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Colombian and South American Immigrants in the United States of America: Education Levels, Job Qualifications and the Decision to Go Back Home*

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Abstract

This document provides evidence to show that Colombia is a net exporter of 5% of its population with a university or post-graduate degree, while Argentina, Brazil and Chile are net importers of people with a similar level of education. We find that those Colombians who returned home to Colombia from the United States between the years 1990 and 2005 were, on average, less well educated than those who decided to stay in the States, a fact which has contributed to emphasising the positive selection made by Colombians when choosing the US as their destination, and as a result has increased the net flight of human capital (the so-called "brain drain"). The same exercise carried out on the South American countries as a whole leads to an analogous result. Although data does not allow us to include the quality of jobs immigrants are performing in the US as a determinant of the decision to return, it allow us to show that immigrants to the US from Argentina, Bolivia, Chile, Uruguay and Venezuela are generally employed in activities that require better qualifications than those in which Colombian migrants are working, although the Colombians are usually engaged in work which requires better qualifications than the jobs where migrants from Ecuador and Peru are employed. In the case of Colombians, and for the rest of South Americans taken as a whole, their level of education is closely linked to the level of qualification required for the work they do in the United States.

Keywords: International Migration, Returned Migrants, Task Qualification, Contamination Bias.

JEL Codes: F20, F22, C49

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1. Introduction

It is estimated that at the present time over three million Colombians are living abroad. In the year 2005, it was estimated that around one million of these Colombians were living in the United States, along with 2.23 million other immigrants from South American countries.[1] In this document we provide evidence to show that Colombia has exported to the United Status over 6% of its university graduates and post-graduates, whereas foreigners residing in Colombia with equivalent levels of education represent no more than 1% of the population residing in the country with that educational level. While Argentina, Brazil and Chile are net importers of people with university degrees or post-graduates, Colombia and Ecuador are net exporters.

It is fundamental that we study the evolution of migratory tendencies among those countries in the region from which people are migrating so that their governments can design long-term development policies that can be implemented in the light of these tendencies and which, if called for, can have an impact on these same tendencies, in accordance with the objectives laid out for each particular country. Nonetheless, governments need to understand the factors determining the migrants' decision to either remain in their adopted country or return home, in order to be able to draw up adequate policies on the matter. Also, a better understanding of the migrants' decisions can be important for people who are living in their home country but are considering the possibility of migrating to another country. It can help them make their decision based on full and unbiased knowledge, something they usually lack. Such is the case of a potential emigrant who decides to emigrate (or not) without having an idea of his (or her) chances of success in the country to which he (she) intends to migrate, since he (she) does not know why a migrant may eventually decide to come back home.

This document adopts a standard methodology on the theory of evaluation of social programs and has selected a model that enables us to establish the main factors which determine a decision to return home on the part of Colombian and South American migrants living in the United States. The results of this model provide evidence that those Colombian migrants who left the United States and returned to Colombia between the years 1990 and 2005 are, on average, less well educated than those who decided to stay in the US. This has contributed to the fact that now less Colombians use a "positive selection" when choosing the US as their destination, and therefore the net flight of human capital is less than before. Colombians, in particular, who are university graduates or post-graduates have a 22.6% greater probability of not returning home than those with secondary education or less.

The fact that the exercise has produced consistent results for the period between the years 1990 and 2000, and for the period 2000-2005, and bearing in mind that the former period included the economic crisis that Colombia went through towards the end of the nineteen nineties, while during the second Colombia underwent an economic recovery, the consistent results suggest that over and above reasons related to short-term contingencies,

[1] The figures of Colombians abroad and in the United States are a result of various assumptions discussed below, while that of South Americans in the United States is estimated using the 2005 US Census.

the "negative selection" tendency noted in the returnees is a structural phenomenon which would continue to contribute to the so-called "brain drain" (or flight of human capital), at least in the medium term.

The same exercise, when carried out on the South American countries as a whole, provides analogous results, although of a lesser magnitude than in the case of Colombia. They do corroborate, however, that for the rest of the region's countries also those who return to their homelands are, on average, less well educated than those who remain in the United States.. South Americans, in particular, who are university graduates or post-graduates are 9% more likely not to return home than those with secondary education or less.

