

Admission policies and immigrant skills: The case of Spain

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Abstract

It is often argued that tougher immigration policies have a positive selection effect on immigration from the perspective of the host country. These policies increase the cost of migrating, making it less attractive for less-skilled individuals. However, there is relatively little evidence addressing the causality of these arguments. In this paper we use the imposition of visa requirements by the European Union with regard to Colombia and Ecuador to identify whether the increase in costs affected the composition of migration in terms of observable skills (schooling). Our results show that the increase in migration costs due to the imposition of visa requirements did affect the proportion of poorly and well-educated immigrants arriving from these two countries: there was a relative increase in the proportion of the more skilled.

Keywords: immigration policy, migration costs, visa requirements, difference-in-difference

JEL Codes: I20, H80

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1. INTRODUCTION

It is well known that there are many more individuals wanting to migrate to developed countries than these countries can (or are willing to) admit. Moreover, countries are typically unwilling to admit just any type of immigrants. From the perspective of the receiving country, then, there is a concern about the quantity and quality of the immigration inflow.¹

Most countries, regardless of their level of development, have regulation policies that control the selection and admission of foreign citizens. The quota system is the most commonly used policy for regulating the number of immigrants from certain regions. For example, until the mid-1960s the United States enforced quotas on immigrants from less-developed countries, and Spain began to grant working permits based on quotas for immigrants at the start of this century. A different admission policy—the point system (as implemented, e.g., in Australia and Canada)—likewise clearly shapes the characteristics of immigrants admitted to the receiving country.

The constraints imposed by immigration policies on the decision to emigrate have usually been considered as a cost. The tougher the immigration policy, the higher the cost of migration; this, in turn, affects both the number and the type of immigrants (Chiswick 1978; Chiswick 1999; Clark et al., 2007). On the one hand, the higher the cost of migrating, the lower the number of individuals who are willing to migrate. A country with a highly restrictive immigration policy will, *ceteris paribus*, experience less immigration than will a country with fewer restrictions. On the other hand, migration costs are positively associated with a more favorable selection or sorting of immigrants (Clark et al., 2007; Grogger and Hanson, 2010). That is, higher emigration costs make migration less attractive to the less skilled, and this entails a higher proportion of better-qualified individuals in the pool of potential emigrants. In short: the higher the migration costs, the higher the minimum level of skills needed to make migration an attractive choice.²

¹See Borjas (1994) for a survey of the economics of immigration; see Borjas and Hanson (2009) for a global discussion in immigration policy.

²The net migration income function in terms of schooling is implicitly assumed to be concave, where individuals in the lower tail of the skill distribution do not migrate. If instead this function is linear

Many empirical studies try to infer how changes in the emigration costs (immigration policies) affect emigration decisions and the immigrant patterns in a destination country. Toward this end, the studies usually compare different origin countries to the same or different destinations.

Bauer et. al., (2001) study the assimilation of immigrants in 29 countries of the Organisation for Economic Cooperation and Development (OECD). Mayda (2004) analyzes migrants to 14 OECD destinations, and Pedersen et. al., (2004) examine migration to 27 OECD countries from 129 source countries. Belot and Hatton (2008) analyze migrants from 80 source countries to 29 OECD destination countries. In general, country-specific dummy variables (assumed to recover differences in migration policies) are used to capture the cost effects on migration composition. There are also some studies that use individual data to compare migration policy effects for a set of particular countries. For example, Antecol et al. (2003) compare the immigrant characteristics for Australia, Canada, and the United States in light of the significant difference in migration policies among these countries. The authors observe that the distribution of immigrant characteristics in these countries is more concentrated in those skills (e.g., a college degree) defined by the respective immigration admission policies. For the United States, immigrant characteristics are much more dispersed because nearly 80 percent of immigration permits are granted based on family reunification programs.

However, there are only a few systematic studies that focus on whether the observed sorting of immigrants by country is a consequence of the host countries' immigration policies or rather occurs because immigrants with a particular set of characteristics migrate to particular places independently of those policies (see Grogger and Hanson, 2010; Lowell, 2005; Manski, 1995).

In this paper we use recent modifications of the European Union's foreign admission

decreasing, then an increase in migration costs could diminish the proportion of the more highly skilled individuals and thereby negatively affect immigrant selection from the perspective of the receiving country. However, assuming that the net migration income function decreases linearly with schooling does not seem sustainable for developed countries (Grogger and Hanson, 2010).

policies to examine their effect on the immigration pattern inflow to Spain. As argued by Neumayer (2006), visa requirements are among the most effective ways that countries have to control immigrant inflows. In 2002 and in 2003, the European Commission imposed visa requirements for short stays on immigrants arriving from Colombia and Ecuador (CoEc). Most of the Europe-bound from these two countries migrated to Spain. Focusing on the quantity of immigrants arriving Spain, Vono et al. (2008) and Bertoli et al. (2010) show that the number of immigrants fell significantly after the imposition of visa requirements. Here we complement this evidence by analyzing the effect of the imposition of visa requirements on the relative inflow of immigrants from CoEc compared to the rest of South America or total immigration.

Nevertheless, the main contribution of our paper is to discuss whether the imposition of visa requirements, which increased migration costs, affected the observable characteristics of the immigrants arriving from Colombia and Ecuador compared to those arriving from other countries not affected by these regulations. In order to identify empirically the effect of these migration policy changes, we use two strategies. The first involves comparing the migration patterns to Spain from CoEc using as controls the rest of South American (SA) countries or the neighboring countries of Peru and Venezuela. That is, we compare how the change in immigration policy affected the migration inflow from CoEc relative to other SA countries not affected by that policy change. The second strategy involves comparing migration from CoEc to Spain and the United States before and after implementation of the visa requirements. That is, how the implementation of the visa requirements affected the sorting of immigrants (Grogger and Hanson; 2010). Note that the admission requirements to enter to the United States did not change during this period despite the increase in border controls after 9/11, although enforcement did become stricter. The annual number of immigrants from CoEc entering the United States from 2000 to 2008 was similar to the number who entered during the 1990s.³ This aspect is relevant because the great majority

³For the period 2000–2008, immigration to the United States included 181,000 Colombians and 135,000 Ecuadorians; for the preceding decade the numbers were, respectively, 162,000 and 124,000 (Pew Hispanic Center, 2008).

of South American emigrants (and CoEc) headed toward Spain or the United States during the last decades (Solimano and Allendes, 2007).

Overall, our results indicate that the change in the admission requirements increased the proportion of high-skilled immigrants to Spain from CoEc as compared with other regions of SA and also with respect to those migrating to the United States. In other words, the results show a direct impact of increasing migration costs on changes in the characteristics of immigrant inflow, as suggested by the theory.

The paper proceeds as follows. In Section 2 we briefly describe the recent immigration policy in Spain, in Section 3 we present a simple theoretical model to motivate the empirical analysis. Section 4 presents the data and characteristics of the immigration inflow into Spain. We then estimate several regressions while using as controls the different countries of origin (Section 5) or destination (Section 6). Finally, Section 7 concludes.

2. SPANISH IMMIGRATION POLICIES

Immigration is a relatively new phenomenon in Spain. Until the late 1970s Spain was considered a country of emigrants, whose destinies were either in America or elsewhere in Europe. In the early 1980s, however, the flow of migration began to reverse. On the one side, Spanish emigration declined in this period, and a significant number of Spanish emigrants decided to return back home. On the other side, a slow but steadily positive trend of foreign-born population began arriving in Spain. The ratio of foreign-born to total population grew from 0.5 to 0.9 percent between 1980 and 1990. During the 1990s and specially during the second half of that decade, immigration increased significantly. The immigrant population more than doubled, reaching 2.2 percent of the total population in 2000. However, it was not until the new century that immigration became a significant issue in Spain. The total foreign population tripled, amounting to 8 percent of Spain's population in 2006 and more than 10 percent in 2009, surpassing the European average.

