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International Migration and Gender Differentials in the Home Labor Market: Evidence from Albania

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Abstract

This paper examines the role of male-dominated international migration in shaping labor market outcomes by gender in migrant-sending households in Albania. Using detailed information on family migration experience from the latest Living Standards Measurement Study (LSMS) survey, we find that male and female labor supplies respond differently to current and past migration episodes of household members. Controlling for the potential endogeneity of migration and for the income (remittances) effect, estimates show that having a migrant abroad decreases female paid labor supply while increasing unpaid work. On the other hand, women with past family migration experience are significantly more likely to engage in self-employment and less likely to supply unpaid work. The same relationships do not hold for men. These findings suggest that over time male-dominated Albanian migration may lead to women's empowerment in the access to income-earning opportunities at origin.

JEL classification: J22, J24, J16, O15

Keywords: International Migration, Gender, Labor supply, Albania

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1. Introduction

There is a general consensus that international labor migration entails big socio-economic changes in source communities. At the same time, there is an intimate and unexplored relationship between gender aspects of migration, such as male-dominated migration, and economic development in countries of origin. This paper addresses this issue by looking at the impact of international migration on labor supply by gender in such a setting as Albania, where male-migration is an ordinary and widespread phenomenon.

Most studies of the impact of migration on source households have overlooked that expanding opportunities for migration will have a different effect on behavioural patterns across household members left behind, beyond increasing the amount of income received by the family (see Chen 2006 for an exception). The economic impact of migration on non-migrant employment patterns has been documented for a few developing economies (Funkhouser, 1992; Tiongson, 2001; Amuedo-Dorantes and Pozo, 2006) but while much of the focus has been on the income effect of remittances, less attention has been paid to the role of (male) migration in shifting (female) decision-making power in the family at origin. Theoretical analysis suggests that due to imperfect monitoring on the one hand, and increase in the household income (through remittances) on the other, male migration may lead to women bargaining empowerment in the control and allocation of resources at origin - so that gender differentials in labour supply may be observed (Chen 2006, Lundberg and Pollak, 1993, Haddad et al. 1997).

We consider this question by analysing differences in labor market outcomes across men and women in Albania according to their family exposure to international migration. Over the last fifteen years this country has experienced massive migrant outflows, mainly to Greece and Italy, driven by economic hardships during the transition process and fostered by geographic proximity. While we have some insights into the welfare impact of migration and remittances on average household income and investment at origin (MacCarthy et al., 2007; Zezza et al. 2005), little is known about the effects on the local labor market behavior by gender. There is some evidence on the labour market performance of return migrants in Albania (De Coulon and Piracha, 2003) but an unexplored issue is whether the male-dominated nature of Albanian international migration affects the economic performance of women left behind.

Based on unusually detailed data on household migration status of current and former household members from the 2005 Albania Living Standards Measurement Survey, this study provides new empirical evidence on the gender differential in the home-labor-market impact of heterogeneous family migration exposure. Following Amuedo-Dorantes and Pozo, (2006), we further distinguish between paid and unpaid work, in order to test whether the 'quality' of women's work varies according to the migration status of their household and at the same time, to account for the important role played by the informal sector in (female) employment outcomes in developing economies. Since households are likely to self-select into sending migrants abroad based in part on unobserved characteristics, we use an

instrumental variable strategy to estimate labour market outcomes by gender in either paid and unpaid sector.

From a policy perspective, exploring the impact of Albania's out-migration on employment outcomes in the country sheds light on migrants' contributions to household welfare and economic growth at origin. Policy implications are even more relevant if there is a linkage between male-dominated migration and a process of gender empowerment at origin – defined as the ability of women to access to local earning opportunities. This is so as a more efficient allocation of women's skills in the labor market is largely recognized to be a building block in the development process of both rich and low-income countries, and higher female labor force participation is found to reduce poverty and improve living standards among women and future generations. (Duflo, 2005, 2003, Thomas, 1990). By exploring the effect of such a key factor of modernization as economic migration on women' and men's labor supply, this paper also contributes to the broader literature on the impact of economic development on gender equity and female living conditions (Munshi and Rosenzweig, 2006).

The rest of the paper is organized as follows. Section 2 sets out the analytical framework, the background literature and the context of our investigation. Section 3 presents data and descriptive statistics whilst Section 4 illustrates the empirical strategy. Section 5 and 6 report the results and Section 7 concludes.

2. Background: migration and female labor supply

Migration strongly suggests the interdependence of work decisions within a family. Theoretical research, supported by empirical evidence, has shifted its view of migration from an individual decision-making process to a mutually interdependent decision within the family, intended to manage uncertainty, diversify the income portfolio and alleviate liquidity constraints (Stark, 1991, Yang and Choi 2007, Mendola 2008). Thus, migrant (both temporary and permanent) and non-migrant household members jointly decide about migration and act collectively to allocate resources by maintaining cooperation over distance or by eventually returning home. It is not clear, though, how this cooperation operates within families, and whether dispatching members to other places of employment has different effect in the time allocation of individuals at home. To what extent male and female labor supply is affected by family migration experience? In particular, does male-dominated migration have any effect on women's employment status at origin?

Theoretical analysis suggests that there are different mechanisms, related to time and resource allocation, through which labor mobility of household members can affect employment outcomes of people left behind. Indeed, both the absence of the migrant and the flow of remittances may affect the labor supply of the family at origin. Though, much of the emphasis in this literature has been put on the role of remittances in lifting budget constraints, raising reservation wages and, through the neoclassical income effect, reducing employment at home. Funkhouser (1992) in Managua and Tiongson (2001) in Manila, for example, find that remittances have a negative impact on the decision to work of individuals

at origin, consistently with the extensive theory and evidence on the positive impact of non-labor earnings on individual consumption of leisure (Funkehouser 1992 finds a slightly positive impact on self-employment though). Hanson (2005) examines the labor market impact of emigration from Mexico and find that both men and women are less likely to participate in the labor force if their household either has sent migrants abroad or received remittances from abroad. Amuedo-Dorantes and Pozo (2006) instead, show that in Mexico the income effect of remittances is at work in reshaping the allocation of male and female labor supply across different types of employment, rather than decreasing overall labor force participation.

Nonetheless, remittances receipt is an *outcome* of household members' out-migration, which entails the re-allocation of time and resources by individuals left behind. On this side, migration has been typically conceived as having a 'disruptive effect' in terms of loss of working-aged household members to be replaced or compensated by household members left behind (Hanson, 2005; Amuedo-Dorantes and Pozo, 2006). Yet, in a traditional society the absence of one household member may also entail a bargaining empowerment in decision making within the household at origin, challenging traditional gender roles, for example, and ultimately influencing the final allocation of resources.[1] Sociologists have long emphasized that male migration may leave women at origin with a greater burden of responsibility but also with higher decision-making power and economic independence (Gulati, 1987, De Haan, 2000). In research on household power within both industrialized and developing countries, wage income and family influence are closely linked, thus pointing to the importance of assessing women's employment opportunities (e.g. Boserup 1970; Blumberg 1984 in Schultz, 1990).[2]

Overall, there has been a strong and growing interest in the determinants of female labor outcomes, showing that human capital and family characteristics are important factors behind gender employment differentials (see Pissarides et al. 2005). In particular, family membership and its obligations are very important correlates of the level of women's labor supply, but little is known on female labor force response to one of the major modern obligations a family has to face, that is dispatching a household member (frequently the husband or the son) to work abroad.

Several examples exist in developing countries on the correlation between male-dominated migration and the feminisation of agricultural labor on the one hand, or the urban poverty of female-headed households left behind on the other (e.g. Agesa and Kim, 2001; Katz, 2003). Yet, as mentioned above, migration also affects the intra-household division of rights and responsibilities, and gender is one of the main axes around which this occurs. From a perspective of a time allocation model, when men are absent female stayers may have to compensate for that and re-allocate their available time for work and

[1] Indeed, failure to recognize the existence of the impact of both migration and remittances on labor supply at home is retained as non-problematic by assuming that the sum of the two *opposing* effects still shows the dominant impact (Amuedo-Dorantes and Pozo, 2006). Yet, as argued in the text, the effect of migration itself is not necessarily negative and moreover, a remittance is a necessary but insufficient condition to observe migration (measurement error).

[2] We are here concerned with gender inequalities in household power – defined as the degree to which a family member can influence important decision within the family. Obtaining a job for wage outside of the family contributes to women's control over the returns to their labor, hence augments their relative power in the allocation of household economic resources (Kabeer, 2000).

for child caring (Albanesi and Olivetti, 2006). From an intra-household bargaining framework, though, they may take over a more central role in family budgeting, by gaining control over resources and administrating them as to give priority to maximize returns of their individual labor inputs, for example (Chen, 2006).[3] In general, even if (male) migration drain off household adults and increases income through remittances, the ultimate impact on sending households may be channeled through a change in the bargaining process amongst individuals left behind. Thus, the migration impact is not unambiguous *a priori* and, likewise, treating household out-migration and remittance receipt as indistinguishable will deliver a blurred picture of their net effects on household members left behind.

Unlike other studies, we further account for potential heterogeneous effects of temporary and permanent migration experience by distinguishing between migrant members currently away from past migrants returned home (although some may be migrating again in the future). This is important in order to reduce potential migration measurement error and to account for the multifaceted nature (e.g. timing) and consequences of migration (e.g. Mendola, 2008; Rodriguez and Tiongson, 2001). Indeed, neglecting the coexistence of different forms of migration, such as temporary and permanent migration, for example, and the potential correlation between them, can exaggerate or diminish the effect of having a migrant as part of the household.[4]

Finally, while analysing female labour choices, it is important to note that women in developing and transition countries are economically active when providing unpaid work on the family farm or in a small family-run business (Paci 2002; Hill, 1989).[5] Indeed, important contributions on female work choice have suggested that, differently from well developed labor markets, the composition of the labor force in developing economies has to take into account the importance of both unpaid work and/or the informal sector.[6] The decision to enter the labor force as an employee is distinct from the choice to enter as a family worker because of wage differentials, formal sector constraints in terms of working schedules or fixed costs (e.g. commuting time or child care), and individual preferences for economic autonomy (Hill, 1989).[7] Yet, a persistent gap in the literature on women's employment is that informal

[3] There is an important body of literature pointing out that empowered women shift household decision away from their husband's preferences, chaining the choice that are made for children also (see Thomas, 1990; Behrman, 1997; Dulfo, 2003)

[4] We are able to distinguish permanent from temporary migrants but clearly any migration decision is not irrevocable so that a permanent migrant may decide to return at some point in the future, while a current household member with past migration experience may decide to migrate permanently at some time in the future. The issue is particularly thorny for current and most recent migrants who may still be in the process of making a final decision on where to settle indefinitely. Actually, the form of migration truly permanent in nature typically results in family migration in Albania, which means that these 'permanent' migrants are unlikely to be present in our sample.

[5] Many works in the literature assume that women reported in self-employed or as unpaid family workers are engaged in the 'informal' sector of the labor market. Our data allow us to differentiate between paid self-employment and unpaid work so that we assume that the latter only is 'informal' (even though we are aware that many forms of paid self-employment are also informal, in the sense of unregistered).

[6] Schultz's seminal work (1990) emphasised the diversity in low-income countries in what women do, but since then there is still little consensus on how female roles are changing today. Schulz made the point that economic development leads to a change in the composition of the labor force from a high proportion of informal labor market employments to a high proportion of formal labor market empoloyment (Tiefenthaler, 1994).

[7] As pointed out by Schultz (1990), women are more likely to work in the family or informal labor market if the labor costs to firms exceed the opportunity costs of female labor to family enterprises. Firms are at a relative disadvantage compared with families in the employment of less experienced and less skilled labor. Edwards and Field-Hendrey (2002) focus specifically on the site of work and show that, even in the U.S., home-based work is an attractive option for women for whom the fixed costs of work are high.

and unpaid work are largely undocumented and unquantified, whilst a disaggregated picture of female work by its nature and 'quality' is likely to provide a more precise employment pattern, especially in a developing or transition economy (Paci, 2002; Lim 1996, Mehra and Gammage, 1999).[8] Thus, we account for the heterogeneity of female labor market constraints by distinguishing paid from unpaid work. Overall, it is well known that male and female family decision-makers have different preferences, but it is an open question how massive emigration in a traditional society affects the value of time and the ownership of an income stream by gender.

