisms that underlie the gender and migration relationship. Our analysis describes the pattern of change in male and female migration over time and the role of human capital and wealth. We explicitly consider agency in migration decisions using time-varying data on demographic constraints and economic and health shocks at the household-level. These data enable us to evaluate how household-level factors differentially impact male and female migration and whether a change in this impact is discernible over time. Finally, data on both family and community networks by gender are used to examine whether networks are gender-neutral and whether the effects of networks vary with the increased routinization of migration.

2. Gender and migration: history and context

The complexity of the international migration process as well as interdisciplinary nature of scholarship in this field has yet to lead to the formulation of a unified theoretical perspective on migration and gender (Donato, Gabaccia et al. 2006). The economic approach, begun in the neoclassical tradition and further developed by Todaro (1969; 1976), emphasized the expected gains to potential migrants and implications of policy programs that aim to reduce rural out-migration. Later developments in this field, coming under the title of the new economics of labor migration, have focused on the context and boundaries of decision-making and have pushed both economists and non-economists to consider the complex household level strategies underlying migration (see Stark 1991). This has meant increasing attention to risk and credit constraints, for example, as primary motivations underlying migration strategies (Taylor 1986; Rosenzweig and Stark 1989). Sociological and demographic theory-building has paid keen attention to the contributions of economists, and the underlying rational actor micro-level model has been adopted in many cases, but parallel theories and models have paid equally close attention to the

role of social networks and underlying structures in determining migration patterns (Boyd 1989; Massey and Espinosa 1997; Entwisle, Faust et al. 2007). These in turn have altered the thinking of economists who in recent years have incorporated network mechanisms directly into their models (Winters, de Janvry et al. 2001; Munshi 2003).

In fact, neither economic nor sociological approaches have until recently offered particular insight into the role of women in migration. Compelling critiques levied against the field, including Pedraza (1991) and Hondagneu-Sotelo (1992), argue for looking more closely at how women's roles are defined and their access to resources and decision-making both as migrants and non-migrants. As Cerrutti and Massey (2001) note in their discussion of both the neoclassical economics and new economics of labor migration approaches, "(I)n neither case are women assigned much agency, either as autonomous decision makers or as independent participants in household bargaining." (p.188). This lack of agency would explain why much of the previous research on migration has positioned women as "secondary" or "associational" migrants (Kanaiaupuni 2000: p.1315). Empirical evidence from Mexico, as well as other countries with strong patriarchal systems, suggests that women eventually pursue more independent migration strategies. Thus, the implication is that at some stage of the migration process, cultural taboos against female migration are translated into a "culture of migration" (Kandel and Massey 2002).

The growing concern over female migration in patriarchal societies has spawned a number of critiques in recent years about the extent to which women – even as tied or associational migrants – may be involved in complex migration ventures. There is evidence, at least from Mexico, suggesting that the motives and strategies behind female migration are expanding beyond the interests of the family or household (Kanaiaupuni 2000; Cerrutti and Massey 2001). Thus, even where women might be constrained in their ability to engage in independent migration strategies, tied-migration itself may be highly responsive to job opportunities and other economic incentives. And post-migration, even traditional families with patriarchal gender roles adopt greater flexibility to enable women increased labor force participation and education opportunities (Khazzoom 2006). There are signs of a new emphasis on male and female migration as individual actions but still embedded in household practices, strategies and traditions (Donato, Gabaccia et al. 2006). Also, women have been shown to take advantage of specific forms of information derived from gender-specific migration networks (Davis and

Winters 2001); to respond actively to underlying economic motivations even when they move as "associational migrants", and to exhibit distinct gradients with respect to education and other measures of socio-economic status (Kanaiaupuni 2000). Thus, female migration – while embedded in household and family strategies and interests – might well retain its own economic rationale and respond to its own particular incentives. These various incentives relate to human, financial and social capital factors whose impact on migration we investigate in the next section.

3. Hypotheses on the causes of female migration

The preceding discussion suggests a number of potential hypotheses to explore in the context of Albania. From both economic and non-economic perspectives, gender differences in the link between migration and education suggest different migration opportunities and constraints on men and women. Evidence from Mexico suggests that higher education levels raise the odds of female migration just as they lower the odds of male migration (Kanaiaupuni 2000). One explanation is that women, relative to men, typically face more discrimination in local labor markets, and this raises their incentive to migrate towards more egalitarian labor markets. What has not been clearly shown is if and how this educational differential by gender evolves as migration becomes normative. This leads to our first two hypotheses: first, that female migration from Albania is more strongly associated with education than male migration and second, that this difference should strengthen over time as women are more able to take advantage of economic opportunities. This tendency for females to seek better labor employment abroad may be heightened by increasing gender inequality in the post-communist Albanian labor force over time – a pattern which is also found in other post-Communist states (Einhorn 1993) – and which limits women's access to higher status occupations and generates "new forms of marginalization" (Calloni 2002; UNDP 2003).

Crises have the potential to alter gender relations at both the household and societal levels (Peteet 1991). Under the assumption that female actions are more tightly bounded by household decisions we expect that female migration decisions will be more sensitive to constraints and incentives faced by households. This leads us to our third hypothesis: that female migration behavior will respond more strongly than male behavior to household-level income or health shocks and that this differential response will weaken over time, presumably a signal of women's acquired agency. Greater female elasticity of migration to household level factors reflects the

weaker bargaining power of women within the household and provides a clear expression of their lack of independent decision-making. Another type of household level constraints is demographic: households with few or no sons are restricted in their ability to choose to have sons migrate and may have to rely on daughters' migration regardless of household preferences. Our fourth hypothesis posits that the effect of the supply of sons, holding the number of children constant, is inversely associated with female migration. This hypothesis tests for the responsiveness of female migration to constraints associated with the demographic structure of households. Both hypotheses offer distinct and informative tools for gaining insight into female agency and migration decisions in Albania.

Either alongside or in place of human, financial and household structural factors, social capital factors have emerged as central determinants of migration, and increasing attention is being paid to networks and the diffusion of information and the role these factors play in determining migration patterns (Taylor 1986; Massey and Espinosa 1997; Winters, de Janvry et al. 2001). Cumulative causation describes how networks create self-sustaining migration processes, partly through the generation of migration specific social capital. Studies have shown that migration networks are location-specific and matter more for international as opposed to domestic migration (Taylor 1986; Curran and Rivero-Fuentes 2003); they provide a stronger influence on closer rather than more distant kin or neighbors (Davis, Stecklov et al. 2002; Curran, Garip et al. 2005); and their impact on migration is robust to various forms of unobserved heterogeneity (Palloni, Massey et al. 2001).

