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Abstract

International migration flows constitute one of the most policy-relevant elements of modern economies. The Italian experience is a case of particular interest given the rapid growth of immigration flows, the large number of countries of origin involved, and regional economic heterogeneity. This paper analyses the bilateral stocks of migrants coming from 142 countries and living in 103 Italian provinces to ascertain what characteristics of home countries and destination provinces are associated with international migrations. The results of the estimation of a gravity model on the stock of migrants show that economic, demographic and institutional variables are correlated with migration patterns. In light of the recent *Arab Spring*, it is interesting to note that migrants come to Italy predominantly from geographically close, democratic and middle-income countries.

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1. Introduction

In recent decades international migration flows and their major implications for modern economies have drawn the attention of scholars, policy-makers and citizens. Migrant inflows and outflows are a key element for the socio-economic development of a country. From the late 1990s, immigration has become a central issue of the social, economic and political debate in several advanced economies. On the one hand, it is widely stressed, with undue alarm and often on the basis of ill-informed information, that immigration flows feed crime, crowd out local employment and have a negative impact on the sustainability of public finance. On the other hand, foreign workers may partially contribute to reduce population ageing, thereby limiting the negative impact of demographic dynamics on the financial sustainability of the pension and welfare system (Visco 2008). Additionally, recent research shows that there is no significant statistical linkage between immigration and crime (Bianchi, Buonanno and Pinotti 2011) and that the increasing foreign labour supply does not crowd out native employment (Venturini and Villosio 2006, Peri 2012). On the contrary, immigration has fostered an increase in the female participation in the labour force (Barone and Mocetti 2011). This is associated with increasing productivity and higher wages of native workers (Gavosto, Venturini and Villosio 1999, Peri 2012, Ottaviano and Peri 2012).

This paper aims to contribute to this on-going debate and to the empirical literature on the determinants of international migrations. From a policy perspective, analysis of the determinants of immigration flows would make it possible for the destination country to clearly identify the main factors of attraction in order to anticipate future migration flows. Moreover, to fully understand the potential positive effects of migrations on the labour market and on economic development "*it is important to identify the forces and constraints that shape international migration movements*" (Mayda 2010, p. 1250). Within this framework, we consider jointly the characteristics of 142 countries of origin and the 103 destination provinces to provide additional evidence on the determinants of immigration to Italy. A clear picture of the patterns of international migrations to Italian provinces would help identify potential tensions and advantages of future migration flows and draw up sound migration policies. Italy represents a case study of particular interest, given the size and rapid growth of immigration flows, the high number of countries of origin involved, and Italy's considerable economic and social heterogeneity. Besides, as far as we know, there is no robust evidence on several factors potentially influencing migrations, especially to Italy.

2. Immigration in Italy

Since the end of the 20th century, European Mediterranean countries have been affected by long-term immigration, mainly led by *push* factors. In this context King et al. (1997) authoritatively proposed a "Southern Europe migration model", characterized by a sudden and spontaneous evolution of flows, rapidly becoming large in size, and involving individuals from different countries. For this reason, the notion of *superdiversity* (Vertovec, 2006) seems particularly relevant to the Mediterranean area and to Italy specifically, where the coexistence of highly fragmented foreign immigration and a highly heterogeneous destination country makes Italy "*the paradigmatic case of Southern Europe migration*" (King 2002, p. 8). The continuous growth of immigration flows since 2000 has had the consequence that migrants have become a significant component of the Italian population (Table 1).

