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Does indirect exposure to international migration influence marriage and fertility in Albania?

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Abstract Our knowledge of the interactions between international migration and fertility in sending countries is biased towards family members left behind, who constitute a minority and decreasing share of populations. We assess the potential for emigrants' social diffusion of low fertility into Albania and investigate how family behaviours are affected by indirect exposure to migration within the sending society, using data from multiple survey rounds. Effects arising from direct exposure within the family had a limited importance. Marriages were postponed and marital fertility was reduced because of the transformation of the larger social context, as indicated by the importance of community migrant networks and by women's increased aspirations, which are induced by the perception of the prospects and benefits of migration in the society at large. The effects of emigration on the fertility transition seem therefore to be independent of periodic fluctuations in population flows and their associated economic benefits.

Keywords International migration · Marriage · Fertility · Social effects · Migration intentions · Sending country · Albania

Introduction

The role attributed to international migration during the demographic transition (i.e. the sequenced fall in a population's death and birth rates) has changed. According to the Malthusian perspective, emigration relieves demographic pressure and leads to a

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postponement of the decline in birth rates, leading to higher population growth in the long run (Friedlander 1969). The mainly negative view in the 1970s and 1980s about the consequences of migration for the empowerment and family behaviours of the women left behind emphasised the dependency on emigrated husbands and the maintenance of poorly-developed reproductive contexts (Brown 1983; Griffith 1985; Unesco 1985). However, international migration in a globalised world is accompanied by an extension of social and economic relations across national borders. Living conditions in sending communities are transformed, and reproductive behaviours may change accordingly. Fargues (2006) has presented convincing evidence that contemporary emigration has accelerated the pace of national fertility transitions, thereby attenuating global population pressure.

Although cross-country analyses have confirmed a positive correlation between emigration to low fertility countries and a sending country's fertility decline (Beine et al. 2008; Naufal and Vargas-Silva 2009), results from case studies based on individual-level data are mixed. Our knowledge of the interactions between emigration and family behaviours is also biased towards the consequences arising from the direct exposure within sending families. This sub-population is shrinking with the progress of the fertility transition, increasing international migration and changes in migrant selectivity. The number of kin left behind further declines with lower birth rates, and is depleted by family reunifications and chain migrations. The world-wide trend in the postponement of marriages and childbearing above the peak ages of migration also implies a rise of a new generation of "individualistic" migrants who no longer leave a nuclear family behind (Fargues 2011). Consequently, an increasing share of the population in sending countries is exposed only indirectly to migration. How this affects the fertility transition is under-researched.

In this article, we assess the influence of emigration on childbearing patterns in Albania—a former communist country that has experienced large-scale international movements—to inform thinking on its long-term impact on the fertility transitions of less developed countries. While controlling for effects of direct exposure to emigration, we focus on the effects operating through the change in the larger social context, which has been considered by many analysts to be crucial for increasing female autonomy and fertility decline (Charbit and Petit 1996; Haas and Van Roooij 2010; Hugo 2002; Omondi and Ayiemba 2003). We analyse social effects at the community level and fill a gap in the literature in evaluating the role of women's changing aspirations, induced by the perception of migratory prospects and benefits in the society at large. The use of multiple rounds of survey data enables us to situate these effects in women's reproductive careers, by investigating family enlargement and a major proximate determinant of fertility—female age at marriage.

The next section introduces the Albanian context. We then review international evidence of the emigration-fertility nexus to establish our expectations related to indirect exposure in Albania. Following the description of data and methods, we first assess the prerequisites for emigrants' social diffusion of low fertility patterns, comparing their level of period fertility abroad to that of Albanian residents. We then analyse the reproductive behaviours of women left behind in a longitudinal and multivariate modelling perspective to take into account the different effects of emigration operating at multiple levels of social organisation.

The Albanian context

Albania is an interesting setting for our purpose because of analogies with less developed countries in terms of economic and demographic conditions until 1990, as well as the large scale international migration and social transformations since the fall of communist rule. Located within Europe on the border of the Adriatic Sea, the society existed in complete autarchy for more than three decades under Enver Hoxha's totalitarian regime. People were denied the right to move internally or abroad, and the onset of fertility transition was late, starting with a total fertility rate (TFR) of 6.8 in the 1960s. In 1990, women had 3 children on average (Gjonca et al. 2008) and two thirds of the population still lived in rural and mountainous areas.

During the first decade of transition to democracy and a market economy, Albanians experienced social upheavals alongside economic crises. The much higher living standards in Western Europe constituted a major incentive to move abroad to find a new livelihood (Carletto et al. 2006; King and Vullnetari 2003). More than 60 % of inhabitants intended to leave the country in 1992 (Papaganos and Sanfey 2001). Initiated in a tumultuous period, emigration then followed a typical South-European pattern. The first waves were dominated by male workers, and were followed by a feminisation caused by increasing family reunifications since the end of the 1990s, at which time many illegal migrants were "regularised" in the main destination countries, Italy and Greece (Azzari and Carletto 2009; Stecklov et al. 2010). The number of Albanians abroad was equivalent to a third of the resident population in 2009 (Kupiszewski et al. 2009).

