

# Intentions to Return of Clandestine Migrants: The Perverse Effect of Illegality on Skills<sup>1</sup>

Nicola D. Coniglio<sup>2</sup>

Giuseppe De Arcangelis<sup>3</sup>

Laura Serlenga<sup>4</sup>

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<sup>2</sup>Norwegian School of Economics and Business Administration (NHH) and Dipartimento di Scienze Economiche, University of Bari, Via C. Rosalba, 53 Bari 70124 (Italy); e-mail: [Nicola.Coniglio@snf.no](mailto:Nicola.Coniglio@snf.no).

<sup>3</sup>Corresponding author: Dipartimento di Teoria Economica MQSP and CIDEI, Sapienza Università di Roma, P.le Aldo Moro, 5 Rome 00185 (Italy); ph.: +39 06 4991 0489, fax: +39 06 4991 0231; e-mail: [g.dearcangelis@caspur.it](mailto:g.dearcangelis@caspur.it).

<sup>4</sup>IZA and Dipartimento di Scienze Economiche, University of Bari, Via C. Rosalba, 53 Bari 70124 (Italy); e-mail: [laura.serlenga@dse.uniba.it](mailto:laura.serlenga@dse.uniba.it).

## Abstract

In this paper we show that highly skilled clandestine migrants are more likely to return home than migrants with low or no skills when illegality causes “skill waste”, i.e. when illegality reduces the rate of return of individual capabilities (i.e. skills and human capital) in the country of destination. In a simple life-cycle framework, illegality is modeled as a tax on skills that reduces the opportunity cost of returning home particularly for the highly skilled. This proposition is tested on a sample of apprehended immigrants that crossed unlawfully the Italian borders in 2003. The estimation confirms that the intention to return to the home country is more likely for highly skilled illegal immigrants. The empirical results of this paper attenuate the common wisdom on the return decisions of *legal* migrants, according to which low-skill individuals are more likely to go back home (mainly because of negative self-selection).

Keywords: Illegal migration, labor skills, survey data, return migration.

JEL Classification Codes: F22, C25.

# 1 Introduction

The debate on illegal<sup>1</sup> migration in the developed world is capturing a great deal of public attention and has recently triggered the interest of economists (see Hanson, 2006). The mounting dimension of the phenomenon is a direct consequence of the tightening of immigration laws in most OECD countries (see Zimmermann, 1995, De Melo, Faini and Zimmermann, 1999, Venturini, 2003).

On the other hand, in the last two decades international migration has been characterized by a sharp increase in the movement of skilled, rather than unskilled, individuals, as shown by Carrington and Detragiache (1998) and more recently by Docquier and Marfouk (2005).

Illegal migration and the skill content of recent migration flows are related facts. The selective policies of some countries encourage the legal inflow of skilled immigrants (i.e. “brain drain”). However, the adoption of selective policies is confined to a few countries (for instance Canada, Australia, New Zealand). In all the other cases, when skilled migrants enter unlawfully a developed country, illegality conditions significantly affect their future plans, including the possibility of returning back home.

In this paper, we focus on the *return migration of clandestine entrants* by highlighting the role of their skill endowments. The starting point is the stark difference between undocumented and legal migrants. As generally acknowledged, an illegal entrant cannot fully exploit her skills and human capital and the illegal status hinders the migrant’s access to many markets and institutions in the host country (including banks for deposits or financial institutions for other types of savings), which are instead fully available to legal migrants. Being illegal likely makes individual skills much less effective than in the home country, as the illegal migrant has to resort uniquely to the shadow economy.<sup>2</sup> Hence, illegality can cause *skill waste*, i.e. illegality

impinges the positive outcome of skills on both individual income and savings. *Skill waste* is particularly evident for the most skilled and educated among the illegal entrants. Given this, the opportunity cost of returning to the country of origin should be substantially lower for the skilled individuals than for the unskilled ones. This proposition is in sharp contrast with what is usually known for *legal* skilled migrants who tend to overstay because more capable of assimilating in the high-income destination country. Hence, the main message of our paper is that illegality can in fact overturn the common conclusions on the length of stay of skilled (vs. unskilled) migrants.

More specifically, the contribution of this paper is twofold. First, we consider a life-cycle framework where skill waste acts like a tax on skills. Here, we find a link between the individual skill endowment and the return decision of illegal migrants. Second, thanks to the availability of an unique data set on Italian undocumented immigrants we find empirical evidence on the positive relationship between individual skill endowment and intention to return for clandestine immigrants.

In particular, the data set comprehends a representative sample of 920 illegal migrants that crossed the Italian borders in 2003, about half of which are “clandestine” (rather than asylum seekers). One important feature of the data is that they contain information on the migrants’ expectations “at the gate” concerning their *return intentions* and many other characteristics (e.g. intentions to remit, expectations on future income, employment, legal status, characteristics of the village of origin etc.). Indeed, by means of this data set we are able to quantify the effect of skills and education on return intention and at the same time control for other relevant individual covariates.

Empirical results confirm the main findings of our proposition showing that higher in-

dividual skill endowments positively affect the intention to return of clandestine migrants. These results may well represent the first contribution towards increasing our knowledge on the relationship between skill characteristics and return attitudes of illegal migrants.