This massive and rapid influx overwhelmed local authorities and put immigration on the national political agenda. Since 1996, many laws, amendments, decrees, and regulations

have been passed that deal with immigration issues. Moreover, following Lenoir (2003), civic society started viewing immigration as a social problem that needed to be confronted by, for example, defining the education and health rights of immigrants, avoiding their exploitation, and defining the criteria for naturalization.

Spain's first immigration law was passed in 1985, but it served more as a signal of future integration with the European Union (EU) than as a response to local immigration issues (Bruquetas-Callejo et al., 2008). This law was particularly restrictive with respect to immigrants' rights and was strongly criticized on legal grounds. In 1996, when immigration started to become an issue, an amendment to the 1985 law was passed that focused on the social integration of immigrants. This decree granted a permanent work permit to any foreigner who had resided legally in Spain for at least six years. The amendment also introduced a new figure of family reunification to grant temporary or permanent admission to the country for relatives of legal immigrants; and it acknowledged the right to free education and medical care of immigrant children regardless of their parents' legal status. In 2000, Spain approved its first comprehensive immigration law -the Law on the Rights and Freedoms of Foreigners in Spain- which was amended by the ruling party in December of that year. The aim of this reform was to severely restrict the rights of immigrants by limiting residence permits (i.e., reducing admission through family reunification programs) and increasing the penalties for trafficking in labor and recruiting illegal immigrants. However, Spain went through several "amnesty" periods to legalize undocumented immigrants, most recently at the beginning of the century and in 2005.

Despite these regulations, which dealt with controlling access to short-term or permanent work or residence permits, the number of immigrants continued to increase. The European Commission (EC) pressured for more controls, arguing that immigrants after entering Spain could move freely inside the EU because of the borderless zones created by the Schengen Agreement. Hence the EC forced Spain to implement specific measures for controlling the immigration inflow.

In 2001, the Spanish government passed a specific program based on bilateral agreements with those source countries that contributed the most to immigration inflows. The aim

of this so-called GRECO program was to establish a ceiling on the number of admissions (a type of quota system) and to implement mechanisms for selecting workers from the source country. In May 2001 Spain signed bilateral agreements based on this program with Colombia and with Ecuador (Boletín Oficial del Estado 4/7/2001 and 10/6/2001, respectively). The Spanish authority would accordingly communicate the number, type, place, and duration of job offers in Spain to the Colombian and Ecuadorian authorities. Once a list of possible candidates was supplied by the source countries, the Spanish authority would select the most suitable ones and grant the necessary working permits.

The agreements were signed in May, but during 2001 the Spanish government failed to establish the number of immigrants needed from these countries. In the following years, nearly all (around 20,000) of the temporary workers and about half (around 5,000) of the permanent workers were granted work permits. The permits allocated to Colombia and Ecuador represented approximately 11 and 2 percent (respectively) of Spain's total.

Fearing that the bilateral agreements would not be enforced and that immigrants might therefore relocate to other EU countries, the EC imposed visa restrictions on Colombian immigrants starting in January 2002 (CE539/2001) and on Ecuadorians starting on August 2003 (CE453/2003). That is, a visa would be required for any native citizen of these countries seeking admission to stay for up to 90 days in any European country. The out-of-pocket cost of the visa was set at approximately €60 nearly half of the average monthly wage in Ecuador or Colombia, and there were other bureaucratic requirements. First, the application must be taken personally or by an authorized representative to the consulate; yet there are only two in Ecuador (in Quito and Guayaquil) and only four in Colombia (in Bogotá, Calí, Cartagena and Medellín). Second, the applicant must already have health insurance coverage, must already be working in Ecuador or Colombia, must have enough cash for the trip to Spain, and so on. In other words, the requirements were not trivial for the less skilled.

In sum, the admission policies for Colombians and Ecuadorians changed upon imposition of the visa requirements in 2002 and 2003, which were easily enforceable. These changes entailed an increase in the cost of migrating. In what follows we analyze whether the

measures were effective along two dimensions: (1) in reducing the immigration inflows from these countries relative to other countries that were not affected by modifications in migration policies; and (2) in changing the pattern of immigration in ways suggested by the literature.

3. MODELING THE EFFECTS OF CHANGES IN IMMIGRATION POLICY

In this section we motivate the empirical analysis by developing a model, based on the migration decision ideas of Borjas (1987) and Chiquiar and Hanson (2005), but considering two possible migration destinations. In terms of this model we discuss (i) how, from the pool of potential emigrants, individuals sort to each destination and (ii) the effect of an exogenous increase in the cost of migrating.

In the traditional migration model with only one destination country (e.g. U.S. immigration from Mexico), the types of immigrant selection are defined by comparing the immigrants' characteristics with those of a similar but nonmigrating subpopulation in their home country (Fernández-Huertas, 2011). In this case, there is positive selection if emigrants are the most-skilled individuals of their subpopulation in their home country (Chiquiar and Hanson, 2005).

Yet even with a positive immigrant selection in traditional terms, a country could still end up receiving the least educated of all emigrants departing from a given country. In this case, there is a negative sorting of immigrants because this country is receiving a disproportionate share of the less educated emigrants. For example, in the pool of emigrants from South America heading to Spain or the United States during the last decade, nearly 80 percent of the low educated migrated to Spain and only 20 percent headed to the United States (González and Miles, 2010).⁴ Therefore, in cases of multiple migration destinations, we could additionally characterize the immigrant selection into a particular host country by

⁴During the last decade, nearly four of every five South American emigrants headed to either Spain or the United States (Solimano and Allendes, 2007).

taking into account how emigrants from the same origin sort or self-select into the multiple destinations.

Moreover, in the traditional approach it is generally assumed that an exogenous increase in migration cost (e.g., the introduction of visa requirements) will change the pattern of the immigration inflow, increasing the average skill level of immigrants. This assumption reflects a positive selection effect: less-educated individuals will decide not to migrate (at least legally) because of the increase in costs, (Clark et al., 2007; Gathmann, 2005). However, when there are different possible destinations, what matters is the relative change in migration costs between destinations. For example, emigrants who initially expected they would migrate to a country that then increased migration costs could choose other destinations. As a result, the net sorting effect of an increases in migration costs might not be clear: we could observe a decrease in the proportion of less-educated immigrants but also a redirection of more-educated immigrants to other destinations, leaving a given host country's average composition unchanged.

We shall now present a simple framework that connects the preceding discussion with the empirical evidence in subsequent section. We follow the model of Chiquiar and Hanson (2005) but add a second migration destination. Hence, let the schooling wage profile for the source country be given by

$$\ln \omega_o(s_i) = \mu_o + \delta_o s_i$$

where μ_o is the base wage, s_i is the level of schooling and $\delta_o > 0$ captures the return to schooling. The potential emigrant must decide between two possible destinations: destination 1 is Spain and destination 2 is the United States. If the entire population of the source country were to migrate to each of these destinations separately, then the resulting wage profiles could be written as

$$\ln \omega_d(s_i) = \mu_d + \delta_d s_i, \quad d = 1, 2.$$

Similarly to Chiquiar and Hanson (2005), we assume that there is a random component in the wage equation; however, our focus is on the relative selection between destinations in

terms of observable skills, such as schooling level. We assume that returns to schooling in the origin country are higher than in the destination countries, $\delta_o > \delta_d$, and that, returns to schooling for an immigrant are higher in the United States than in Spain, $\delta_2 > \delta_1$.

Migration cost is assumed not to be constant but rather to depend on such factors as family ties, fluency in the language of the destination country, and schooling level of the individual. That is, we assume migration costs (defined in time-equivalent units) to be given by

$$\ln(\pi_d(s_i; c_d, z_{di})) = \eta_{\pi_d} - z_{id} + c_d(s_i),$$

where η_{π_d} is a country-specific fixed cost, such as the airplane ticket. The z_{id} term recovers individual-specific migration costs, such as having relatives or family ties in the host country (which lowers the cost) or fluency in the host country's language; this term could even capture the emigrant's risk aversion (we should observe a higher cost for emigrants who are more risk averse to destinations with higher wage inequality). Finally, c_d recovers migration policy costs, which are assumed to depend on the schooling level; this captures the possibility that more-educated individuals are more capable of meeting immigration policy requirements, have more options in the destination country, or can more easily obtain temporary permits as compared with the less educated.

