INSTITUTE
OF ECONOMICS

Scuola Superiore
Sant'Anna

LEM | Laboratory of Economics and Management

Institute of Economics
Scuola Superiore Sant'Anna

Piazza Martiri della Libertà, 33 - 56127 Pisa, Italy
ph. +39 050 88.33.43
institute.economics@sssup.it

LEM
WORKING PAPER SERIES

International Migration and School Enrollment of the Left-Behinds in Albania: A Note

Marina Mastrorillo °
Giorgio Fagiolo *

° Woodrow Wilson School of Public & International Affairs, Princeton University, USA
* Institute of Economics, Scuola Superiore Sant'Anna, Pisa, Italy

2014/13 **May 2014**

ISSN (online) 2284-0400

International Migration and School Enrollment of the Left-Behinds in Albania: A Note*

Marina Mastrorillo† Giorgio Fagiolo‡

May 2014

Abstract

We study the impact of international migration on enrollment of the left-behinds in Albania using the 2008 and 2012 Living Standard Measurement Survey. We employ a 2-stage Probit model controlling for endogeneity with an instrumental-variable approach. We find that migration has a negative and significant impact on enrollment in both waves. This result holds across different sub-samples and alternative ways to proxy within-household migration. Our findings strengthen results for previous years and cast doubts on the effectiveness of recent educational reforms and migration-oriented policies in Albania.

Keywords: Migration; Left-behinds; Albania; Enrollment; Education.

JEL Classification: F22; O15; I25.

*M.M. thanks Adriana Castelli for useful suggestions. All usual disclaimers apply.

†Woodrow Wilson School of Public & International Affairs, Princeton University (USA). Email: mm28@princeton.edu

‡Scuola Superiore Sant'Anna (Italy). Email: giorgio.fagiolo@sssup.it

1 Introduction

Assessing the implications of international migration for the sending country has been a central issue in the recent migration literature. Emigration can indeed affect several socio-economic dimensions in the home countries, including labor-market structure, human-capital formation, poverty alleviation, inequality and health (Gaston and Nelson, 2011; Docquier and Rapoport, 2012).

Within this wide literature, many studies have focused on the impact of international migration on school enrollment and educational attainment of the left-behinds (McKenzie and Rapoport, 2011; Antman, 2012; Chen et al., 2009).

Such an impact is both theoretically and empirically ambiguous, as many competing forces can affect the migration-enrollment relation. On the positive side, remittances can alleviate household credit constraints and increase educational expenditure (Edwards and Ureta, 2003; Calero et al., 2008). On the negative side, disruption of household structure may reduce enrollment of the left-behinds. This is because the absence of parents and/or older siblings can force them to take more responsibilities (i.e., working or looking after younger siblings) and live without role models. Furthermore, when the schooling system and labor-market conditions at home are perceived to be poor, expected returns from migration can outweigh those from education, thus implying a substitution between education and migration (Hanson and Woodruff, 2003).

Here, we build on this literature and explore how international migration affects school enrollment of the left-behinds in Albania in the years 2008 and 2012. There are several reasons why Albania is an extremely relevant case-study to investigate the migration-enrollment link. First, one in three Albanian households has experienced migration abroad in the past 15 years (World Bank, 2007). Second, migration in Albania is one of the main adaptation strategy to fight poverty via remittances (Castaldo and Reilly, 2007). Third, after transition, Albania has made significant efforts to improve the quality of its education provision, increase enrollment and reduce its dropout rates (UNESCO, 2008; Cattaneo, 2012).

Our work is closely related to Dabalen and Miluka (2010) (D&M henceforth). Using the 2005 Living Standard Measurement Survey (LSMS), they find that living in a household with at least one migrant member decreases the overall likelihood to be enrolled, with larger negative effects for left-behind females in rural areas. We expand upon this work in two main directions: (i) we ask whether previous results are confirmed in the most recent LSMS waves (i.e., 2008 and 2012); (ii) we investigate if the negative impact of migration on enrollment holds when one measures household migration not only as a binary event, as it happens in D&M, but also accounting for its intensity, as captured by e.g. number of household members abroad or duration of most-recent migration episodes.