Table 1: Foreign population resident and its share over total population, by macro-region

Years	1993	1995	1997	1999	2003	2005	2007	2010
	Absolute values							
ITALY	573,258	685,469	884,555	1,116,394	1,549,373	2,402,157	2,938,922	4,235,059
North-West	181,817	216,086	272,806	366,491	550,939	873,069	1,067,218	1,482,020
North-East	104,890	133,309	179,109	236,616	426,982	653,416	802,239	1,127,987
Centre	179,363	212,269	274,894	328,910	381,800	576,815	727,690	1,070,386
South	55,596	66,438	89,616	111,227	127,076	213,206	244,088	394,055
Islands	51,592	57,367	68,130	73,150	62,576	85,651	97,687	160,611
	Shares							
ITALY	1.0	1.2	1.5	1.9	2.7	4.1	5.0	7.0
North-West	1.2	1.4	1.8	2.4	3.7	5.7	6.8	9.3
North-East	1.0	1.3	1.7	2.2	4.0	5.9	7.2	9.8
Centre	1.6	1.9	2.5	3.0	3.5	5.1	6.3	9.0
South	0.4	0.5	0.6	0.8	0.9	1.5	1.7	2.8
Islands	0.8	0.9	1.0	1.1	0.9	1.3	1.5	2.4

Notes: calculations on ISTAT data (National Institute of Statistics, see: http://dati.istat.it/?lang=en).

In 2010 foreign residents in Italy numbered more than 4.2 million, 7% percent of Italy's overall population, but more than 10% in some geographical areas. Their number grew by a factor of seven between 1993 and 2010, with an annual growth rate higher than 10%[1]. Nevertheless, the share of migrants over the total population is still relatively low compared with other countries, such as Spain, Germany and France, where foreign residents account for 14.1, 13.1 and 10.7 percent of total population, respectively (United Nations 2010).

The main features of Italian immigration flows may be summarized in a few points:
1. Unlike Northern European countries, gender composition of the foreign population in Italy is balanced, with the male share decreasing from 57.2% in 1994 to 48.7% in 2010.
2. Migrants are much younger than natives, since migration projects mainly involve people aged between 18 and 30.
3. Italy has a much lower capacity than other industrialized countries to attract an educated foreign workforce: in 2002 only 15% of the stock of migrants had a university degree, compared with 35% in the UK and 43% in the US.[2]
4. For several reasons, ranging from the lack of privileged migration directions (Italy has almost no former colonies) to the peculiar geographical position at the heart of the Mediterranean, the geographical origin of migrants is highly heterogeneous. That said, in the last 15 years the share of migrants from the top five countries ranked by number of migrants increased from 34% in 1994 to 50.7% in 2010.[3]

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[1] If we were also to consider irregular migrants and non-residents, for which, however, there are no reliable official data, the magnitude of the phenomenon would be much greater.
[2] These figures are calculated from the Global Migrant Origin Database (Docquier, Lindsay Lowell and Marfouk 2009).
[3] Specifically, the share of migrants from the Balkans and former Soviet Republics has increased substantially. Data are drawn from the National Institute of Statistics data warehouse (http://dati.istat.it/?lang=en).

5. Unlike other Mediterranean countries, where migrants are predominantly located in urban areas (Portugal, Turkey), and in tourist or border regions (Greece, Spain), in Italy foreign residents are spatially distributed across the various provinces.

3. The main determinants of migrant flows: a short review

Analysis of international migrations generally disentangles *push* and *pull* factors, while empirical models include several economic variables, along with institutional, cultural, geographical, and relational factors (Stark 1991, Borjas 1994, Freeman 2006). The main categories of the explanatory variables used in previous studies may be summarised as follows:

- Economic and demographic variables, such as per capita income, the unemployment rate, income inequality, the size and the age structure of the population.
- Measures of the socio-institutional environment, such as political and civil rights, the diffusion of corruption, the rule of law, immigration policies and, more generally, indicators of openness.
- Variables of geographical proximity (geographical distance, indexes for countries with common borders), indicators of cultural and historical proximity, such as common languages and colonial linkages.
- Quality of life indexes, such as the human development index, different happiness measures, and indicators of the coverage of the welfare system.