Many studies have emphasized that migrants are not randomly selected but generally represent the upper tail of the skills distribution of the population in the countries of origin (see Borjas et al., 1992, and Chiswick, 1999). Since migration is a particularly costly investment, only the most capable, entrepreneurial and risk-prone individuals usually undertake such an investment. The existing empirical research almost unanimously concludes that return migration is more likely for individuals with low skills and reinforces the positive self-selection of the migrants (Borjas et al. 1996; Dustmann 1996, 2003a, 2003b; Reagan and Olsen, 2000).

The paper is organized as follows. Section 2 describes the main characteristics of the data set on Italian undocumented immigrants. Section 3 presents a theoretical (life-cycle) framework to model the return plans of irregular migrants with heterogeneous levels of skills. Section 4 reports and discusses the results of the empirical analysis. Lastly, Section 5 concludes with some general remarks and suggestions for further research.

## **2 Undocumented Migration: an Original Micro Dataset**

Data on international migration flows and stocks are not always comparable due to country differences in national definitions.<sup>3</sup> When dealing with irregular migration, there is an additional problem due to methodological difficulties in measuring an illegal phenomenon (see Hanson, 2006, for an overview of methods in the US-Mexico case). Hence, only indirect estimates of

the illegal migrant population are available for both Europe (Jandl, 2004, and International Centre for Migration Policy Development, 2006) and the US (recently Passel, 2005).

However, when testing for migrants' decisions (as departing or returning home), researchers use exclusively micro data. Once again, several sources are available on legal migrants — for instance, the German Socio-Economic Panel (Dustmann, 2003a), Census data in France, several surveys from the Pew Hispanic Center for the US — whereas just a few are available for undocumented migrants — namely, the well-known data from the Mexican Migration Project and the recent Survey of Mexican Migrants by the Pew Hispanic Center.<sup>4</sup>

In this paper we use data from a field survey on illegal migrants entering Italy – named SIMI, Survey of Illegal Migration in Italy – which is available for the year 2003. The survey collected individual data by means of a questionnaire regarding the migrant's demographic and socio-economic situation in the country of origin (school degree attained, job qualification, location of the village of origin, family characteristics etc.), the cost and financing of the migration trip, intentions to return and to remit, as well as motivations and future income expectations from the (at least temporarily aborted) migration project. Many more details about the survey can be found in Chiuri, De Arcangelis, D'Uggento and Ferri (2004).

Table 1 summarizes the main social and economic characteristics of the total sample and of the subsample used in the estimation of Section 4. Indeed, there are four sub-groups of undocumented immigrants: clandestine immigrants, asylum seekers, individuals waiting for a rejection decree and individuals waiting for an expulsion decree. Given the blurred definition of the latter two categories, in the econometric analysis of Section 4 we only focus on clandestine migrants and their characteristics are reported in the second column of Table 1.

Illegal immigrants into SIMI have a non-negligible level of skills that we measure in three

Table 1: Summary Statistics of SIMI 2003, Survey on Illegal Migration in Italy: Entire Sample and Subsample of Clandestines used for the Estimation (standard errors in parentheses).

Variables	All	Estim. Sample
<i>General</i>		
Number of sample units	920	482
Median Age (in years)	27.2 (6.20)	26.6 (5.78)
Family monthly income at home (median, in 2003 current US\$)	218 (232)	196 (170)
Expected monthly income at destination (median, in 2003 current US\$)	877 (550)	906 (409)
Number of children per head (mean)	0.57 (1.09)	0.59 (1.12)
children left home per head (mean)	0.45 (0.95)	0.48 (0.99)
Cost of the trip (median, in 2003 current US\$)	1,645 (1,417)	1,527 (1,316)
Intention to return home	58.9 %	71.6 %
Intended length of stay (in years)	6.0 (3.7)	6.3 (3.4)
<i>Sample composition</i>		
Clandestines	34.8 %	100 %
Asylum Seekers	53.1 %	–
Others	12.1 %	–
<i>Skill characteristics</i>		
Illiteracy	13.2 %	12.0 %
School degree		
primary	27.1 %	25.0 %
middle	30.8 %	34.0 %
high-school	21.7 %	21.2 %
university	5.0 %	4.2 %
Good host-country language proficiency <sup>a</sup>	20.2 %	16.0 %
Basic host-country language proficiency	26.6 %	34.0 %
Knowledge of 1 or 2 foreign languages	70.75 %	68.24 %
Job qualification <sup>b</sup>		
high-skilled	18.4 %	13.1 %
low-skilled	71.7 %	76.2 %
no qualification	9.9 %	10.6 %
<i>Migration network</i>		
Number of relatives (people cohabiting) already in the final destination per head	0.19 (0.39)	0.25 (0.43)

<sup>a</sup> Percentage of migrants with declared good proficiency in the language of the intended destination country (“good” and “very good” level in the original questionnaire).

<sup>b</sup> High-skilled qualification is considered for the following (declared) jobs before migration: translator, secretary, financial advisor, doctor or chemist, lawyer, teacher, manager, consultant, entrepreneur.

different ways. First, we use the declared attained school degree and we notice that the degree of illiteracy is not very high – only 13.2% declared they cannot read and write. In terms of schooling, 5% of the migrants in the sample have a university degree, while 13.9% and 7.8% have respectively a secondary education degree and vocational education (i.e. 21.7% with attained high-school degree in the table). Other two indirect measures of skills are (i) the degree of host-country language proficiency<sup>5</sup> and (ii) the type of declared job qualification. Over a quarter of the migrants has a basic knowledge of the destination country’s language and another 20% declare to have a good knowledge of it. A very high percentage of interviewed immigrants declared to have knowledge of one or two foreign languages; in particular, over 70% in the whole sample and about 68% in the estimation sample of the clandestine immigrants only. A significant share of the migrants (18.2%) can be classified as high-skilled on the basis of the job qualifications in the country of origin, although the majority of the migrants are low-skilled.