2.1. The Albanian context

Albania is a particularly interesting setting where to study the impact of migration on domestic (formal and informal) labor market by gender. This country has been largely affected by the passage on the market economy at the beginning of 1990 and key changes over the process have occurred in the local labor market. Like in many other transition economies, the country experienced a substantial decline and stagnation in labor force participation in the new labor market. Public sector employment has declined enormously during the transition period but job growth in the private sector has been too slow to compensate (see Figure 1).

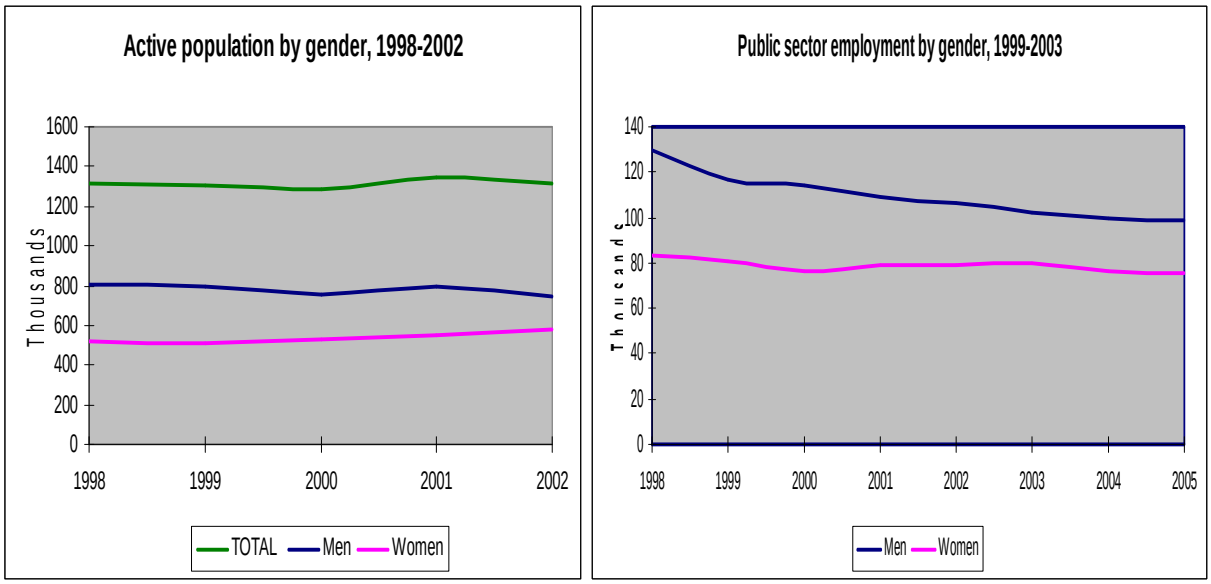

Figure 1: Albanian labor market trends (*Source*: ILO LABORSTA)

According to INSTAT data, private sector employment increased by only 23,000 between 2001 and 2004, adding only 2.5% to total employment in this period (WB, 2006). Two main implications of this situation are the migration of a lot of young men to work abroad and the large withdrawals of women

[8] From a perspective of a time allocation model, labor supply (the allocation of leisure) is an indirect measure of individual consumption. However, the impossibility to distinguish leisure from other non-market time (e.g. home production or unpaid labor), is a shortcoming of most studies, which therefore assume that a person's utility is increasing in *all* non-market time (including unpaid work).

from the labor market[9]. The consequential under-valuation of women's time has resulted in significant differences in the time male and female groups allocate to paid and unpaid work (with women spending an inefficiently high proportion of their time in household production and caring activities, while men overspecialize in labor market activities) (Paci, 2002). While female represent at least half of the population in Albania, they account for the 40 percent of the total labor force and face higher rates of unemployment than men (ILO, 2001).[10]

Driven by economic hardships and geographic proximity, Albania has developed strong migration ties with other labor markets, in particular Greece and Italy, and remittances play a significant role in Albanian economy (Coulon and Piracha, 2005; Carletto et al. 2007). Much of migration from Albania shows a stable and common pattern in that it has traditionally been temporary in nature (particularly the flow to the neighboring Greece), whether seasonal or circular. The limited empirical evidence available seems to suggest the existence of a "migration cycle", involving multiple migration episodes prior to settling, very often back in the source country (Labrianidis and Hatziprokopiou, 2006).

Overall, the high incidence of the informal sector, the intensity of migration flows, the high rate of hidden unemployment in agriculture sector and the significant number of unemployed that are not registered in the public employment service, makes difficult to have a real evaluation of the labor market situation of the country over the last 17 years (see ILO Report 2001). Using detailed micro-data collected through household questionnaires, we provide new empirical evidence on the impact of international migration on the local male and female labor supply in Albania. If engagement in earning activities is the result of all economic policies and social processes, it is of interest to empirically investigate the impact of massive male-dominated migration on female employment status in both formal and informal sector in Albania.

3. Data and descriptive analysis

The analysis in this paper is based on the 2005 Albania Living Standards Measurement Study (LSMS) survey carried out by the Albania Institute of Statistics (INSTAT) with technical assistance from the World Bank. Unlike other household surveys, the latter provides unusually detailed information on migration of both current and former household members from Albania to foreign countries. Moreover, Albania LSMS includes information on individual labor market status along with a wide range of demographic and socio-economic characteristics at household and individual level.

A total of 3640 households were interviewed, corresponding to a nationally representative sample of 17,302 individuals, 63 percent (9,742) of which are in working age (i.e. 16-64 years old). Included in our analysis are all working-age men and women who are not in school, in retirement and in the

[9] For an in-depth analysis of the mass Albanian migration since 1990, see King, et al. (2005).

[10] Between 1980 and 2004, female labor force participation in Albania has not increased much (from 39% to 42%) (see WB GenderStats at http://devdata.worldbank.org/genderstats). This rather stable trend challenges the argument that female labor supply in migrant households may be explained by the aggregate national shift toward more working women in the economy.

military service.[11] Identification of paid and unpaid workers is derived from answers to the 'job status' question (no. 07- mod. 4C) according to which paid employment and self-employment refer to self-reported wage and salary work (as employee, paid worker, employer, worker on own account) either on- or off-farm, whereas unpaid work refers to work performed outside the home (either on- or off-farm) without a corresponding salary.[12]

Concerning migration, we can distinguish between 'current' and 'past' international migration exposure, where current migrants are all those former household members no longer living in the household and currently abroad. Conversely, past migrants are household members who self-report their emigration episodes (for a duration of at least one month since they turned 16 years old), and they have now returned to live in the household (although they may be migrating again in the future). We restrict our sample to individuals who left later than 1990 (even though those reporting their first migration episode before 1990 are only a handful as, prior to that year, migration was legally banned).

We distinguish between these two forms of migration experience, as there are important differences to highlight. As past migrants are concerned, it should be noted that migration from Albania (particularly the flow to the neighboring Greece[13]) has been traditionally temporary in nature, whether seasonal or circular. This entails that migrants move more than once in their life cycle, especially to neighboring countries. In our sample households, temporary migrants are mostly men returning from nearby Greece and Italy, where agriculture or construction sectors appears to be the main forms of occupation for these individuals. In Figure 2 we plot sample migration levels by gender, namely the incidence of self-reported most recent migration episode by year of migration in 1990-2003, and the male-dominated nature of migration waves is striking.[14] Most of these sample migrants did not migrate with spouse in the last migration episode (nor with children) (only around 15% do so) and when asked about their intention to migrate again, almost 40 percent give a positive answer while 16 percent is uncertain-supporting the trend of individual multiple migration episodes[15]. Female migration rate is much lower relative to men, and most of them (almost 70 percent) leave to Greece to work as domestic and related helpers (the remaining sub-group migrate as tie-migrant or to work in agriculture).[16]

[11] We do so as to isolate the labor market effect of migration from the effect on human capital accumulation. The main sample restriction is to include only working age population available for work and not in the position to provide 'voluntary' work in their spare time from their main occupation. Yet, in order to account for the potential interaction between migration and individual age, we also performed robustness checks using workers in different age ranges (see below).

[12] We defined unemployed as the working age population without a work and *seeking work*, or *not seeking work* due to the following reasons: (a) tired/believe no work available (i.e, discouraged workers); (b) awaiting results of previous job applications; (c) temporary absent from a permanent job (illness, bad weather etc.); and (e) waiting for rehire/job recall.

[13] Compared to Italy, the process of obtaining legal status in Greece is more difficult for Albanian migrants, as family reunification has been discouraged and migrant regularization has been slower (Baldwin-Edwards, 2002). In this respect, it should not be surprising that particularly the flow to Greece has been more temporary in nature.

[14] The same gender migration pattern (i.e. male domination) is evident when plotting the self-reported *first* episodes of international migration. As people in Albania are likely to migrate more than once in their life course, the actual survey questions on (the timing of) migration are: "In what year and month did you *most recently* migrate abroad for at least one month?" and "In what year was the *first time* you ever migrated abroad, after having turned 15?". In both cases migrants are almost exclusively male, and the fact that the overtime trend is not changing much is even more relevant for our analysis.

[15] This is consistent with the IOM and Eurobarometer evidence reported by de Coulon and Piracha (2003) that migrants from Albania fall into the category of temporary workers (see also Papapanagos and Sanfey, 1998). Furthermore, using same Albanian data Kilic at al. (2007) show that among past migrants, most recent returnees with fewer migration episodes are those most likely to migrate again, supporting the idea of the 'migration cylcle'.

[16] Female temporary migration episodes are fewer than for men (they seem to migrate only once but for longer periods).

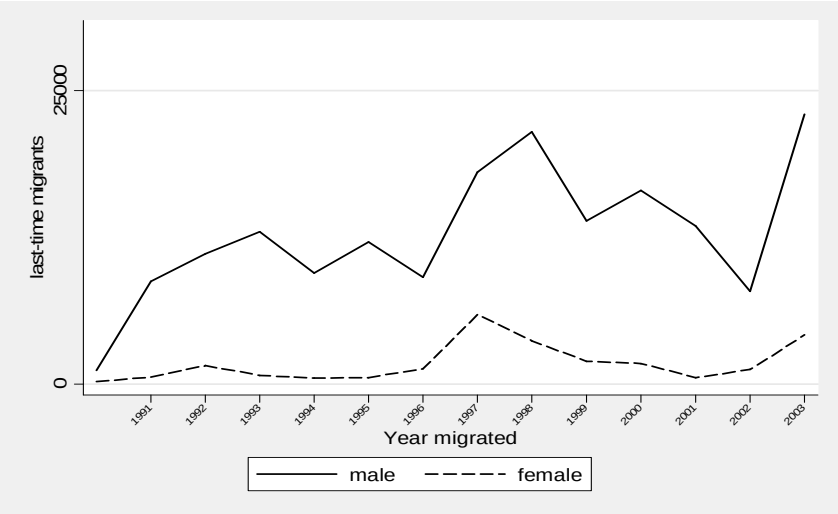

Figure 2. Most recent migration episodes by year and gender

Current international migrants, on the other hand, are household members who have moved abroad more than 12 months prior the survey, and whose characteristics are collected through proxy respondents within the household. Importantly, the survey limits this group to 'core' household members, i.e. sons and daughters of household head and/or his/her spouse and the spouse him/herself, if abroad.[17] Overall, while past international migration shows a rather stable and common pattern, the category of current migrants includes a more heterogeneous set of people, including both those who will be back home soon (as temporary or return migrants) and those who will be permanently living away from home (either with or without the rest of the household). Overall, current migrants are younger, include a higher share of females than it is the case for temporary migration and on average belong to relatively better off households than those with past migration experience only.

Bearing these differences in mind, the potential impact of experiencing international migration is substantial in terms of the financial and human capital household members may receive back, both affecting their occupation and investment opportunities before and upon return. In particular, the current absence of recent migrants may lead to an intra-household call for labor compensation, while past migration of household members may entail the return of both human and physical capital to be re-allocated or invested by household members, depending on individual intra-household bargaining power. Yet, these effects may differ according to whether individuals have themselves worked abroad at least once in their life, so that we further distinguish for having a direct migration experience (albeit the latter is less relevant for women)[18].

Table 1 report individual characteristics by gender and household direct and indirect migration experience. The latter is detected in terms of the presence of any *current international migrant* in the household (who left the country more than 12 months prior the survey) and *past migration* either of

[17] Due to data limitations, we are not able to perfectly match wives and migrant husbands or sons.

[18] We will use interchangeably 'past individual migration' or 'direct migration experience' to refer to the individual response to one's own migration experience, and with 'past migration of household members' or 'indirect migration experience' to refer to the individual response to international migration of someone else in the household.

respondent himself or of someone else in the household.