There are compelling reasons to believe that migration networks also function along gender lines. For example, gender segmentation of immigrants' labor markets may mean that sectoral-specific information on labor opportunities travels more easily across individuals of the same sex. The validity of these assumptions has been empirically tested in a number of studies, mostly in the context of Mexico-US migration. In one study, Mexican women are found to rarely migrate entirely on their own and the migration decisions of women appear less strongly associated with measures of human and social capital than the decisions of men (Cerrutti and Massey 2001). Other studies have found stronger roles for female networks, particularly on destination choices of female migrants (Kanaiaupuni 2000; Davis and Winters 2001). Davis and Winters (2001) show that male and female networks for Mexican immigrants function similarly in that they both affect female migration behavior and apparently operate as substitutes. A recent

study from Thailand further demonstrates the gender specificity of migration social capital in terms of its impact on male and female migration decisions (Curran, Garip et al. 2005). Notwithstanding the above-mentioned study from Thailand, the preponderance of empirical evidence on cumulative causation is built on Mexican migration case. This geographic focus constrains the development of a more generalized understanding of the linkage between cumulative causation and migration.

A further constraint to forming a deeper understanding of the connection between gender and social networks – and unrelated to the empirical focus on Mexico – is that the validity of empirical studies remains hampered by the fact that migration capital is often already accumulated well in advance of data collection efforts. The complexity arises when migration streams go back in time and migration capital is interwoven with other forms of human and social capital. The interaction between these processes undermines our ability to correctly identify the role of migration networks on migration patterns (Palloni, Massey et al. 2001; Munshi 2003). While innovative empirical strategies have been used to capture variation across regions in their access to migration resources from the distant past – such as McKenzie and Rapoport's (2007) use of railroad data from Mexico – migration becomes highly endogenous over time. Such endogeneity concerns resulting from reverse causality may be particularly acute when examining the relation between gender, social capital and migration. Ideally, from the standpoint of causality, gender in the process of cumulative causation could be examined from a start-date with no migration and its evolution could be analyzed. Albania, which Russell King knowingly terms a real-world empirical laboratory to study migration and development (2005), offers just such an opportune setting. In Albania, there is both a clear starting point with respect to the lack of migration capital existing prior to the start of migration as well as a rapid accumulation of migration capital following the onset of migration. Thus, the Albanian context offers an ideal setting to test our fifth hypothesis: that migration capital is gendered and that men and women rely more on both family and community networks of their own sex. Given the rapid expansion of migration capital combined with extensive social turmoil, our sixth hypothesis is that the value of migration capital declines over time.

4. Data

The data for this study come from the 2005 Albania Living Standards Measurement Study (ALSMS05) survey conducted by the Albanian Institute of Statistics (INSTAT), with technical assistance from the World Bank, between April and November, 2005. The sampling frame for the survey was stratified into four regions – namely coastal, central, mountain and Tirana, the capital – and a total sample of 3,640 households from 455 census enumeration areas (EAs) was drawn based on a multi-stage cluster design.

The ALSMS05 includes both a community level survey and household questionnaire which covers general household demographics, education levels, asset ownership, expenditures and labor market participation. The central role of migration in Albanian society led to the inclusion of a set of unique survey modules on migration, which collected comprehensive migration histories for current and past household members. For children no longer living in the household or temporarily absent, parents were interviewed as proxies and asked to provide migration histories since 1990 on the timing of moves, destinations, and current location. Basic demographic and socio-economic data were also collected for these individuals through proxy.

In this paper, we use the detailed migration histories collected for all sons and daughters of the household head and household head's spouse, whether currently living in the household or abroad.[1] The data from this module enable us to construct time varying measures of past migration of sons and daughters, i.e. our left-hand-side variable, which is a annual series of dichotomous variables indicating whether the individual had migrated for the first time in that particular year. While we focus on the timing of first-migration, supplementary analyses mentioned below also differentiate the outcome variable by destination (Greece and Italy versus other countries including other European destinations and North America) and by whether the migration was temporary or permanent.

The individual migration data for sons and daughters is used to construct various measures of migration capital. Family migration capital is estimated for each son or daughter based on the sum of all family migrants at each point in time, excluding the son and daughter themselves.

[1] All sons and daughters who are no longer living in the households but resided in Albania at the time of the survey are excluded. These individuals may have migrated internationally in the past but no information on the first year of migration is available.

Also, aggregation of the migration data at the community level, excluding ego's household migration capital, provides a measure of time-varying community migration capital. All community migration data were also separated by gender in order to test for gender-specific forms of migration capital.

A rare perspective on migration incentives and constraints is collected in a module where households report on severe household-level shocks occurring each year since 1990. Shocks were categorized into one of four categories: a job loss; a major illness or death; a large loss of property; or an income shock relating to the collapse of the pyramid saving schemes. The annual nature of the shock data provides a time-varying indicator of their influence on both male and female migration patterns.

The remaining core variables are built in a standard fashion. Individual level education is constructed by categories (completed up to 8 years of schooling, at least some high school education, or at least some university education), while age is categorized in 5-year groups. A wealth proxy, based on a principal components analysis of durable goods owned by the household in 1990, is used in order to avoid endogeneity with subsequent migration. Finally, the region of residence is composed of Tirana, the capital, and then Mountain, Central and Coastal regions, each disaggregated into urban and rural sectors.

5. Methods

We employ discrete time hazard models using logistic regression to estimate the hazard of first-migration. The hazard analysis has several advantages in this setting because persons are observed over the course of up to 14 years and some but not all make transitions – i.e. move abroad for the first time – in any particular year. In many cases, no out-migration ever occurs within the observed time span. These cases are right-censored because they may well end up migrating but only after the observation is completed (post-2003). Individuals enter our eligible sample at age 15. Many sons and daughters will not have reached 15 by 1990, meaning both their exposure and migration are not counted until they reach the cut-off age. The hazard analysis correctly assigns exposure based on the reported data to the relevant time periods, enabling us to calculate first-migration hazard rates.