The migration decision (MD) is first made by comparing the net benefit of migrating to each of the destination countries with the benefit of staying in the origin country. That is, an individual will decide to migrate if the net benefit achievable in the destination country, $I(s_i)_d = [\ln \omega_d(s_i) - \pi_d(s_i; c_d, z_{di})]$, is larger than the income in the origin country, $I(s_i)_o = \ln \omega_o(s_i)$:

$$\text{MD}(s_i)_d = [\ln \omega_d(s_i) - \pi_d(s_i; c_d, z_{di})] - \ln \omega_o(s_i) > 0$$

for $d = 1$ or 2 or both.

If none of the destination countries satisfy this inequality, then the potential emigrant will stay in his home country. In general, this is the case for nearly 95 percent of South Americans (if we assumed that all individuals had considered the migration option); in

other words, only 5 percent of the South American population has actually migrated out of South America (Cepal, 2007).

If the cost benefit analysis is satisfied for only one of the countries (i.e., if $MD(s^*)_d > 0$ and $MD(s^*)_{d'} < 0$), then we will observe the emigrant heading to destination d . This circumstance could arise when the cost of migrating to country d' is relatively high for a given educational level, so that $(\ln \omega_{d'}(s_i^*) - \pi_{d'}(s_i^*; c_d, z_{di})) < \ln \omega_o(s_i^*)$. If this inequality is satisfied for the entire range of schooling, then there will be only one emigration destination and we back to the case discussed by Chiquiar and Hanson (2005). In this case, the selection depends on the distribution of schooling in the source country.

Yet if, within the schooling range, the net benefit of migrating is positive for both destinations, then the emigrant's choice of a destination country depends on the highest net benefit: he will head to destination d if $(I(s)_d - I(s)_{d'}) > 0$.⁵ In this case there are two types of immigrant selection analysis. First is the traditional selection analysis comparing the pool of potential emigrants with the nonemigrating subpopulation in the origin country. The second selection type follows from the existence of different possible migration destinations: comparing how, from the pool of potential emigrants, individuals of different skills sort among destinations (Grogger and Hanson, 2010). In other words, how individuals self-select to different destinations once they have decided to migrate.

In order to examine matters graphically, we present a simple specification of the cost function in which $z_{id} = z_d$, family ties are country specific, and the costs of the migration policy decrease with the level of schooling $c_d(s_i) = \kappa_d - \delta_{\pi_d} s_i$:

$$\ln(\pi_d(s_i; c_d, z_{di})) = \eta_{\pi_d}^* - \delta_{\pi_d} s_i,$$

where $\eta_{\pi_d}^* = \eta_{\pi_d} - z_d + \kappa_d$. We make two additional assumptions. The first is that for individuals with particularly low level of schooling, it is not worthwhile to migrate because the base wage in the origin country is higher than that in the destination country net of

⁵It is natural to assume that the net benefit of migrating is equal to the discounted present value of all income minus the costs of migrating, which include the opportunity cost of a possible return to the native country.

migration costs, $\mu_o > \mu_d - \exp(\eta_{\pi_d}^*)$. Second, we assume that the costs of migrating to Spain are lower than to the United States (i.e., $\eta_{\pi_1}^* < \eta_{\pi_2}^*$) and that, for more-educated emigrants, it is relatively less expensive to migrate to Spain ($\delta_{\pi_1} > \delta_{\pi_2}$). Family ties are stronger between South America and Spain; the immigration reunification programs are much laxer in Spain, and the mother tongue in most South American countries is Spanish. Finally, the productivity signal of schooling is more accurate in the United States than in Spain, which implies that returns to schooling are higher in the former country ($\delta_2 > \delta_1$). Note that labor market is more transparent for immigrants in the United States than it is in Spain (González and Miles, 2010). Under this specification, in Figure 1 we present the income levels in each destination as a function of schooling, $I(s_i)_j$ for $j = 0, 1, 2$.

[Insert Figure 1 about Here]

We observe that those natives whose schooling level is below s_l or above s_u find that option of not migrating much more attractive, which is in line with empirical facts. For poorly educated individuals, the net benefit of migrating is lower than the average wage in their home country. For highly educated natives, the return to schooling is much higher in their home country than abroad.

Natives with schooling levels within the range (s_l, s_u) constitute the pool of potential emigrants, since their net income from migrating is higher than the income obtained if remaining in their own country. However, any choice of where to migrate will depend on the labor market conditions in the destination countries and in the migration costs.

If Spain were the only migration destination, then the potential pool of emigrants is given by those whose schooling level is within (s_l, s_u^S) . Given the United States as an alternative destination however, only those with a schooling level below s_T will actually migrate to Spain. In other words, from the pool of emigrants who expect a positive net benefit from migrating to Spain, only the less educated will actually do so. Those with schooling level higher than s_T will find it more attractive to migrate to the United States. Finally, for natives with schooling level above s_u^S but below s_u , the only migration option is to the US. Hence the lower costs of migrating to Spain, together with the higher returns to schooling

in the United States, yield a negative sorting of immigrants to Spain than to the United States: from the overall pool of potential emigrants, the more skilled will migrate to the United States and the less skilled to Spain.

We now consider how an increase in the costs of migration to Spain affects the schooling thresholds defining migration incentives. Such an increase could be represented by changing the parameters of the cost function. Thus, we could increase the fixed cost due to the out-of-pocket money needed to pay for the required visa and health insurance ($\eta_{\pi_1} < \eta'_{\pi_1}$). We could also decrease the marginal benefit of being more educated ($\delta_{\pi_1} > \delta'_{\pi_1}$), given that the visa requirements are independent of the schooling level although for those with more schooling it will still be easier to fulfill the bureaucratic requirements associated with the visa.

In Figure 2 we present the effect of an increase in costs of migration to Spain in the thresholds defining the schooling level. The figure reveals two consequences when the costs of migration increase for only one country. The first consequence is the one traditionally discussed: a reduction in the proportion of low-skilled immigrant. The lower migration bound, which establishes the threshold between a negative and a positive net benefit from migrating for poorly educated emigrants, shifts to the right ($s_l < s'_l$). Thus, a higher proportion of less-educated would-be emigrants prefer staying in their home country after the increase in migration costs.

[Insert Figure 2 about Here]

However, there is a second consequence, which is that the higher migration costs may lead high-skilled workers to other destinations. That is, an increase in migration costs may decrease the threshold determining whether emigrants choose Spain or the United States as their destination ($s'_T < s_T$). This means that the relatively more educated (in the origin country's) pool of emigrants who initially planned on migrating to Spain but who were near the indifference threshold could well find they prefer migrating to the United States after an increase in the costs of migration to Spain. Given that these more-educated emigrants

have relatively good labor market opportunities in the United States, an increase in the cost of migrating to Spain (relative to the United States) affects their destination decision.⁶

In sum: an increase in migration costs decreases the incentives of the less skilled to migrate; it could also induce some more-skilled emigrants who initially planned on migrating to Spain to migrate elsewhere.

There are three basic empirical implications of the model described here. First, under the model's assumptions, we should observe that the proportion of low-skill (high-skill) immigrants is higher (lower) in Spain than in the United States. Second, an increase in the costs of immigration to Spain should lead to a decrease in the inflow proportion of low-skill immigrants and to an increase in the proportion of high-skill immigrants. Third, an increase in the costs of migration may induce some high-skilled emigrants to change their destination from Spain to the United States. However, this last point is particularly difficult to verify because it requires information on decisions made prior to actually migrating in order to see whether individuals changed their destinations after an increase in migration costs.

During the year 2001, Spain implemented bilateral agreements based on quotas with Colombia and Ecuador in order to reduce the immigration inflow from these two countries. However, the EU concerned about the lack of enforcement (by Spanish authorities) of the quota system and about the possible relocation of immigrants to other parts of the EU implemented a visa requirement for citizens arriving from either of these two countries during 2002 and at the beginning of 2003. Hence, we should expect a relative decrease in less-skilled workers, and an increase in high-skilled workers during subsequent periods.