TABLE 1: Individual characteristics and migration experience by gender

	Total Population			Working age population [a]		
	Male	**Female**	**Total**	**Male**	**Female**	**Total**
Individual characteristics:						
Married (%)	0.62***	0.59***	0.61	0.68**	0.70**	0.69
Single (%)	0.36***	0.30***	0.33	0.31***	0.25***	0.28
Age – Years	32.50**	33.32**	32.92	37.98***	36.99***	37.46
Household size	4.9	4.91	4.9	4.8	4.76	4.78
# of children (age<15)	1.32***	1.39***	1.36	1.03***	1.09***	1.06
Years of education	8.21***	7.62***	7.9	9.90***	9.35***	9.62
Migration status [b]*:*						
Current migrants in the hh (%)	0.27***	0.30***	0.28	0.28***	0.33***	0.30
Past indiv.migration (%)	0.23***	0.03***	0.13	0.27***	0.03***	0.15
Past migration of hh members (%)	0.13***	0.28***	0.21	0.12***	0.32***	0.23

* significant at 10%; ** significant at 5%; *** significant at 1%

Notes: (a) Persons aged 16 to 64 year. (b) The last 3 binary variables capturing migration experience are respectively: (i) individual has at least one household member currently migrated abroad; (ii) individual has migrated abroad at least once; (iii) individual has never migrated abroad but someone else in his/her household did at least once.

Figures show that 28 percent of the total sampled individuals has at least one migrant household member currently living abroad and there is a small but significant difference between women and men (higher in magnitude if we consider working age population only, i.e. persons aged 16 to 64 years old). On average, 13 percent of the sample has migrated abroad at least once (since turned 16 years old), the vast majority of which are male (only 3 percent of female report having migrated abroad).[19] On the contrary, 28 percent of women report having experienced international migration through someone else in the household, whilst a halved percentage of male report having a household member migrated abroad in the past. Both last figures are consistent with the anecdotic argument that Albanian international migration has been widely male-dominated.

In Table 2 we present some individual demographic characteristics of the working age population of Albania differentiated by direct or indirect migration experiences. People having current international migrants in their family are mainly female, above 40 years old, with smaller household size (likely as a result of migration itself), grown-up children, and lower education than the remaining sample. This is consistent with the idea that these are parents of (educated) grown-up children who have migrated permanently most likely with their new family.

People with individual past foreign experience, are mainly young males, married and with an average level of education higher than those who never migrated in their adult life. Among individuals with household members migrated abroad (at least once) in the past, most of them are female (74%), younger than the others (around 36 years old), with bigger households and a lower level of education.

[19] The vast majority (82%) of households with past migration experiences, have had only 1 member abroad. This suggests that temporary migration is generally taken up by only one household member, mostly the male household head.

TABLE 2: Individual characteristics by international migration experience (working age pop. [a])

	Current migrants in the hh		Past migration		
	No	**Yes**	**None**	**Individual Experience**	**Migration of hh members**
Female (%)	0.50***	0.56***	0.54***	0.11***	0.74***
Married (%)	0.69	0.68	0.66***	0.79***	0.69
Age – Years	35.95***	40.93***	38.11***	37.05	35.94***
Household size [b]	5.00***	4.27***	4.58***	4.79	5.33***
# of children (age<15)	1.24***	0.66***	0.99***	1.22***	1.15***
Years of education	9.81***	9.17***	9.67**	10.21***	9.09***

* significant at 10%; ** significant at 5%; *** significant at 1%

Notes: (a) Persons aged 16 to 64 year. (b) Household members here are only those currently living at home (i.e. current international migrants are not considered as household members).

Table 3 presents the employment rate of the working age population by gender[20], differentiating between wage employment, paid self-employment and unpaid work. Working women appear to be more concentrated in unpaid jobs, followed by wage- and self-employment. Differentiating by sector, our data report women more concentrated in the unpaid agricultural sectors and paid non-agricultural sector, followed by self-employment (very few women work as agricultural wage workers).

TABLE 3: Average labor outcomes by gender (% of working age pop. [a])

	Male	**Female**	**Total**
Unemployed	0.14***	0.19***	0.16
Wage employee (paid)	0.43***	0.24***	0.35
Self employed (paid)	0.23***	0.12***	0.18
Unpaid workers	0.21***	0.44***	0.31
By sector:			
Employee agriculture	0.03***	0.00***	0.02
Employee non-agr.	0.39***	0.24***	0.33
Self-employed agr.	0.08***	0.06***	0.07
Self-employed non-agr.	0.15***	0.06***	0.11
Unpaid worker agr.	0.19***	0.38***	0.27
Unpaid worker non-agr.	0.02***	0.06***	0.04

* significant at 10%; ** significant at 5%; *** significant at 1%

Notes: (a) Persons aged 16 to 64 year.

Figure 3 shows the distribution densities for log labor hours supplied in the last week by gender and type of work. Men report higher hours of work in wage employment and self-employment while the opposite is true for women in unpaid work.

Table 4 present labor force participation rates - in both paid-formal and unpaid-informal jobs - and migration experience by gender. Overall, the gender employment gap, defined as the difference in the employment rate between men and women, is around 29% if we consider paid work only, and around 6% if we take into account unpaid work as well. When we consider people having experienced migration, though, the gender gap significantly decreases, mostly because of an increase in the female employment rate. If persons have one current international migrant in their family, the gender gap is

28%, whilst if they experienced migration either directly or through another household member the gender employment gap is respectively 22% and 16%. In case of past migration of others, though, employment rates decrease both for males and females, suggesting that those who stay behind are either more likely or more willing to withdraw from the labor market (men relatively more than women). Moreover, the paid plus unpaid employment rate decreases in all cases but for return migrants: women upon return are significantly less engaged in unpaid work and more in paid employment (this sub-group is very small, though).

Figure 3. Hours of work distribution, by type of work and gender

TABLE 4: Employment rate and gender gap by migration experience (% of working age pop.) [a]

	Total	Men	Women	*Gender Gap*[b]
All				
Paid employment rate	0.53	0.65	0.36	**0.29*****
Unpaid employment rate	0.31	0.21	0.44	**-0.23*****
Current migrants in the hh				
Paid employment rate	0.47	0.60	0.32	**0.28*****
Unpaid employment rate	0.37	0.24	0.50	**-0.26*****
Past indiv.migration				
Paid employment rate	0.67	0.68	0.46	**0.22*****
Unpaid employment rate	0.18	0.17	0.23	**-0.06*****
Past migration of hh members				
Paid employment rate	0.35	0.47	0.31	**0.16*****
Unpaid employment rate	0.49	0.39	0.53	**-0.14** ***

* significant at 10%; ** significant at 5%; *** significant at 1%
Notes: (a) Persons aged 16 to 64 years. (b) The difference in the employment rate between men and women.

[20] The whole analysis has been conducted also considering as working age females the sub-sample of women with age between 16 and 59. Results do not change significantly.

In summary, the descriptive statistics show the importance of international out-migration in Albania, its male-dominated nature and the multi-faceted dimension in terms of potential migrants selection and implications for household members left behind. Migration rate of women is very thin while one third of female population experienced migration of other household members. It is of interest to better understand the relationship between this male-dominated migration and a process of 'gender empowerment' - through the access to local labor earnings. From key descriptive findings, indirect migration experiences seem to lead to a narrowing of the gender employment gap, mostly due to an increase in labor supply of women with family migration experience. Yet, it should be noted that different migration categories are not mutually exclusive at household level and a multivariate analysis taking into account the concurrent effect of the latter and further variables on the individual labor market behavior is required.

4. Empirical strategy

The theory on labor supply indicates that workers' leisure-work preferences may not be separable from labor supply of other family members. International migration affects the labour supply of non-migrants in two main ways: the absence of the migrant and the flow of remittances. Both features of migration may entail either a greater independence in the management of the household economy at home (e.g. bargaining empowerment in decision-making) or a greater reliance on migrants' outcomes (e.g. consumption of leisure and remittances as non-labor income).

In order to test the migration- home-labor-market linkages, we model participation in the labour force by gender and predict the employment outcomes according to migration experience and remittances. To do so we use a discrete occupational choice model based on the extensive theoretical literature on labor market behavioural models (see Moffitt, 1999; Killinsworth and Heckman 1986 for a review).

According to these models, family member decisions about leisure times and labor supply are affected by other members' behaviour through cross-substitutions and income effects. While the latter is expected to have a negative effect on labor supply (particularly for women; see Altonji and Blank, 1999), the signs of the former are unknown depending on both individual bargaining power and whether household members' work are complements or substitutes.[21] Hence, it is not clear *a priori* whether (male-dominated) migration impact in terms of female labor force participation will result in an increase or reduction of the gender employment gap (see also Pissarides et al. 2005 on female labor literature).

[21] In a unitary household model, with the family as one decision making unit (e.g. the household head), signs of cross-substitution effects are unknown, while the magnitudes are symmetric. In the bargaining model of family behaviour, that treat the decision of individual family members in game-theoretic terms, both signs and magnitudes are unknown, depending on the individual bargaining power. Within the family experiencing migration, for example, differences in the distribution by recipient (husband, wife etc) of exogenous income may lead to differences in their bargaining strengths and, hence, their behaviour so that each individual family members exogenous income appears as separated argument in each demand equation (for leisure times and consumption). The empirical difficulty is having exact measures of certain variables that play a key role in bargaining models. Here we do not have exogenous income flows that are under the control of particular family members- but we have migration as a source of expanding opportunities and explore if there are gender effect in the individual behavioural responses.

We model labor outcomes of working age population as a function of the household migration status M_i^J, a set of individual characteristics $\overline{X}_i$, a range of household and wealth related variables $\overline{W}_i$ (including non-labor income), and a set of regional level characteristics $\overline{Y}_i$:

$$P_i^S* = \beta_0 + \beta_1{}^J M_i^J + \beta_2' \overline{X}_i + \beta_2' \overline{W}_i + \beta_3' \overline{Y}_i + \varepsilon_i \qquad (1)$$

where P_i* is an unobserved (latent) variable that represents the propensity that women and men participate in the labor force. Observed is the categorical labor outcome variable, P_i^S, that is positive if $P_i*> 0$ and indicates whether the i^{th} person is wage employed (s=1), paid self-employed (s=2) or an unpaid worker (s=3) (zero otherwise). We also observe labor hours worked last week, which we use as dependent variable in an analogous model.

Our coefficients of interest are the effects of household migration status M_i^J on the labor supply by gender, where the J^{th} alternative indicates the different individual migration exposure, i.e. whether the person has a household member currently abroad (J=1), whether hes/his household members migrated in the past (J=2), and whether she/he has direct foreign labor experience (J=3). ε_i is the random variable of the estimated equation.

Different methods can be used to estimate the labor choice equation above but causal interpretation of cross-sectional migration effects will be problematic if our empirical model is affected by endogeneity concerns. An immediate claim is that migration is a selective process and unobservable characteristics (at individual and household level) shape the choice of engaging in different forms migration. Indeed, the selection bias comes from the fact that households might have an 'implicit' propensity for migration based on different reasons, some of which are not observed, and which may be associated with the likelihood of men and women to work. Moreover, regional level characteristics related to labor access and social services may influence both the decision to migrate and to participate in the labor market, including gender differences in the latter. It is not clear *a priori* how endogeneity concerns might affect the estimates. On the one hand, better-off, more able or 'liberal' men may be more likely to migrate but also more likely to encourage female household members to enter into the formal labor market; in this case our estimates would be biased upward. On the other hand, households with migrants may already be close to their optimal utility level which would decrease their incentive to increase labor supply (in this case our estimates would be biased toward zero). Thus, we address the potential endogenity bias by using an instrumental variable (IV) strategy to estimate the labor choice model in either paid or unpaid work..

The equation that describes migration behaviour is given as

$$M^J{}_i = \gamma_0{}^J + \gamma_1{}^{J'} \overline{X}_i + \gamma_2{}^{J'} \overline{W}_i + \gamma_3{}^{J'} \overline{Y}_i + \gamma_4{}^{J'} \overline{Z}_i + u_i \qquad (2)$$

where M_i^J are binary endogenous variables equal to 1 if the i^{th} individual belongs to the J^{th} migration alternative as described above (zero otherwise). Migration status depends on the same set of personal, household and regional level characteristics included in the labor force participation equation, and on a set of exogenous variables $\overline{Z_i}$ that are included in the migration equation only as instrumental variables. Given the simultaneity of time allocation decisions in concomitant occupational opportunities, we estimate the system of equations (1)-(2) above through a 3SLS estimator, which produces consistent estimates and account for correlation structure in the disturbances across labor choice equations. We estimate a system of linear probability models as the latter are generally more tractable for assessing causation with limited-dependent outcome variable and dummy endogenous regressors (Angrist, 2001)[22].