The rest of this note is organized as follows. Section 2 briefly discusses the data and the methods we have employed in our analyses. Our main results are presented in Section 3. Finally, Section 4 concludes.

2 Data and Methods

We use data from the LSMS in 2008 and 2012[1], which respectively cover 13,364 and 23,740 individuals currently living in Albania. The surveys provide a wide range of information on demographic and socio-economic household and individual characteristics. In particular, data on migration episodes of both current and former household members are included.

Descriptive statistics indicate that approximately 24% of individuals are enrolled in school or university in both waves. Furthermore, the percentage of individuals living in households with at least one migrant member (i.e., a person 15 years-old or more who is currently abroad) drops from 27.2% in 2008 (of which 13.9% enrolled) to 13.9% in 2012 (of which 12.2% enrolled).

In line with D&M, we estimate in each wave the following Probit model:

$$\Pr(\text{ENROL}_i = 1 | M_i, \mathbf{X}_i) = \Phi(\alpha + \beta M_i + \boldsymbol{\delta}\mathbf{X}_i), \tag{1}$$

where ENROL is a dummy equal to 1 if individual i is currently enrolled in primary, secondary or tertiary school; M measures household migration; $\mathbf{X}$ is a vector of individual, household and geographic controls and Φ is the CDF of the standard normal distribution.

We use four different definitions for M: (i) MIG: a dummy equal to 1 if the individual lives in a household with at least a migrant member (as in D&M); (ii) NUM_MIG: number of household migrant members; (iii) YRS_ALL_MIG: cumulative number of years spent abroad in the most recent episode of migration by all household members; (iv) YRS_LONGEST_MIG: maximum number of years of migration among household migrant members. In particular, the last three variables account for household-migration intensity, in terms of either the number of household members involved or the duration of migration.

To deal with potential endogeneity issues in Eq (1), we employ a 2-stage Instrumental Variables (IV) approach. The first stage reads:

$$M_i = \kappa + \boldsymbol{\gamma}\mathbf{Z}_i + \boldsymbol{\theta}\mathbf{X}_i + \varepsilon_i, \tag{2}$$

where $\mathbf{Z}_i$ is a vector of instruments for migration, including: (i) proportion of households in the Primary Sampling Unit (PSU) with family members abroad (SHARE); (ii) estimated number of people in the PSU who migrated, respectively, to Greece and to Italy (by far, the two most-popular emigration destinations), in year 2000; (iii) distance to any place from where it is possible to leave the country (port, international airport and border crossing point).

The vector $\mathbf{X}$ features for a number of controls, including the gender of the individual and the following household-level characteristics: age, gender and education of household head; number of household members; number of plots owned by the household; distance from primary schools, bus

[1]Available from INSTAT at `http://www.instat.gov.al/en/themes/living-standard.aspx` (accessed: March 2014).

stops and ambulatory services. We also add a set of regional dummies controlling for household location.

As a baseline sample, we consider individuals in the age interval 6-23 to cover the whole period from primary to tertiary education. We also restrict the sample to individuals in the 14-23 age interval, which is the period when schooling is not compulsory and therefore involves a choice between continuing to study and dropping out. Furthermore, we split the 6-23 sample according to gender; urban vs rural location; and low vs high skills of migrants in the household.

We fit to the data Eqs. (1–2) using an IV-Probit estimator (Wooldridge, 2002). In particular, in the first stage, we use a Probit for MIG, and a Poisson pseudo-maximum likelihood (PPML) estimator for NUM_MIG, YRS_ALL_MIG and YRS_LONGEST_MIG. We then compare our results with those from a non-IV Probit estimation of Eq. (1).

To deal with the well-known problems involving IV-Probit estimation with a discrete endogenous variable, we double-check our findings using the "special regressor" estimator proposed by Lewbel et al. (2012), using SHARE as our special regressor. All results below are confirmed using this alternative technique.