In the following sections we aim to assess empirically whether the increase in migration costs affect immigration patterns with respect to Spain.

⁶The Spanish government should prefer an increase in U.S. migration costs, which would encourage some (i.e., the less skilled) of those emigrants who initially chose the United States to instead choose Spain as their destination. And, given these emigrants would still be much more skilled than those originally migrating to Spain, the result would be an increase in the mean average skill of Spanish immigrants.

4. NET IMMIGRATION INFLOW TO SPAIN

In this section we show that the imposition of visa requirements was effective in reducing the number of Colombians and Ecuadorians emigrating to Spain. The relevant data comes from the National Immigration Survey (Encuesta Nacional de Inmigración, ENI) carried out in 2007 by the Spanish National Statistical Institute (Instituto Nacional de Estadística). The target population of this survey was the foreign born-population those of age 16 or older who had lived in Spain for at least a year. The sample frame was the municipality register (padrón municipal), where all foreign-born individuals must register for access to schooling, health care, or to obtain a document that shows where they reside or the number of years lived in Spain. The registration process is independent of immigrant status that is, anyone living in the municipality may register. In fact, the municipality is obligated by law to register all individuals living in its area.

The stratified sampling procedure first sampled census sections, then family homes, and finally a reference person within the household. The total sample consists of 15,465 interviews on questions related to socio demographic or labor issues of the reference person. Information is also elicited on the year of birth, year of entrance into Spain, nationality, and birth country for a total of 51,981 household members of the reference person.

In what follows we will consider only those immigrants foreign-born individuals who were from 20 to 55 years old upon entry into Spain. This implies that immigrants' education were mostly acquired in their respective home countries (Beine et al. 2006). The sample of household members reduces to 18,933.

Using data on the number of immigrants (the household members), in Table 1 we present the immigration inflow to Spain during the last decade in terms of the distribution of immigrants during several periods of entrance: before the admission policies were modified for Colombians and Ecuadorians (1998-2000); in the middle of the reforms (2001-2002) and after the reforms (2003-2006).

Insert Table 1

As may be observed in Table 1, nearly two of every five immigrants in Spain come from

South America, and half of these are from Colombia or Ecuador. Most entered Spain during the last years of the 1990s and the first year of the new century. Three of every five Ecuadorian immigrants and nearly three of every four Colombian immigrants entered between 1998 and 2001. Starting in the year 2002, visa waiver program was discontinued for Colombian immigrants and in August 2003 for Ecuadorians immigrants. The inflow from these countries decreased significantly relative to others after the reimposition of visa requirements. Finally, the temporal distribution of arriving immigrants confirms the EC suspicions that the GRECO bilateral agreements were not enforced: we can see that over the years, migration patterns by country remained virtually unchanged before imposition of the visa (Geronimi et al., 2004).

In Figure 3 we graph the contribution of Colombian and Ecuadorian immigrants to total foreign born-population by year of entrance. We also plot the ratio of South Americans (excluding those from CoEc) to total immigration. On the one hand, the figure shows a downward trend in the share of Colombian and Ecuadorian immigration especially after implementation of the visa requirements (in January 2002 for Colombia and August 2003 for Ecuador). The ratio of other South American immigrants to Spain's total foreign-born population has meanwhile been increasing since the year 2000. On the other hand, the trends show little change during the period between this year and imposition of the admission requirements.

[Insert Figure 3 about Here]

Vono et al. (2008) show that the absolute number of Colombian and Ecuadorian immigrants decreased immediately following imposition of visa requirements⁷. In Table 2 we complement these findings by showing the marginal effect of introducing visa requirements (an increase in the cost of migration) on the share of immigrants arriving from CoEc, where the share is obtained in terms of either total or South American immigration in Spain. The dependent variables are dummies that take the value 1 if the immigrants arrived from either

⁷Notice that the number of CoEc immigrants could have fallen together with the rest of the immigrants. This is why we prefer here to use a relative measure.

Colombia or Ecuador (and 0 otherwise). The parameter of interest recovers the marginal effect of introducing visa requirements, which is captured by a step variable that takes the value 1 for 2002 and later for Colombia, since the new requirement became effective in January 2002. For Ecuador, we consider two different step variables because the visa requirement became effective in August 2003: the first step variable begins in 2003 and the second in 2004. Finally, when considering as our dependent variable the dummy variable that captures immigrants arriving either from Colombia or Ecuador, we employ the Ecuadorian (i.e., the less stringent) state variables. The regressions additionally include time dummies, region or country dummies, a third-degree polynomial for age and a gender dummy.⁸

Insert Table 2

The estimated coefficients suggest a significant decrease in the proportion of immigrants arriving from Colombia and Ecuador following implementation of the visa requirements after controlling for year effects, country or regional effects, age, and gender. The reduction is similar for Colombia and Ecuador: about a 5 percent in the overall share of immigrants and nearly 16 percent when considering only South American immigration. When considering both countries together we find respective decreases of approximately 7.5 and 20 percent, respectively.

In sum, imposing a visa requirement significantly reduced the share of Colombians and Ecuadorians in both the total and SA emigration to Spain. In the next section we explore whether the increase in migration cost implied by the visa requirements affected the observable characteristics of CoEc immigrants with respect to those arriving from elsewhere in South America.

⁸These are the only variables reported in this part of the ENI survey, where all the immigrants in the respondent's house are considered.

5. VISA REQUIREMENTS AND IMMIGRANT CHARACTERISTICS

The ENI reports a set of characteristics only for the survey respondent, who is randomly selected from all the household immigrant members older than 15. In this section we use these characteristics to discuss whether introducing a requirement affected the characteristics of incoming immigrants. Toward this end, we compare the characteristics of immigrants before and after implementation of the visa requirement and also compare the CoEc immigrants with those entering from any other South American country.

In Tables 3 and 4 we present the unconditional mean of the immigrants' characteristics as well as the change (increase or decrease) in those means following imposition of visa requirements. Table 3 presents the mean characteristics of eventual immigrants before migrating, and Table 4 presents their mean characteristics after migrating to Spain. The first and third data columns of each table report the percentage of individuals having the row characteristic for CoEc and SA immigrants and indicates the significance of their difference. The second and fourth data columns present the changes in the mean of these characteristics following the visa requirement and indicates their significance also. Finally, last column reports the unconditional difference-in-difference (DID) effects of implementing visa requirements.

Insert Table 3

Insert Table 4

Overall, these tables suggest two interesting facts. In the first place, before the introduction of visa requirements, the CoEc immigrants were markedly much less skilled than immigrants from other SA regions arriving during the same period. On the one hand, the schooling level, considering only the two extremes of its definition, (and English fluency) of CoEc immigrants was significantly lower than that of other SA immigrants. Table 3 shows that while nearly 25 percent of immigrants from CoEc had only primary education and fewer than 15 percent had some college or college degree, only one of every ten immigrants from the rest of SA had primary schooling level and nearly 1 in three had some college or college degree. In general, schooling and English fluency are directly associated with the

productivity or skills of an individual. On the other hand, a higher percentage of CoEc emigrants seek an employment or a better employment, unavailable in their country of origin. Finally, CoEc immigrants were working low-paid Spanish occupations or sectors more frequently than immigrants from other regions of SA. All this evidence suggests that, from the pool of South American emigrants heading to Spain, those arriving from Colombia and Ecuador were the least skilled.

The second interesting fact is that, after introduction of visa requirement, the characteristics of the newly arrived CoEc immigrants became significantly different from those of immigrants from the rest of SA. The schooling level of immigrants who arrived after imposition of the visa requirements was significantly higher than before: the number of those with primary schooling declined by nearly 7 percent, and the number of immigrants with some college education increased by 10 percent.