With the opening up of Albania, the economy developed rapidly, especially during the 2000s. This was sustained by large in-flows of migrant remittances, which represented up to 20 % of annual GDP, significantly alleviated poverty and drove the fast development of urban housing (de Zwager et al. 2005). The delay in urbanisation was caught up and modern life-styles were diffused alongside the tertiarisation of the economy and a recent boom in further and higher level education (Gabhadino et al. 2010).

The Albanian context was particularly prone to an international diffusion of new reproductive behaviour because migration played a crucial role in these social transformations and because the main destination countries, Italy and Greece, were characterised by lowest-low levels of fertility. On the other hand, traditional social institutions have also gained renewed importance in social organisation due to the regulatory and political vacuum during the first crisis decade (Fisher 1999; Nixon 2009). Persistent traces of patriarchy in the public and family sphere continued to promote early marriages and high fertility (Lerch 2013b). Yet with the appearance of the one-child family model in cities and progressively postponed marriages, the TFR in 2006–2009 was half the level observed in 1990 (1.6, down from 3; Lerch 2013a). This rapid decline, alongside the sudden exposure of the society to the modern world, provides a unique setting in which to investigate the role played by international migration in the adoption of low fertility patterns.

The emigration-fertility nexus and expected effects arising from indirect exposure in Albania

The effects of emigration on family behaviours are competing and fall into three main groups: the transformation in household and population structures, economic consequences and social change. The literature mainly focusses on how these factors affect family members left behind. Spousal separation limits childbearing through the interruption of sexual intercourse, although the births deficit is often partially recuperated upon the return of the migrant (Agadjanian et al. 2011; Clifford 2009; Lindstrom and Saucedo 2002). During the absence of household members, women take on an increased workload to compensate for the lost labour. This may not only conflict with childrearing (Davis 2011), but also provide women with more responsibilities and thereby increase their decision-making power within the family (Yabiku et al. 2009). Their freedom in reproductive matters may increase accordingly.

Financial benefits in the form of remittances transform the economics of reproduction. The additional income source may increase fertility preferences and alleviate financial constraints to family formation, enabling women to meet social norms (Abernethy 2006; Agadjanian et al. 2011). As the future anticipated benefits attached to an additional child, who is expected to migrate at adult age, out-weigh the current costs, strategies of household income diversification through migration also promote high fertility (Stark 1981). Alternatively, rising living standards resulting from remittance receipts may change the value of children and general consumption aspirations: parents may prefer smaller families, in which they can invest more in each child (Davis 2011; Fargues 2006; Becker 1981).

Emigration also represents a channel of diffusion of new ideas and behaviours because social interaction within migrant networks is intentional, systematic and often embedded in strong family ties (Levitt 1998). As international social interaction hastens fertility transitions in less developed countries (Bongaarts and Watkins 1996), emigrants experiencing new reproductive contexts may diffuse these in their country of origin—especially when the fertility differential with the country of destination is strongly positive. The presence of higher fertility norms at destination, by contrast, may increase the level of childbearing among women left behind (Bertoli and Marchetta 2015; Fargues 2006; Lindstrom and Saucedo 2002).

The intensity of social diffusion depends on the extent to which emigrants adapt their own behaviours to the norms observed during the integration process abroad, which in turn depends on the duration of residence. Mexican women exposed to permanent migration indeed had a lower fertility than those in temporary migrant households (Lindstrom and Saucedo 2007; Massey and Mullan 1984). Moreover, diffusion of new behaviours has been argued to be more effective when occurring within the strong ties of marriage rather than through weaker family ties (White 2011).

The evidence available on the objects of social diffusion indicates that migrants tend to transmit knowledge of modern contraceptive means rather than family ideals (Lindstrom and Munoz-Franco 2005). Thus the role of migration in transforming the

larger social context is crucial for obstructing or enhancing the adoption of new reproductive practices. As families reunify abroad and migrants move before they marry and have children, an increasing share of women left behind are concerned only by these contextual effects of emigration, which constitute the focus of this analysis.

Besides the importance of the intensity of migration for international social interaction in sending communities, the gender composition of flows matters in terms of the direction of social effects. Male breadwinner migrations tend to strengthen the patriarchal family culture, which implies a lower bargaining power for women, thereby increasing fertility. A higher participation of women in community emigration, by contrast, was associated with lower fertility, highlighting the importance of social interaction within female networks for the diffusion of innovative behaviour (Agadjanian et al. 2011; Lindstrom and Saucedo 2002). Given the diversity of social change since the fall of communism in Albania (modernisation alongside persistent traces of patriarchy), we may expect the diffusion of marriage postponement and birth reduction to increase with both the intensity and the female share of migration.