The level of skills and formal education attainments of the legal migrants seems to be substantially higher if compared with our sample. Although not directly comparable, the 2001 census data reveals that only 2.5% of the foreigners residing in Italy were illiterate, while 12.1% were literate but without formal education. It is interesting to note that 12.1% of the legal migrant population in 2001 had a university degree and 27.8% attained an high-school degree. Finally 32.9 and 12.6% had a middle and primary school diploma.

Only 19% of the individuals within our sample migrate within a network of already established migrants (“relatives and friends”) from the same community of origin. This is a distinctive and important feature of our data if compared to other surveys on illegal migrants (such as for example the Mexican Migration Project) which are by construction highly skewed

toward individuals who migrate within a network.

About 60% of the interviewees declared to have the intention to return home. In the following section we analyze the link between skills endowments and return decisions of illegal migrants in a simple life-cycle framework.

### 3 Skills and Return Decisions of Irregular Migrants: A Life-Cycle Interpretation

The main point our paper makes is that illegality, by dampening the return on skills of immigrants, leads to a higher incentive to return home for highly skilled migrants, with respect to low-skilled ones. This intuitive point is supported by a very simple life-cycle interpretation, as follows.

Let us consider a two-period model where the utility function of the illegal migrant takes the usual logarithmic form:

$$U = \ln(C_1) + \delta \ln(C_2) \tag{3.1}$$

$C_1$  and  $C_2$  are respectively consumption in period 1 and in period 2;  $\delta$  is the subjective discount factor.

The illegal migrant has already reached the destination country, say country  $B$ ,<sup>6</sup> and earns in period 1:

$$w_1 = a\tau w^B$$

where  $w^B$  is the average wage in the destination country  $B$ ;  $a$  is the migrant skill level and we

assume that migrants' skills are continuously distributed over the finite interval  $[a, \bar{a}]$ ;  $\tau \in (0, 1]$  captures the magnitude of the *skill waste* effect associated with the status of illegal migrant. As  $\tau \rightarrow 0$  illegal migration tends to be less and less rewarding for all illegal migrants and has a squeezing effect on the level of human capital, i.e. being uneducated and unskilled rather than having a PhD in engineering does not change the returns from migration.<sup>7</sup> On the contrary, when  $\tau = 1$  there is no skill waste and migrants' human capital is fully rewarded according to the skill content  $a$ .

Income in period 2 depends on what the illegal immigrant decides at the end of period 1, i.e. whether to go back home to country  $A$  or to stay in the destination country  $B$  where there is a nonzero probability of becoming legal.

In case of return, in period 2 the migrant will be able to be fully rewarded for his/her skills and no illegality skill-waste effect takes place, but in the origin country  $A$  the average wage  $w^A$  is lower than in the destination country. Summarizing, the period-2 wage in case of return is given by:

$$w_2^R = aw^A.$$

If the illegal migrant decides to stay in country  $B$ , she will face a probability  $\gamma$  of getting legal status and therefore of fully exploiting her skills in the labor market.<sup>8</sup> Hence, the expected wage for period 2 in case of no return is the following:

$$w_2^{NR} = \gamma aw^B + (1 - \gamma)a\tau w^B$$

where  $aw^B$  is the wage (without skill waste) that she would get in case she obtains a legal status (with probability  $\gamma$ ) and  $a\tau w^B$  is the wage in case she does not get legal status (like in

period 1).

We can rewrite more compactly the period-2 wage in case of no return as follows:

$$w_2^{NR} = haw^B$$

where  $h \equiv \gamma + (1 - \gamma)\tau$ .

One final important consideration regards the use of financial markets to carry savings from period 1 to period 2. Let us define  $R^j \equiv (1 + r^j)$  as the rate of return on savings for country  $j$  ( $r^j$  is the interest rate). We assume that the rate of return for the illegal migrant is affected by both skills and the illegal status. Indeed, there is a common wisdom that the funds repatriated are likely to be employed in entrepreneurial activities whose rate of return will depend on individual abilities.<sup>9</sup> In our model, at the end of period 1 if the migrant decides to return home, she will invest her savings in the origin country and obtain a rate of return equal to  $aR^A$ . In case of no return, the illegal migrant uses the destination country financial markets to invest her savings. Once again, the rate of return will depend on personal skills, that are influenced by illegality through the skill waste effect:  $a\tau R^B$ . In order to simplify the framework and allow for a simple graphical interpretation, we assume that the “normal” rate of return is not different in the two countries, i.e.  $R^A = R^B = R$ .<sup>10</sup>