Consistent with the gravity models widely employed in the trade literature (Anderson 2011), the existing literature shows that the stock of population in origin and destination countries, differences in the living standards between those countries and their geographical distance are the main variables explaining international migrations. Network effects also play a key role, since migration flows are facilitated and emigration costs are reduced by the presence of a community of nationals already living in the destination area (see Karemera, Oguledo and Davis 2000, Clark, Hatton and Williamson 2007, Pedersen, Pytlikova and Smith 2008, Mayda 2010, Lewer and Van den Berg 2010, Beine, Docquier and Ozden 2011). Finally, there is some evidence showing that differences in the level of welfare, life satisfaction and happiness between the origin and the destination areas are good predictors of migration flows (Liu 1975, Blanchflower 2009, Blanchflower and Shadford 2009).

4. Data and the gravity model for international migrations

We model international migrations toward Italian provinces using a standard gravity model, which makes the flows between the origin and the destination countries depend on the population size of both countries and on the distance between them. This model is extended to include other variables related to the demographic and socio-economic conditions of both areas, which have been shown to be robust determinants of bilateral migration flows (Lewer and Van den Berg 2008, Anderson 2011). We also consider the effect of some institutional characteristics, such as the presence of democratic regimes in the home country and the incidence of corruption in the public sector, and we include two indicators of quality of life.

Since data on net migration flows are not available, we estimate the following (log-linearized) augmented gravity model on the basis of the stocks of migrants present at the end of 2008 in 103 Italian provinces and coming from 142 countries[4]:

$$MIGRANT_{i,j} = f(POP_i, POP_j, DISTANCE_{i,j}, PROV_i, COUNTRY_j,) \qquad (1)$$

where $MIGRANT_{i,j}$ is the (log of) immigrant stock, in 2008, in the i-th province coming from the j-th country; POP_i (POP_j) is the logarithm of population in the destination province (country of origin) in 2007, and $DISTANCE_{i,j}$ is the logarithm of the kilometric distance between the i-th province and the j-th country.[5] Besides these base variables we included other variables, linked to the socio-economic structure of both countries of origin and provinces of destination, synthesized by $PROV_i$ and $COUNTRY_j$.

A first set of variables includes demographic and economic indicators. We consider the logarithm of GDP per capita of both areas (GDP_i and GDP_j) and the provincial unemployment rate ($UNEMPLOYMENT_i$), in order to verify whether relative income and job opportunities contribute as pull factors to international migrations. The extension of the informal sector may also be correlated with migration choices. Migrants, who often work in the shadow economy, may choose destination areas with large informal sectors; in addition, the presence of a large informal economy in the home country may constitute both a job opportunity and a stimulus to emigrate, because of the low productivity and wages. Thus, we include in equation (1) $SHADOW_j$ and $SHADOW_i$, which measure, respectively, the share of the informal economy over GDP in the j-th country and the share of irregular employment in the i-th province. The education level and the demographic structure of both areas may influence migration flows, especially as pull factors. Migrants would come predominantly from countries with a higher incidence of young ($YOUNG_i$ and $YOUNG_j$) and educated ($HUMAN\ CAPITAL_i$ and $HUMAN\ CAPITAL_j$) individuals over total population.[6] This would be consistent with the brain drain hypothesis and with the fact that young individuals have a stronger incentive to emigrate. At the same time, provinces with higher levels of human capital and a lower share of people of working age may prove more attractive to migrants. Finally, we also consider a measure of trade openness at provincial level (export plus import over GDP) and the KOF globalization index (Dreher 2006; Dreher et al. 2008) as a measure of international integration of a country from an economic, political and social point of view.[7]

The second set of variables is related to institutional aspects: the level of corruption ($CORRUPTION_j$), the presence of a democratic political regime ($DEMOCRACY_j$), and a dummy for the presence of restrictions to the freedom of movement ($RESTRICTIONS_j$) aim to

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[4] Due to data availability for the set of country-specific control variables, the sample is made by fewer than the 200 countries from which foreign residents originally emigrated. However, migrants from the 142 countries included in the sample accounted for 97% of regular foreign residents in Italy at the end of 2008.

[5] The distance between the 103 Italian provinces and the home countries was calculated with the STATA 11 SE package using the SPHDIST command. We thank Massimiliano Bratti for kindly providing us with geographical data.

[6] We thank Alessia Amighini for having shared the data on human capital for the Italian provinces.