As male-dominated outflows affect the gender balance of sending populations, social change should also determine how women respond to the structural effects on marriage markets. Since there is a scarcity of single men, women's search for a marriage partner may be extended, leading to postponed marriages. When this is not socially acceptable, women may marry at younger ages and choose to marry older men to avoid the increasing competition for partners of their own age. Given men's role as family bread-winners abroad, early female marriages may also be motivated by women's specialisation in reproductive functions (Choi 2011). Yet given the large-scale departures of Albanian men, we might expect the strong structural effects on the local marriage markets to undermine the social pressures on women to marry young, which should contribute to the emerging postponement of the event.

Beyond personal networks at the family or community level, emigration transforms the sending society at large. Remittances promote local development in sustaining consumption and investments (Taylor 1999), and new fashions and life styles penetrate the society during the migrants' visits back home. This demonstration of the benefits and modernity brought about by international migration is liable to transform individual aspirations and to increase the incentives for future departures. In their eagerness to develop their migration opportunities, young people left behind may engender a boom in further and higher education. As only a minority of candidates will successfully move abroad, the resident population ends up with a higher educational level (Stark et al. 1998).

Indirect exposure to migration may thus induce a postponed and lower fertility because of new individualistic life projects and the transformation of social structures, as more women spend longer periods in school and face higher opportunity costs of childbearing relative to the prospects of a better-paid job. Despite its importance for fertility transitions in sending countries, this hypothesis has never yet been tested at the individual level. Albania not only experienced a recent boom in higher level education, but a third of the population in 2009 also considered migrating but ultimately decided to stay (Kupiszewski et al. 2009). This

leads us to expect later marriage and lower fertility among women who have perceived the benefits and prospects of migration, particularly when they are highly skilled.

Data and research strategy

To assess the potential for social effects of migration on Albanian fertility, we first compare the TFR of migrants abroad with that of the resident population. Marriage and family enlargement in Albania are then investigated according to the structural, economic and social effects arising from direct and indirect exposure to emigration using multivariate models.

The main data used for this analysis are taken from the Albanian Living Standards Measurement Surveys (LSMS), which provides information on socioeconomic conditions and international migration, additionally reporting women's marriage and birth histories. During the first baseline survey in 2002, which was representative at the national and urban/rural level, 3599 households were interviewed. Sample selection followed a stratified two-step cluster sampling method with replacement and the non-response rate was lower than 10 % (World Bank and INSTAT 2003). A community questionnaire was also administered.

The TFR of women left behind refers to the period 1998–2001 and is based on the LSMS 2002 birth histories of 4497 women aged 15–53 years. Comparative figures for emigrants living in Greece refer to the period 1997–2001 and are obtained by using the own children method of fertility estimation (see Cho et al. 1986) applied to the population of Albanian nationality in the IPUMS sample of the Greek Census 2001 (i.e. 2960 children aged <5 years and 1,1891 women aged 15–53).[1] Comparative estimates cannot be provided for migrants in Italy because Albanians are indistinguishable from other nationalities in the IPUMS samples of the Census 2001.

The multivariate analysis relies on the data available for the 1782 households that participated in the LSMS 2002 baseline survey and at least the first of the two panel waves in 2003 and 2004 (ISER 2004; INSTAT 2005). The two binary dependent variables are the occurrence of a marriage or a higher order birth during the two inter-survey periods of 12 months each, as reported in the household rosters of the panels; the first birth is of little interest since it is tied to and shortly follows marriage. The analytical samples are composed of 655 never married women aged 15–39 and 1203 married mothers aged 15–49 in 2002, living respectively in 233 and 279 communities. As the average interval between marriage and the second birth is 5 years in Albania (Lerch 2013a), the samples do not include the same women, and can thus be considered as synthetic parity-specific cohorts.

The different effects of migration are estimated by discrete-time binary logistic regression of marriage and higher order births among 1204 single women-years and

[1] The number of children and women observed at the Census are reverse-survived to retrospectively estimate births and at-risk populations. Age of mother at birth is obtained through a linkage of children to their mothers living in the same household.

2279 married mother-years, respectively (Allison 1995). We use survival analysis to control for time-varying individual characteristics and the household's migrant status (see below). Exposure to the events starts with the onset of the first person-year or the attainment of the lower age-limit; it terminates either after experiencing the events of interest, by reaching the upper age-limits or the end of the second person-year. Standard errors of the estimated odds ratios (i.e. exponential of the logged odds) are adjusted for the clustering of women at the community level.

The use of repeated survey rounds has two main advantages compared to retrospective data. First, it enables us to situate the effects of emigration in women's reproductive careers in eliminating the usual bias of anticipatory analysis. To account for the lag between the observation of the family events and the women's situations at the time of marriage planning or conception, individual- and family-level covariates refer to the start of each person-year of observation and are measured based on the previous survey round. Second, the data allows for the effects operating at different levels of social organisation on a major proximate determinant of fertility—women's transition to marriage. Marriage implies women's departure from the relevant household and community contexts for analysis, which indeed cannot be observed in retrospective surveys.