5. Baseline models and results

We start by examining the differences in labor market outcomes across individuals according to their exposure to international migration. We model the labour supply decision in reduced form as in equation (1) and estimate employment outcomes as a function of individual, household and regional characteristics. The hypothesis under test is whether international migration experience has a different effect (if any) on male and female labor market outcomes at origin, controlling for the income effect.

According to an extensive literature, individual's characteristics, such as education and age, shape the decision to participate in labor markets by reflecting the potential market wage of the individual such that, *ceteris paribus*, older, more educated workers are expected to obtain higher wages, and therefore to be more likely of participating in paid employment (Pencavel, 1986). Family attributes, such as number of dependents and their age structure, affect participation differently, depending on gender and marital status of the individuals. Although family characteristics may not directly affect potential market wages, they influence the decision to stay home by increasing or decreasing the individual reservation wage.

The behavior of men and women are known to differ with respect to forms of participation in family life and responsibilities for child care. While there is no such a theory explaining female labor supply, a substantial literature documents that in a "traditional society," married women participate less in paid employment whilst they undertake more all household production.[23] Major factors influencing a woman's choices to work, then, are marriage, the family (the number and ages of children), partner's position and income, along with her own educational level and occupation characteristics (e.g. Heckman, 1974; Pencavel, 1986). In our labor choice specification, the number of children in the household is disaggregated into four groups and gender (children younger than 4, children 5-10, male

[22] Heckman and MaCurdy (1985) show that in case of simultaneous linear probability models, IV procedure produces consistent estimates.

[23] This has bee also called 'intra-household specialization' (e.g. Hanson, 2005), assuming that women have a comparative advantage in home production, but here cultural norms and institutions (e.g. related to gender relations) play an important role.

children 11-14, female children 11-14) in order to reflect different child care costs and opportunity costs of participating in the labor force.

We first focus on the pooled sample of working age males and females (i.e. 16-64 years old) and estimate a system of linear probability models, where the migration variables are interacted with a female dummy.

Results of models are reported in Table 5 and standard errors are adjusted for correlation across equations. For comparison purposes, we also estimate the labor participation function through a multinomial probabilistic model (results and marginal effects are available from authors upon request).

Table 5 about here

Columns 1-3 report results of the baseline regression which includes migration and gender related variables only. Our first explanatory variable is whether the person is female: as expected, the coefficients on that variable show that being a female decreases the probability of working in the remunerative labor market while increasing the likelihood of being an unpaid worker. Coefficients of current and past migration variables, though, are different in sign and significance across gender, suggesting that for women living in Albania international migration exposure has a significant effect on their labor market behavior. While having migrant household members currently abroad is negatively associated to the male probability of having a paid job, it is positively correlated with the likelihood that women work as self-employed or as unpaid worker in either a farm or non-farm activity. Also past migration experience through family members have a significant positive effect on female self-employment, whilr the effect is significantly negative on male paid work supply.

We then amend our baseline regression model with a range of individual, household and regional characteristics in order to control for both supply and demand-side factors affecting individual labor force participation. In particular, along with standard demographic characteristics, we include a set of household assets variables, such as land and car ownership, water and phone fix inside dwelling, as to proxy for the wealth position of the household. Moreover we include a range of regional characteristics, i.e. the 2002 national unemployment rate at district level, whether the community has a police station and garbage collection service, and regional dummies[24], in order to control for the local economic setting and labor demand. Columns 4-6 report the results of the regression model further augmented with a range of interaction variables between family structure and being female, as a proxy of time availability and work proclivity. Some of these controls result to be very significant both for male and female labor market participation while the significance level of the gender gap decreases with respect to all labor outcomes. Overall, results are consistent with those of other studies of labor force participation. We find that variables customarily used to explain labor force participation are important in determining the odds of participation in each of the four labor force states considered here. As

expected, female labor supply and household migration decisions are significantly affected by working time constraints related to the household structure, in particular with respect to children presence which may constitute a constraint on economic choices of the household. Proxies for the wage offers (age, education, number of children, and area of living), and variables for home productivity and tastes (marital status; presence of children, disabled family members) are, for the most part, significantly related to the likelihood of labor force participation.[25] As our variables of interest are concerned, household migration status still has a different effect on women relative to men. Current migrants decrease the likelihood of male self-employment, while the opposite holds for women. Also past migration experience of household members is positively associated with female self-employment while being negatively correlated with female unpaid work. It is worth noting that having direct foreign experience is negatively related to male wage employment, whilst it decreases unpaid work supply for both men and women.[26]

In order to distinguish the 'behavioral' effect of migration from the income (remittance) effect, we further include per capita non-labor earnings (both cash and in-kind) as explanatory variables of labor market outcomes, and migration findings are unchanged. Results in columns 7-9 show that most of unearned international income flows are negatively associated with formal labor market participation in that they are likely to increase the reservation wage. We distinguish between remittances received from core family members currently away, remittances received in the previous 12 months from former migrants either abroad or in Albania, and other non-labor income (e.g. rents, pensions, dividends etc.). Even though these flows are likely to be endogenous to the labor participation choice, it is worth noting that migration variables are robust to the introduction of these additional controls, while the pure gender effect decreases further. This is to say that household migration status has a significant behavioral impact on non-migrants' labor market outcomes irrespective of, and beyond, the inflow of remittances or other income effects. This is not surprising, as remittances received in cash or in kind are fungible, plus do not account for the money and skills brought back home by returning Albanians, for a season or for good. Thus, considering remittances only may disguise the purposive behavioral impact of migration across household members in terms of benefits and obligations for all of them.

Focusing on our variables of interest using separate linear equations of labor market behavior for males and females, Table 6 reports the effect of household members' migration experience on their labor market outcomes, controlling for the full set of individual, households and regional characteristics as above (for robustness check, marginal effects of multinomial logit models were calculated and are

[24] All forms of migration are equally represented in all Albanian regions included in the regression model (slightly less in mountain urban regions only).

[25] The model is also estimated excluding the number of children under six in order to account for the potential simultaneity bias due to fertility to labor force decisions jointly determined (Rosenzweig and Wolpin, 1980). Further checks has been done with respect to other potential endogenous variables (such as those related to the household wealth position) but results are consistent with those reported.

[26] Yet, as we discussed above, the incidence of female past migration is very low in Albania (around 3% in our nationally representative sample), but excluding this control from the model does not change the results.

available from the authors upon request). Colums (1)-(9) includes alternative migration variables separately and coefficient estimates show the importance of disaggregating heterogenous migration effects. Having any (current or past) migration experience in the household seem to have a negative effect on female wage employment and male paid self-employment, while having a positive effect on overall unpaid work supply. Yet, disentangling different forms of family migration experience delivers asymmetric results (col. (4)-(9)). Accounting for the coexistence of current and past migration episodes of household members, results in columns (10)-(12) show different effects on male and female labor market behavior, which are robust to the inclusion of remittances (columns (13)-(15)).[27] While household migration exposure shows a (weak) positive effect on the likelihood of female self-employment, negative effects on male paid occupations, and positive on unpaid work, may be explained by men waiting for the next migration episode while being back home.

Table 6 about here

In order to further explore gender disparities in labor supply we also estimate the same model for males and females as above, by using the reported number of hours worked in the previous week as dependent variable. This is also informative with respect to the argument that self-employment may provide a more 'flexible' work environment where less labor hours may be supplied, especially by women (Boden 1999, Connely 1992, Hundley 2000). Results from a Tobit regression are reported in Table 7 showing that individuals, significantly men, with any family migration experience supply less hours of work. [28]

Table 7 about here

When disaggregating by type of work and type of migration experience, though, the coefficient are more precisely estimated. In particular, in households with past migration experience, women significantly supply more labor hours in self-employment whilst men seem to supply more work in unpaid occupations. Overall, these results are consistent with previous aggregate evidence on similar patterns in different countries (e.g. Hanson, 2005), but accounting for the heterogeneity in household migration and work status, controlling for the income effect, offer further insights into gender differentials in labor market behavior upon family migration experience. It is worth noting that while male and female labor supplies respond differently to past household migration episodes, having a direct migration experience decreases labor hours as unpaid worker for both men and women, and increases hours supplied in wage employment (the last coefficient is not significant for men, though). Overall, these findings may be consistent with a shift in the bargaining process and control over

[27] We have explored migration-female labor force participation for different age groups and for married women (with children) only, and findings do not show significant patterns for sub-groups with the respect to the whole population.
[28] We use a Tobit model given that hours worked are zero for many individuals. Simple OLS regressions, though, yield the same qualitative results.

resources within the household left behind. It could be also argued, though, that unobserved characteristics make men remaining in Albania less likely to work in self-employment, for example (where the opposite would operate for women as well). In other words, results are potentially contaminated by unobserved household characteristics that may be correlated with both household migration behavior and labor supply. We tackle this issue in the next section.

6. The labor market impact of migration: IV results

We are ultimately interested in examining the impact of having a migrant household member on the relative and absolute female labor force participation in concomitant occupation opportunities (i.e. wage-employment, paid self-employment and unpaid work). Although we have checked the robustness of our results to the introduction of a number of control variables, if our empirical model is affected by endogeneity of the household migration status, as we discussed above, the simple way to estimate the migration-labor relations through a multivariate analysis will be unlikely to provide a consistent estimate of the 'true' impact of migration. Thus, in order to address this issue, we estimate the system of equations (1)-(2) above through an IV strategy and a 3SLS estimator. The key to such approach is a well-behaved instrumental variable. For this purpose we use a set of the following instruments, related to some features of the context we study: (i) a binary variable equal to 1 if the head of household or his/her spouse had any family friends or relatives living abroad in 1990; (ii) a binary variable equal to 1 if there is more than one male in the extended family (i.e. all household members, including those currently abroad); (iii) the percentage of households with members abroad in municipality of residence in 1995. The latter is a standard proxy for migration networks within each municipality that influence the opportunity to migrate by reducing potential hazard and costs, both at home and in migration destinations (Massey et al., 1993; Massey and Espinosa, 1997)[29]. We use migration intensity 10 years prior the year of the survey in order to minimise potential contemporaneous correlation between the latter variable and employment outcomes.[30] Thus, as long as we control for district-level unemployment rate and regional fixed effects, we assume that previous migrant networks do not affect current labor market outcomes directly (exclusion restriction), unless via the migration behaviour of household members (first stage). Similarly, by employing the measure of contact with people abroad in the 1990, which marks the end of people's mobility controls[31], we capture the presence of migration networks within the family, that are assumed to directly influence the migrant status of households (first stage)

[29] A number of recent papers have used a measure of the migrant network as an instrument for migration. Migrant networks constitute an information channel in that living close to other people having migration experience may educate potential migrants about the conditions in specific migration destinations (i.e. information costs decrease) and lead to a better settlement of chain-migrants at destination (Massey 1998; Orrenious, 1999). Similarly, they serve to relax credit constraints (Genicot and Sensky, 2004) and can increase the economic returns to migration (Mushi, 2003).

[30] The choice of a 10 year 'migration network' is arbitrary but our results are robust to using migration network at different points in time.

[31] During the communist government (1944-1990), migration had come to a virtual halt, with migration officially prohibited and emigrants and family members left behind ostracized or severely punished. With the fall of the government, the end of the controls on internal and external migration and the unraveling of the centrally planned economy unleashed a demographic shift at an unprecedented pace, as individuals and entire households started migrating to the cities or leaving the country altogether (Carletto et al, 2004; King and Vullnetari, 2003).

while being orthogonal to the labor market behaviour in Albania (exclusion restriction)[32]. Finally, based on a feature of migration that is peculiar to the patriarchal Albanian context, we argue that a discontinuity in the family gender composition may be particularly significant in relaxing some gender specific constraints to migration, without directly affecting individual employment outcomes. Indeed, if there is only one man in the household (11 percent of the case in our sample), he will be less likely to leave the household and migrate abroad, as women left behind may hardly substitute his male-specific obligations within the household economy[33]. Thus, the presence of more than one man in the household may affect the migration decision of household members (first stage), without being relevant for the labour market behaviour of the rest of the household (exclusion restriction).[34] Results are reported in Table 8, where we present labor outcomes specifications with both any and heterogeneous family migration experience as explanatory variables. The instrument sensitivity analysis (col. (1)-(6)), the high values of the F-statistics for the excluded instruments and the Sargan overidentification test (when applicable) support the validity of our instruments. Full regression results for the most comprehensive specifications for women and men (col.(7)-(9)), joint with first stage migration regressions, are reported in Tables A3-A6 in the Appendix.