In order to better understand what motivates migrants to remain in the United States, we proceed to explore the relation which exists between the migrants' levels of education and the level of complexity of the tasks which these same migrants find in their jobs or places of employment. To carry out this exercise, we used the classification of occupations established by Autor, Levy and Murnane (2003). The results reveal that migrants from Argentina, Bolivia, Chile, Uruguay and Venezuela are employed in activities that require higher qualifications than those in which the Colombians are employed, although these, in turn, work in better qualified jobs than immigrants from Ecuador and Peru. We also found that both in the case of immigrants from Colombia and those from the South American countries taken as a whole, the migrants' levels of education are closely linked to the level of qualification required of them for the work they do in the United States. From which we deduce that the popular belief that South American professionals who work in the United States are employed in jobs that require little qualification would seem to be no more than a myth.

The evidence provided in this article, along with the results of previous studies, suggests that the Colombian migrants' option to remain in the United States is more a matter of being capable of making that decision, rather than simply wanting to do so. Those who stay because they prefer to do so would seem to be the ones who have managed to be better assimilated in the United States, and that is generally related to their degree of qualification which enables them to remain in their country of adoption while enjoying an adequate lifestyle. On the other hand, those who would prefer to return home but stay on in the US, are generally people who have not managed to obtain a legal status as immigrants but who would be even less well off in their own countries. Which means they are unable contemplate making the journey back, but neither are they in a position to offer their loved ones at home (whom they so much miss) a chance to migrate and join them in the States.

In what follows we will proceed to describe some elements of the background to this subject before presenting, in stylized form, the main characteristics in the case of Colombian and South American migrants as a whole. Later we describe the methodology employed to estimate the factors which determine Colombian and South Americans' decision to return, and present and discuss the results of these estimates. Following on this, we carry out an exercise intended to determine the relation between educational levels and qualification for the migrants' tasks in the country of their adoption, and finally we present some conclusions.

2. Background

At the present time the developed countries have shown a growing interest in promoting the return of migrants to their home countries. This concern is also on the agenda of the countries from which the migrants have come originally, countries like India, China, Brazil, and some countries such as Colombia which have a medium income.

Thanks to experience gained during their period of migration, the returnees will have acquired general and specific skills which can contribute to the development of their home countries. There is a special interest in the more highly qualified citizens who decided to migrate and have given rise to the so-called "brain drain". Some countries are interested in capitalizing the abilities which such individuals have developed during their time in developed countries and want to take advantage of the benefits of what they now call "brain gain". One such example is India.

> "*Indian politicians are beginning to highlight, approvingly, the emerging phenomenon of 'brain gain', as large numbers of Indian-born executives decide that job opportunities and living conditions are as good, if not better, in India and make their way home. Between 1964 and 2001 (when the economy was sluggish), 35 per cent of the nation's most promising graduates moved abroad … but from 2002 onwards (the period when India's GDP began to soar) only 16 per cent chose to leave.*" (The Guardian, 2008, observed on April 4, 2009)

The United Status *Bureau of the Census*, based on previous studies by Warren and Peck (1980) and Warren and Passel (1987), estimate that the exodus of international migrants from the United States is in the region of 133,000 persons per annum. Ahmed and Robinson (1994) have developed a method for bringing these estimates up to date and show that this figure could be 47% higher and was probably nearer to 195,000 persons per annum for the nineteen nineties.

Borjas and Bratsberg (1996) estimate the rate of emigration (out-migration) of foreigners leaving the United States at approximately 17.5% during the period 1975-1980 and 21.5% during the period 1970-1974.[2] In the case of Colombia, 24.7% of all Colombian immigrants will have left during the period 1975-1980 and 17% between the years 1970 and 1974. That is to say, during the period 1975-1980 approximately 46,136 Colombians emigrated from the United States; while during the period 1970-1974, some 28,254 had done likewise. Borjas and Bratsberg (1996) also show that compared with migrants from countries from Central and South America and the Caribbean, Colombians are one of the groups with the greatest number of returnees (bettered only by Mexico, Dominican Republic and Jamaica).