We adopt a flexible specification for the discrete-time hazard model requiring little structure on the year to year variation in the baseline hazards. We introduce dummies for each year to allow

for annual variation in the baseline hazards between genders. Thus, our dependent variable indicates whether an individual has migrated for the first time in a specific year after 1990. and takes a value of 1 if the individual has migrated has migrated for the first time in that year, and 0 otherwise. Because individuals are repeatedly observed between 1-14 times, coefficient standard errors are adjusted in all models to avoid downward-biased estimates.

In those models with multiple interactions between time and other variables of interest, we create an epoch dummy, taking a value of one for the period 1996-2003. Dichotomizing time into two epochs both facilitates the interpretation of results and is substantively grounded in the apparent turning point in the relationship between many of our covariates and migration. The pyramid scheme expansion and crisis that began towards the end of 1996 and the subsequent Greek and Italian regularization programs which created a surge in the migration of family members still in Albania, both introduced new push and pull influences on migration from Albania beginning in or after 1996.

Our estimation strategy is to first estimate separate parsimonious baseline models for men and women as well as a pooled model for both genders with a gender dummy to capture the gender shift in the baseline hazard. Subsequently, we build upon these baseline models by adding new variables to test specific hypotheses. When these augmented models are estimated on each sex separately, the sex-specific models serve as the reference baseline model. When we test whether the effects of the newly introduced "supplementary" variables vary between men and women, the pooled model for both sexes is used as the baseline. This latter approach enables us to test whether the male and female effects of interest are statistically different. All coefficients discussed in the text are significant unless otherwise noted to avoid repeating statistics presented in the tables and to streamline the text. Both for the sake of brevity and the lack of substantive changes in the baseline coefficients, coefficients from the baseline model are ignored and only new variables for each subsequent model are shown. Our estimated coefficients are presented as odds ratios and are interpreted as the proportional effect of a change in a given variable on the odds of first-migration. Finally, given concerns over unobserved heterogeneity (or frailty), our

baseline model is retested using a random effects logistic model for both sexes and we find little cause for concern.[2]

6. Results

a. Descriptive Analysis

Our working sample contains 4626 sons and 4509 daughters reported by 2619 households. These figures translate into an average of 3.5 children ages 15 and above reported for each household, a number reflecting Albania's historically high fertility levels that have only recently declined (Falkingham and Gjonca 2001). Exceptional levels of migration from Albania have led to a situation where 41 percent of sons and 18 percent of daughters in the sample had ever-migrated by 2003. Thus, the chances of a son ever migrating are more than twice that of a daughter. While an enormous proportion of children migrate, migrant children are not spread equally across households. Among parents that report children 15 years and older, almost half (over 46 percent) report that their children have no international migration experience. The data also reveal the primacy of Greece and Italy as migration targets with 84 percent of men and 79 percent of women that have ever-migrated reporting one of those two countries as their first destination.

The time pattern of first-migration from Albania between 1990 and 2003 is clearly displayed in Figure 1 where the hazard is plotted – based on a discrete-time hazard model including only year dummies. The estimated hazards range from lows of around one percent for females between 1990 and 1995 to highs of over seven percent for men in 1997 and 1999. Consistent with our initial hypothesis, there appears to be a shift around 1996, with an apparent rise in the probability of migration in the second half of the 1990s. This rise is most likely due to the expansion and subsequent failure of the pyramid saving schemes that erupted in late 1996 as well as the regularization of Albanian migrants in Greece in 1998 followed by further regularization programs in Greece and Italy. Finally, a very notable slow down in both male and female

[2] Biased hazard estimates are one recognized concern when frailty is ignored in survival models (Singer and Willett 2002). Practically, failure to treat the annual changes as random effects may lead us to underestimate the increase in the hazard of ever migration. However, the fact that our hazard is not declining over time reduces the potential bias. Furthermore, when we compare the discrete time hazard model and the model with random effects on the same sample we find that the time coefficients are higher with inclusion of the random parameter, although we observe a similar time pattern (available upon request). Also, the similarity of the coefficients across both models further alleviates our concern regarding unobserved heterogeneity. Finally, the random effects model implies that almost 96 percent of the variation is between individuals rather than across the panel, and a chi-squared test of rho is unable to reject that possibility that the entire variance is between people.

migration occurs around the year 2000 and this downwards trend persists throughout the remaining observed spell.

Summary statistics are presented in Table 1, although the changing composition and repeated observation on persons from year to year complicate the interpretation of the table's values. Mean values for men and women that ever migrated and never migrated are shown for the three years at the start (1990-1992) and end (2001-2003) of our observation. Individuals within the start and end interval provide only a single observation, which is categorized according to whether they eventually migrate during this three-year interval. For variables that are time-varying, such as migration capital and household-level shocks, the specific value assigned is the value at the beginning of the three year interval or the value when entering the sample. Several points are with noting from Table 1 including the change in the sample size over time, particularly for women, as younger persons enter the relevant age brackets and ever-migrants drop out of the sample following the year of migration. The higher male migration levels explain why there is nearly gender parity in the sample sizes between 1990-1992 but there are 3247 women to 1883 men in the file between 2001 and 2003. The role of certain variables changes quite dramatically over time. For both men and women, migrants in the early period are older than non-migrants, but in the later period this is reversed. Other interesting points to note include the decline in the proportion of migrants over time with higher education. There is also a large decline in the role of wealth for both sexes according to Table 1, although this decline may simply be because wealth varies over time and wealth measured in 1990-1992 poorly reflects wealth in 2001-2003. We also note the dramatic growth in the size of both family and community migration network capital over time, although this is apparent for both migrants and non-migrants.

b. Multivariate analyses

Using discrete time survival models, we first describe migration and gender patterns by time and age before considering our specific hypotheses. Our baseline models, presented in Table 2, show that men indeed are more likely to migrate abroad than women. In the pooled model for both sexes the overall difference in the odds of first migration for women is 72 percent lower than the odds for men. This large difference is partly driven by differences in the odds for permanent and

temporary migration, where permanent includes children now living abroad and temporary includes those that migrated internationally at some point but have returned home. In a model including only permanent migration (not shown), the female odds are 56 percent smaller than the male odds of migration (p=0.000). In contrast, when only temporary migration is included, which is primarily for labor motives and to Greece, the female odds of migration are 84% smaller than the male odds (p=0.000). Because our focus in this study is on the factors that affect "first-migration" and their variation by gender, the ensuing analysis ignores the distinction between permanent and temporary migration. The baseline results also highlight the strong differences in the regional patterns of male and female migration. Relative to women in the capital Tirana, rural women from the coastal and central regions have significantly lower odds of migrating, and women from both rural and urban Mountain region have drastically lower odds (79 and 43 percent, respectively), while there are few significant differences for men (Table 2). Regional differences evident in the results are shaped by variations in economic conditions and cultural norms across Albania - likely factors in explaining differential gender empowerment.