To sum up, the expected life-time income at time 1 when the migrant decides to return after one period in country  $B$  (i.e. a sort of temporary migration) is:

$$W^R = a\tau w^B + \frac{1}{aR}aw^A$$

whereas if she decides not to return home and to stay both periods, the expected life-time income is:

$$W^{NR} = a\tau w^B + \frac{1}{a\tau R} h a w^B$$

The problem of the illegal migrant is then to maximize her utility  $U$  in (3.1) under two different budget constraints that depend on whether she returns to the home country  $A$  or stays in the destination country  $B$ . In case of return the intertemporal budget constraint is given by:

$$C_1 + \frac{1}{aR} C_2 = W^R. \quad (3.2)$$

Whereas, in case of no return:

$$C_1 + \frac{1}{a\tau R} C_2 = W^{NR} \quad (3.3)$$

In Figure 1 the continuous budget constraints are drawn under the assumption that neither return nor “no return” are revealed-preferred, i.e. that the two budget constraints intersect in the first quadrant.<sup>11</sup>

Moreover, since the budget lines change for different values of skills, let us initially consider the special skill level  $a^*$  for which the utility is the same in case of both return and “no return”.<sup>12</sup> Let us name “marginal” migrant the individual with such a skill endowment. In the graph the utility level is identified by the indifference curve labeled  $U(a^*)$ .

When we consider an individual with skill level  $a' > a^*$ , the new budget constraints will tilt and move outwards, as shown in the Figure 1 by the dashed lines. The movement outwards is due to the increase in the life-time income, whereas the tilting is caused by the fact that the rates of return depend on the individual skill level. However, the rate of return is reduced by the skill waste effect when the migrant remains in the destination country; hence, the tilting

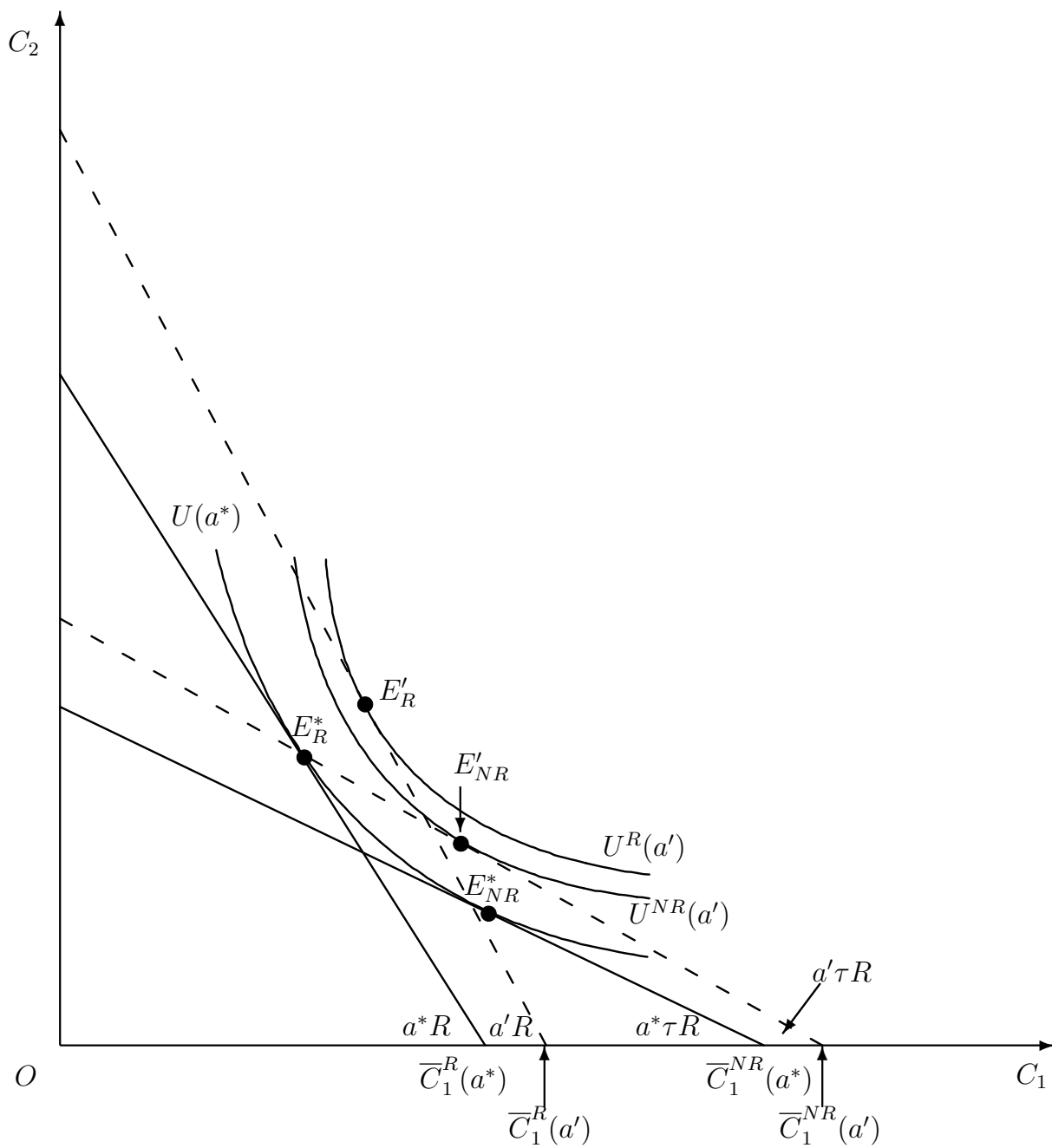


Figure 1: The welfare effect of skill variation in both cases of return and no return.

will be lower.