Table 1 provides descriptive statistics of the covariates as well as details on their definition. Indirect exposure to social effects of migration is measured at the community level, where social interaction can be expected to matter most. High emigration communities were defined as those where "a lot" of people went to work abroad according to the community leader, who responded to the LSMS 2002 community survey; 70 % of women-years lived in such settings. The gender composition of the migrant network is estimated indirectly by the sex-ratio of the community population aged 15–65 at the Albanian Census 2001; to eliminate the confounding effect of internal migrants, these were redistributed according to their community of residence in 1989. The majority of communities experienced dominant male migration, with an average population sex-ratio of 97 men for 100 women, which is significantly below the biological standards of 104–106.

The sex ratio in the marriage model refers only to the single population and is estimated separately for each five-year age group of women to account for the standard age differences between marriage partners.[2] This variable thus tests the net effect of gendered social interaction, on the one side, and of the structural impacts of migration on the relative availability of men in the local marriage market, on the other. Since young people are overrepresented among singles and male emigration was highest at these ages, the average community-level sex ratio is low (i.e. 72 men for 100 women).

The new aspirations which were induced by indirect exposure to emigration are proxied by the responses to the LSMS 2002 question 'did you ever consider moving abroad, even temporarily?' Nineteen per cent of single woman-years and 26 % of mother-years were willing to migrate. This was motivated to a larger extent by

[2] The ratio of the number of men to the number of women aged 5 years less on average is computed (i.e. the numbers of men aged 20–29, 25–34, 30–39, etc. are divided respectively by the number of women aged 15–24, 20–29, 25–34, etc.).

Table 1 Descriptive statistics and definition of covariates, women-years aged 15–39 exposed to marriage and women-years aged 15–49 exposed to higher order births, 2002–2004, Albania

Variable (*and details of definition*)	Measure	Exposed to	
		Marriage	Higher order birth
Age	Mean	20.0	
Age at first child	Mean		22.4
Number of children ever born	Mean		2.7
Duration since last birth (years)	Mean		7.6
Urban residence	Percent	44.9	49.4
Post-compulsory education	Percent	23.1	40.3
Enrolled in school	Percent	32.8	
Economically active	Percent	33.3	46.7
Poor	Percent	28.5	25.2
Indirect exposure to migration			
Community has experienced 'a lot' of emigration abroad	Percent	70.1	68.0
Sex-ratio of community population left behind (*N of men for 100 women*)	Mean	72	97
Considered emigrating (*binary*)	Percent	18.7	26.0
Direct exposure to migration			
Husband currently abroad (*in months*)	Percent		5.4
Prior emigration of husband (*in months since 1997 up to the penultimate year preceding observation*)	Percent		15.1
Temporary emigration of household members (*cumulated months spent abroad since 1997*)	Percent	16.1	10.2
Siblings permanently emigrated (*cumulated years of residence, in the marriage model*; *cumulated number of the couple's siblings abroad, in the birth model*)	Percent	32.8	60.7
Remittance receipt (*binary*)	Percent	23.8	22.1
Total	Number	1204	2279

Source: LSMS 2002–2004, census 2001

individual factors than by household structures, and was more prevalent among young and higher educated adults, in the median wealth strata and in urban areas (Castaldo et al. 2007). As these populations were the most exposed to Albania's migration-driven modernization, we interpret this predisposition to move as having been induced by the general perception of the benefits and prospects of migration.

We also tested whether these variables were related to other processes of migration. The intensity and gender balance of community migration may reflect the developmental impact of earlier flows in facilitating subsequent departures, but correlations with the improvement in local living conditions (as stated by community leaders) are very weak. The willingness to move could be motivated by limited employment opportunities and a high intensity (or social acceptance) of migration in the community, but tests also showed very weak associations. We thus believe that our indicators are relevant (albeit crude) proxies for community-level

social effects and rising aspirations triggered by the transformations of the society at large. The postponement of family events in order to adjust skills to increase the opportunity to move abroad is tested using interaction effects of the willingness to migrate and educational attainment.[3]

The role of indirect exposure to migration is tested controlling for effects arising from various forms of direct exposure within sending households: spousal separation (introduced only in the model of higher order births); family networks of permanent and temporary migrants; and annual receipt of remittances (as a binary variable). When interaction effects of spousal separation (or of other family-members' temporary/permanent migration) and the women's status on the labour market are specified to test the role of labour compensation, the adjusted main effect of migration can be interpreted as a disruption (or social) effect. When fertility recovers upon the return of the husband, recuperation effects are at work; alternatively, female empowerment and social diffusion of new reproductive patterns can be deduced. Exploratory tests showed that the models fit best when using linear functions of these network variables and that the sex of migrants did not have a differential effect. We also controlled for heterogeneous effects of remittances according to the household's poverty status. Women who migrated abroad were not considered because of the low prevalence in the sample (<2 %).