Table 8 about here

Results from the IV regression show that household migration experience is negatively associated with male and female wage employment and positively with engagement in paid self-employment for women only. Disaggregating by types of migration, past international migration of household members significantly increases the probability of women to supply labor in paid self-employment (at 1% significance level) and decrease their propensity to work in unpaid occupations. The same effect does not hold for male labor market behaviour. The effect of household migrants currently abroad, though, significantly decreases the likelihood of female self-employment (at 10% significance level) while increases female unpaid labor supply at 1% significance level. This may be explained by the early stage of the migration process that requires more effort at home to replace people recently left. Still we do not find evidence of such effects for male labor force population. Results reported in Table 8 are robust to alternative specifications and sensitivity checks of specific instrument selections.[35]

[32] It should be recalled that the framework of the survey is such that past migration experience of household members occurred since 1990 and is self-reported by current members of the core households. On the contrary, past migration experience occurred before 1990 refers to friends and relatives out of the core household (in other words the two variables do not overlap).
[33] Just as women are assigned different roles in the society, they tend to have different roles from men within the family. Women in Albania (especially in rural or remote areas where mentalities and traditions are more conservative) are still dependent on men for many different activities such as credit access, house maintenance, agricultural work (due to relatively little use of mechanization), personal security concerns (see Common Country Assessment Albania, 2002).
[34] Indeed, in our sample the presence of only one male is irrelevant to female labor supply: female participation rate is not statistically different according to the presence of more than one male in the household. Also, controlling for appropriate demographic characteristics, the number of males exercise no influence on (gender differentials in) labor supply. Yet, male-specific obligations make Albanian households with a single male much less likely to undertake migration.
[35] Other instruments used, without no significant difference in results, are the presence of more than one male in the household excluding members currently away, two separate dummies whether head or spouse had any relative or friend abroad in 1990.

The difference in magnitude and significance of IV results with respect to OLS suggests that the latter may be biased by some unobservable characteristics in the stochastic disturbance, correlated with having a migrant in the household. Indeed, whether or not to engage in migration is a selective process, as is the decision about which form of migration to engage in[36]. In particular, if worse-off women (i.e. in more rigid gender regime or lower socioeconomic status) are more likely to stay behind and less likely to engage in paid occupations in the labor market (more likely to supply unpaid work), the effect of family migration on paid employment (unpaid work) will be downward biased (upward biased). Yet, female are likely to allocate their time depending on the achievement of specific migrant members or may vary their labor response to changes in the migration circumstances over time. If in general international migration requires more up-front resources in its earlier stage, the effect of having current international migrant members on female paid labor supply (unpaid labor supply) will be overestimated (underestimated). Thus, without correcting for the endogeneity bias is unlikely to reveal the 'true' impact of migration on household members left behind.

We interpret our IV results on gender-differentials in the labor market as evidence that, in a traditional society, male-dominated migration exposure may lead women left behind to ultimately gain access to labor market opportunities and earn a positive income. These findings are related to previous evidence on female labor supply upon migration experience, showing that migration (and/or remittances) either decreases both male and female labor supply (Hanson 2005), or decrease female labor supply in low-paid and informal jobs (Amuedo-Dorantes and Pozo., 2006). We argue, though, that the gender bias of migration behavior and the high incidence of temporary or circular migration in countries with a long migration history (such as Albania, and similarly Mexico) may lead men to increasingly confide in this source of foreign earnings while being at home, while women get access to more remunerative local market jobs. This outcome may be viewed as an emancipating process for women, increasing their control over decision-making within the household.

6.1 Heterogeneous effects on female labor supply

However, migration behavioral impact on female household members left behind may be at work thorough further effects, such as a change in human capital accumulation or fertility choices. Even though we do not tackle these mechanisms directly, we rule out confounding factors by carrying out a sensitivity analysis of our results. Table 9 presents IV estimates for a set of sub-samples defined by observable individual attributes correlated with female labor supply, i.e. by age profile, education and family structure.

Table 9 about here

We present results excluding potentially endogenous variables of non-labor income (e.g. remittances) but including them deliver similar results.

[36] E.g. who is going to migrate in the household, how many times (re-migration) and how long for.

As shown in Panel A, labor market outcomes of working age older women (i.e. more than 33 years old) are robust to previous average results. They are more precisely estimated than it is the case for youth, as they are less likely to be confounded by the human capital bias (i.e. as a result of household migration, young women may stay longer in school, that is out of the labor force). Panel B shows that results differ when splitting the whole sample by educational levels, though. Household migration status changes labor market outcomes of less educated women, but has a small and statistically insignificant effect on those with a secondary education degree or higher. This finding suggests that migration empowerment implications for female members left behind are higher for less educated women, as we would expect provided the strong positive correlation between human capital and female (paid) employment outcomes. Finally, Panel C shows that our results are more precisely estimated in the sub-group of women without young children (less than 4 years old), even though the signs of migration effects are stable also for the other sub-sample. This finding is also consistent with the large evidence on women's work choices constrained by children presence (in the absence of child care services).

Overall our evidence is consistent with the literature showing that more disadvantaged groups (such as women with respect to men, on average, or less educated adult women compared to young or skilled ones) are especially responsive to new market opportunities made available by 'economic globalization' and the opening of the borders (Mushi and Rosenzweig, 2006; Luke and Munshi, 2007).

7. Conclusions

This paper examines the role of male-dominated international migration in shaping labor market outcomes by gender in migrant-sending households at origin. Using detailed information on family migration experience from the latest Albanian LSMS, we find that there is a different pattern in the occupational distribution of female and male work force back home. Unlike earlier studies, we distinguish the 'disruptive' effect of household members' departure from the income effect of two forms of family migration experience, and investigate their impact on paid and unpaid labor market status of household members left behind. Estimates show that male and female labor supplies respond differently to current and past migration episodes, and the migration effects are robust to the income (remittance) effect. Accounting for the endogeneity of migration behavior by using an IV estimation strategy, we find that having household members currently living abroad decreases the probability of women to engage in paid employment and increase their unpaid work supply. On the contrary, having household members migrated abroad in the past significantly increases female labor supply in self-employment while decreasing unpaid work supply. We do not find evidence of the same pattern for the male labor force population. Moreover, by accounting for key factors (related to age, education and child caring) that exert a great influence on female labor supply, we find that more disadvantaged Albanian women (e.g. less educated) with male-dominated household migration experience are more likely to shift their occupational choices and gain access to remunerative employment.

Our findings support the argument that in a traditional society like Albania migration of household

members may be a source of both income and bargaining power among members of the family at origin. The gender-biased patterns observed in Albania seem to suggest that, over time, male-dominated migration influences women's employment status and income-earning capacity, thereby potentially enhancing their role as agents of change in the society. This evidence contributes in shedding light on one of the most contentious impact of migration on economic development at origin, by impinging on the gender differentials in the international and local labor market behaviour.

TABLES

Table 5. Labor market outcomes (pooled linear model): Coefficient estimates

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Baseline model			Model with controls			Model with controls& remittances		
	Wage Empl.	**Paid Self-empl.**	**Unpaid work**	**Wage Empl.**	**Paid Self-empl.**	**Unpaid work**	**Wage Empl.**	**Paid Self-empl.**	**Unpaid work**
Female	-0.164***	-0.123***	0.210***	-0.055	-0.022	0.027	-0.051	-0.022	0.03
	(10.13)	(9.12)	(13.12)	(1.35)	(0.60)	(0.73)	(1.25)	(0.59)	(0.80)
Current hh migrants	-0.032*	-0.031**	0.030*	0.014	-0.052***	-0.009	0.038*	-0.047**	-0.015
	(1.82)	(2.10)	(1.71)	(0.86)	(3.56)	(0.58)	(1.67)	(2.36)	(0.73)
Past hh migrants	-0.160***	-0.050**	0.201***	-0.039*	-0.031	0.096***	-0.039*	-0.032	0.096***
	(6.65)	(2.50)	(8.48)	(1.72)	(1.53)	(4.60)	(1.69)	(1.60)	(4.57)
Past indiv. migration	0.014	0.007	-0.026	0.029*	-0.012	-0.056***	0.029*	-0.012	-0.057***
	(0.88)	(0.48)	(1.57)	(1.87)	(0.86)	(3.97)	(1.90)	(0.90)	(4.02)
Current hh migrants*fem.	-0.037	0.035	0.044*	-0.032	0.044**	0.027	-0.031	0.045**	0.026
	(1.45)	(1.63)	(1.74)	(1.37)	(2.07)	(1.24)	(1.32)	(2.12)	(1.18)
Past hh migrants*fem.	0.064**	0.068***	-0.091***	0.007	0.055**	-0.055**	0.006	0.055**	-0.055**
	(2.14)	(2.72)	(3.08)	(0.25)	(2.21)	(2.15)	(0.23)	(2.20)	(2.15)
Past indiv. migration*fem.	0.114**	-0.054	-0.202***	0.038	-0.02	-0.123***	0.034	-0.017	-0.117***
	(2.08)	(1.18)	(3.74)	(0.77)	(0.46)	(2.70)	(0.68)	(0.38)	(2.58)
Married				0.051**	0.058***	-0.078***	0.052**	0.058***	-0.080***
				(2.26)	(2.89)	(3.76)	(2.31)	(2.90)	(3.84)
Married*fem.				-0.082***	-0.122***	0.158***	-0.085***	-0.121***	0.158***
				(3.21)	(5.38)	(6.74)	(3.32)	(5.34)	(6.75)
Age				0.015***	0.016***	0.001	0.015***	0.016***	0.001
				(4.40)	(5.34)	(0.20)	(4.38)	(5.26)	(0.19)
Age squared				-0.000***	-0.000***	0	-0.000***	-0.000***	0
				(4.16)	(4.37)	(0.35)	(4.15)	(4.28)	(0.37)
N. of adults in hh				-0.008*	-0.003	-0.005	-0.008*	-0.002	-0.004
				(1.70)	(0.60)	(1.27)	(1.80)	(0.50)	(0.98)
N. of children 0-4				-0.004	0.01	-0.002	-0.005	0.011	0
				(0.36)	(1.01)	(0.23)	(0.47)	(1.09)	(0.01)
N. of children 5-10				-0.015	-0.005	0.020**	-0.015	-0.005	0.020**
				(1.53)	(0.60)	(2.25)	(1.55)	(0.56)	(2.23)
N. of male children 11-14				0.018	-0.033**	-0.006	0.017	-0.033**	-0.005
				(1.17)	(2.45)	(0.45)	(1.12)	(2.40)	(0.36)
N. of female children 11-14				0.040***	-0.064***	-0.014	0.041***	-0.064***	-0.012
				(2.72)	(4.90)	(1.00)	(2.78)	(4.86)	(0.87)
N. of adults in hh*fem.				0.003	-0.007	0.012*	0.003	-0.007	0.011*
				(0.47)	(1.17)	(1.84)	(0.45)	(1.19)	(1.77)
N. of children 0-4*fem.				-0.026	-0.023	-0.027*	-0.026	-0.024	-0.028*
				(1.56)	(1.56)	(1.76)	(1.58)	(1.61)	(1.83)
N. of children 5-10*fem.				-0.016	0.017	0.008	-0.016	0.017	0.007
				(1.13)	(1.35)	(0.59)	(1.10)	(1.36)	(0.54)
N. of male children 11-14*fem.				-0.044**	0.036*	0.024	-0.044*	0.036*	0.023
				(1.96)	(1.82)	(1.17)	(1.96)	(1.80)	(1.10)
N. of fem. children 11-14*fem.				-0.065***	0.058***	0.007	-0.066***	0.059***	0.007
				(3.02)	(3.01)	(0.38)	(3.06)	(3.06)	(0.37)
Education (years)				0.033***	-0.008***	-0.014***	0.033***	-0.008***	-0.014***
				(16.68)	(4.29)	(7.93)	(16.75)	(4.29)	(7.92)
Chronic ill in hh				-0.006	-0.003	0.023**	-0.005	-0.004	0.022**
				(0.55)	(0.34)	(2.40)	(0.48)	(0.42)	(2.34)
Asset position:									
Car ownership				-0.115***	0.123***	0.002	-0.113***	0.125***	0.004
				(7.56)	(9.07)	(0.11)	(7.45)	(9.24)	(0.28)
Water inside dwellling				0.035***	0.061***	-0.115***	0.035***	0.063***	-0.113***
				(2.68)	(5.28)	(9.62)	(2.67)	(5.40)	(9.37)
House fixed phone line				0.074***	-0.019	-0.007	0.074***	-0.019	-0.005
				(4.72)	(1.39)	(0.46)	(4.70)	(1.35)	(0.35)
Land owned (ha.)				-0.087***	0	0.202***	-0.090***	-0.003	0.202***
				(5.96)	(0.01)	(14.96)	(6.13)	(0.26)	(14.89)
Land owned sq. (ha.)				0.012***	0.002	-0.030***	0.013***	0.002	-0.030***
				(3.47)	(0.55)	(9.06)	(3.63)	(0.77)	(9.06)
Regional controls:									
District unempl. rate 2002				-0.003***	-0.002**	0.002**	-0.003***	-0.001**	0.002**
				(4.15)	(2.30)	(2.33)	(3.90)	(2.02)	(2.29)