Moreover, the difference-in-difference estimate shows a significant decrease (increase) of immigrants with low (high) schooling levels arriving from CoEc relative to those arriving from the rest of SA. The same can be observed with regard to English fluency. Second, the reason for moving to Spain is less motivated by seeking escape unemployment or by seeking a better job. Finally, despite the short period available for job search, those from CoEc seem to be working in occupations or sectors that pay higher wages than they earned before migrating.

In sum, these descriptive statistics suggest that the increase in cost due to imposition of visa requirements on immigrants arriving from CoEc had a positive effect from the perspective of Spain, the receiving country.

In order to attain greater insight into the effects of visa requirements on immigrants' skills, we estimate the partial correlation, difference-in-difference coefficients to explain movements in the educational level of immigrants arriving from CoEc relative to other regions of SA. The aim of these descriptive regressions is simply to capture the differential effect introduced by the visa requirement in terms of observable characteristics related to skills, such as education or fluency in English (i.e. the regressions are descriptive rather than behavioral). In particular, we perform the following regression:

$$Y = \alpha + \lambda D + \eta CoEc + \beta D \times CoEc + \gamma X + u$$

Here Y is the characteristic used as dependent variable that captures an observable measure of skills (i.e., schooling level and English fluency), and D is a step variable that takes the value 1 if the immigrant entered Spain after imposition of visa requirement (and 0 otherwise). As before, we define the step variable D via two cutoff points, 2003 and 2004, since the Ecuadorian visa was implemented in the middle of 2003. We use a step variable because, as shown by Vono et al. (2008), the effect of the visa requirement on the number of immigrants entering Spain was almost immediate. The dummy variable $CoEc$ takes the value 1 only if the immigrant's origin country is Colombia or Ecuador. The X term captures a third-order polynomial for age as well as dummies for: year of entrance, gender, whether immigration was through family ties, and dummy variables capturing whether the origin country was Argentina, Brazil, Bolivia, Peru, Uruguay or Venezuela (countries that together account for nearly 90 percent of non-CoEc South American immigration). The parameter λ recovers any effect that could have influenced any immigrant from any South American country (including Colombia Ecuador) following the imposition of visa requirements, and η denotes the effect of being an immigrant arrived from CoEc. The main parameter of interest is β , which denotes the differential effect of being an immigrant from Colombia or Ecuador (and thus of being subject to a visa requirement) with respect to immigrants from other countries of SA that entered Spain before and after the imposition of visa requirement. In Table 5 we also separate immigrants based on whether their country of origin is Colombia or Ecuador, although the number of observations is substantially reduced thereby.

Insert Table 5

The estimates of the difference-in-difference parameter (β) shown in Table 5 reaffirm what has been discussed previously. The upper part of the table presents the regression that includes emigrants to Spain from either Colombia or Ecuador. Though the significance of the results change depending on whether we consider the step variable beginning in 2003 or in 2004, the qualitative results point to the same conclusion: there was a relative change in

the skills of immigrants arriving from CoEc with respect to other SA countries. One reason for the change in the significance level is that the visa requirement was not implemented in Ecuador until August 2003. The results overall show that, prior to imposition of the visa requirement, CoEC immigrants were less skilled than immigrants from other regions of SA; first data column shows that a (nearly 10 percent) higher proportion of immigrants with elementary schooling and the lower proportion of immigrants with some college (near 6 percent fewer) or fluency in English (nearly 20 percent fewer). In addition, imposition of the visa requirements seems to have affected the characteristics of subsequent immigrants. Third and sixth data column show that the proportion of less-educated immigrants diminished while that of the more skilled increased after subtracting the analogous trend that could have affected immigrants from any other region of South America.

The lower part of Table 5 presents the same regression but now considering Colombian and Ecuadorian immigrants separately; again the qualitative findings confirm our previous discussion. Even so first data column shows that Ecuadorian immigrants were significantly less skilled than the rest of South American immigrants, including Colombians, and that the imposition of visa requirements significantly changed the skill composition of subsequent immigrants from Ecuador with respect to those from both Colombia and the rest of South America (third and sixth data columns).

In the next section we discuss how the new visa requirements affected the destination decision in terms of immigrants' observable skills.

6. COMPARING MIGRATION TO SPAIN WITH MIGRATION TO THE UNITED STATES

In this section we analyze the decision to migrate to Spain or the United States. The great majority of South American emigrants in the last decade headed toward these two countries (Cepal, 2007). We shall examine how the increase in costs affected migration patterns by comparing bound for Spanish versus U.S. destinations. The theoretical framework established in Section 3 suggests that, after the increase in costs of migration, we should

observe a decrease in the proportion of less-skilled immigrants heading to Spain versus the United States. Moreover, there could be displacement of more-skilled immigrants from their original Spanish destination to other countries in response to the imposition of costly visa requirements on immigrants to Spain.

The data allows us only to identify whether the increase in migration costs changed the observable skill characteristics of emigrants to Spain from Colombia and Ecuador. The issue of changing destinations is not identifiable because we would have to observe the initial migration decision that is, prior to implementation of the visa requirement. Therefore, here we discuss the effect of increased migration costs on the sorting of immigrants in terms of their education.

For this we merge data from the American Community Survey (ACS) and the ENI. The ACS data were obtained by pooling the information from surveys for the years 2001 to 2007 of South American emigrating to either destination who had arrived three years before the survey. As before, an "immigrant" for our purposes must have been at least 20 years old upon entering either Spain or the United States between the years 1998 and 2006.

In the tables to follow we shall present estimates of the following regression:

$$\begin{aligned}
MD = & \gamma_0 + \gamma_1 D + \gamma_2 CoEc + \gamma_3 (CoEc \times D) + \\
& \gamma_4 P + \gamma_5 (P \times D) + \gamma_6 (CoEc \times P) + \gamma_7 (CoEc \times P \times D) \\
& + \gamma_8 Coll + \gamma_9 (Coll \times D) + \gamma_{10} (Coll \times CoEc) + \gamma_{11} (CoEc \times Coll \times D) \\
& + X'\beta + u.
\end{aligned}$$

Here the dependent variable MD (migration decision) takes the value 1 if the individual migrated to Spain or 0 if to the United States; D is a step variable that takes value 1 after the implementation of visa requirements and 0 before (we present estimates at different starting points for the step variable, taking into account that the last visa requirement was imposed in August 2003); $CoEc$ takes the value 1 if the immigrant is from either Colombia or Ecuador and 0 if arriving from any other region of South America; P takes the value 1 if the immigrant has primary or elementary schooling or less (and 0 otherwise); and $Coll$ takes the value 1 if the immigrant has some college education. Finally, X captures

other exogenous variables: gender; a third-degree polynomial for age; and dummy variables indicating the country of origin, the fluency in English when entering either the United States or Spain.

The regressions were run while considering different comparison groups for Colombian and Ecuadorian immigrants. The first control group consisted of immigrants from any other country of South America. The second control group was immigrants from Peru and Venezuela, the countries that neighbor Colombia and Ecuador. Finally, the last control group is the pool of Colombian and Ecuadorian emigrants that is, those heading to either Spain or towards the United States.

In our analysis of how an increase in migration costs affects the skill level of immigrants, the measure of interest is given by $\Delta = \gamma_{11} - \gamma_7$; here γ_{11} captures the relative changes in the upper end of the skill distribution (college education) while γ_7 capture those in the lower end (primary schooling or less). A positive Δ indicates a relative increase in the proportion of more-skilled immigrants with respect to the comparison group(s). The parameters γ_7 for primary schooling and γ_{11} for college schooling are recovered via a difference-in difference in difference process. Thus we have

$$\begin{aligned} \gamma_7 = & \{ [E(\text{MD} | D = 1, P = 1, CoEc = 1) - E(\text{MD} | D = 0, P = 1, CoEc = 1)] \\ & - [E(\text{MD} | D = 1, P = 1, CoEc = 0) - E(\text{MD} | D = 0, P = 1, CoEc = 0)] \} \\ & - \{ [E(\text{MD} | D = 1, P = 0, CoEc = 1) - E(\text{MD} | D = 0, P = 0, CoEc = 1)] \\ & - [E(\text{MD} | D = 1, P = 0, CoEc = 0) - E(\text{MD} | D = 0, P = 0, CoEc = 0)] \}; \end{aligned}$$

an analogous expression holds for γ_{11} once we replace P with $Coll$. The estimator begins by evaluating the change that occurred in the destination decision for those affected by the visa requirement and netting this effect of any trend that could have affected similar individuals in countries not affected by visa requirements. Finally, it nets out any trend that could have affected any immigrant in the reference schooling level (other than college or elementary schooling) and could be distorting the visa migration effect. The idea is that subtracting these effects should generate an estimator that controls for the differences between the proportion of low-skilled individuals likely to migrate to Spain versus other

countries (irrespective of the increased migration costs due to a visa requirement) and changes in the propensity to migrate of all individuals irrespective of implementation of visa requirements (i.e. increase of the economic growth of the receiving country).