[7] Among the macroeconomic variables, we do not discuss the role of financial development and income inequality, since additional regressions (not reported for reasons of space, but available upon request from the authors) show that different measures of financial development and income inequalities in the countries of origin and in the destination provinces are not significantly correlated with the stock of migrants in the province.

assess whether the institutional and jurisdictional framework of the home country has an impact on migration outflows.

A third set of variables is introduced to ascertain whether migration flows depend not only on relative income, but also on differences in the level of welfare and life satisfaction between the origin country and destination province. For this purpose, equation (1) was augmented with the inclusion of the Human Development Index calculated by the United Nations (HDI_j) and a Quality of Life index for Italian provinces (QOL_i).

Finally, in order to partially limit the problem of omitted variables, our model includes geographical dummies for world regions and Italian macro-areas.[8] All the explanatory variables refer to 2007 or, whenever this was not possible, to the closest previous year. See Table A1 in the appendix for the precise definition and the sources of each variable.

Before discussing the results, a few caveats on the empirical strategy are required. First, as there are no data on net bilateral migration flows, we cannot estimate a gravity model based on flows and so we lose the possibility to identify the presence of a network effect. Even if most of the literature estimates a gravity model based on flows, an empirical model based on the stocks of migrants could be theoretically justified (Ortega and Peri 2009) and could be interpreted as a representation of the long-term equilibrium (Brücker and Siliverstovs 2006).[9] Second, since the dependent variable *MIGRANT* has a significant share of non-randomly distributed zeros, equation (1) could be estimated using a Poisson (Santos Silva and Tenreyro 2006), instead of a log-linear model. However, the goodness of fit and the overdispersion tests indicate that the Poisson is not the appropriate distribution to model our data. Thus, we estimate the gravity equation using a negative binomial regression model. Finally, we take into account potential heterogeneity and measurement errors computing clustered standard errors which are robust to correlation within countries.

5. Results

Table A2 shows the regression results. Column 1 reports the estimate of the basic gravity model, while columns 2-6 add demographic and economic variables, columns 7-10 consider the institutional variables, column 11 focuses on the effect of life satisfaction, and the last column presents the full (preferred) specification. The significance of parameter α, reported at the bottom of Table A2, confirms the data overdispersion and supports the choice of the negative binomial model.

The coefficients of the simple gravity model show that the latter is able to provide a basic explanation of the migration phenomenon. The number of immigrants coming from a given country and living in a given province is an increasing function of the population size of the origin and destination areas, while it is negatively correlated with the geographical distance between the two areas. The estimates reported in column 2 show that migrants are more likely to reside in provinces with higher per capita income and lower unemployment rates, while

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[8] Results are robust to the inclusion of 19 regional dummies and other dummies identifying groups of countries according to the income classification. Results are not shown for reasons of space.
[9] Jayet, Ukrayinchuk and De Arcangelis (2010) provide an application of the gravity model based on the migrant stocks for the Italian case.

they come predominantly from middle-income countries.[10] This last piece of evidence is consistent with the so-called "migration-hump" effect (Martin and Taylor 1996) and with the descriptive evidence about immigration in Italy: according to the most recent data from the National Institute of Statistics, Romania, Albania and Morocco account for more than 42 percent of the stock of regular migrants.

The results presented in Table A2 can be summarized as follows:

- Distance has a fundamental role in explaining migration flows.
- Among the *pull* factors, our results show that provinces that are more populous, with a more educated labour force, with a lower unemployment level and with a lower incidence of irregularity in the labour market host a larger number of migrants[11].
- The coefficient on *HUMAN CAPITAL*$_j$ is not significant, suggesting that, all other things being equal, Italy has been unable so far to attract educated migrants, as suggested by descriptive and anecdotal evidence.[12]
- Countries with a bigger population, especially if young, and with a democratic regime are associated with greater emigration rates to Italy. Per capita income and the share of the informal economy also play a major role, and they show a non-linear relationship with international migrations. The informal sector, in particular, might initially be a *push* factor, given its low productivity and wages. However, once the size of the informal sector is large, the incentives to emigrate might diminish since the informal labour market serves as a safety net against short-run adverse macroeconomic fluctuations (Loayza and Rigolini 2011).
- Consistent with the recent evidence discussed by Lewer, Pacheco and Rossouw (2012) on a panel of OECD countries, the measures of life satisfaction are not statistically correlated with the stock of migrants, whose variability across Italian provinces seems to be exclusively determined by economic, demographic and institutional variables.