Borjas and Bratsberg (1996) find evidence to show that the decision to return home intensifies the selection which characterized the initial migratory influx. That is to say, in those countries where the initial migration was brought about by a "positive selection" (in other words, where the emigrants were on average better educated, as is the case for Colombia), they observed that those migrants who returned were on average the less well

[2] The periods define the moment when the migrants arrived in the United Status.

educated. And the opposite also occurs: in those countries where the migratory flux was characterized by a *negative* selection, they found that the migrants who returned were on average amongst the better educated.

Several theories exist about why migrants return home, and on matters such as the profile of the returnees and the moment when they return. Cassarino (2004) sums up several of the theories expounded up to now, among which we find the approximations of the Neo-classical School of Economics, the New Economy on Labor Migration (NELM), Structural Approximation, Transnationalism and the "Social Networks" theory.

According to the NE approximation, those who migrate do so for an indefinite period of time, as a life project. In this sense, a return home will occur only as the consequence of a *failed migratory experience*, as, for example, when the person's human capital has not been recompensed in the way the person had hoped for. NELM, on the other hand, suggest that the decision to return home is a logical step in a previously calculated strategy, since it assumes a return to be the culmination of a migration project. In this case, the decision to return implies the migrant's adhesion to his home country. Cassarino (2004) argues that, according to NELM, the return occurs once the person has satisfied the necessities which he intended to satisfy when he took the original decision to migrate.

Other approximations are the Structural, the Transnational and the "Social Network" theories. The structural approximation (SA) suggests that to analyze a migrant's return, we should bear in mind not only his (or her) personal experience, but also the social and institutional factors in that person's home country. Thus *the decision to return is also a question of context* (Cassarino (2004). When the individual decides to return, he (or she) is not only taking into account his (or her) personal benefits (NE) and the future reuniting of the family (NELM), but also includes, together with the rest of the available information, the economic and social context of the home country and that of the country to which he (or she) had decided to migrate in the first place, not excluding individual preferences as well.

For Transnationalism, the return home is not necessarily permanent. It occurs once the individual has obtained sufficient resources to guarantee the sustenance of his (or her) family, and when the conditions of the home country are favorable. One condition required for the return is that the individual devises a series of strategies which will permit him (or her) to maintain the economic, social and political interconnections established during his (or her) time in the country of adoption. Later the individual will look for a way to return to the country to which he migrated in the first place in order to take advantage of the relationships which he has created there. Thus there will be a permanent migratory flux between the home country and the country in which he (or she) has established different ties.

The "Social Network" theory, like the Transnational one, sees the returnees as migrants who establish strong ties in other countries. However, what this focus considers relevant are those relationships which will contribute to their future initiatives or projects in their home countries. Thus the migrant must ensure that he (or she) will generate sufficient relations to support his (her) project before taking the decision to return home. In this sense, the decision to return is programmed and depends on the economic and social ties which the migrant has managed to establish to support his (her) projects in the home country.

Governments of countries with a high rate of emigration are interested in finding out whether or not part of the human capital which left the country in earlier periods can be reintegrated into the country's society and so, at least to some extent, turn back the "brain drain".[3] Besides, qualified migrants are able to absorb technologies (which in many cases are intangible) and skills which their country of origin can use to advantage. This process, designed to revert the "brain drain" and enable those who have migrated to other countries to generate external values for their home countries, forms part of what is known as the "brain gain".

Now, all depends on whether what exists is positive selection or the contrary, negative selection. If the selection of a migrant flux is positive, then the returnees will be, on average, among the less educated, which means that the effects of the "brain gain" will not be an advantage for the home country, but rather the "brain drain" effect will be augmented. If, on the other hand, the selection is negative, then the returnees will, on average, be the better educated from among the migrants, and that will probably lead to a "brain gain" and the consequent advantage to the home country to which the migrant has returned, reverting to some extent the "brain drain" process.

3. Stylized Facts

International Migration in a World Context

The International Organization for Migration (IOM) estimates that in the year 2008 there were over 200 million migrants scattered around the world and that the amount of money being sent back to relatives in their home countries was in excess of US$337,000 million. In 2005, the region which has the greatest flow of international migrants was Europe with 64.1 million people, while Latin America had 6.7 (See Table 1). The principal receiver countries for international migrants are the United States, the Russian Federation, Germany, The Ukraine and France (See Table 2). The country with the greatest influx of Colombian immigrants is precisely the United States, with approximately 35% of the total number.