In Table 6 we present the parameter estimates with respect to different control groups when considering together immigrants arriving from Colombia and Ecuador. In the first and fourth data columns we take as our comparison group immigrants from any South American country. In the second and fifth data columns we consider only those emigrants from the countries neighboring CoEc: Peru and Venezuela. Finally, the third and sixth data columns consider only Colombian and Ecuadorian emigrants to Spain or the United States.

Insert Table 6

Overall, the numbers in this table suggest that, following implementation of the visa requirements, the skills of immigrants arriving from Colombia and Ecuador increased relative to immigrants from other countries and to CoEc emigrants heading to the United States. In all cases, the estimate of Δ is positive, and significant, indicating a shift toward more-skilled immigrants.

Observe that less-skilled emigrants from CoEc prefer Spain than the United States as a destination. The term $CoEc \times P$, which captures the interaction between primary/elementary schooling (or less) and emigration from CoEc, is positive and significant regardless of the comparison group considered. In contrast, the interaction term $CoEc \times Coll$ is negative and significant; this suggests that more-educated individuals from Colombia and Ecuador prefer migrating to the United States over Spain. This is in line with the argument behind Grogger and Hanson (2010) findings, where countries "with large absolute skill-related wage differences attract a disproportionate share of more educated emigrants".

However, the observed general trend of the less educated heading to Spain was significantly affected by imposition of the visa requirements, which reduced (increased) the proportion of less (more) educated with a corresponding change in the overall proportion of skills, as reflected by Δ . The visa requirements reduced by about 15 percentage points the

proportion of poorly-educated immigrants arriving from CoEc and increased by nearly 5 percentage points the proportion of well-educated immigrants, yielding an overall change of about 20 percentage points in the proportion measure.

The preceding exercises are now repeated while estimating our regression equation separately for immigrants from Colombia or Ecuador and also defining the step variable with respect to the year in which the visa requirement was implemented

Insert Table 7

The results of Table 7 shows that our qualitative conclusions are robust, regardless of the estimate's absolute value. In other words, increasing migration costs by imposing a visa requirement has a positive selection effect on migration, as argued by Clark et al. (2007). Finally, in Table 8 we include all immigrants aged 16-55 at time of entry and come to similar conclusions.

Insert Table 8

In short, our regressions suggest that an increase in migration costs -here, as a consequence of imposing visa requirements- has a positive sorting and selection effect.

7. CONCLUSION

In this empirical paper we attempt to shed some light on the effects of an exogenous increase in migration costs on the sorting of immigrants. With this purpose we use recent modifications of the European Union's foreign admission policies to examine their effect on the immigration pattern inflow to Spain. We present a simple theoretical framework following the standard emigration models from the literature but including an additional destination. This framework allows us to show that an increase in migration costs reduces incentives for the less skilled to migrate to the affected country. Moreover, the cost increase could also induce some of the most-skilled emigrants to alter their destinations.

The empirical discussion indicates that following imposition of visa requirements for immigrants from Colombia and Ecuador, the proportion of the least-skilled emigrants diminished. Furthermore, the proportion of most-skilled immigrants to Spain from these two

countries increased with respect to those arriving from other regions of South America and also with respect to those migrating to the United States. In sum, increasing the cost of migration does have an impact on the sorting and selection of immigrants.

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Table 1 Immigration inflow to Spain

	Period entered Spain (%)				No Obs.	Share (%)
	1995-1997	1998-2001	2002-2003	2004-2006		
Total immigrants	5.53	37.65	24.91	31.91	18.933	100
South America	3.40	43.68	25.18	27.74	7.908	41.77
Ecuador	4.03	62.02	28.35	5.60	2.430	30.73
Colombia	4.06	70.79	7.41	17.74	1.578	19.95
Rest of South America	2.74	21.28	30.38	45.59	3.900	49.32

Source: The 2007 National Immigration Survey.

Table 2 Impact of visa requirements on share of Colombian and Ecuadorian immigration in South American and total immigration.

Dependent Dummy	Step 2002 or After	Step 2003 or After	Step 2004 or After	Comparison Group
Colombia	-6.73* (0.47)			All immigr.
Colombia	-14.27* (0.89)			SA immigr.
Ecuador		-3.75* (0.45)		All immigr.
Ecuador		-8.97* (1.35)		SA immigr.
Ecuador			-7.93* (0.55)	All immigr.
Ecuador			-21.38* (1.31)	SA immigr.
CoEc		-4.70* (0.47)		All immigr.
CoEc		-11.66* (1.22)		SA immigr.
CoEc			-7.70* (0.61)	All immigr.
CoEc			-20.83* (1.51)	SA immigr.

Note: All regressions include dummies for time, country or region, and gender as well as third-order polynomial for age. Robust standard errors are given in parentheses (SA=South American)

Table 3 Unconditional mean and the effect after implementation of visa requirements

Characteristic	CoEc		Rest of SA		DID ³
	1998-2001 ¹	Change ²	1998-2001	Change ²	
Spain first emigration country	94.63*	-4.07***	86.33	-1.94	-2.12
Women	58.55	4.35	56.11	7.27*	-2.93
Age upon entrance	30.35**	2.99**	31.56	0.06	2.93*
Schooling					
Primary or less (<i>P</i>)	23.41*	-7.73**	10.55	2.63	-10.37*
Some college or degree (<i>Coll</i>)	14.86*	10.29*	28.57	-4.77*	15.07*
Fluency in English	12.22*	12.21*	37.65	-13.56*	25.86*
Reasons for moving to Spain					
Study	5.20*	4.86**	13.66	-0.88	5.74***
Lack of employment	40.79*	-10.60*	25.90	9.09*	-19.69*
Better employment	62.75*	-18.10*	46.06	9.27*	-27.37*
Family reunification	17.08	12.94*	17.25	4.84*	8.10**
No. Obs.	1,211	159	416	742	

Notes: (1) The null hypothesis is that values in the first data column will match those in the third $H_0: Col2=Col4$

(2) Change captures the difference in mean between the periods 2004-2006 and 1998-2001

(3) DID=Difference in difference estimator. Significance level: * 1%, ** 5%, *** 10%

Table 4 Immigrants characteristics in Spain

Characteristic	CoEc		Rest of SA		DID ³
	1998-2001 ¹	Change ²	1998-2001	Change	
Documents					
Temporary work permits	54.74*	8.77*	33.09	-6.44*	15.21*
Other temp permits ¹ .	8.50*	7.84**	13.66	8.54*	-0.69
Undocumented	1.15**	8.28*	1.92	31.86*	-23.58*
Working	81.58	-11.14*	78.88	-5.00***	-6.14
Studying	4.04**	8.53*	7.43	0.77	7.76**
Occupation					
Professionals technicians	5.16*	1.98	22.79	-14.05*	16.03*
Clerk	4.55	2.58	6.38	-1.28	3.87
Personal services	22.47	1.64	21.88	1.79	-0.15
Qualified workers	21.25	-8.87	20.66	-5.91	-2.84
Machinery operators	9.10	-7.32*	6.68	-2.49	-4.82**
Unqualified workers	37.34*	9.97**	21.58	21.95*	-11.98**
Sector					
Agriculture	5.36*	-2.68	2.13	2.06**	-4.74**
Industry	13.36	-6.21**	13.06	-7.24*	1.02
Construction	21.45*	-7.17**	15.50	1.25	-8.42***
Hotels / Restaurants	24.29	4.28	23.70	-5.76**	9.90***
Home services	19.33	8.34***	17.93	20.31*	-11.97**
No. obs.	1,211	159	416	742	