It can be formally shown that the new intertemporal bundles  $E'_R$  and  $E'_{NR}$  will not lay on the same indifference curves as for the “marginal” migrant with  $a^*$ , but the return option will be chosen by more skilled individuals since it assures a higher welfare.<sup>13</sup>

In both cases of return and “no return” the increase in the skill level induces a price effect and an income effect. Whether or not the individual decides to go back home, the latter effect is the same, as also shown by the shift of the intercepts from  $\bar{C}^R(a^*)$  to  $\bar{C}^R(a')$  and from  $\bar{C}^{NR}(a^*)$  to  $\bar{C}^{NR}(a')$ . Instead, the price effect (associated with the slope change) is stronger in case of return because of the (absence of the) skill waste effect. In the next section we test the implication of the life-cycle approach by means of the data from the survey SIMI described in Section 2.

## 4 Empirical Investigation

### 4.1 Model specification

Our simple model suggests that the level of skills (parameter  $a$ ) positively affects the return plans of illegal migrants. In order to test this implication we specify a probit model for the individual *intentions to return* of the irregular *clandestine* migrants interviewed in SIMI. In other words, we consider only a subsample of the data set described in Section 2 by excluding the asylum seekers, whose intentions to return are biased by political factors. The dependent variable is equal to 1 if the individual clandestine migrant has stated that he/she would return home, zero otherwise.<sup>1</sup>

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<sup>1</sup>Exact definitions and basic statistics of the explanatory variables, as well as the relative data sources, can be found in Coniglio, De Arcangelis and Serlenga (2009).

Our main task is to test whether individual skills are positively related with the intentions to return. In order to capture the multiple dimension of individual skills and abilities (i.e. schooling, job experiences and qualifications, knowledge of foreign languages etc.) we employ four different measures: (i) *years of schooling*, which captures the level of formal education undertaken by the migrant; (ii) a dummy for *skilled workers*, i.e. for individuals who declared to hold some job qualifications; (iii) the level of individual proficiency in the language of the country of destination (*host-country language proficiency*), which proxies the abilities to fully access the job market in the specific country of intended destination; (iv) the number of foreign languages known with at least a basic level of proficiency (*language proficiency*), which is a more general measure of foreign-language abilities. We expect all these variables measuring high skills to have a positive effect on the probability of returning to the country of origin.

Besides the migrant's skill level, individual intentions to return depend on many other variables. We sort them out into two sets: pure *individual covariates*, which refer to the personal situation of the clandestine migrant, and *country-level variables*, which refer to the characteristics of the country of origin.

- *Individual covariates*. The intensity of the skill waste might be affected by the presence of social networks, i.e. *migration networks*, in the destination country. On the one hand, networks of established migrants may provide both personal support and more accurate information on the destination country; hence, they can affect positively the expectation of obtaining a good job (see for instance Munshi, 2003). On the other hand, a migration network might increase temporary migration. Indeed, the existence of networks may reduce the perception of risks associated with the migration experience. As a consequence, this safety net might induce some individuals (in particular the 'target-

savers migrants', who are highly risk-averse or highly attached to the home country) to migrate temporarily. Hence, a higher turnover and therefore higher rates of return home could be observed for individuals migrating within a network. In our specification the migration network is represented by a dummy variable (*Migroneetwork*) equals to 1 when the migrants declare that relatives (or friends) already live in the final destination and its expected sign on the probability of return depends on whether the former effect (cost-reducing) or the latter one (turnover-increasing) prevails.

The decision of whether to return to the home country or stay in the destination country depends also on the individual opportunities in the country of origin in case of return. These are closely related to the previous job experiences at home. Thus, we include a dummy variable for being *unemployed in the home country* before migrating, which is expected to have a negative influence on the probability of returning.

Moreover, together with business and entrepreneurial motivations, the migrant might decide to return because of family and cultural ties with the home country (see Dustmann, 2003a).<sup>14</sup> We therefore include a proxy for close family ties: a dummy for the presence *children left at home* which is expected to have a positive effect on the return choice.

Furthermore, since a previous migration experience generally lowers the non-monetary and psychological costs of subsequent migrations, we include the dummy variable *past migration* for individuals that had such an experience in our sample. The expected sign is negative on the return choice.

- *Characteristics of the country of origin.* In this category we include both economic and social variables. It is widely acknowledged that return intentions are affected by the

expected economic opportunities in the country of origin (i.e. the “normal” wage  $w^A$  in Section 3). Return migration will be generally higher in countries that are at an intermediate level of development and would offer opportunities to migrants who have accumulated human and financial capital. Hence, we introduce as a general proxy for the level of development the (*log of*) *per capita GNI* (2001) for the country of origin, which is expected to have a positive effect on return intentions.

The SIMI data set contains information about various push factors at the individual level and allows to distinguish between the occurrence of *social conflicts* and that of financial or *economic crises* in the village/city of origin.<sup>15</sup> They are included as dummy variables and separately in order to capture a possible different effect.

Moreover, we include the (*log of*) geographical *distance* as a proxy for the monetary and psychological cost of migration. A shorter geographical distance means lower cost of migration and this may have two different implications, similarly to the effect of migration networks. On the one hand, a lower cost means higher probability of integration and lower probability of return. On the other hand, a lower roundtrip cost to go home might imply less incentive to permanent migration, hence higher turnover and a revealed higher probability to return.