The main findings are confirmed by also using alternative estimation techniques. Table A3 reports the estimates of a Tobit model, which take into account the data censoring problem. In this case, the dependent variable is the logarithm of 1 + *MIGRANT*. Similar findings are also confirmed: 1) using a *Zero-Inflated Negative Binomial* model, which addresses the large number of zeros in the dependent variable (the Vuong test, however, does not indicate the necessity to adopt a *zero-inflated* model), and 2) estimating by OLS a simple log-linear model in which the dependent variable is the logarithm of 1 + *MIGRANT*.[13]

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[10] The turning point of the quadratic specification occurs when per capita GDP reaches USD 4,960 (around the GDP per capita of Egypt).

[11] The partial significance of the measure of provincial openness (column 5) could be consistent with a trade-creation effect of immigration (Peri and Raquena 2010, Bratti, De Benedictis and Santoni 2011).

[12] However, this evidence is only suggestive, given that it is based on macro-data. At the micro level it would be possible to attract educated individuals from countries with an average low level of human capital.

[13] This last set of results is not presented for reasons of space, but is available from the authors upon request.

6. Conclusions

The political debate too often considers immigration superficially, identifying an immigrant as an individual with a low income and poorly (if at all) educated, coming without a regular permit from a very poor country. By contrast, our analysis of the determinants of immigration to Italy illustrates a more complex, heterogeneous picture: Italy is characterized by a multiplicity of immigration systems. We may summarize our research findings into three points:

- Contrary to the populist view, the stock of migrants in Italy is still relatively limited - even if growing - at least compared to other European countries.
- The augmented gravity model fits well the migration patterns toward Italian provinces: economic, institutional and demographic variables contribute to explain the distribution of migrants across Italy.
- Migrants predominantly come from geographically-close, middle-income countries and from democratic regimes. In light of the recent *Arab Spring* in North-African countries, this feature may be interpreted as a possible indication of a future acceleration of immigration to Italy in general, and from that geographical area in particular.

One critical issue emerging from this study, as from previous ones (Visco 2008), is that the Italian productive and social system shows a relatively weak capacity of attraction of highly-educated foreign labour (brain waste), which could, instead, contribute to foster innovation and growth. As a consequence, within a strategy targeting the local economic growth potential, it would be extremely useful to identify the socio-economic factors able to attract educated and skilled workers to the Italian provinces. This may also be a field of interest for future research.