The sex-specific estimates in Table 2 highlight similarities and contrasts in male and female migration patterns over time. The male odds of migration peak around 1999 while the odds for women don't plateau until 2001. Viewed in broader terms, the results suggest that both migration patterns reach a plateau around 1997 and stay at these elevated levels until 2001 or 2002. Both male and female patterns experience large increases around 1996. However, the increase in female migration, which starts at lower initial levels, is considerably larger than the increase in male migration. The migration hazard for women is 3.7 times larger in 1997 relative to 1990, while for men, only 1.9 times larger than in 1990.

A more formal statistical test of the gap between male and female migration patterns relies on re-estimating the pooled model with interaction terms between the gender and the time dummies (see Table 3). The results indicate a continued reduction in the male domination of migration, beginning around 1993 and 1994, based on a much stronger increase in female migration odds over time relative to male migration odds. This rapid increase in female migration, even relative to the impressive rise in male migration, is not steady but appears to peak around 1996 and to rise again in 2001. A joint test of the annual interaction coefficients confirms that male and female migration patterns evolve differently over time ($\chi^2(13)=27.1$; p=0.012).

The age pattern of migration for men and women both show a similar inverted-U relationship, peaking at ages 20-25 (odds ratios of 52 and 73 percent, respectively). The peak is higher, and the subsequent drop in migration risk lower, for women. Introducing the interaction term between gender and age in Table 3, the odds of a woman versus a man migrating increases with age, and these results are jointly significant ($\chi^2(6)=19.4$; $p=0.004$). The increased migration of older women, particularly those ages 40 and above, is consistent with the "orphaned granny" syndrome, observed in qualitative fieldwork, where grandparents migrate to provide childcare for the children of their own migrant children (King and Vullnetari 2006). Such patterns of behavior have also been identified in older Mexican migrants (Kanaiaupuni 2000). The shift towards younger ages in migration – already noted in Table 1 – is supported in the multivariate model. The effect of age appears to change post-1995, with a decline in the migration of persons ages 30-45 in favor of younger cohorts (available upon request). A joint test of the age and post-1995 interactions provides more general support for the change in the effect of age over time ($\chi^2(6)=16.8$; $p=0.010$).

Hypotheses 1 and 2: Gender and education

Our first two hypotheses predict a stronger association between education and female migration relative to male migration and that this difference should strengthen over time. Indeed, the education-migration gradient of men and women differ considerably with education's effect exerting a stronger influence on female migration (see Table 2). The odds of migration for men peak at the lowest level of education (primary or less), while the odds for men with post-secondary education (12 years and above) are 37 percent lower. In contrast, the odds of migration for women with 9-12 years of education are 70 percent greater than the low education category, though the positive effect of post-secondary education weakens and the odds are greater by only 25 percent. The gender differences are tested directly using the pooled model with interactions between gender and the educational dummies (see Table 3). We find large, positive interactions of over 2 both for women with 9-12 years and with 12 and more years of education and both are highly significant individually and jointly ($\chi^2(2)=82.1$; $p=0.000$). Similar findings on the positive selection on education for female migration, but not for male, are reported from other settings (Kanaiaupuni 2000; Pfeiffer, Richter et al. 2007).

In support of our second hypothesis, the impact of education weakens over time but this decline is more dramatic for men so that the education-migration gradient over time strengthens for women relative to men. Introducing the epoch dummy and its interaction with education in a male-only model (not shown), produces a dramatic and significant decline in the importance of education. For women, in contrast, the effect of 9-12 years of education is unchanging relative to pre-1996 while the effect of 12 and more years weakens by 37 percent. The differing roles of education appear highly associated with specific migration destinations. In the pooled model, at least some university education reduces the odds of migration to Greece and Italy by 38 percent and increases the odds of migration to countries beyond Greece and Italy by 90 percent (Table 6). For women, at least some high school education raises the odds of migration "beyond" by a factor of 2.6 and at least some university education raises the odds of migration by a factor of 4 (not shown). For men, however, there are no significant effects of education on migration to countries beyond Greece and Italy.

Hypotheses 3 and 4: Gender and household demographics

We next explore differences in the elasticity of male and female migration to household demographic, economic and health-related circumstances. Both household demographic factors and household-level shocks generate incentives or constraints regarding female migration. However, shocks are by definition unpredictable whereas the number of sons eligible for migration is generally known to households. Thus, household demographic factors provide a relatively static gauge of female agency in international migration while household-level shocks provide a more dynamic indicator of the extent to which female migration behavior is bounded by household strategies.

We estimate separate models on men and women with all four household shock variables (see Male and Female columns in Table 4), as well as a joint model to test differences in gender responses (see last column in Table 4). The results support our hypothesis: shocks affect female migration more than male - in fact male migration appears wholly unaffected by the shocks. For women, two types of shocks provide enough of an incentive (property loss) or a deterrent (illness) to affect migration. Illness of a household member reduces the odds of first-migration for women by 33 percent, while property loss shock increases the odds by 67 percent. The effect of illness shocks supports the argument that women's migration behavior is more constrained by

their role as homemakers and their relative lack of agency within the household. The results of the joint model show that the effect of illness is statistically different between men and women, with women less likely to migrate if there is an illness within the household. The difference in the effect of property loss, on the other hand, points to a larger increase in the odds of migration for women following a large property loss. Though this last effect is only marginally significant, it helps to paint a broader picture of women's migration being driven by household needs to a far greater extent than men's migration.

Changes over time in the independence of migration for women can also be tested by including interactions to test whether the effects of shocks change over time (not shown). While the interactions with the epoch dummy are not significant for either men or women, separate models run on each epoch show that the effect of the shocks is driven by the later period. A separate analysis of the later epoch also shows that the gender difference in the effect of job loss shocks is large (odds of migration are raised by 32% for women relative to men) and significant ($p=0.033$) and consistent with the effect of property loss. The combined evidence suggests that female migration is increasingly popular as a household strategy but that this increased popularity does not necessarily imply an emergence of female agency over time.