The models control for confounding effects of known socioeconomic determinants of reproductive behaviour in Albania (see Gjonca et al. 2008; Lerch 2013a). In the marriage model, we control for women's age (introduced as a linear and quadratic function), place of residence (urban/rural), educational attainment (distinguishing post-compulsory education from lower levels), and three dichotomous variables for school enrolment, economic activity and poverty. These confounders (except school enrolment) are also controlled for in the model of higher order births, in addition to the linear effects of parity, birth interval and age at first birth as a proxy for the timing of marriage (which is unknown prior to the panel surveys).

As the transition to marriage is almost universal in Albania, we focus on the role emigration played in its timing, which is indicated by main and age-interacted effects. If the main effect lowers the likelihood of marriage but interaction effects increase with age, marriage postponement can be deduced. If the main effect increases the likelihood of marriage, but interaction effects decline with age, migration has the effect of bringing the event forward in time. To analyse the stopping pattern of marital fertility, only main effects are needed.

Given the simultaneous analysis of different effects of migration, there is a risk of colinearity in the regressors. We therefore start with estimating different 'single-

[3] Because women may limit the number of dependent children to facilitate emigration, or may bring forward family events to increase their opportunity to reunify with a partner abroad, we tested the exogeneity of the predisposition to migrate. The residuals of a selection model of the willingness to move, including the average willingness of other household members as instrument (i.e. uncorrelated with the women's family events), were introduced as additional regressors in the marriage and birth models. Since in both cases these residuals did not have a significant effect on the event of interest, there is no overlap in unobservable characteristics that affect migration intentions and family behaviour. We therefore kept with a reduced-form equation.

effect' models including the socioeconomic confounders and only one indicator of migration. A first series of models only includes main (and age-interacted) effects; heterogenous effects are then explored through the use of socioeconomic interacted variables. We complete the analysis with a 'multiple-effects' model including all indicators of migration to comment on the competition between effects operating at different levels of social organisation.

Results

Differences in the TFR between emigrants and the resident population of Albania

The age-standardized TFR was only slightly lower for emigrants in Greece than for Albanian residents in 1998–2002 (1.9 vs. 2.3, with a 95 % confidence interval of 2.0–2.6; not shown). Mussino and Strozza (2012) and Tsimbos (2008) even reported a higher migrant fertility for 2005 in both Italy and Greece (i.e. 2.8 and 2.5 respectively). Our own and particularly their estimates refer to a period characterised by numerous family reunifications, which led to high levels of childbearing immediately upon arrival in Italy (Mussino and Strozza 2012). The conventional age-standardized TFR thus inflates the level of immigrant fertility because births are only observed at destination. Immigrants often do catch up with childbearing upon arrival in order to recuperate the delay accumulated prior to the move (due to spousal separation, migratory preparations, etc.; Parrado 2011; Toulemon 2004).

To control for this tempo effect of immigration on fertility estimates, we also computed Toulemon's (2004) fertility indicator, which is obtained as a weighted sum of the average pre-migratory number of children ever born to arrival cohorts (classified by age at immigration) and the post-migratory duration-specific fertility rates, with the weights being the age structure of immigrants at arrival. The tempo-adjusted level of migrant fertility in Greece is indeed significantly lower than among Albanian residents (1.5 vs. 2.3; not shown). As descriptive statistics did not indicate that migrants constitute a selected group according to educational attainment, they either were selected from women with lower fertility preferences or adapted to the reproductive regimes at destination. Thus, the potential for an international diffusion of low fertility in Albania is confirmed.

Marriage of women left behind

Tables 2 and 3 show the results from the single- and multiple-effects marriage models, respectively. As the coefficients of demographic and socioeconomic confounders remained unaffected by the introduction of the indicators of migration exposure (except in the cases of interactions, discussed below), we do not show those from the single-effect models. The likelihood of marriage is an inverted U-shaped function of age (see Table 3). Most socioeconomic control variables have statistically significant effects, which are consistent with known marriage

Table 2 Effects of exposure to migration on marriage, results from single-effect discrete-time logistic regression models (with socioeconomic confounders; not shown), women aged 15–39, Albania, 2002–2004

Exposure to emigration and interacted confounders	Main and age-interacted effects		Main, age- and socioeconomic interacted effects	
	OR	S	OR	S
M1				
Person-years of sibship permanent migration	0.93		0.94	
Interaction with age	1.00		1.00	
Economic activity (*ref* = non active)	0.93		1.09	
Interaction with activity			0.95	
BIC differential (M ref—M)	−7		−9	
M2				
Person-months of household temporary migration	1.03		1.03	
Interaction with age	1.00		1.00	
Economic activity (*ref* = non active)	0.86		0.83	
Interaction with activity			1.03	
BIC differential (M ref—M)	−5		−9	
M3				
Remittance receipt (*ref* = *no receipt*)	0.47		0.37	
Interaction with age	1.04		1.04	
Poverty (*ref* = not poor)	0.55	**	0.46	***
Interaction with poverty			1.92	
BIC differential (M ref—M)	−9		−12	
M4				
Considered emigrating (*ref* = *not considered*)	1.02		0.34	
Interaction with age	0.99		1.06	
Post-compulsory education (*ref* = lower levels)	0.43	***	0.55	**
Interaction with education			0.23	**
BIC differential (M ref—M)	−9		−10	
M5				
High community emigration (*ref* = *none or low*)	0.64			
Interaction with age	1.02			
BIC differential (M ref—M)	−9			
M6				
Sex-ratio of community marriage market	0.95	**		
Interaction with age	1.002	***		
BIC differential (M ref—M)	**4**			