Notes: See notes to Table 3

Table 5 Difference-in-difference regression conditioning on characteristics

Dependent Variable	$D_i = 1$ in or after 2003			$D_i = 1$ in or after 2004		
	$CoEc_i$	D_i	$CoEc_i \times D_i$	$CoEc_i$	D_i	$CoEc_i \times D_i$
Elementary school	10.44* (2.91)	4.46 (3.80)	-4.88 (3.19)	11.27* (2.86)	5.84 (3.80)	-10.94* (3.51)
Some college or degree	-6.31*** (3.50)	-1.26 (4.45)	5.43 (3.36)	-7.80** (3.37)	-3.45 (4.44)	14.41* (4.19)
Fluency English	-19.67* (3.85)	-11.09* (4.61)	16.22* (3.47)	-18.12* (3.72)	-10.71* (4.58)	18.92* (4.20)

Dependent variable	Ecuador			Colombia		
	$D_i = 1$ in or after 2004			$D_i = 1$ in or after 2002		
	Ec_i	D_i	$CoEc_i \times D_i$	Co_i	D_i	$CoEc_i \times D_i$
Elementary school	13.58* (1.60)	1.36 (2.21)	-10.69*** (6.21)	-1.51 (1.75)	0.45 (2.21)	-4.97 (3.17)
Some college or degree	-8.83* (1.25)	-1.85 (2.46)	16.83* (6.49)	-4.04** (1.79)	-1.44 (2.47)	7.02*** (3.84)
Fluency english	-14.77* (1.25)	-3.11 (2.69)	13.19** (6.33)	-7.56* (1.73)	-2.71 (2.71)	9.86** (3.92)

Notes: All regressions include dummies for year, country, gender, age and family ties.

Robust standard errors are given in parenthesis. Level of significance: *1%, **5%, ***10%

Table 6 Decision to migrate to Spain or the United States from Colombia or Ecuador

Independent Variables	Control Group			Control Group		
	South	Peru &	Colombia	South	Peru &	Colombia
	America	Venezuela	& Ecuador	America	Venezuela	& Ecuador
	$D_i = 1$ in or after 2003			$D_i = 1$ in or after 2004		
$CoEc \times D$	-10.24* (1.19)	-7.10* (1.48)	-1.27 (1.45)	-12.01* (1.45)	-8.78* (1.88)	-0.44 (2.25)
$CoEc \times P$	3.61 (2.32)	12.60* (4.45)	3.44** (1.36)	1.44 (2.14)	9.03** (4.14)	3.37** (1.32)
$CoEc \times P \times D$	-15.81* (4.33)	-14.72** (7.77)	-9.94** (3.29)	-17.71* (4.98)	-9.31 (8.84)	-15.41* (4.02)
$CoEc \times Coll$	-3.01* (0.69)	-4.52* (0.83)	-4.09* (0.55)	-3.23* (0.66)	-4.90* (0.79)	-4.11* (0.53)
$CoEc \times Coll \times D$	5.51* (1.60)	3.39*** (1.93)	4.47* (1.35)	9.83* (1.94)	7.07* (2.42)	6.82* (1.63)
Δ	21.33* (4.30)	18.12* (7.73)	14.41* (3.26)	27.55* (4.94)	16.38*** (8.77)	22.24* (3.97)
R ²	0.592	0.586	0.621	0.5941	0.586	0.621
No. Obs.	22,139	13,622	8,650	22,139	13,622	8,650

Notes: All regressions include dummies for year, country, gender, education, and English fluency as well as a third-order pol. for age.

P: primary/elementary schooling or less; Coll: some college or degree. Robust standard errors are given in parenthesis.

Significance level: *1% , **5% , ***10%

Table 7 Decision to migrate to Spain or the United States from Colombia and Ecuador considered separately (immigrants aged 20-55)

	Control Group			Colombia	Control Group		
	South	Peru &	Ecuador		South	Peru &	Colombia
	America	Venezuela			America	Venezuela	
Ecuador	$D_i = 1$ in or after 2004				$D_i = 1$ in or after 2002		
$Ec \times D$	-18.96* (2.25)	-16.01* (2.54)	-14.99* (3.51)	$Co \times D$	-11.01* (1.17)	-7.58* (1.36)	-5.46* (1.56)
$Ec \times P$	-0.73 (2.32)	6.78 (4.22)	-1.22 (1.59)	$Co \times *P$	6.92** (3.32)	17.26* (5.19)	8.65* (2.56)
$Ec \times P \times D$	-16.32* (5.70)	-8.53 (9.27)	-14.02* (5.12)	$Co \times S \times D$	-19.88* (6.17)	-19.42** (8.64)	-12.22** (5.47)
$Ec \times Coll$	-1.70 (1.29)	-3.08** (1.37)	-1.60* (1.20)	$Co \times Coll$	-3.13* (0.78)	-4.55* (0.92)	-4.88* (0.65)
$Ec \times Coll \times D$	14.28* (3.53)	11.63* (3.38)	10.07* (3.37)	$Co \times Coll \times D$	5.95* (1.51)	2.94*** (1.74)	4.19* (1.29)
Δ	30.61* (5.91)	20.17** (9.37)	24.05* (5.33)	Δ	25.83* (6.14)	22.36* (8.60)	16.41* (5.42)
R^2	0.612	0.612	0.667		0.565	0.586	0.558
No Obs.	16,464	7,957	2,985		19,144	15,459	5,665

Note: See notes Table 6.

Table 8 Decision to migrate to Spain or the United States from Colombia and Ecuador
(immigrants aged 16 to 55)

Independent variables	Control Group			Control Group		
	South	Peru &	Colombia	South	Peru &	Colombia
	America	Venezuela	& Ecuador	America	Venezuela	& Ecuador
	$D_i = 1$ in or after 2003			$D_i = 1$ in or after 2004		
$CoEc \times D$	-9.82* (1.03)	-6.86* (1.23)	-4.42* (1.40)	-11.06* (1.23)	-7.57* (1.58)	1.61 (1.97)
$CoEc \times P$	4.05*** (2.22)	13.38* (4.28)	4.07* (1.27)	1.11 (2.04)	9.31** (4.01)	3.34* (1.23)
$CoEc \times P \times D$	-18.03* (3.94)	-17.29** (7.28)	-11.34** (2.88)	-16.76* (4.50)	-9.83 (8.16)	-13.44* (3.84)
$CoEc \times Coll$	-3.05* (0.65)	-4.74* (0.78)	-3.29* (0.54)	-3.22* (0.63)	-4.98* (0.75)	-3.30* (0.52)
$CoEc \times Coll \times D$	5.33* (1.48)	3.50** (1.78)	4.76* (1.25)	9.21* (1.77)	6.26* (2.18)	7.23* (1.49)
Δ	23.36* (3.95)	20.80* (7.26)	16.09* (2.98)	25.98* (4.52)	16.10** (8.14)	20.67* (3.94)
R^2	0.590	0.581	0.616	0.589	0.586	0.626
No. Obs.	24,954	15,459	9,901	24,954	15,459	9,901

Note: See notes Table 6.