Table 5. Continuation

Community has garbage collection				0.081***	0.00	-0.113***	0.078***	0.003	-0.111***
				(4.31)	(0.00)	(6.53)	(4.13)	(0.15)	(6.37)
Community has police station				-0.025	0.028*	0.01	-0.022	0.029*	0.009
				(1.49)	(1.83)	(0.64)	(1.31)	(1.89)	(0.57)
Tirana				0.178***	-0.173***	-0.072**	0.181***	-0.183***	-0.080***
				(5.79)	(6.33)	(2.55)	(5.85)	(6.63)	(2.82)
Coast urban region				0.105***	-0.112***	-0.055**	0.106***	-0.121***	-0.065**
				(3.47)	(4.13)	(1.98)	(3.47)	(4.42)	(2.32)
Coast rural region				0.043*	0.015	-0.079***	0.043*	0.01	-0.085***
				(1.91)	(0.75)	(3.84)	(1.91)	(0.53)	(4.16)
Central urban region				0.031	-0.120***	-0.062**	0.031	-0.130***	-0.071**
				(0.99)	(4.35)	(2.16)	(0.99)	(4.67)	(2.47)
Central rural region				0.060***	-0.113***	0.110***	0.063***	-0.118***	0.104***
				(3.16)	(6.63)	(6.24)	(3.29)	(6.86)	(5.87)
Mountain urban region				0.057	-0.150***	-0.086**	0.056	-0.161***	-0.097**
				(1.26)	(3.70)	(2.05)	(1.22)	(3.95)	(2.30)
Remittances and non-lab income:									
Remitt. from current int.nal migr. (log, pc)							-0.004	-0.001	0.001
							(1.59)	(0.38)	(0.34)
Rem/gifts from relatives abroad -last 12 months (log, pc)							-0.004*	-0.002	0.003
							(1.84)	(1.13)	(1.52)
Rem/gifts from relatives in Albania -last 12 months (log, pc)							-0.004	0.005**	-0.001
							(1.64)	(2.02)	(0.58)
Other non-lab income (log, pc)							0.00	-0.004*	-0.007***
							(0.11)	(1.90)	(3.75)
Constant	0.430***	0.234***	0.202***	-0.244***	0.007	0.396***	-0.240***	0.012	0.399***
	(40.24)	(26.38)	(19.19)	(3.85)	(0.12)	(6.79)	(3.78)	(0.22)	(6.83)
Observations		6592			6592			6592	

Notes Absolute value of z statistics in brackets
* significant at 10%; ** significant at 5%; *** significant at 1%

Table 6. Labor market outcomes by gender (linear model): Coefficient estimates

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
	Wage Empl.	**Paid Self-empl.**	**Unpaid work**	**Wage Empl.**	**Paid Self-empl.**	**Unpaid work**	**Wage Empl.**	**Paid Self-empl.**	**Unpaid work**	**Wage Empl.**	**Paid Self-empl.**	**Unpaid work**	**Wage Empl.**	**Paid Self-empl.**	**Unpaid work**
							FEMALE								
Any hh migr	-0.028**	0.014	0.031**												
	(2.12)	(1.18)	(2.09)												
Current hh migr				-0.019	-0.001	0.003				-0.02	0.00	0.005	0.019	0.014	0.023
				(1.25)	(0.08)	(0.18)				(1.36)	(0.03)	(0.33)	(0.78)	(0.58)	(0.82)
Past hh migr.							-0.023*	0.027**	0.034**	-0.02	0.025*	0.026*	-0.019	0.023*	0.024
							(1.69)	(2.1)	(2.21)	(1.47)	(1.96)	(1.67)	(1.39)	(1.82)	(1.58)
Past indiv. migr										0.073*	-0.032	-0.164***	0.065*	-0.03	-0.155***
										(1.88)	(0.87)	(3.78)	(1.68)	(0.83)	(3.57)
Indiv., hh and regional controls	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Remittances and other non-labor income	no	no	no	no	no	no	no	no	no	no	no	no	yes	yes	yes
R-sq	0.35	0.16	0.44	0.35	0.17	0.44	0.34	0.17	0.44	0.35	0.17	0.45	0.35	0.17	0.45
Observations		2852			2852			2852			2852			2852	
							MALE								
Any hh migr	-0.001	-0.055***	0.035**												
	(0.07)	(3.59)	(2.44)												
Current hh migr.				0.018	-0.063***	-0.007				0.016	-0.062***	-0.001	0.029	-0.062**	0.00
				(0.95)	(3.86)	(0.44)				(0.84)	(3.84)	(0.06)	(0.96)	(2.38)	(0.01)
Past hh migr.							-0.043*	-0.031	0.123***	-0.038	-0.036	0.109***	-0.038	-0.037*	0.109***
							(1.73)	(1.43)	(6.07)	(1.49)	(1.6)	(5.28)	(1.49)	(1.66)	(5.28)
Past indiv. migr.										0.017	-0.009	-0.048***	0.017	-0.01	-0.047***
										(0.95)	(0.59)	(3.39)	(0.98)	(0.64)	(3.38)
Indiv., hh and regional controls	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Remittances and other non-labor income	no	no	no	no	no	no	no	no	no	no	no	no	yes	yes	yes
R-sq	0.15	0.18	0.22	0.15	0.18	0.22	0.15	0.18	0.23	0.15	0.18	0.23	0.15	0.19	0.23
Observations		3740			3740			3740			3740			3740	

Notes: Absolute value of z statistics in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%. All individual, household and regional level controls are included as in Table 6

Table 7. (Log) Weekly hours worked by gender: Tobit model (coeff. estimates)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Tot Hours worked	**Tot Hours worked**	**Tot Hours worked**	**H.Wage Empl.**	**H. Paid Self-empl.**	**H. Unpaid work**	**H. Wage Empl.**	**H. Paid Self-empl.**	**H. Unpaid work**	**H. Wage Empl.**	**H. Paid Self-empl.**	**H. Unpaid work**
						FEMALE						
Any hh migrant	-1.306			-0.330*	0.426	0.19						
	(1.50)			(1.86)	(1.19)	(1.52)						
Current hh migrants		-2.089**	0.018				-0.261	0.036	-0.041	0.202	0.452	-0.292
		(2.14)	(0.01)				(1.25)	(0.09)	(0.29)	(0.61)	(0.71)	(1.21)
Past hh migrants		-0.349	-0.442				-0.232	0.751**	0.127	-0.241	0.716*	0.113
		(0.38)	(0.49)				(1.19)	(2.05)	(1.00)	(1.24)	(1.96)	(0.89)
Past indiv. migration		-2.994	-3.016				0.868**	-1.682	-1.321***	0.788*	-1.704	-1.219***
		(1.14)	(1.15)				(1.99)	(1.31)	(3.05)	(1.80)	(1.32)	(2.82)
Indiv., hh and regional controls	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Remittances and other non-labor income	no	no	yes	no	no	no	no	no	no	yes	yes	yes
Observations	2852	2852	2852	2852	2852	2852	2852	2852	2852	2852	2852	2852
						MALE						
Any hh migrant	-2.901***			0.007	-0.822***	0.37						
	(3.37)			(0.04)	(3.13)	(1.44)						
Current hh migrants		-3.222***	-2.384				0.146	-0.941***	0.113	0.27	-0.796*	0.059
		(3.52)	(1.63)				(0.90)	(3.36)	(0.41)	(1.05)	(1.80)	(0.13)
Past hh migrants		-1.642	-1.745				-0.341	-0.404	0.754**	-0.346	-0.425	0.747**
		(1.30)	(1.39)				(1.43)	(1.02)	(2.21)	(1.45)	(1.08)	(2.20)
Past indiv. migration		-0.479	-0.465				0.22	-0.148	-0.673**	0.226	-0.152	-0.664**
		(0.56)	(0.55)				(1.49)	(0.59)	(2.54)	(1.52)	(0.60)	(2.51)
Indiv., hh and regional controls	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Remittances and other non-labor income	no	no	no	no	no	no	no	no	no	yes	yes	yes
Observations	3740	3740	3740	3740	3740	3740	3740	3740	3740	3740	3740	3740

Notes Absolute value of t statistics in brackets; * significant at 10%; ** significant at 5%; *** significant at 1%. All individual, household and regional level controls are included as in Table 6.

Table 8. Labor supply by gender: IV results

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Dependent variable:	**Wage Empl.**	**Paid Self-empl.**	**Unpaid work**	**Wage Empl.**	**Paid Self-empl.**	**Unpaid work**	**Wage Empl.**	**Paid Self-empl.**	**Unpaid work**	**Hours WageEmpl.**	**Hours Paid Self-empl.**	**Hours Unpaidwork**
							FEMALE					
Any hh migrant	-0.130*	0.273***	-0.098	-0.114	0.248***	-0.093						
	(1.65)	(3.51)	(1.12)	(1.50)	(3.31)	(1.09)						
Current hh migrants							-0.19	-0.270*	0.319**	-0.752	-0.908	1.101**
							(1.45)	(1.73)	(2.12)	(1.54)	(1.58)	(2.03)
Past hh migrants							-0.084	0.380***	-0.188*	-0.264	1.415***	-0.881**
							(0.88)	(3.36)	(1.73)	(0.75)	(3.40)	(2.24)
Past indiv. migration							0.663	-1.156	-0.016	2.179	-4.092	0.307
							(1.11)	(1.62)	(0.02)	(0.97)	(1.56)	(0.12)
Instruments:												
Migration density at municip. in 1995	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Family/friends living abroad in 1990	no	no	no	yes	yes	yes	yes	yes	yes	yes	yes	yes
More than 1 man in the hh	no	no	no	no	no	no	yes	yes	yes	yes	yes	yes
F-test 1st stage		87.06			44.01		22.17	5.29 ,	39.29	21.64	5.34	38.53
P-value joint		0.00			0.00		0.00	0.00	0.00	0.00	0.00	0.00
Overid Sargan test				1.385	7.198	0.088						
Chi-sq(1) P-val				0.2393	0.0273	0.7673						
							MALE					
Any hh migrant	-0.165	-0.259	0.177	-0.171	-0.268	0.217						
	(0.77)	(1.37)	(1.02)	(0.84)	(1.48)	(1.30)						
Current hh migrants							-0.228	0.214	-0.031	-0.922	0.721	-0.193
							(1.03)	(0.90)	(0.17)	(1.08)	(0.80)	(0.25)
Past hh migrants							-0.071	-0.964	0.499	-0.391	-3.445	3.038
							(0.09)	(1.13)	(0.77)	(0.13)	(1.07)	(1.12)
Past indiv. migration							0.005	0.048	-0.027	0.072	0.175	-0.322
							(0.03)	(0.27)	(0.20)	(0.11)	(0.26)	(0.58)
Instruments:												
Migration density at municip. in 1995	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Family/friends living abroad in 1990	no	no	no	yes	yes	yes	yes	yes	yes	yes	yes	yes
More than 1 man in the hh	No	no	no	no	no	no	yes	yes	yes	yes	yes	yes
F-test 1st stage		28.15			14.09		15.95	45.16	15.7	15.26	48.85	15.39
P-value joint		0.00			0.00		0.00	0.00	0.00	0.00	0.00	0.00
Overid Sargan test				0.02	1.026	0.305						
Chi-sq(1) P-val				0.8876	0.311	0.5809						