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Appendix: Additional Tables

Table A1: Description of variables, data sources and summary statistics

Variable	Definition	Sources	Mean	St. Dev.
$MIGRANT_{i,j}$	Stock of migrants by country of origin (j) and province of destination (i) in 2008	ISTAT	258.03	1795.75
$DISTANCE_{i,j}$	Logarithm of the distance (in kilometres) between the j-th country of origin and the i-th province of destination	Authors' elaboration	8.27	0.90
POP_i	Logarithm of total population in the destination province in 2007	ISTAT	12.96	0.71
POP_j	Logarithm of total population in the country of origin in 2007	World Development Indicators	16.07	1.67
GDP_i	Logarithm of real per capita provincial GDP in 2007	Istituto Tagliacarne	10.09	0.25
GDP_j	Logarithm of the real per capita GDP of the country of origin, measured at purchasing power parity in 2007	World Development Indicators	8.71	1.28
$UNEMPLOYMENT_i$	Logarithm of the provincial unemployment rate in 2007	Istituto Tagliacarne	1.69	0.57
$SHADOW_i$	Logarithm of the share of irregular workers in the destination province in 2008	Istituto Tagliacarne	2.34	0.34
$SHADOW_j$	Size of the shadow economy (% GDP) in the country of origin in 2007	Schneider and Buehn (2007)	33.34	12.22
$YOUNG_i$	Dependency ratio in the destination province in 2007	ISTAT	52.86	3.64
$YOUNG_j$	Dependency ratio in the country of origin in 2007	World Development Indicators	61.57	16.99
$HUMAN\ CAPITAL_i$	Average number of schooling years of the labour force in the destination province in 2001	Elaborations on ISTAT data	10.87	0.44
$HUMAN\ CAPITAL_j$	Average gross secondary enrolment ratio in the country of origin over 2000-2007	World Development Indicators	69.44	31.87
$KOF\ INDEX_j$	KOF index of globalization of the country of origin in 2007)	Dreher (2006); Dreher et al. (2008)	59.35	16.82
$OPEN_i$	(Imports + exports)/GDP in the destination province in 2007	Istituto Tagliacarne	40.78	29.42
$CORRUPTION_j$	Control of corruption in the country of origin. The index ranges from -2.5 to + 2.5, with higher values corresponding to less corruption in 2007	World Governance Indicators	-0.08	0.99
$DEMOCRACY_j$	Dummy variable equal to one for democratic regimes in 2002-2006, depending on the country	Cheibub, Gandhi and Vreelend (2009)	0.60	0.49
$RESTRICTIONS_j$	Dummy variable equal to one for the country of origin where the freedom of movement is restricted in 2007	Cingranelli and Richards (2010)	0.37	0.48
QOL_i	Composite index of the quality of life in the destination province in 2007	Il Sole 24 Ore	391.88	60.95
HDI_j	Human Development Index of the country of origin; it ranges between 0 (minimum) and 1 (maximum) in 2007	United Nations	0.69	0.18

Notes: Descriptive statistics (mean and standard deviation) are calculated on the full sample of 14,626 observations. $SHADOW_i$ is measured in 2008 due to the lack of comparable data for 2007. ISTAT is the National Institute of Statistics. Istituto Tagliacarne is a training and economic research centre established by the Italian Union of the Chambers of Commerce. Il Sole 24 Ore is the leading economic newspaper in Italy.

Table A2: Determinants of international migration flows to Italian provinces: negative binomial estimates