Notice also that, in both 2008 and 2012 IV-Probit estimations, our set of instruments pass all standard tests of exogeneity and over-identifying restrictions (e.g., Smith-Blundell, Sargan-Basmann, and Amemiya-Lee-Newey tests). Furthermore, all instruments significantly and positively affect migration, with a satisfactory goodness of fit. For example, the pseudo-R^2 in the whole-sample estimation is close to 0.3 in both waves.

3 Results

Tables 1 and 2 report results for years 2008 and 2012. For each sub sample (rows), we show the marginal effect of migration on ENROL (and related standard errors) for each migration measure (in columns). Both Probit and IV-Probit estimations are included.

Our main finding is that, overall, migration has a negative and significant impact on enrollment. This result strengthens those obtained by D&M in that it robustly emerges, in both waves, with quite strong marginal effects on enrollment, across different sub-samples and alternative ways to proxy within-household migration. If any, migration displays a slightly stronger and more significant impact on enrollment for: (i) females and rural areas in 2012; (ii) individuals living in households where no migrants ever attended secondary schools (low-skilled); (iii) IV-Probit estimates *vis-à-vis* non-IV Probit ones.

Furthermore, note that estimates performed with variables measuring the length of the last migration episodes (YRS_ALL_MIG and YRS_LONGEST_MIG) are in general less significant and exhibit lower marginal effects, as compared to those accounting for the presence of at least one migrant in the household (MIG) or the number of migrants (NUM_MIG). This suggests that the temporary absence of one or more family members is more important than the length of their stay

abroad in explaining enrollment of the left-behinds.

Finally, enrollment is significantly influenced, with the expected signs, by the controls $\mathbf{X}$ in both IV and non-IV exercises (not shown). In particular, the probability of being enrolled decreases with the age of the household head, the number of plots owned and the distance from important services; and increases with the education of household head and if the household is located in Tirana or in coastal areas.

4 Concluding Remarks

Our analysis shows that the negative impact of migration on enrollment in Albania, already found by D&M for 2005, also holds in 2008 and 2012, and seems to be stronger and more robust than it was in the past. This is somewhat surprising, in the light of the huge inflows of remittances and the steadily improvement of macro-economic conditions that Albania has been recently experiencing (World Bank, 2008).

The foregoing results instead indicate that: (i) family-disruption effects may still be relevant (as pointed out by the negative impact of the number of plots owned on enrollment); (ii) remittances are possibly employed for uses different from education (Cattaneo, 2012); (iii) expected returns from education in Albania may still be perceived as being low, notwithstanding recent educational reforms[2]; (iv) public policies aimed either at supporting households with migrant members (Giannelli and Mangiavacchi, 2010) or at encouraging return migration and thus increasing expected returns from education (e.g., the "Brain Gain Programme", cf. IOM, 2008), did not attain the expected results yet.

From a normative perspective, this study suggests that better and more effective policies should be designed in order to fully exploit the benefits of international migration, in particular for the education of the left-behinds, and more generally for the development of the country.

[2]For example, the Albania Education Excellence and Equity Project (EEEP) undertaken in collaboration with the World Bank and the Int'l Development Association (IDA).

References

Antman, F. M. (2012), "Gender, educational attainment, and the impact of parental migration on children left behind", *Journal of Population Economics*, 25: 1187–1214.

Calero, C., A. S. Bedi and R. Sparrow (2008), "Remittances, Liquidity Constraints and Human Capital Investments in Ecuador", IZA Discussion Papers 3358, Institute for the Study of Labor (IZA), Bonn, Germany.

Castaldo, A. and B. Reilly (2007), "Do migrant remittances affect the consumption patterns of Albanian households?", *South-Eastern Europe Journal of Economics*, 5: 25–54.

Cattaneo, C. (2012), "Migrants international transfers and educational expenditure", *Economics of Transition*, 20: 163–193.

Chen, X., Q. Huang, S. Rozelle, Y. Shi and L. Zhang (2009), "The Effect of Migration on Children's Educational Performance in Rural China", *Comparative Economic Studies*, 51: 323–343.