Other controls are also included in the estimation. Regarding cultural ties with the country of origin, it is widely accepted that the cost of residing in a foreign country increases with the degree of cultural and social diversity between the origin and destination country. A different religion is an important dimension on which such diversities are expressed. Hence, we include a dummy variable, *Muslim*, that aims to capture the – generally greater – psychological cost of migration faced by individuals of Islamic religion. This variable is supposed to have a positive

effect on the return intention.

Finally, we include macro-area dummies in order to capture the unobservable characteristics of the geographical areas of origin (due to the limited number of observations and the high number of represented countries of origin, we could not use single country dummies).

## 4.2 Estimation Results

Let us recall that the model estimates the probability of returning home through the intentions of the clandestine migrants. Table 2 shows the estimates of different specifications of the probit model in order to check for the robustness of the results. In particular, in Models (1)–(4) we use the four different measures of skills one at a time. Although each measure captures a different dimension of individual abilities, some of them are expected to be highly correlated among each other. Notwithstanding this correlation, in Model (5) *years of schooling* and *skilled worker* are contemporaneously included, while in Model (6) we consider *skilled worker* together with *language proficiency*. Lastly, Model (7) includes the dummy *skilled worker* together with the more specific *host-country language proficiency*.

Table 3 reports only the marginal effects of the last specification – Model (7) – but all the others are available upon request.

Table 2: Estimates of the Probit Model for the Intention to Return:  
Some Specifications

<b>Regressors</b>	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>	<b>(5)</b>	<b>(6)</b>	<b>(7)</b>
<b>Skills and network</b>							
<i>Years of schooling</i>	0.106 <sup>+</sup> (0.059)				0.099 <sup>+</sup> (0.059)		
<i>High-Skilled worker</i>		0.553* (0.23)			0.42 <sup>+</sup> (0.242)	0.467* (0.236)	0.507* (0.234)
<i>Knowledge of foreign languages</i>			0.198** (0.075)			0.173* (0.077)	
<i>Host-country language proficiency</i>				0.295** (0.107)			0.275** (0.108)
<b>Individual covariates</b>							
<i>Migronetwork</i>	0.312 <sup>+</sup> (0.177)	0.352* (0.176)	0.288 (0.178)	0.332 <sup>+</sup> (0.183)	0.310 <sup>+</sup> (0.178)	0.293 (0.179)	0.337 <sup>+</sup> (0.184)
<i>Unemployed in the home country</i>	-0.175 (0.15)	-0.125 (0.153)	-0.203 (0.15)	-0.207 (0.152)	-0.118 (0.154)	-0.128 (0.154)	-0.127 (0.157)
<i>Children in the home country</i>	0.418* (0.177)	0.396* (0.177)	0.434* (0.177)	0.405* (0.178)	0.384* (0.178)	0.395* (0.179)	0.359* (0.180)
<i>Past migration</i>	-0.385* (0.164)	-0.43** (0.163)	-0.412* (0.164)	-0.422** (0.165)	-0.412* (0.165)	-0.436** (0.165)	-0.451** (0.166)
<b>Country of Origin</b>							
<i>GNI per capita (log, 2001)</i>	0.497** (0.139)	0.530** (0.138)	0.471** (0.140)	0.489** (0.140)	0.513** (0.139)	0.493** (0.140)	0.511** (0.141)
<i>Social conflict</i>	-0.775** (0.181)	-0.758** (0.178)	-0.717** (0.179)	-0.695** (0.181)	-0.791** (0.182)	-0.740** (0.180)	-0.721** (0.182)
<i>Economic crisis</i>	0.524* (0.227)	0.561* (0.227)	0.441* (0.230)	0.463* (0.234)	0.552* (0.228)	0.476* (0.231)	0.496* (0.235)
<i>Distance(in log)</i>	0.233** (0.077)	0.257** (0.077)	0.268** (0.078)	0.249** (0.080)	0.239** (0.077)	0.273** (0.078)	0.261** (0.081)
<i>Muslim</i>	0.379** (0.159)	0.318* (0.157)	0.354* (0.159)	0.303 <sup>+</sup> (0.160)	0.372* (0.160)	0.349* (0.159)	0.301 <sup>+</sup> (0.160)
<i>Asia</i>	-0.746** (0.254)	-0.769** (0.250)	-0.691** (0.256)	-0.730** (0.256)	-0.758** (0.255)	-0.725** (0.258)	-0.763** (0.259)
<i>South America</i>	-2.65** (0.164)	-2.837** (0.163)	-2.707** (0.164)	-3.049** (0.165)	-2.74** (0.165)	-2.818** (0.165)	-3.171** (0.166)