FIG. 1. Income levels in each destination as a function of schooling

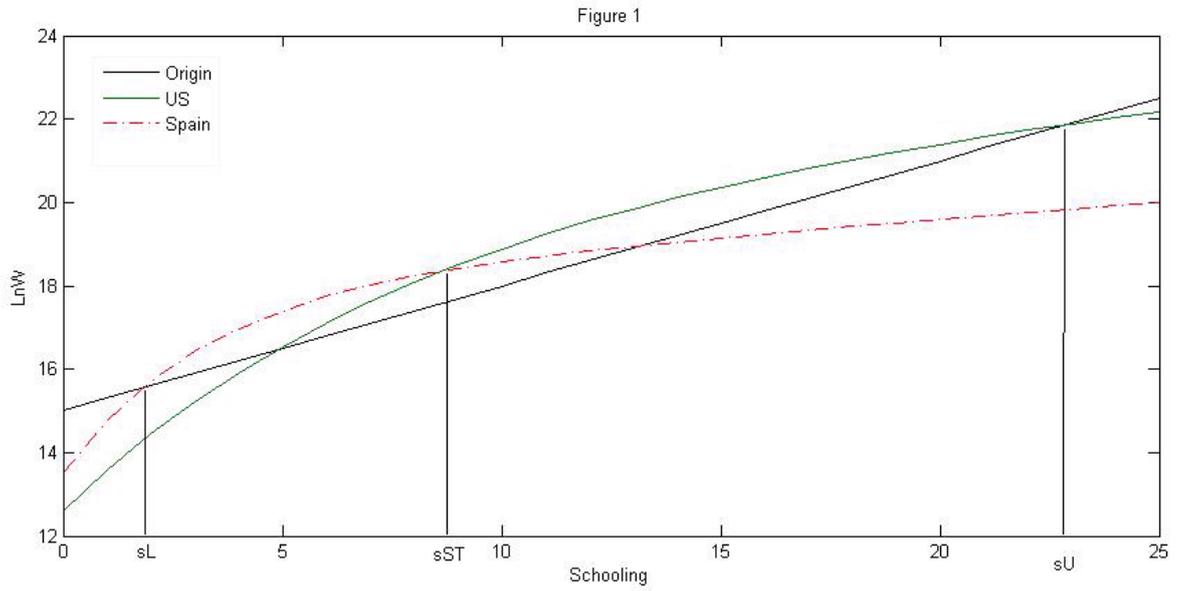
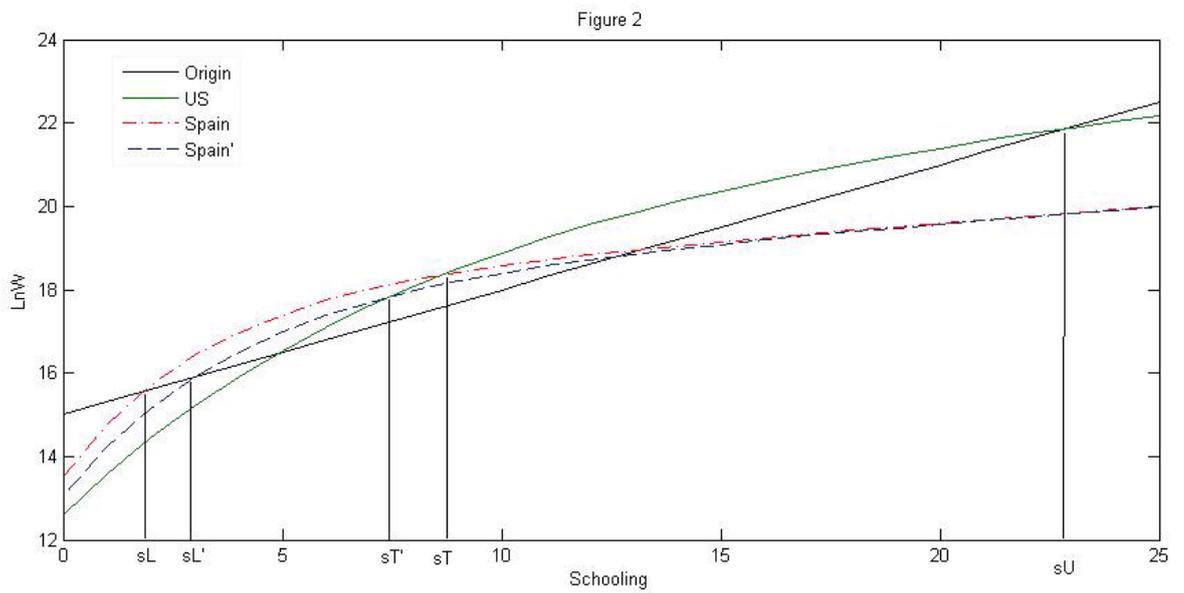


FIG. 2. Effect of an increase in costs of migration to Spain



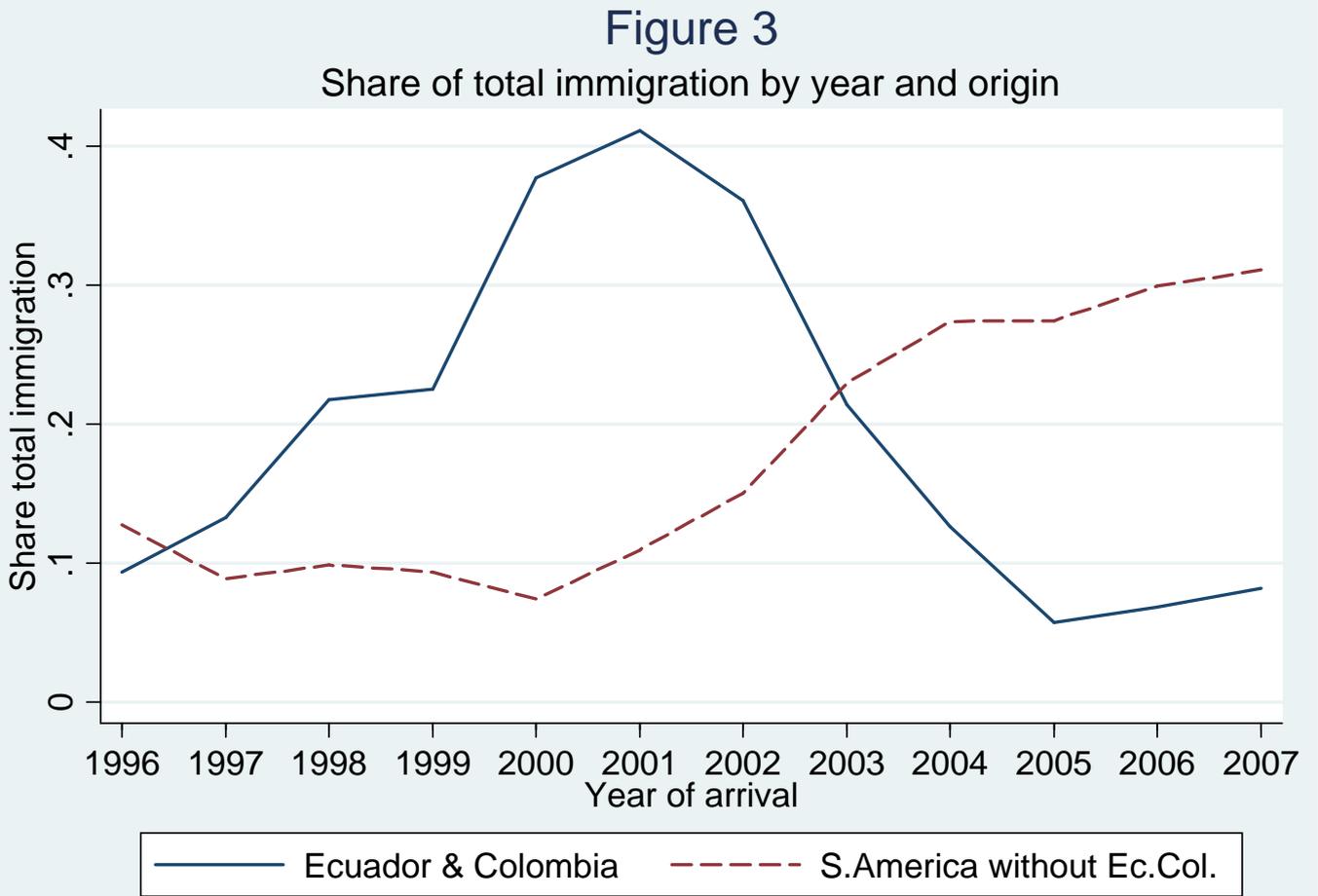


FIG. 3.