The test of the effect of household demographic factors shows that both son and daughter migration is relatively insensitive to the total number of daughters in the household (not shown). However, the analysis supports our fourth hypothesis in that the migration of daughters, but not sons, is responsive to the number of sons ages 15 and above in the household, implying that daughter migration may be substituted for son migration in situations where households, wanting migration, have no alternative. An additional son in the household, controlling for the total number of siblings, is associated with a significant 10.3 percent decline in the odds of migration for a daughter ($p=0.003$). Thus, despite cultural scripts that generate strong preferences for son versus daughter migration, households may find it necessary to adapt and enable daughter migration. Eventually, such mechanisms may be instrumental in redefining normative migration behavior and facilitate future female migration, though as suggested above, this may not necessarily translate into more female agency.

Hypotheses 5 and 6: Gender and networks

Our fifth hypothesis posits that migration networks of the same sex as the potential migrant more strongly influence migration behavior. Our sixth hypothesis is that these network effects should weaken over time. Albanians experienced a 45-year period, from the end of WWII to 1990, during which international migration was formally and practically shut down, allowing us to speak of the fall of the communist government as the "beginning" of external migration. Yet, family and friends who had emigrated from Albania prior to the closing of the borders under Hoxha, or the very limited numbers that successfully eluded border controls, may conceivably provide migration network capital (Vullnetari 2007). Therefore, we test the effects of both time-fixed measures of existing networks in 1990 – i.e. prior to the change in government and subsequent exodus – as well as post-1990 time-varying measures of family and community networks.

The results in the top panel of Table 5 show that migration networks as of 1990 have no significant impact on the odds of migration for either men or women. This is true regardless of whether time varying, post-1990 network measures are included or whether the focus is exclusively on the first years of massive migration after 1990 or the entire 14-year period. Whereas 1990 migration capital bears little impact on subsequent male or female migration, the time varying family network measures are highly influential. In terms of non-gender differentiated family networks, the impact is similar for male and female migration. For both men and women, an additional ever-migrant from the household, of either sex, increases the odds of first-migration by 29 percent. On the other hand, the impact of aggregate community networks is not gender-neutral. While community networks do not affect male migration, they increase the odds of female migration by 170 percent.

Disaggregating networks by gender (middle panel of Table 5) shows the gendered nature of networks, at least for women. Female migration is more strongly affected by the availability of family networks of the same gender. Female family networks increase the odds of female migration by 45 percent, compared to 20 percent for male family networks and this difference is significant ($\chi^2(1)=4.89$; $p=0.027$). On the other hand, the effect of male and female networks on male migration is indistinguishable ($\chi^2(1)=0.74$; $p=0.389$).

The effects of community migration networks also differ by gender, thought differently. Male community networks strongly increase male migration while female community networks reduce male migration, and the difference between the effects of male and female networks is significant (p=0.000). In contrast, male community migration networks are associated with increased female migration while the effect of female community networks is insignificant, as is the test of the difference between male and female networks. (χ^2(1)=0.09; p=0.767).

As hypothesized, the effect of networks, whether gendered or not, weaken over time. Looking at the bottom panel of Table 5, with the epoch interaction term, shows that male network effects before 1996 are associated with a 56 percent increase in the hazard odds of male ever migration, whereas in later years the effect declines by a third. For female migration, female family networks are associated with a 120 percent increase in the odds of female first-migration, but this effect again declines by one third in the latter period. This shift in the family network effect is gender specific – i.e. there is no significant decline in the effect of female networks on male migration or of male networks on female migration. The effects of male and female community networks also vary across the two periods. Male community networks increase the odds of first-migration among men by 281 percent in the first period but the odds are reduced by 59 percent in later years (this shift is only marginally significant). The odds for the effect of female community networks on female migration is extremely large – indicating that most female migrants arrived from a few select municipalities in the first period as well as due to the tendency of odds ratios to rise (or decline) rapidly when approaching limits.

7. Discussion and Conclusion

Albania, perhaps more than any other nation, offers a unique perspective on the entire international migration process for a nation -- from a point where migration was legally forbidden until a time when migration became a central demographic and social process with over one-half of households reporting family members with migration experience (Carletto, Davis et al. 2006). This context provides an exceptional setting in which to investigate the relationship between gender and migration. While female roles and life course expectations are never static – Albanian women have seen formal government-imposed policies of "gender-parity" during the Hoxha regime replaced with more overt forms of discrimination and reduced power both in society and within households (Calloni 2002). At the same time, massive flows of

international migration have introduced a range of new incentives and constraints on households in general and women in particular. Our data allow us to investigate how gender is manifested in migration and the role of human, financial, and social capital, as well as demographic factors in this process.

Preliminary analyses document the evolution of migration for both men and women from the opening of Albania through to 2003. While the probability of first migration increased almost monotonically in the 1990s and peaked towards the end of the decade for men and nearer to 2001 for women, a closer look reveals distinctive gender-based patterns of migration. Over this 14 year period, there is a statistically significant shift in female migration patterns relative to male patterns. At least until 2001, there is a progressive if not monotonic trend towards more equality in migration risks. Several exogenous events which occurred in the second half of the 1990s, including the failed pyramid saving schemes and the first Greek regularization program, led us to test and find empirical support for a structural shift in gender and migration relations around 1996.

We posed a series of hypotheses to help understand the gender and migration connection. First, we showed distinct gender-specific gradients linking education and migration, with female but not male migration positively selected for education. Further analysis revealed that the importance of education declines over time for both sexes but this decline is stronger for men. This supports our claim that increasing labor market inequality within Albania heightens differentials in the returns to migration for educated women relative to educated men.