Colombians Abroad

Regarding the number of Colombians living abroad, the authors are in disagreement. Cárdenas and Mejía (2006), based on statistics supplied by Colombia's Security Department (DAS), estimate that between 1996 and 2005 the net number of Colombians who left the country on average amounted to 174,000 people per annum. Over this whole period, a total of 1.9 million Colombians emigrated. The authors quote figures from Colombia's Foreign Affairs Ministry based on population censuses carried out in different countries which reveal that, in the year 2000, the total number of Colombians living in the countries surveyed was 1.92 million. In that same year, other relevant destinations for

[3] The "brain drain" is also known as "human capital flight" and is understood as the emigration of highly qualified individuals.

Colombians were Ecuador (51,556 people in 2000), Panama (21,080), Canada (18,472), Italy (16,398) France (13,116) and the United Kingdom (12,331), among others. According to the census taken in Colombia in 2005, 3.3 million Colombians were living abroad at that time; in other words, 8.1% of the country's entire population.

Colombians and Latin Americans in the United States

As mentioned above, the United States is not only the country which houses the greatest number of international immigrants, it is also the country which receives most Colombians. In 2005, there were approximately 566,000 Colombians in USA; that is 45 times more than in 1960, 9 times more than in 1970, 4 times more than in 1980 and 1.9 times more than in 1990 (See Table 3). However, Gaviria (2004) estimates the number of Colombians in the United States in the year 2000 to be in the region of 700,000, while Cárdenas and Mejía (2006) calculate the number at 1,175,881 in 2005.[4]

A simple estimate would enable us to accept as reasonable a figure somewhere between the Foreign Affairs Ministry's calculations and those of Gaviria (2004): (i) the Colombian population as represented in the American Census taken in 2000 showed that some 306,000 Colombians had been living in the States for at least ten years; (ii) between the years 2000 and 2005, approximately 62,000 Colombians had left the United States, in which case, if a similar rate of influx of Colombians occurred between the years 1990 and 2000, over that ten-year period some 124,000 Colombians had arrived in the country (see table 14). Supposing this to be correct, the 303,000 Colombians registered in the 1990 American Census did not take into account a further 124,000 Colombians, or thereabouts, giving a grand total of 427,000 Colombians in the US in 1990. If the Colombian population in the States increased at an annual rate of 5.5%, as is indicated in the census of Colombians taken over those years (taking into account the same ratio of people not covered by former censuses), we would have a total of approximately 696,000 Colombians in the United States in the year 2000; in other words, some 890,000 in 2005.

As is shown in Table 3, based on figures from US censuses, Colombia is the eighth country from Latin America with the greatest number of immigrants in the United States (in 1990 and 2000, it was the seventh). The countries whose numbers exceed those of Colombia are Mexico, Puerto Rico, El Salvador, Cuba, Dominican Republic, Guatemala and Jamaica. The countries with the highest growth rate of immigrants in the US from 1990 to 2000, and from 2000 to 2005, are Brazil, Honduras and Venezuela. The number of Colombian immigrants increases at a medium rate by comparison with that of other Latin American countries.

It is worth pointing out that the principal increases in the flow of migrants into the US, as recorded in Table 3, are associated with situations of conflict in their home countries. Although the highest rate of increase of immigrants is recorded by countries in the first decades analyzed in the Table – partly due to changes in American legislation on migration –, in those early decades the countries which produced the greatest number of migrants

[4] Cárdenas and Mejía (2006) base their estimate on figures supplied by Colombia's Foreign Affairs Ministry.

were those suffering from domestic crises during that same period.[5] For Colombians, who were immigrating to the United States at an annual increase rate of 18% between the years 1960 and 1970, several authors such as Guarnizo (2003) and Gamarra (2003) agree that the era of violence which the country suffered during the nineteen fifties and after was the main cause of this increase in the numbers of people leaving Colombia. Likewise, the notable increase in the number of immigrants to the United States from Cuba and the Dominican Republic (in the sixties), El Salvador and Guatemala (in the sixties, seventies and eighties) and Haiti (in the sixties and seventies), coincides with the Cuban revolution in 1959, civil war in the Dominican Republic in 1965, civil war in El Salvador, thirty-six years of armed conflict in Guatemala and the dictatorship of Duvalier (and later, that of his son) in Haiti.