Dabalen, A. and J. Miluka (2010), "Who Is Bearing the Burden? Exploring the Role of Albanian International Migration on Education", *Eastern European Economics*, 48: 36–56.

Docquier, F. and H. Rapoport (2012), "Globalization, Brain Drain, and Development", *Journal of Economic Literature*, 50: 681–730.

Edwards, A. C. and M. Ureta (2003), "International migration, remittances, and schooling: evidence from El Salvador", *Journal of Development Economics*, 72: 429–461.

Gaston, N. and D. Nelson (2011), "International migration", in D. Bernhofen, R. Falvey, D. Greenaway and U. Kreickemeier, (eds.), *Handbook of International Trade*, Palgrave, London.

Giannelli, G. C. and L. Mangiavacchi (2010), "Children's Schooling and Parental Migration: Empirical Evidence on the "Left Behind" Generation in Albania", IZA Discussion Papers 4888, Institute for the Study of Labor (IZA), Bonn, Germany.

Hanson, G. H. and C. Woodruff (2003), "Emigration and Educational Attainment in Mexico", Mimeo, University of California at San Diego.

IOM (2008), "Migration in Albania. A Country Profile", Technical Report, International Organization for Migration, Tirana.

Lewbel, A., Y. Dong and T. T. Yang (2012), "Comparing features of convenient estimators for binary choice models with endogenous regressors", *Canadian Journal of Economics*, 45: 809–829.

McKenzie, D. and H. Rapoport (2011), "Can migration reduce educational attainment? Evidence from Mexico", *Journal of Population Economics*, 24: 1331–1358.

UNESCO (2008), "Education for All by 2015 Will we make it?", United Nations Educational, Scientific and Cultural Organization, New York.

Wooldridge, J. M. (2002), *Econometric Analysis of Cross Section and Panel Data*, Boston, The MIT Press.

World Bank (2007), *Albania: Urban Growth, Migration and Poverty Reduction*, Washington D.C., The World Bank.

World Bank (2008), *World Development Indicators 2008*, Washington D.C., The World Bank.

Sample	No. Obs.	Model	MIG		NUM_MIG		YRS_ALL_MIG		YRS_LONGEST_MIG	
			Marg. Eff.	SE	Marg. Eff.	SE	Marg. Eff.	SE	Marg. Eff.	SE
All	4746	P	-0.1016***	(0.0184)	-0.0943***	(0.0257)	0.0022	(0.0028)	-0.0428***	(0.0067)
		IV-P	-0.1892***	(0.0423)	-0.1891***	(0.0479)	-0.0147**	(0.0063)	-0.0331***	(0.0108)
Age: 14-23	2741	P	-0.0963***	(0.0245)	-0.0887***	(0.0033)	0.0019	(0.0033)	-0.0395***	(0.0085)
		IV-P	-0.1362**	(0.0597)	-0.1324**	(0.0583)	-0.0127	(0.008)	-0.0262*	(0.014)
Female	2337	P	-0.1029***	(0.0245)	-0.0695**	(0.0034)	0.0027	(0.0034)	-0.053***	(0.0091)
		IV-P	-0.1616***	(0.0525)	-0.1088**	(0.0488)	-0.0107	(0.0078)	-0.0227*	(0.013)
Male	2409	P	-0.0993***	(0.027)	-0.1284***	(0.0035)	-0.0004	(0.0035)	-0.0352***	(0.0099)
		IV-P	-0.2042***	(0.053)	-0.2519***	(0.0683)	-0.0224***	(0.0083)	-0.0538***	(0.0152)
Urban	1806	P	-0.1071***	(0.0225)	-0.103***	(0.0033)	-0.0007	(0.0033)	-0.0408***	(0.0087)
		IV-P	-0.199***	(0.0505)	-0.1905***	(0.0516)	-0.0118*	(0.007)	-0.0415***	(0.014)
Rural	2940	P	-0.1063***	(0.0324)	-0.0966**	(0.0048)	0.0075	(0.0048)	-0.0498***	(0.0109)
		IV-P	-0.2267***	(0.0735)	-0.2102***	(0.0761)	-0.0249**	(0.0103)	-0.057***	(0.0165)
Low Skilled	4351	P	-0.1384***	(0.0245)	-0.1637***	(0.0049)	-0.0064	(0.0049)	-0.0476***	(0.0099)
		IV-P	-0.2354***	(0.0596)	-0.2695***	(0.0817)	-0.027**	(0.0109)	-0.049***	(0.0169)
High Skilled	4261	P	-0.0433*	(0.0254)	-0.0846	(0.0032)	0.0064**	(0.0032)	-0.0318***	(0.0089)
		IV-P	-0.1297**	(0.0641)	-0.0723*	(0.0421)	-0.0003	(0.0049)	-0.0076	(0.0083)