Demonstrating the differential impact of human capital and wealth factors on female and male migration patterns highlights the extent to which incentives and constraints on migration differ by gender. Yet, these findings offer almost no insight as to whether educated women are taking advantage of opportunities as independent, empowered agents or whether migration behavior remains firmly anchored in family and household strategies (Stark 1991; Hondagneu-Sotelo 1992). Our next two hypotheses, aimed squarely at the link between agency and female migration, employ unique data on household level shocks and household demography to test their effects on male and female migration outcomes. Both sets of findings prove relevant. First, female migrants can substitute for male migrants when households lack sons, suggesting that the demographic structure of the household may help to shape the incentives and constraints

imposed on female migration. Second, female migration is found to be more responsive than male migration to household-level shocks. In particular, household health shocks provide a large deterrent and household property loss shocks provide a large incentive for female migration whereas neither shock has any impact on male migration. Thus, while female migration remains more tied to human capital factors, it remains simultaneously more tightly bounded by household-level considerations. Further tests also reject the possibility that female agency in migration is strengthening over time, despite ever increasing numbers of female migrants.

Finally, we hypothesized that networks are gendered and that family networks should play a larger role than community networks in migration behavior – both because of prior studies from Mexico and as well as the social turmoil associated with the end of the Hoxha regime in Albania – but that the importance of networks should decline over time. Our results show that family migration networks are gender-specific with male and female family networks associated with increased odds of migration for both men and women but that female migration depends more strongly on female family networks than male migration depends on male family networks.

Routinization of migration within Albanian society, as predicted, appears to reduce the role of both family and community networks. The overall impression provided by the network data is that the effects of the network variables are weakening over time, particularly from the mid-1990s -- an important finding not consistent with expectations from cumulative causation or from analyses of the Mexico-US migration context. This finding supports our earlier claim regarding the circa 1996 shift in the value of networks as well as in the value of human and financial capital. This shift, which coincided with the failed pyramid schemes and Greek regularization of Albanian immigrants, may have generated a diffusion of migration-related information which fundamentally altered the migration decision process.

In conclusion, our study reveals a complex and dynamic picture– one that emphasizes both the distinctiveness and growth of female migration from Albania as well as the continued lack of female agency in migration. Female migration is undoubtedly increasing but this does not necessarily translate into equality, nor does it mean the absence of economic motives behind female migration. Quite the opposite, our results show that tied-migration, which is strongly associated with education, wealth, and social capital, is responsive to economic incentives. Apparently, it is the households themselves that are the decision-making agents behind this

economic calculus and there is little to suggest an emergence of female agency reflected in migration behavior. The embedment of female migration from Albania in the context of household-level strategies is demonstrated by both the dependency of daughter migration on the availability of sons as well as by the reaction of daughters to health or property loss shocks at the household level. Here, it would nice to conclude with a note of optimism – signs that women are increasingly agents of their own destiny, at least in terms of migration – but our data appear to indicate that women's migration remains solidly entrenched in other people's decision making.

Figure 1: Estimated male and female hazards of ever—migration, Albania 2005 LSMS

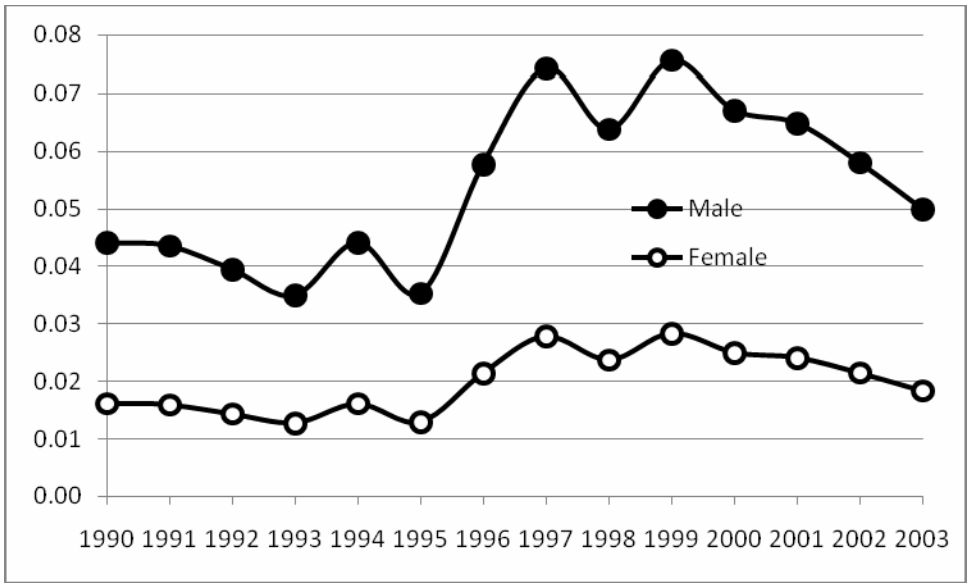

Table 1: Summary Statistics for Male and Female Migrants and Non-Migrants, based on characteristics at first year of observation within each interval, Albania LSMS 2005

	Women				Men			
	1990-1992		2001-2003		1990-1992		2001-2003	
	Migrants		Migrants		Migrants		Migrants	
	No	Yes	No	Yes	No	Yes	No	Yes
Age	22.546	25.338	25.609	23.639	22.425	23.093	25.296	23.414
Wealth Index	0.232	1.033	0.080	0.256	0.153	0.786	0.079	-0.082
No HS	0.475	0.277	0.536	0.438	0.486	0.405	0.470	0.625
At least some HS	0.399	0.492	0.348	0.413	0.414	0.498	0.418	0.330
At least some Univ.	0.125	0.231	0.116	0.149	0.099	0.097	0.112	0.045
Tirana	0.149	0.200	0.134	0.163	0.138	0.190	0.153	0.075
Coastal Urban	0.135	0.354	0.111	0.135	0.122	0.234	0.104	0.089
Coastal Rural	0.207	0.154	0.184	0.313	0.192	0.234	0.155	0.189
Central Urban	0.125	0.169	0.106	0.096	0.121	0.138	0.102	0.059
Central Rural	0.143	0.031	0.157	0.135	0.154	0.126	0.161	0.175
Mountain Urban	0.077	0.031	0.095	0.091	0.074	0.022	0.102	0.116
Mountain Rural	0.165	0.062	0.213	0.067	0.200	0.056	0.224	0.298
Male Family Network	0.026	0.215	0.507	0.606	0.020	0.167	0.536	0.505
Female Family Network	0.005	0.077	0.214	0.404	0.007	0.033	0.165	0.193
Community Male Network	0.004	0.027	0.240	0.300	0.003	0.023	0.224	0.257
Community Female Network	0.000	0.004	0.072	0.102	0.000	0.002	0.073	0.068
Illness Shock	0.018	0.000	0.190	0.139	0.017	0.022	0.173	0.182
Property Loss Shock	0.001	0.000	0.039	0.067	0.001	0.004	0.043	0.050
Job Loss Shock	0.025	0.031	0.192	0.188	0.032	0.048	0.212	0.182
Pyramid Failure Shock	0.044	0.031	0.545	0.476	0.053	0.074	0.564	0.500
Counts	2078	65	3247	208	1870	269	1883	440