Table 2 continued

Exposure to emigration and interacted confounders	Main and age-interacted effects		Main, age- and socioeconomic interacted effects	
	OR	S	OR	S
Number of woman-years	1204		1204	
Number of events	116		116	

Source: LSMS 2002–2004, census 2001

Bold values of BIC differentials indicate an improvement of the single-effect model when compared to the reference model

OR odds ratios; *S* statistical significance <0.01 = ***; <0.05 = **; <0.1 = *; *M ref* model of reference including only socioeconomic confounders, *M* M ref including only one modality of exposure to emigration; socioeconomic confounders not shown (except those interacted)

differentials in Albania. More educated women are less likely to marry, especially when enrolled in school. Women living in poor households also marry less, which may result from financial constraints. The main effects of urban residence and women's economic activity were not statistically significant.[4]

The role of migration is shown alongside the single-effect models' improvements in the Bayesian Information Criterion (BIC, which takes into account model fit and parsimony) compared to a reference model including only the confounders (Table 2). The most important factor for marriage was clearly the gender balance of local out-flows (M6 in Table 2); this model is the best according to the BIC. A more equal representation of single men and women in the community was significantly associated with postponed female marriage, whereas a scarcity of men brought the event forward. The intensity of community migration was significant neither in the single-effect nor in the multiple-effects model (see M5 in Table 2 and Table 3).

Although the model including the women's willingness to move performed less well according to the BIC, this variable nevertheless affected marriage (M4 in Table 2). The main and age-interacted effects were small and not significant. These were in fact confounded by heterogenous effects according to educational attainment: among women willing to leave Albania, those holding a post-compulsory diploma were characterised by a significantly reduced likelihood of marriage. The main effect of educational attainment, by contrast, weakened when this socioeconomic interaction effect was controlled for. Thus, a share of the lower likelihood of marriage among higher educated women was due to their frequent willingness to move abroad, which may have motivated continuous education.

The structural, economic and social effects arising from direct exposure to migration in sending families were not significant in the single-effect models.

[4] Although the selection of emigrants according to municipality-specific marriage patterns was also controlled for, it was excluded from the model because its effect was not significant and did not affect the results (not shown).

Table 3 Determinants of marriage, results from multiple-effect discrete-time logistic regression models, women aged 15–39, Albania, 2002–2004

Explanatory variables	M ref		M1	
	OR	S	OR	S
Intercept	−10.5	***	−9.37	***
Age	2.11	***	2.45	***
Age squared	0.99	***	0.98	***
Post-compulsory education (*ref* = lower level)	0.43	***	0.56	*
Urban (*ref* = rural)	0.94		0.83	
Enrolled in school (*ref* = not enrolled)	0.21	***	0.24	***
Economic activity (*ref* = not active)	0.90		0.98	
Poverty (*ref* = not poor)	0.55	**	0.49	**
Person-years of sibship permanent migration			0.91	
Interaction with age			1.01	**
Person-months of household temporary migration			1.00	
Interaction with age			1.00	
Remittance receipt (*ref* = *no receipt*)			0.14	
Interaction with age			1.09	
Considered emigrating (*ref* = *not considered*)			0.55	
Interaction with age			1.04	
High community emigration (*ref* = *none or low*)			1.41	
Interaction with age			0.98	
Sex-ratio of community marriage market			0.93	***
Interaction with age			1.003	***
Socioeconomic interactions				
Permanent emigration and economic activity			0.95	*
Temporary emigration and economic activity			1.03	
Remittances and poverty			2.12	
Considered emigrating and education			0.18	**
N of woman-years	1204		1204	
N events	116		116	
BIC differential (M ref—M1)	ref		−41	

Source: LSMS 2002–2004, census 2001

OR odds ratios, *S* statistical significance <0.01 = ***; <0.05 = **; <0.1 = *

The multiple-effects models confirm these results, with one exception: the lower likelihood of marriage associated with the interaction of women's economic activity and the permanent presence of siblings abroad became significant when competing effects of migration were controlled for (compare Table 3 with M1 in Table 2). Thus, living in a typical migrant-sending community which was dominated by the outflow of men promoted young female marriages, unless the absence of the women's own siblings called for labour compensation in the parental household.