Table 1: Marginal effects of migration on enrollment. Year: 2008. Model: Probit (P) vs IV-Probit (IV-P) estimation. Columns: 1st stage dependent variable. Rows: sub samples (age, gender, geography, and migrant skills). The whole sample consists of individuals in the 6-23 age interval. Standard errors (SE) clustered at the PSU level.

Sample	No. Obs.	Model	MIG		NUM_MIG		YRS_ALL_MIG		YRS_LONGEST_MIG	
			Marg. Eff.	SE	Marg. Eff.	SE	Marg. Eff.	SE	Marg. Eff.	SE
All	7001	P	-0.0791***	(0.0219)	-0.0652**	(0.0322)	-0.0017	(0.0026)	-0.0266***	(0.0072)
		IV-P	-0.1077*	(0.0637)	-0.1343**	(0.0529)	-0.0105	(0.0066)	-0.0106	(0.0088)
Age: 14-23	4370	P	-0.1078***	(0.0296)	-0.065*	(0.0034)	-0.0044	(0.0034)	-0.0336***	(0.0103)
		IV-P	-0.1615*	(0.0829)	-0.1865***	(0.0672)	-0.026***	(0.0085)	-0.0289**	(0.0119)
Female	3416	P	-0.1016***	(0.0287)	-0.0771*	(0.0037)	-0.0024	(0.0037)	-0.0311***	(0.0096)
		IV-P	-0.193**	(0.0831)	-0.1873***	(0.069)	-0.0169**	(0.0071)	-0.0204**	(0.01)
Male	3585	P	-0.0572*	(0.0295)	-0.0563	(0.0031)	0.0007	(0.0031)	-0.0217**	(0.0091)
		IV-P	-0.0131	(0.081)	-0.0849	(0.0731)	-0.018	(0.0119)	-0.0308*	(0.0177)
Urban	3450	P	-0.0668**	(0.0327)	-0.0948**	(0.0043)	-0.0047	(0.0043)	-0.016	(0.0112)
		IV-P	0.0487	(0.0846)	0.0587	(0.0757)	0.0017	(0.0091)	0.0025	(0.0119)
Rural	3551	P	-0.0931***	(0.0286)	0.0083	(0.0032)	0.0043	(0.0032)	-0.0381***	(0.0092)
		IV-P	-0.3937***	(0.0777)	-0.5001***	(0.1053)	-0.044***	(0.0124)	-0.0476***	(0.016)
Low Skilled	6949	P	-0.0924***	(0.0228)	-0.0794**	(0.0028)	-0.0012	(0.0028)	-0.0307***	(0.0075)
		IV-P	-0.1223*	(0.067)	-0.1417**	(0.0562)	-0.0092	(0.0069)	-0.0083	(0.0089)
High Skilled	6552	P	0.0534	(0.0685)	-0.2035*	(0.0109)	-0.0052	(0.0109)	0.0108	(0.0251)
		IV-P	-0.1654	(0.3831)	-0.6726*	(0.408)	-0.0993**	(0.0431)	-0.1074**	(0.0449)

Table 2: Marginal effects of migration on enrollment. Year: 2012. Model: Probit (P) vs IV-Probit (IV-P) estimation. Columns: 1st stage dependent variable. Rows: sub samples (age, gender, geography, and migrant skills). The whole sample consists of individuals in the 6-23 age interval. Standard errors (SE) clustered at the PSU level.