Table 2. Discrete time hazard analysis of first-migration for men and women in Albania, baseline models for men and women separately and combined baseline for both sexes, Albania LSMS 2005

	Male			Female			Both Sexes		
First Migration	**OR**	**SE(b)**	**P>|z|**	**OR**	**SE(b)**	**P>|z|**	**OR**	**SE(b)**	**P>|z|**
Female	-	-	-	-	-	-	0.285	0.013	0.000
1991	0.987	0.149	0.929	1.177	0.377	0.610	1.019	0.138	0.890
1992	0.882	0.137	0.420	1.280	0.399	0.429	0.951	0.131	0.715
1993	0.745	0.120	0.069	1.429	0.432	0.238	0.868	0.122	0.313
1994	0.904	0.139	0.510	2.237	0.627	0.004	1.143	0.150	0.307
1995	0.889	0.137	0.444	1.208	0.373	0.541	0.942	0.129	0.664
1996	1.261	0.180	0.104	3.245	0.865	0.000	1.629	0.198	0.000
1997	1.903	0.253	0.000	3.701	0.975	0.000	2.229	0.259	0.000
1998	1.737	0.235	0.000	3.022	0.809	0.000	1.960	0.232	0.000
1999	2.129	0.281	0.000	3.890	1.017	0.000	2.433	0.280	0.000
2000	1.892	0.256	0.000	3.836	1.005	0.000	2.239	0.262	0.000
2001	1.803	0.247	0.000	3.949	1.030	0.000	2.190	0.257	0.000
2002	1.909	0.259	0.000	2.593	0.701	0.000	1.960	0.233	0.000
2003	1.647	0.231	0.000	2.205	0.604	0.004	1.677	0.205	0.000
Age 20-25	1.235	0.079	0.001	1.520	0.147	0.000	1.313	0.070	0.000
Age 25-30	1.069	0.077	0.357	1.241	0.134	0.046	1.118	0.067	0.063
Age 30-35	0.641	0.058	0.000	0.822	0.109	0.139	0.693	0.052	0.000
Age 35-40	0.497	0.056	0.000	0.658	0.110	0.012	0.539	0.050	0.000
Age 40-45	0.314	0.053	0.000	0.740	0.147	0.128	0.416	0.053	0.000
Age 45+	0.088	0.029	0.000	0.330	0.115	0.001	0.136	0.033	0.000
Wealth Index	1.039	0.016	0.012	1.069	0.020	0.000	1.051	0.013	0.000
At least some HS	1.028	0.056	0.611	1.707	0.152	0.000	1.203	0.055	0.000
At least some Univ	0.627	0.066	0.000	1.254	0.148	0.055	0.830	0.064	0.016
Coastal Urban	1.892	0.197	0.000	1.471	0.173	0.001	1.783	0.145	0.000
Coastal Rural	1.786	0.173	0.000	0.813	0.101	0.095	1.358	0.104	0.000
Central Urban	1.391	0.152	0.003	1.177	0.148	0.196	1.331	0.113	0.001
Central Rural	1.301	0.132	0.009	0.780	0.110	0.078	1.082	0.089	0.337
Mountain Urban	0.924	0.106	0.492	0.568	0.093	0.001	0.784	0.074	0.010
Mountain Rural	0.928	0.091	0.445	0.207	0.041	0.000	0.667	0.054	0.000
Number of Cases	27028			36134			63162		
Log Pseudo likelihood	-6188.9			-3487.1			-9780.2		

Note: Reference categories are 1990, Age 15-20, 0-8 years schooling, and Tirana

Table 3. Discrete time hazard analyses of first-migration for both men and women jointly with testing for male and female differences in age effects, wealth effects, education effects, and year effects, Albania LSMS 2005 (control variables not shown)

First Migration	OR	SE(b)	P>|z|
Female – Age interactions			
Female x 20-25	1.219	0.141	0.086
Female x 25-30	1.163	0.150	0.242
Female x 30-35	1.304	0.209	0.097
Female x 35-40	1.370	0.275	0.116
Female x 40-45	2.417	0.623	0.001
Female x 45+	3.455	1.636	0.009
Female – Wealth interactions			
Female x Wealth Index 1990	1.111	0.025	0.000
Female – Education interactions			
Female x At least some HS	2.109	0.205	0.000
Female x At least some Univ	2.943	0.440	0.000
Female – Year interactions			
Female x 1991	1.190	0.421	0.622
Female x 1992	1.442	0.501	0.293
Female x 1993	1.902	0.652	0.061
Female x 1994	2.430	0.776	0.005
Female x 1995	1.335	0.460	0.402
Female x 1996	2.499	0.754	0.002
Female x 1997	1.868	0.550	0.034
Female x 1998	1.661	0.497	0.090
Female x 1999	1.735	0.507	0.059
Female x 2000	1.923	0.566	0.026
Female x 2001	2.089	0.613	0.012
Female x 2002	1.310	0.395	0.371
Female x 2003	1.309	0.402	0.380
Female x 1991	1.190	0.421	0.622
Female x 1992	1.442	0.501	0.293
Female x 2003	1.309	0.402	0.380
Number of Cases	63162		

Table 4. Discrete time hazard analysis of the effects of household level shocks on first-migration for men and women separately, including significance test of interaction with female from both-genders model, Albania LSMS 2005 (control variables not shown)

	Male			Female			Testing Difference in Joint Model
First Migration	**OR**	**SE(b)**	**P>|z|**	**OR**	**SE(b)**	**P>|z|**	**P>|z|**
Job Loss	0.934	0.068	0.346	0.932	0.095	0.491	0.140
Illness	0.981	0.081	0.813	0.669	0.087	0.002	0.006
Property Loss	1.016	0.155	0.917	1.669	0.336	0.011	0.077
Pyramid Crisis	1.120	0.184	0.489	1.084	0.233	0.707	0.366
Number of Cases	**27028**			**36134**			**63162**
Log Pseudo likelihood	**-6188.2**			**-3478.6**			**-9768.9**