Notes Absolute value of z statistics in brackets; * significant at 10%; ** significant at 5%; *** significant at 1%; All individual, household and regional level controls are included as in Table 6

Table 9. FEMALE labor market outcomes by age, education and family structure: IV results

PANEL A

	Wage Empl.	**Paid Self- empl.**	**Unpaid work**	**Wage Empl.**	**Paid Self- empl.**	**Unpaid work**
Sample:		***Age 16-32***			***Age 33-64***	
Current hh migrants	-0.297	0.045	0.196	-0.117	-0.543**	0.318*
	(1.58)	(0.23)	(0.85)	(0.62)	(2.39)	(1.73)
Past hh migrants	0.124	0.133	-0.227	-0.196	0.448***	-0.095
	(0.71)	(0.75)	(1.05)	(1.64)	(3.10)	(0.81)
Obs.		1172			1651	

PANEL B

	Wage Empl.	**Paid Self- empl.**	**Unpaid work**	**Wage Empl.**	**Paid Self- empl.**	**Unpaid work**
Sample:		***Primary education or lower***			***Secondary education or higher***	
Current hh migrants	-0.268	-0.26	0.501*	-1.253	0.512	0.575
	(0.48)	(0.76)	(0.22)	(0.53)	(0.58)	(0.50)
Past hh migrants	0.122	0.312***	-0.345***	-2.489	1.635	0.992
	(1.63)	(3.29)	(2.76)	(0.61)	(0.58)	(0.57)
Obs.		1553			1251	

PANEL C

	Wage Empl.	**Paid Self- empl.**	**Unpaid work**	**Wage Empl.**	**Paid Self- empl.**	**Unpaid work**
Sample:		***Young children (0-4)***			***No young children (0-4)***	
Current hh migrants	-0.005	-2.446	4.074	-0.163	-0.254**	0.206*
	(0.24)	(0.20)	(0.18)	(0.41)	(0.84)	(0.99)
Past hh migrants	-0.254	2.76	-4.321	-0.108	0.246***	0.082
	(0.08)	(0.17)	(0.19)	(1.23)	(2.79)	(0.86)
Obs.		626			2197	

Notes: Absolute value of z statistics in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%.
All specifications include the full set of controls as in Table 9 and instruments (i.e. migration density at municip. in 1995, family/friends living abroad in 1990, more than 1 man in the hh)

APPENDIX

Table A3. Labor market outcomes by gender: IV results - FEMALE

	Dependent varianle			First stage		
	Wage Empl.	**Paid Self-empl.**	**Unpaid work**	**Current hh migr.**	**Past hh migr.**	**Past indiv. migr.**
Current hh migrants	-0.19	-0.270*	0.319**			
	(1.45)	(1.73)	(2.12)			
Past hh migrants	-0.084	0.380***	-0.188*			
	(0.88)	(3.36)	(1.73)			
Past indiv. migration	0.663	-1.156	-0.016			
	(1.11)	(1.62)	(0.02)			
Married	-0.044	-0.069**	0.073**	-0.042	0.024**	0.138***
	(1.60)	(2.10)	(2.30)	(1.56)	(2.27)	(4.72)
Age	-0.004	0.004	0.023***	-0.041***	0	0.002
	(0.50)	(0.42)	(2.74)	(7.71)	(0.14)	(0.42)
Age squared	0	0	-0.000**	0.001***	0	0
	(1.11)	(0.09)	(2.44)	(8.40)	(0.59)	(1.17)
N. of adults in hh	0.002	-0.036***	0.017	-0.023***	-0.004*	0.051***
	(0.27)	(3.25)	(1.63)	(3.91)	(1.96)	(8.09)
N. of children 0-4	-0.024	-0.053***	0.005	-0.040***	0.002	0.075***
	(1.53)	(2.88)	(0.26)	(2.88)	(0.40)	(5.01)
N. of children 5-10	-0.030**	-0.009	0.048***	-0.067***	-0.002	-0.014
	(2.44)	(0.58)	(3.37)	(5.89)	(0.48)	(1.12)
N. of male children 11-14	-0.015	-0.027	0.025	-0.102***	-0.011	-0.01
	(0.73)	(1.08)	(1.05)	(5.63)	(1.55)	(0.50)
N. of female children11-14	-0.02	-0.015	-0.01	-0.043**	-0.004	-0.032*
	(1.31)	(0.82)	(0.57)	(2.55)	(0.60)	(1.77)
Education (years)	0.037***	-0.004	-0.012***	-0.005*	0.001	-0.001
	(12.85)	(1.07)	(3.70)	(1.64)	(0.80)	(0.17)
Chronic ill in hh	-0.01	0.031	0.001	0.065***	0.009	-0.015
	(0.52)	(1.42)	(0.06)	(3.99)	(1.36)	(0.83)
Asset position:						
Car ownership	-0.065***	0.070***	-0.019	0.035	0.009	0.048*
	(2.93)	(2.67)	(0.74)	(1.43)	(0.98)	(1.86)
Water inside dwellling	0.026	0.078***	-0.151***	0.019	0.020**	0.058**
	(1.24)	(3.11)	(6.20)	(0.91)	(2.54)	(2.56)
House fixed phone line	0.101***	0.041	-0.046	0.053**	0.007	-0.079***
	(3.83)	(1.32)	(1.51)	(2.12)	(0.70)	(2.94)
Land owned (ha.)	-0.099***	-0.001	0.225***	0.069***	0.022**	0.068***
	(4.08)	(0.03)	(8.05)	(3.05)	(2.47)	(2.80)
Land owned squared (ha.)	0.014***	0	-0.030***	-0.008	-0.002	-0.017***
	(2.77)	(0.05)	(5.23)	(1.38)	(0.73)	(2.80)
Regional controls:						
District unempl.rate 2002	-0.003**	0	-0.001	0.006***	-0.001	-0.001
	(2.19)	(0.11)	(0.69)	(5.03)	(1.31)	(0.79)
Community has garbage coll.	-0.004	0.002	-0.139***	-0.044	0.015	-0.006
	(0.16)	(0.05)	(4.65)	(1.50)	(1.29)	(0.18)
Community has police station	-0.01	0.041	-0.011	0.051*	0.012	-0.011
	(0.39)	(1.30)	(0.38)	(1.87)	(1.14)	(0.38)
Tirana	0.212***	-0.197***	-0.154***	-0.064	-0.005	-0.137***
	(4.96)	(3.86)	(3.15)	(1.30)	(0.29)	(2.59)
Coast urban region	0.163***	-0.127**	-0.151***	0.037	0.009	-0.086*
	(3.80)	(2.48)	(3.05)	(0.76)	(0.47)	(1.66)
Coast rural region	0.070**	-0.011	-0.161***	0.036	-0.014	-0.071*
	(2.24)	(0.29)	(4.51)	(1.00)	(1.03)	(1.85)
Central urban region	0.109**	-0.230***	-0.082	-0.125**	-0.009	-0.055
	(2.47)	(4.39)	(1.63)	(2.55)	(0.46)	(1.05)
Central rural region	0.016	-0.169***	0.154***	-0.088***	0.022*	-0.001
	(0.50)	(4.52)	(4.26)	(2.81)	(1.85)	(0.04)
Mountain urban region	0.173***	-0.245***	-0.151**	-0.105	-0.016	-0.068
	(2.72)	(3.23)	(2.06)	(1.44)	(0.59)	(0.87)
More than 1 man in the hh				0.201***	-0.014	0.031
				(7.20)	(1.29)	(1.04)
Migration density at municipality level in 1995				0.423***	0.069	1.400***
				(3.48)	(1.46)	(10.71)
Family/friends living abroad in 1990				0.01	0.044***	-0.006
				(0.31)	(3.58)	(0.18)
Constant	-0.035	0.287	0.055	0.847***	0.023	-0.009
	(0.23)	(1.56)	(0.31)	(8.95)	(0.63)	(0.09)
Observations	2823	2823	2823	2823	2823	2823

Absolute value of z statistics in brackets; * significant at 10%; ** significant at 5%; *** significant at 1%

Table A4. Labor market outcomes by gender: IV results - MALE

	Dependent varianle			First stage		
	Wage Empl.	**Paid Self-empl.**	**Unpaid work**	**Current hh migr.**	**Past hh migr.**	**Past indiv. migr.**
Current hh migrants	-0.228	0.214	-0.031			
	(1.03)	(0.90)	(0.17)			
Past hh migrants	-0.071	-0.964	0.499			
	(0.09)	(1.13)	(0.77)			
Past indiv. migration	0.005	0.048	-0.027			
	(0.03)	(0.27)	(0.20)			
Married	0.068	0.005	-0.022	-0.034	0.132***	-0.024
	(1.44)	(0.11)	(0.56)	(1.23)	(4.43)	(1.16)
Age	0.014	-0.015	0.003	-0.021***	0.047***	-0.039***
	(0.40)	(0.38)	(0.10)	(4.72)	(9.61)	(11.62)
Age squared	0	0	0	0.000***	-0.001***	0.001***
	(0.35)	(0.50)	(0.13)	(6.21)	(12.23)	(13.40)
N. of adults in hh	-0.014	0.037	-0.015	-0.015***	-0.015***	0.039***
	(0.41)	(0.99)	(0.52)	(3.14)	(3.03)	(11.13)
N. of children 0-4	-0.016	0.051	-0.02	-0.023**	0.028**	0.035***
	(0.54)	(1.56)	(0.81)	(2.07)	(2.34)	(4.29)
N. of children 5-10	-0.039**	0.016	0.025*	-0.051***	-0.039***	0.002
	(2.17)	(0.80)	(1.66)	(5.07)	(3.61)	(0.24)
N. of male children 11-14	-0.016	-0.001	0.008	-0.107***	-0.026	0.003
	(0.53)	(0.04)	(0.32)	(6.99)	(1.59)	(0.24)
N. of female children11-14	0.013	-0.047*	-0.003	-0.070***	-0.045***	-0.006
	(0.58)	(1.93)	(0.14)	(4.84)	(2.89)	(0.57)
Education (years)	0.026***	-0.009**	-0.011***	-0.009***	-0.003	0
	(7.34)	(2.45)	(3.66)	(3.59)	(0.99)	(0.15)
Chronic ill in hh	0.021	-0.035	0.024	0.066***	0.02	-0.014
	(0.72)	(1.13)	(1.00)	(4.79)	(1.38)	(1.37)
Asset position:						
Car ownership	-0.133***	0.151***	0.004	0.044**	0.034*	0
	(5.08)	(5.30)	(0.19)	(2.25)	(1.65)	(0.02)
Water inside dwellling	0.047**	0.065***	-0.096***	0.028*	0.066***	0.025**
	(2.03)	(2.59)	(5.01)	(1.69)	(3.69)	(2.05)
House fixed phone line	0.052	-0.055	0.012	0.003	0.019	-0.031**
	(1.47)	(1.44)	(0.41)	(0.14)	(0.89)	(2.04)
Land owned (ha.)	-0.056**	0.015	0.165***	0.059***	0.080***	0.023
	(2.17)	(0.52)	(7.75)	(3.08)	(3.88)	(1.63)
Land owned squared (ha.)	0.01	-0.002	-0.026***	0.001	-0.018***	-0.007**
	(1.51)	(0.21)	(4.68)	(0.16)	(3.63)	(2.14)
Regional controls:						
District unempl.rate 2002	-0.001	-0.003	0.002	0.005***	-0.003***	0
	(0.57)	(1.55)	(1.44)	(4.65)	(2.72)	(0.20)
Community has garbage coll.	0.130***	-0.001	-0.083***	0	-0.037	-0.011
	(4.46)	(0.02)	(3.42)	(0.01)	(1.41)	(0.60)
Community has police station	-0.017	0.029	0.018	0.037*	0.009	0.003
	(0.64)	(1.00)	(0.80)	(1.66)	(0.40)	(0.21)
Tirana	0.133***	-0.151***	-0.026	-0.04	-0.132***	-0.018
	(2.81)	(2.95)	(0.67)	(1.00)	(3.10)	(0.61)
Coast urban region	0.084*	-0.105**	-0.009	0.063	-0.033	-0.006
	(1.73)	(1.99)	(0.21)	(1.58)	(0.76)	(0.21)
Coast rural region	0.048	-0.001	-0.027	0.017	-0.013	-0.029
	(1.17)	(0.02)	(0.78)	(0.58)	(0.40)	(1.33)
Central urban region	-0.062	-0.05	-0.032	-0.067	-0.049	0.004
	(1.24)	(0.91)	(0.76)	(1.64)	(1.12)	(0.12)
Central rural region	0.070**	-0.069*	0.092***	-0.052**	0.012	0.012
	(2.05)	(1.87)	(3.28)	(2.07)	(0.45)	(0.67)
Mountain urban region	-0.053	-0.041	-0.06	-0.068	-0.085	0.048
	(0.60)	(0.43)	(0.83)	(1.15)	(1.35)	(1.09)
More than 1 man in the hh				0.166***	-0.015	0.018
				(5.92)	(0.51)	(0.86)
Migration density at municipality level in 1995				0.329***	1.298***	0.285***
				(3.16)	(11.64)	(3.69)
Family/friends living abroad in 1990				0.011	0.081***	-0.023
				(0.44)	(2.90)	(1.17)
Constant	-0.119	0.36	0.286	0.441***	-0.379***	0.550***
	(0.26)	(0.72)	(0.74)	(5.10)	(4.09)	(8.59)
Observations	3698	3698	3698	3698	3698	3698