Table 4 Effects of exposure to migration on higher order births, results from single-effect discrete-time logistic regression models (with socioeconomic confounders; not shown), mothers aged 15–49, Albania, 2002–2004

Exposure to emigration and interacted confounders	Main effects only		Main and socioeconomic interacted effects	
	OR	S	OR	S
M1				
Months of current spousal separation	0.83	**	0.85	**
Months of prior spousal separation	1.03	***	1.03	***
Economic activity (*ref* = non active)	1.42		1.45	
Interaction: separation and activity			0.87	
BIC differential (M ref—M)	−2		−7	
M2				
Number of siblings permanently abroad	0.94		0.94	
Economic activity (*ref* = non active)	1.45		1.42	
Interaction with activity			1.02	
BIC differential (M ref—M)	−4		−8	
M3				
Person-months of household temporary migration	0.89		0.89	
Economic activity (*ref* = non active)	1.46		1.46	
Interaction with activity			1.01	
BIC differential (M ref—M)	−4		−9	
M4				
Remittance receipt (*ref* = *no receipt*)	1.27		1.17	
Poverty (*ref* = not poor)	0.83		0.75	
Interaction with poverty			1.51	
BIC differential (M ref—M)	−4		−8	
M5				
Considered emigrating (*ref* = *not considered*)	0.44	**	0.51	
Post-compulsory education (*ref* = lower levels)	0.91		0.99	
Interaction with education			0.67	
BIC differential (M ref—M)	**4**		**0**	
M6				
High community emigration (*ref* = *none or low*)	0.73			
BIC differential (M ref—M)	−3			
M7				
Sex-ratio of community population	0.98	*		
BIC differential (M ref—M)	−1			
Number of mother-years	2279		2279	

Table 4 continued

Exposure to emigration and interacted confounders	Main effects only		Main and socioeconomic interacted effects	
	OR	S	OR	S
Number of events	85		85	

Source: LSMS 2002–2004, census 2001

Bold values of BIC differentials indicate an improvement of the single-effect model when compared to the reference model

OR odds ratios, *S* statistical significance <0.01 = ***; <0.05 = **; <0.1 = *, *M ref* model of reference including only socioeconomic confounders, *M* M ref including only one modality of exposure to emigration; socioeconomic confounders not shown (except those interacted)

Higher order births of women left behind

Tables 4 and 5 show the results of the single- and multiple-effects models of higher order births, respectively. The introduction of the indicators of migration again did not change the coefficients of demographic and socioeconomic confounders (those from the single-effect models are therefore not shown). The likelihood of family enlargement declines with parity and length of time since the previous birth (Table 5). Socioeconomic control variables were in the expected direction, but not statistically significant.[5] However, consistent with patriarchal norms, women who had an early onset of childbearing had a significantly higher fertility after the first birth than those who postponed family formation (Table 5). Early marriages in communities experiencing male-biased emigration (Table 3) thus lead to larger families.

The most important effect of migration for family enlargement was related to women's willingness to move abroad, as this single-effect model was the best according to the BIC (M5 in Table 4). The willingness to migrate strongly and significantly decreased fertility after the first birth. This effect did not differ according to educational attainment.

The model that accounts for the community-population's sex ratio was the second-best: more gender-balanced (or female-dominated) emigration significantly reduced the likelihood of higher order births, whereas male dominated outflows increased it (M7). The intensity of community migration had no significant impact in the single-effect model (M6).

Although the quality of the single-effect model including husband's migration status worsened, current separation significantly decreased fertility after the first birth. There were no differences according to women's economic activity during the period of separation. Births also appear to be partially but significantly recuperated upon the husband's return (M1 in Table 4), which negates the idea of a within-couple diffusion of new reproductive patterns. Other effects arising from direct exposure to migration did not play a significant role.

[5] Migrant selection according to local fertility regimes was also controlled for, but was excluded from the final model as its effect was not significant and did not affect the results (not shown).

Table 5 Determinants of higher order births, results from multiple-effect, discrete-time logistic regression models, mothers aged 15–49, Albania 2002–2004

Explanatory variables	M ref		M1	
	OR	S	OR	S
Intercept	2.02	**	5.80	***
Age at first child	0.89	***	0.88	***
Children ever born	0.41	***	0.38	***
Years since last child	0.85	***	0.85	***
Urban (*ref* = rural)	0.94		0.81	
Post-compulsory education (*ref* = lower level)	0.88		0.96	
Economic activity (*ref* = not active)	1.47		1.35	
Poverty (*ref* = not poor)	0.82		0.82	
Number of siblings permanently abroad			0.89	
Person-months of household temporary migration			0.63	
Months of prior spousal separation			1.04	***
Months of current spousal separation			0.84	**
Remittance receipt (*ref* = no receipt)			1.32	
Considered emigrating (*ref* = not considered)			0.49	
High community emigration (*ref* = none or low)			0.64	*
Sex ratio of community population			0.97	**
Socioeconomic interactions				
Permanent emigration and economic activity			1.04	
Temporary emigration and economic activity			1.00	
Current spousal separation and economic activity			0.88	
Remittances and poverty			1.29	
Considered emigrating and education			0.70	
N of mother-years	2279		2279	
N events	85		85	
BIC differential (M ref—M1)	ref		−31	

Source: LSMS 2002–2004, census 2001

OR odds ratios, *S* statistical significance <0.01 = ***; <0.05 = **; <0.1 = *

Compared with results of the single-effect models, the negative effect on higher order births associated with the intensity of community migration increased and became significant when the gender-composition of the out-flow is controlled for in the multiple-effects model (compare Table 5 with M6 in Table 4). Thus, social effects of large-scale emigration which support fertility decline were negatively confounded in the single-effect model by the fact that men often constitute the majority of movers in these communities, which has competing influences on childbearing. To conclude, Table 5 shows that the reduction in marital fertility related to high and gender-balanced (or female-dominated) community emigration, as well as to women's willingness to move, competes with the fertility disruption-and-recuperation effects associated with spousal separation and reunification. Other impacts of migration remained not significant in the multiple-effects models.