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Table 2: continued

<b>Regressors</b>	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>	<b>(5)</b>	<b>(6)</b>	<b>(7)</b>
<i>Europe</i>	(0.950) -0.012 (0.329)	(0.947) 0.048 (0.326)	(0.942) 0.310 (0.336)	(0.967) -0.038 (0.336)	(0.951) -0.042 (0.330)	(0.945) 0.243 (0.338)	(0.959) -0.0005 (0.338)
<i>North Africa</i>	-0.128 (0.379)	0.009 (0.374)	-0.034 (0.378)	-0.070 (0.383)	-0.116 (0.380)	-0.034 (0.378)	-0.067 (0.384)
<i>Constant</i>	-3.70** (1.000)	-4.195** (1.026)	-3.70** (0.996)	-3.47** (1.009)	-4.188** (1.044)	-4.238** (1.039)	-4.104** (1.058)
<i>Observations</i>	430	438	436	427	430	436	427
<i>Pseudo R<sup>2</sup></i>	0.168	0.173	0.176	0.181	0.174	0.183	0.190
<i>Log likelihood</i>	-214.9	-219.6	-217.5	-211.4	-213.5	-215.5	-209.1

Standard errors in parentheses / Probability of return (baseline) = 0.754

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

Table 3: Marginal Effects of Model (7)

<b>Regressors</b>	<b>Marg. Eff.</b>
<i>High-Skilled worker</i>	0.178* (0.088)
<i>Host-country language proficiency</i>	0.087** (0.03)
<i>Migronetwork</i>	0.100+ (0.051)
<i>Unemployed in the home country</i>	-0.040 (0.049)
<i>Children in the home country</i>	0.106* (0.050)
<i>Past migration</i>	-0.152** (0.058)
<i>GNI per capita (log, 2001)</i>	0.161** (0.044)
<i>Social conflict</i>	-0.214** (0.048)
<i>Economic crisis</i>	0.173* (0.088)
<i>Distance(in log)</i>	0.082** (0.025)
<i>Muslim</i>	0.096+ (0.053)
<i>Asia</i>	-0.268** (0.096)

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Table 3: continued

<b>Regressors</b>	<b>Marg. Eff.</b>
<i>South America</i>	−0.754** (0.041)
<i>Europe</i>	−0.001 (0.106)
<i>North Africa</i>	−0.021 (0.124)
Observations	427

**Probability of return (baseline) = 0.757**

*Note: for the dummy variables the marginal effect is referred to the change from 0 to 1.*

Standard errors in parentheses

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

Results are generally in line with our expectations. Skills, education and, interestingly, also host-country specific abilities – such as the knowledge of the language – increase the probability of return to the home country, as shown in the top part of Table 2 where all the measures of skills are significant at the 5% probability level<sup>16</sup> for all seven models.

We find that the knowledge of the language of the intended destination countries has a positive and significant effect on the intentions to return either when considered singularly (Model 4) and when considered together with a measure of job qualification (Model 7). Moreover, the probability of return of skilled individuals, contrary to most other findings in the literature (for instance, Borjas et al. 1996) is higher than the probability of return of an individual with no job qualification or experience: according to Table 3, having some skills

increases the probability of return by more than 17%.

Most existing studies on return migration and return intentions of *legal* migrants highlight a generally lower propensity to return for highly skilled individuals. Besides dealing exclusively with legal migrants, these studies do not disentangle the effects of migrants networks on the likelihood of returning in the host country. Using data from the German Socio-Economic Panel, Dustmann (1996, 2003b) finds a negative effect of years of schooling on the intention to return to the home country. He also finds that for those who intend to return, schooling has a negative impact on the duration of the migration spell. This is explained by the fact that higher schooling, guaranteeing higher salary, reduces the time needed to achieve a pre-determined saving target. In a related study on the factors that affect the return migration of a cohort of foreign-born in the US, Reagan and Olsen (2000) find no evidence of skill bias in return migration. Instead, our results seems to be consistent with Zhao (2002). In his analysis on rural to urban migration in China, Zhao finds that better educated and skilled rural migrants are more likely to return to their village of origin. The explanation offered by the author fits our interpretation: both the strong segmentation in the urban labor market and the tight migration regulatory system in China prevent the full participation of skilled workers to the local labor market when coming from rural areas. This imposes heavy costs on skilled migrants in terms of rewards to education and work experience.

Also the other covariates included in our estimation (mainly for control) show the expected signs.

We find evidence of relevance of family and cultural ties. In our estimations, an individual with children left in the home country is more likely to return than in the case where she has no children left home. Our evidence is in accordance with Dustmann (2003a) where the

presence of children in the host country negatively affects the return intention of parents.

Next, *when migrating within a network*, the positive externalities provided by the social net increases the intention to return and so it is likely to increase the turnover of illegal migrants.

Moreover, it is widely acknowledged that previous migrating experiences reduce the psychological cost of further moves. This is confirmed by our analysis as the dummy variable *past migration* is negative and highly significant. The status of being unemployed in the country of origin before departure, i.e. a proxy for lack of opportunities at home, shows a negative sign on the intentions to return although it is not statistically significant in our estimates.

Furthermore, illegal migrants are also found to be more willing to return when their countries of origin are relatively more developed. Countries that have an above average level of *per capita GNI* are more likely to attract illegal migrants back home.

Interestingly, our estimates also acknowledge that *social conflicts* and *economic crisis* have different effects on the return choice. Having experienced an economic or financial crisis in the village of origin seems to have a temporary effect on the choice of leaving the country of origin, whereas social conflicts have a more permanent effect on migration. In fact, while social conflicts or civil wars may be perceived as long-term shocks and induce permanent emigration, economic or financial crises may lead to temporary emigration that is subsequently reversed when economic conditions improve again.

Finally, the coefficients on the proxies for monetary and psychic cost of migration, namely *distance* and *Muslim*, are both significant and positive.