Absolute value of z statistics in brackets; * significant at 10%; ** significant at 5%; *** significant at 1%

Table A5. (Log) Weekly hours worked by gender: IV results - FEMALE

	Dependent varianle			First stage		
	Wage Empl.	**Paid Self-empl.**	**Unpaid work**	**Current hh migr.**	**Past hh migr.**	**Past indiv. migr.**
Current hh migrants	-0.752	-0.908	1.101**			
	(1.54)	(1.58)	(2.03)			
Past hh migrants	-0.264	1.415***	-0.881**			
	(0.75)	(3.40)	(2.24)			
Past indiv. migration	2.179	-4.092	0.307			
	(0.97)	(1.56)	(0.12)			
Married	-0.162	-0.259**	0.297***	-0.042	0.024**	0.138***
	(1.57)	(2.13)	(2.59)	(1.56)	(2.27)	(4.72)
Age	-0.014	0.017	0.105***	-0.041***	0	0.002
	(0.50)	(0.52)	(3.49)	(7.71)	(0.14)	(0.42)
Age squared	0	0	-0.001***	0.001***	0	0
	(1.09)	(0.17)	(3.15)	(8.40)	(0.59)	(1.17)
N. of adults in hh	0.009	-0.130***	0.054	-0.023***	-0.004*	0.051***
	(0.26)	(3.22)	(1.43)	(3.91)	(1.96)	(8.09)
N. of children 0-4	-0.093	-0.195***	0.039	-0.040***	0.002	0.075***
	(1.61)	(2.88)	(0.60)	(2.88)	(0.40)	(5.01)
N. of children 5-10	-0.119***	-0.024	0.141***	-0.067***	-0.002	-0.014
	(2.59)	(0.44)	(2.75)	(5.89)	(0.48)	(1.12)
N. of male children 11-14	-0.056	-0.095	0.075	-0.102***	-0.011	-0.01
	(0.73)	(1.05)	(0.87)	(5.63)	(1.55)	(0.50)
N. of female children11-14	-0.076	-0.052	-0.025	-0.043**	-0.004	-0.032*
	(1.33)	(0.77)	(0.39)	(2.55)	(0.60)	(1.77)
Education (years)	0.134***	-0.012	-0.044***	-0.005*	0.001	-0.001
	(12.45)	(0.96)	(3.67)	(1.64)	(0.80)	(0.17)
Chronic ill in hh	-0.031	0.101	0.006	0.065***	0.009	-0.015
	(0.45)	(1.25)	(0.07)	(3.99)	(1.36)	(0.83)
Asset position:						
Car ownership	-0.251***	0.253***	-0.016	0.035	0.009	0.048*
	(3.06)	(2.61)	(0.18)	(1.43)	(0.98)	(1.86)
Water inside dwellling	0.101	0.288***	-0.544***	0.019	0.020**	0.058**
	(1.28)	(3.10)	(6.21)	(0.91)	(2.54)	(2.56)
House fixed phone line	0.387***	0.139	-0.201*	0.053**	0.007	-0.079***
	(3.95)	(1.21)	(1.85)	(2.12)	(0.70)	(2.94)
Land owned (ha.)	-0.358***	-0.012	0.889***	0.069***	0.022**	0.068***
	(3.94)	(0.11)	(8.82)	(3.05)	(2.47)	(2.80)
Land owned squared (ha.)	0.050***	0.001	-0.115***	-0.008	-0.002	-0.017***
	(2.72)	(0.04)	(5.59)	(1.38)	(0.73)	(2.80)
Regional controls:						
District unempl.rate 2002	-0.010**	0.001	-0.002	0.006***	-0.001	-0.001
	(2.23)	(0.10)	(0.46)	(5.03)	(1.31)	(0.79)
Community has garbage coll.	-0.007	0.023	-0.428***	-0.044	0.015	-0.006
	(0.07)	(0.21)	(3.96)	(1.50)	(1.29)	(0.18)
Community has police station	-0.038	0.146	-0.054	0.051*	0.012	-0.011
	(0.38)	(1.26)	(0.49)	(1.87)	(1.14)	(0.38)
Tirana	0.842***	-0.726***	-0.496***	-0.064	-0.005	-0.137***
	(5.29)	(3.88)	(2.80)	(1.30)	(0.29)	(2.59)
Coast urban region	0.637***	-0.480**	-0.484***	0.037	0.009	-0.086*
	(3.97)	(2.54)	(2.71)	(0.76)	(0.47)	(1.66)
Coast rural region	0.261**	-0.055	-0.503***	0.036	-0.014	-0.071*
	(2.25)	(0.40)	(3.89)	(1.00)	(1.03)	(1.85)
Central urban region	0.418**	-0.862***	-0.303*	-0.125**	-0.009	-0.055
	(2.54)	(4.46)	(1.66)	(2.55)	(0.46)	(1.05)
Central rural region	0.064	-0.635***	0.538***	-0.088***	0.022*	-0.001
	(0.54)	(4.62)	(4.14)	(2.81)	(1.85)	(0.04)
Mountain urban region	0.638***	-0.909***	-0.486*	-0.105	-0.016	-0.068
Instruments:						
	(2.69)	(3.26)	(1.84)	(1.44)	(0.59)	(0.87)
More than 1 man in the hh				0.201***	-0.014	0.031
				(7.20)	(1.29)	(1.04)
Migration density at municip. in 1995				0.423***	0.069	1.400***
				(3.48)	(1.46)	(10.71)
Family/friends living abroad in 1990				0.01	0.044***	-0.006
				(0.31)	(3.58)	(0.18)
Constant	-0.1	0.96	-0.264	0.847***	0.023	-0.009
	(0.17)	(1.42)	(0.41)	(8.95)	(0.63)	(0.09)
Observations	2823	2823	2823	2823	2823	2823

Absolute value of z statistics in brackets; * significant at 10%; ** significant at 5%; *** significant at 1%

Table A6: (Log) Weekly hours worked by gender: IV results - MALE

	Dependent varianle			First stage		
	Wage Empl.	**Paid Self-empl.**	**Unpaid work**	**Current hh migr.**	**Past hh migr.**	**Past indiv. migr.**
Current hh migrants	-0.922	0.721	-0.193			
	(1.08)	(0.80)	(0.25)			
Past hh migrants	-0.391	-3.445	3.038			
	(0.13)	(1.07)	(1.12)			
Past indiv. migration	0.072	0.175	-0.322			
	(0.11)	(0.26)	(0.58)			
Married	0.255	0.016	-0.017	-0.034	0.132***	-0.024
	(1.39)	(0.08)	(0.10)	(1.23)	(4.43)	(1.16)
Age	0.049	-0.044	0.08	-0.021***	0.047***	-0.039***
	(0.35)	(0.30)	(0.65)	(4.72)	(9.61)	(11.62)
Age squared	-0.001	0.001	-0.001	0.000***	-0.001***	0.001***
	(0.29)	(0.43)	(0.66)	(6.21)	(12.23)	(13.40)
N. of adults in hh	-0.047	0.133	-0.107	-0.015***	-0.015***	0.039***
	(0.35)	(0.95)	(0.90)	(3.14)	(3.03)	(11.13)
N. of children 0-4	-0.055	0.188	-0.104	-0.023**	0.028**	0.035***
	(0.47)	(1.53)	(1.01)	(2.07)	(2.34)	(4.29)
N. of children 5-10	-0.144**	0.057	0.072	-0.051***	-0.039***	0.002
	(2.05)	(0.77)	(1.14)	(5.07)	(3.61)	(0.24)
N. of male children 11-14	-0.062	-0.019	0.005	-0.107***	-0.026	0.003
	(0.54)	(0.16)	(0.05)	(6.99)	(1.59)	(0.24)
N. of female children11-14	0.053	-0.195**	-0.017	-0.070***	-0.045***	-0.006
	(0.61)	(2.11)	(0.22)	(4.84)	(2.89)	(0.57)
Education (years)	0.096***	-0.035**	-0.043***	-0.009***	-0.003	0
	(7.04)	(2.47)	(3.51)	(3.59)	(0.99)	(0.15)
Chronic ill in hh	0.078	-0.136	0.1	0.066***	0.02	-0.014
	(0.70)	(1.16)	(1.00)	(4.79)	(1.38)	(1.37)
Asset position:						
Car ownership	-0.505***	0.634***	0.049	0.044**	0.034*	0
	(4.99)	(5.94)	(0.54)	(2.25)	(1.65)	(0.02)
Water inside dwellling	0.182**	0.243***	-0.369***	0.028*	0.066***	0.025**
	(2.05)	(2.60)	(4.66)	(1.69)	(3.69)	(2.05)
House fixed phone line	0.216	-0.203	0.083	0.003	0.019	-0.031**
	(1.57)	(1.40)	(0.68)	(0.14)	(0.89)	(2.04)
Land owned (ha.)	-0.204**	0.044	0.634***	0.059***	0.080***	0.023
	(2.06)	(0.42)	(7.16)	(3.08)	(3.88)	(1.63)
Land owned squared (ha.)	0.038	0	-0.094***	0.001	-0.018***	-0.007**
	(1.44)	(0.01)	(4.03)	(0.16)	(3.63)	(2.14)
Regional controls:						
District unempl.rate 2002	-0.003	-0.01	0.007	0.005***	-0.003***	0
	(0.50)	(1.51)	(1.27)	(4.65)	(2.72)	(0.20)
Community has garbage coll.	0.517***	0.008	-0.265***	0	-0.037	-0.011
	(4.60)	(0.06)	(2.65)	(0.01)	(1.41)	(0.60)
Community has police station	-0.079	0.118	0.058	0.037*	0.009	0.003
	(0.77)	(1.09)	(0.63)	(1.66)	(0.40)	(0.21)
Tirana	0.530***	-0.569***	-0.098	-0.04	-0.132***	-0.018
	(2.91)	(2.96)	(0.60)	(1.00)	(3.10)	(0.61)
Coast urban region	0.317*	-0.370*	-0.022	0.063	-0.033	-0.006
	(1.69)	(1.87)	(0.13)	(1.58)	(0.76)	(0.21)
Coast rural region	0.185	0.026	-0.033	0.017	-0.013	-0.029
	(1.16)	(0.16)	(0.23)	(0.58)	(0.40)	(1.33)
Central urban region	-0.246	-0.191	-0.148	-0.067	-0.049	0.004
	(1.27)	(0.93)	(0.85)	(1.64)	(1.12)	(0.12)
Central rural region	0.285**	-0.250*	0.315***	-0.052**	0.012	0.012
	(2.17)	(1.81)	(2.69)	(2.07)	(0.45)	(0.67)
Mountain urban region	-0.235	-0.166	-0.294	-0.068	-0.085	0.048
	(0.70)	(0.47)	(0.98)	(1.15)	(1.35)	(1.09)
Instruments:						
More than 1 man in the hh				0.166***	-0.015	0.018
				(5.92)	(0.51)	(0.86)
Migration density at municip. in 1995				0.329***	1.298***	0.285***
				(3.16)	(11.64)	(3.69)
Family/friends living abroad in 1990				0.011	0.081***	-0.023
				(0.44)	(2.90)	(1.17)
Constant	-0.364	1.192	0.095	0.441***	-0.379***	0.550***
	(0.20)	(0.63)	(0.06)	(5.10)	(4.09)	(8.59)
Observations	3698	3698	3698	3698	3698	3698

Absolute value of z statistics in brackets; * significant at 10%; ** significant at 5%; *** significant at 1%

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