Discussion and conclusion

Albanian society experienced rapid socioeconomic and political transformations following three decades of autarchy under communist rule. As large-scale international migration was a driving force of these changes, we investigated its role in the completion of the national fertility transition. Because spouses and kin reunify abroad, and migrants increasingly move before a postponed marriage, the number of family members left behind is shrinking. To evaluate whether the role of emigration in the fertility transition is long-lasting, we analysed how women's marriage timing and family enlargement were affected by indirect exposure to the phenomenon within the community and the society at large.

The multivariate analysis of Albanian panel survey data challenges our understanding of the impact of emigration on fertility in sending countries. The birth deficit during spousal separation seemed to be recuperated upon the return of the husband, income effects were not significant, and the need to compensate for lost labour in sending households only postponed marriages. Single women may have filial duties towards their parents, who would have been left socially isolated in a patrilocal society following the emigration of sons and the early out-marriage of daughters. Although the low tempo-adjusted TFR among migrants in Greece confirmed the potential for an international diffusion of low fertility patterns into Albania, this did not occur through the strong ties of marriage and kinship—whatever the migrants' duration of residence abroad.

Family behaviours were strongly affected by indirect rather than direct exposure to emigration. Birth reduction was diffused through community members abroad, especially when women could interact with networks of female migrants. This also postponed marriage. Results also confirmed a role for the perception of migration prospects and benefits in the society at large, which triggered aspirations for international mobility as well as a spread of higher-level education in Albania. Women who were willing to move had lower marital fertility, and the higher skilled among them postponed their marriages. Since many emigration candidates ended up staying in the country, these anticipatory family behaviours and the transformations of social structures ultimately sustained the national fertility transition.

The paradoxical predominance in the diffusion of new fertility behaviour of these 'weak' and 'absent' ties over 'strong' family ties can be explained by the importance of the former for access to information and for exposure to innovations outside strongly bounded networks (Granovetter 1973). This is particularly pertinent in patrilocal societies, in which strong and hierarchical family bonds are crucial vectors of behavioural control. Moreover, kinship structures provided access to migration in Albania (Carletto et al. 2006), and the success of migratory projects often rests on the support of and cooperation within the family (Stark and Bloom 1985), which may be ensured by stable social roles. In other words, migration appears to have strengthened the moral primacy of patriarchy in Albanian sending families, which in turn maintained the status quo in the reproductive sphere. This low empowerment of female family members left behind is congruent with their move into informal, subsistence and vulnerable household economies (Iara 2009;

Mendola and Carletto 2009). Even women's experience of short-term mobility did not increase their agency because it was often bound to a household strategy to deal with economic shocks (Stecklov et al. 2010).

Results also highlight how our understanding of the interactions between migration and fertility is enriched by accounting for the contextual effects on marriage patterns. Although male-biased community emigration strongly skewed Albanian marriage markets, it surprisingly strengthened the norms of early union formation, leading to higher fertility. This may be explained by women's high competition for the material security provided by a marriage into a wealthy migrant-sending family. Engaging in the mating process while being young and socially more desirable may indeed increase their success. Yet the direction of causality could also be reversed, as marriage plays an important role in the local institutionalization of the migratory phenomenon. The arrangement of traditional unions between emigrants and women in sending communities ensures the formers' loyalty towards the population left behind, including economic support (Guilmoto and Sandron 2000). A third of women who married in our sample during the observation period indeed left the country and most probably joined their husbands abroad, which corroborates the migrants' catch up of postponed births upon arrival in Italy and Greece.

This case study confirms a major role for international migration in fertility decline through the transformation of the larger social context, rather than through a change in women's situations within sending families. More research is thus needed not only to increase our understanding of the pathways of influences at the contextual level, including social and economic processes, but also to develop more precise measurements of these mechanisms. Based on this analysis, we argue that the influence of migration on the sending country's fertility transition may not cease when the family reunifies abroad, when people emigrate before marriage, or when remittance flows decline. As long as social relations with the sending society are maintained, the cumulative development of migrant networks and, in particular, their feminisation should promote social and economic change. This supports the emergence of new family behaviours leading to lower fertility, which weakens demographic pressure for future migration. The role of migration in fertility transitions therefore seems to be long-lasting and independent of period fluctuations in population flows and their associated economic benefits.

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