Table 5. Discrete time hazard analysis of first-migration for both men and women separately including a model for baseline social network measures; a model for gender-specific male and female family and community networks; and a model with interactions with post-1996 dummy, Albania LSMS 2005 (control variables not shown)

	Male			Female		
First Migration	**OR**	**SE(b)**	**P>|z|**	**OR**	**SE(b)**	**P>|z|**
Baseline Social Network Effects						
Family/Friends in 1990	0.802	0.156	0.257	0.925	0.305	0.813
Relatives in 1990	1.139	0.119	0.211	1.072	0.172	0.665
Family Network	1.287	0.047	0.000	1.285	0.045	0.000
Community Network	1.408	0.471	0.306	2.710	1.192	0.023
How Male and Female Social Network Effects Vary						
Family/Friends in 1990	0.826	0.161	0.326	0.932	0.305	0.830
Relatives in 1990	1.143	0.119	0.201	1.074	0.173	0.656
Family Male Network	1.312	0.056	0.000	1.199	0.058	0.000
Family Female Network	1.216	0.091	0.009	1.449	0.093	0.000
Community Male Network	1.708	0.278	0.001	1.575	0.308	0.020
Community Female Network	0.203	0.112	0.004	1.336	0.641	0.546
How Social Network Effects Change Over Time						
Family Male Network	1.560	0.145	0.000	1.353	0.165	0.013
Family Male Network x Epoch	0.812	0.077	0.027	0.872	0.115	0.299
Family Female Network	1.582	0.276	0.009	2.199	0.335	0.000
Family Female Network x Epoch	0.751	0.134	0.108	0.628	0.104	0.005
Community Male Network	3.806	1.828	0.005	0.447	0.475	0.449
Comm Male Network x Epoch	0.413	0.208	0.078	3.634	3.912	0.231
Community Female Network	0.687	1.359	0.849	1517.122	4420.074	0.012
Comm Female Network x Epoch	0.319	0.643	0.571	0.001	0.003	0.016
Number of Cases	**27028**			**36134**		

Table 6. Discrete time hazard analysis for both genders to test separately migration to Italy and Greece and beyond Italy and Greece using logistic regression on both sexes, baseline models, Albania LSMS 2005

	Hazard for First Migration to Italy and Greece			Hazard for First Migration Beyond Italy and Greece		
First-Migration	**OR**	**SE(b)**	**P>|z|**	**OR**	**SE(b)**	**P>|z|**
Female	0.258	0.013	0.000	0.338	0.034	0.000
1991	1.018	0.150	0.905	1.024	0.359	0.946
1992	1.030	0.151	0.842	0.517	0.216	0.115
1993	0.886	0.134	0.426	0.773	0.284	0.484
1994	1.165	0.165	0.282	1.014	0.346	0.967
1995	0.978	0.144	0.878	0.772	0.280	0.475
1996	1.667	0.220	0.000	1.396	0.441	0.290
1997	2.161	0.274	0.000	2.322	0.677	0.004
1998	1.653	0.218	0.000	2.983	0.840	0.000
1999	2.349	0.295	0.000	2.172	0.632	0.008
2000	2.086	0.267	0.000	2.113	0.612	0.010
2001	2.063	0.264	0.000	1.791	0.525	0.047
2002	1.929	0.249	0.000	1.188	0.365	0.575
2003	1.606	0.213	0.000	1.078	0.335	0.809
Age 20-25	1.325	0.078	0.000	1.196	0.147	0.146
Age 25-30	1.161	0.076	0.022	0.768	0.116	0.080
Age 30-35	0.652	0.055	0.000	0.703	0.116	0.032
Age 35-40	0.526	0.054	0.000	0.430	0.096	0.000
Age 40-45	0.409	0.057	0.000	0.306	0.097	0.000
Age 45+	0.115	0.032	0.000	0.189	0.086	0.000
Wealth Index	1.058	0.014	0.000	1.016	0.027	0.561
At least some HS	1.173	0.058	0.001	1.578	0.184	0.000
At least some Univ	0.623	0.061	0.000	1.905	0.269	0.000
Coastal Urban	2.690	0.262	0.000	0.603	0.103	0.003
Coastal Rural	2.064	0.191	0.000	0.301	0.061	0.000
Central Urban	1.926	0.198	0.000	0.567	0.094	0.001
Central Rural	1.586	0.157	0.000	0.412	0.073	0.000
Mountain Urban	1.043	0.118	0.710	0.470	0.084	0.000
Mountain Rural	0.877	0.087	0.185	0.408	0.062	0.000
Number of Cases	**60356**			**50373**		
Log Pseudo likelihood	**-8274.1**			**-2300.4**		

Note: Reference categories are 1990, Age 15-20, 0-8 years schooling, and Tirana

Table 7. Discrete time hazard analysis for migration both to Italy and Greece and beyond Italy and Greece using logistic regression for sex-specific and both sexes combined to test effects of networks, Albania LSMS 2005 (control variables not shown)

	Male			Female			Testing Difference in Joint Model
First-Migration	**OR**	**SE(b)**	**P>|z|**	**OR**	**SE(b)**	**P>|z|**	**P>|z|**
Migration to Italy and Greece							
Family/Friends in 1990	0.810	0.177	0.335	1.178	0.404	0.634	-
Relatives in 1990	1.063	0.127	0.609	1.001	0.189	0.994	-
Family Network	1.278	0.049	0.000	1.346	0.051	0.000	0.179
Community Network	1.578	0.545	0.187	2.768	1.291	0.029	0.050
Number of Cases	**25373**			**34983**			**60356**
Log Pseudo likelihood	**-5301.5**			**-2819.2**			**-8203.0**
Migration beyond Italy and Greece							
Family/Friends in 1990	1.035	0.423	0.932	0.212	0.227	0.148	-
Relatives in 1990	1.956	0.416	0.002	1.352	0.409	0.320	-
Family Network	1.390	0.090	0.000	0.976	0.091	0.793	0.004
Community Network	0.557	0.666	0.624	2.138	2.218	0.464	0.018
Number of Cases	**18350**			**32023**			**50373**
Log Pseudo likelihood	**-1331.8**			**-907.6**			**-2283.9**

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