Dep Var: MIGRANT$_{i,j}$	1	2	3	4	5	6	7	8	9	10	11	12
DISTANCE$_{i,j}$	-1.133*** [0.223]	-1.254*** [0.211]	-1.222*** [0.203]	-1.398*** [0.219]	-1.239*** [0.214]	-1.285*** [0.237]	-1.313*** [0.218]	-1.302*** [0.196]	-1.241*** [0.210]	-1.304*** [0.199]	-1.434*** [0.234]	-1.375*** [0.205]
POP$_i$	1.363*** [0.073]	1.286*** [0.065]	1.289*** [0.065]	1.176*** [0.054]	1.269*** [0.062]	1.180*** [0.056]	1.277*** [0.069]	1.208*** [0.058]	1.297*** [0.061]	1.221*** [0.055]	1.222*** [0.059]	1.134*** [0.050]
POP$_j$	0.871*** [0.103]	0.920*** [0.094]	0.942*** [0.097]	0.979*** [0.103]	0.870*** [0.089]	0.974*** [0.098]	0.959*** [0.096]	0.948*** [0.083]	0.915*** [0.091]	0.960*** [0.083]	1.019*** [0.092]	1.031*** [0.090]
GDP$_i$		0.635 [0.386]	0.390 [0.361]	0.670** [0.337]	0.598 [0.371]	0.463 [0.317]	0.641 [0.412]	0.731** [0.355]	0.545* [0.332]	0.610** [0.309]	0.728 [0.479]	0.522* [0.313]
GDP$_j$		8.473*** [1.659]	8.255*** [1.690]	7.533*** [1.804]	7.579*** [1.827]	6.456*** [1.867]	8.363*** [1.638]	6.263*** [1.815]	8.574*** [1.583]	6.452*** [1.690]	7.450*** [1.910]	5.734*** [1.800]
(GDP$_j$)^2		-0.497*** [0.101]	-0.481*** [0.104]	-0.473*** [0.107]	-0.459*** [0.110]	-0.403*** [0.112]	-0.500*** [0.099]	-0.381*** [0.110]	-0.499*** [0.097]	-0.390*** [0.103]	-0.494*** [0.119]	-0.378*** [0.115]
UNEMPLOYMENT$_i$		-0.292*** [0.108]	-0.193 [0.119]	-0.361*** [0.100]	-0.296*** [0.108]	-0.284** [0.116]	-0.298*** [0.110]	-0.335*** [0.111]	-0.314*** [0.093]	-0.378*** [0.090]	-0.341*** [0.112]	-0.321*** [0.114]
SHADOW$_i$		-0.396*** [0.140]				-0.310** [0.130]						-0.363*** [0.130]
SHADOW$_j$		0.073 [0.061]				0.135** [0.064]						0.106* [0.058]
(SHADOW$_j$)^2		-0.001 [0.001]				-0.002** [0.001]						-0.001* [0.001]
YOUNG$_i$				-0.009 [0.008]		-0.008 [0.007]						
YOUNG$_j$				-0.068*** [0.019]		-0.073*** [0.020]						-0.066*** [0.021]
HUMAN CAPITAL$_i$				0.358*** [0.072]		0.336*** [0.070]						0.278*** [0.077]
HUMAN CAPITAL$_j$				0.000 [0.010]		-0.003 [0.012]						
KOF INDEX$_i$					0.030 [0.022]	0.012 [0.023]						
OPEN$_i$					0.002** [0.001]	0.001 [0.001]						
CORRUPTION$_i$							0.466* [0.250]			0.159 [0.250]		
DEMOCRACY$_j$								1.881*** [0.384]		1.920*** [0.404]		1.566*** [0.444]
RESTRICTIONS$_i$									0.365 [0.391]	0.515 [0.326]		
QOL$_i$											0.000 [0.001]	
HDI$_j$											9.140*** [2.242]	1.780 [2.867]
α	1.258*** [0.075]	1.173*** [0.072]	1.166*** [0.071]	1.103*** [0.070]	1.163*** [0.072]	1.088*** [0.069]	1.164*** [0.072]	1.085*** [0.073]	1.170*** [0.073]	1.077*** [0.073]	1.112*** [0.071]	0.997*** [0.064]
Observations	14,626	14,626	14,626	14,626	14,626	14,626	14,626	14,626	14,626	14,626	14,626	14,626

Notes: The table reports regression coefficients and, in brackets, the associated robust standard errors, clustered at country level. * significant at 10%, **5%, ***1%. The model is estimated by a negative binomial regression model, using a Stata 11 SE package with NBREG command. A constant is included. Each regression includes eight macro-area dummies relative to home countries and four dummies for Italian macro-regions.

Table A3: Determinants of international migration flows to Italian provinces: Tobit estimates