## 5 Conclusions

In this paper we assume that the status of illegal migrant hinders the full utilization of individual skills. As a consequence, the opportunity cost of returning home is lower for highly skilled illegal migrants rather than individuals with few or no skills. This evidence contrasts the common findings that legal skilled migrants tend to stay longer in the destination countries, especially due to their higher ability to assimilate in the host country.

This result has been shown theoretically and supported empirically. In a simple two-period model illegality is modeled as a tax on skills (but without generating any tax revenue and therefore causing *skill waste*) and the return-home choice is more likely for the most skilled migrants. A probit model on the intentions to return has been estimated for a sample of clandestine immigrants in Italy. The endowment of personal abilities affect the intentions to return home in the predicted direction. This result is robust to four different measures of skills (years of schooling, foreign language ability, host-country language proficiency, level of skills on the job at home) after controlling for several individual and country-specific covariates.

Our findings point out one theoretical consideration and one policy conclusion.

First, since skilled illegal migrants are more likely to return home, this study does not imply that illegal – vs. legal – migration is more beneficial for the origin countries (since, for instance, it may alleviate the brain drain). On the contrary, by reversing the argument of the recent literature on beneficial brain drain (Mountford, 1997), the skill waste associated with the status of illegal migrant would strongly reduce the incentive for migrants to invest in their human capital both before and during the migration spell. This would significantly decrease human-capital formation in current emigration countries, as well as the overall flows of human capital and knowledge brought back by migrants.

Secondly, our paper provides indirect support to skill-selective immigration policies. Since the Italian legal system does not show any kind of skill selection for immigrants, the conclusions may present a strong argument in favor of skill-selective policies rather than a generic ban to migration. Indeed, we have proved that a generic ban is not neutral and is strongly biased against skilled migrants.

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# Notes

<sup>1</sup>In this paper we will interchangeably use the terms “undocumented”, “illegal” and “irregular”.

<sup>2</sup>Kossoudji and Cobb-Clark (1996) and Cobb-Clark and Kossoudji (2000) document the presence of less opportunity for job advancement and the existence of a wage gap between legal and illegal migrants in the US.

<sup>3</sup>See OECD (2006) for one of the first attempts to harmonize international migration statistics. See also Docquier and Marfouk (2005) for a reconstructed international dataset on migration and educational attainment.

<sup>4</sup>The survey is downloadable at the web site <http://pewhispanic.org/datasets/>.

<sup>5</sup>Bleakley and Chin (2004) show the positive relationship between knowledge of the host-country language and the level of wages.

<sup>6</sup>For simplicity we are not modelling the choice to leave the origin country and assume instead that the migrant has already arrived illegally in the country of destination. We recall that Orrenius and Zavodny (2005) instead deal with the issue of whether to leave the origin country or not and reside illegally at destination, but within a different theoretical framework.

<sup>7</sup>Even if  $\tau = 0$  is implausible since the brightest and more skilled migrants are more likely to obtain the best opportunities, skills and formal qualification are of little use to an illegal migrant. There is anecdotal evidence that very often migrants employed illegally in highly unskilled and manual jobs – such as agricultural workers in developed countries – are actually highly skilled and educated individuals. Indirect evidence of the skill-waste effect is provided by a series of studies on migrants’ performance after their legalization through amnesties in the United States (such as IRCA). See Rivera-Batiz (1999), Cobb-Clark and Kossoudji (2000 and 2002).

<sup>8</sup>For simplicity and without loss of generality we assume that  $\gamma$  does not depend upon skills. While this is probably true for Italy, we acknowledge that in host countries which have selective immigration policies, the probability of obtaining legal status might positively depend upon skills. A version of the present framework taking this aspect into consideration is available from the authors upon request. Intuitively, the effect of such an extension is straightforward (a reduction in the range of the parameters for which return is more likely for highly skilled illegal immigrants relative to the low-skilled ones) and does not affect the main insights presented.

<sup>9</sup>See, for instance, a study on the occupational choice of return migrants in Egypt by McCormick and Whaba (2001) who find that both the spells of periods overseas and overseas savings significantly increase the probability of starting an entrepreneurial project for more literate migrants. Moreover, a recent report by the World Bank (2006) includes a thorough study of the effects of remittances on development that highlights the importance of entrepreneurial activities financed by remittances.

<sup>10</sup>See the Appendix in Coniglio, De Arcangelis and Serlenga (2009) for a generalization of the model with two different rates of return.

<sup>11</sup>Conditions for this to occur involve a sufficiently high wage gap and a lower bound for the skill level that depends on the values of  $\gamma$ ,  $\tau$  and  $R$ . Such conditions are available from the authors upon requests.

<sup>12</sup>Conditions on the existence of  $a^*$  involve again a sufficiently high wage gap. Such conditions are available from the authors upon requests.

<sup>13</sup>See Coniglio, De Arcangelis and Serlenga (2009).

<sup>14</sup>More broadly these factors might also proxy for the psychic cost of migration and may be modeled as a fixed disutility flow for each period the migrant is far away from the family.

<sup>15</sup>In terms of the model, they may be related once more to the “normal” wage in the country of origin  $w^A$ , although the two variables will prove to have a different effect.

<sup>16</sup>Henceforth, “significant” means “significant at the 5% probability level” unless differently specified.