Dep Var: Ln (1 + MIGRANT$_{i,i}$)	1	2	3	4	5	6	7	8	9	10	11	12
DISTANCE$_{i,i}$	-1.464***	-1.510***	-1.484***	-1.480***	-1.406***	-1.308***	-1.532***	-1.391***	-1.511***	-1.419***	-1.572***	-1.322***
	[0.235]	[0.230]	[0.228]	[0.202]	[0.233]	[0.225]	[0.221]	[0.204]	[0.230]	[0.204]	[0.223]	[0.203]
POP$_i$	1.162***	1.128***	1.122***	1.054***	1.130***	1.051***	1.130***	1.130***	1.128***	1.131***	1.127***	1.051***
	[0.025]	[0.028]	[0.027]	[0.026]	[0.027]	[0.025]	[0.028]	[0.027]	[0.028]	[0.027]	[0.028]	[0.025]
POP$_j$	0.970***	0.972***	0.990***	0.976***	0.936***	0.966***	1.003***	0.950***	0.972***	0.969***	1.004***	0.984***
	[0.070]	[0.067]	[0.073]	[0.066]	[0.066]	[0.069]	[0.066]	[0.067]	[0.067]	[0.068]	[0.061]	[0.063]
GDP$_i$		0.874***	0.774***	0.493***	0.813***	0.351**	0.885***	0.883***	0.875***	0.892***	0.640***	0.417***
		[0.135]	[0.148]	[0.141]	[0.152]	[0.164]	[0.136]	[0.136]	[0.135]	[0.137]	[0.131]	[0.155]
GDP$_j$		4.980***	4.576**	3.953**	4.601***	2.882	5.445***	5.446***	4.965***	5.581***	3.980**	2.996*
		[1.750]	[1.796]	[1.654]	[1.782]	[1.767]	[1.827]	[1.933]	[1.759]	[1.941]	[1.567]	[1.737]
(GDP$_j$)^2		-0.290***	-0.262**	-0.257***	-0.281***	-0.198*	-0.327***	-0.322***	-0.289***	-0.334***	-0.276***	-0.220**
		[0.103]	[0.107]	[0.098]	[0.106]	[0.105]	[0.109]	[0.114]	[0.104]	[0.115]	[0.093]	[0.102]
UNEMPLOYMENT$_i$		-0.405***	-0.334***	-0.456***	-0.406***	-0.394***	-0.404***	-0.406***	-0.405***	-0.404***	-0.379***	-0.402***
		[0.054]	[0.051]	[0.055]	[0.053]	[0.053]	[0.054]	[0.053]	[0.054]	[0.053]	[0.059]	[0.061]
SHADOW$_i$			-0.223***			-0.203***						-0.196***
			[0.078]			[0.071]						[0.070]
SHADOW$_j$			0.052			0.077*						0.077*
			[0.044]			[0.045]						[0.039]
(SHADOW$_j$)^2			-0.001			-0.001						-0.001
			[0.001]			[0.001]						[0.000]
YOUNG$_i$				-0.022***		-0.022***						-0.022***
				[0.004]		[0.004]						[0.004]
YOUNG$_j$				-0.060***		-0.066***						-0.053***
				[0.017]		[0.017]						[0.015]
HUMAN CAPITAL$_i$				0.356***		0.361***						0.374***
				[0.036]		[0.036]						[0.040]
HUMAN CAPITAL$_j$				0.003		-0.004						
				[0.012]		[0.013]						
KOF INDEX$_i$					0.034*	0.034*						0.015
					[0.017]	[0.018]						[0.018]
OPEN$_i$					0.001**	0.001*						0.001
					[0.000]	[0.000]						[0.000]
CORRUPTION$_i$							0.448**			0.301		
							[0.203]			[0.212]		
DEMOCRACY$_j$								1.199***		1.167***		1.014***
								[0.326]		[0.331]		[0.309]
RESTRICTIONS$_i$									0.031	0.339		
									[0.330]	[0.331]		
QOL$_i$											0.001***	0.000
											[0.000]	[0.000]
HDI$_j$											8.366***	4.066
											[2.254]	[2.547]
σ	1.832***	1.786***	1.781***	1.712***	1.774***	1.690***	1.775***	1.733***	1.786***	1.727***	1.740***	1.642***
	[0.094]	[0.086]	[0.085]	[0.084]	[0.084]	[0.082]	[0.084]	[0.079]	[0.086]	[0.078]	[0.087]	[0.074]
Observations	14,626	14,626	14,626	14,626	14,626	14,626	14,626	14,626	14,626	14,626	14,626	14,626

Notes: The table reports regression coefficients and, in brackets, the associated robust standard errors, clustered at country level. * significant at 10%, **5%, ***1%. The model is estimated by a Tobit regression model, using a Stata 11 SE package with TOBIT command. A constant is included. Each regression includes eight macro-area dummies relative to home countries and four dummies for Italian macro-regions.