Over and above the effects of conflict in certain countries within the region, information garnered from American censuses suggests that the effects of migratory reforms coupled with the international situation are factors which would have played an important role in all of these countries. Graph 1 shows population distribution according to censuses taken from the years 2000 and 2005 in the United States according to the year of entry into the US of citizens from Colombia and other South American countries, plus five Central American and Caribbean ones: Cuba, Dominican Republic, El Salvador, Guatemala and Haiti. Even allowing for the fact that this census information may be slightly misleading, since some of those who immigrated in the sixties will have died by 2000 and 2005, it remains clear that a very significant number of South American arrived in the US during that decade if one compares the figures, for example, with those recorded during the first years of the seventies. We should also note that, although there are differences in the magnitude of the various migratory waves of Colombians into the United States when compared with their South American neighbors, the distribution of both are essentially similar, a fact which would suggest that fluctuations in circumstances on an international level must have produced an important impact on the decision to migrate to the US on the part of Colombians in particular, and on South Americans in general. As for those Central American and Caribbean countries included in the graph, their migratory movements are different from those of Colombia and the South American countries taken as a whole, showing a significant wave of migration around the eighties, and also in the nineties.

Qualifications of Colombian Emigrants

In Colombia's case, one of the most notable facts related to the overall profile of the resident population in the United States is that Colombians in the US are generally better educated than their corresponding number who remained at home. Graph 2 shows that, in 2005, Colombians between the ages of 25 and 55 who live in the US are more highly

[5] As is mentioned in Guarnizo (2003), in the early nineteen sixties the American government assigned immigration quotas to countries around the world, authorizing, among other things, the reuniting of families which had immigrated legally. Later, in 1965, the government eliminated these quotas and favoured the immigration of foreigners with family ties in the US. In 1986, the US government granted an amnesty to 3 million illegal immigrants, and in 1990 allowed the entry of legal immigrants to the extent of 150,000 per annum.

qualified than those who live in Colombia.[6] Around 37% of Colombian immigrants in the US have completed university degrees or more, while only 14% of Colombians residing at home have obtained a similar degree of education. Likewise, some 3% of Colombians between 25 and 55 years of age in the US in 2005 had a level of primary schooling or less, while in Colombia 42% of the population remain in that category.

On the other hand, Garay and Rodríguez (2005) show that 70.5% of Colombian emigrants who send money back to relatives from Spain and the United States have completed secondary education or something more, while in the case of the recipients only 58.6% (for the US 62%, and for Spain 50%). The authors consider this result indicative of the lower socioeconomic stratus of the families from which members have migrated to Spain as compared with those who have migrated to the US.

Qualifications of Migrants who Leave the United States and Return to their Home Countries

In general terms, well qualified Colombians who migrate to the United States are more numerous than similarly qualified Colombians who stay at home. This implies that, at least at some particular moment there existed what Borjas (1987) and Borjas (1994) would call "positive selection", according to which those who leave a country are the better educated. Despite this, however, it is equally important to know whether those Colombians who return home from abroad are more or less well educated than those who remain in their adopted countries. If we establish that not only are the Colombian emigrants better educated, but also they are the ones who will probably remain abroad and not return, and that their absence from Colombia is not compensated by the entry of foreigners into Colombia, then we will have evidence to show that the country has been experiencing an overall loss of qualified personnel, the so-called "brain drain".

Several articles on Colombia have provided ideas on the profile of those who decide to return home. Medina and Cardona (2006), for example, describe the characteristics of migrants and of those who return, while Gaviria and Mejía (2006) present an exercise on the factors which determine the "desire to return", and Medina (2008) assesses the variables which determine the decision to return to Colombia on the part of those Colombians residing in the United States.

Table 4 shows that, according to surveys taken by RCN and *Colombianos en el Exterior*, those migrants who remain abroad are slightly better educated than those who come back, which would indicated a "positive selection" of migration as propounded by Borjas and Bratsberg (2006). However, according to the AMCO survey,[7] migrants abroad have approximately 11.5 years of education, while those returning have had approximately 12.9 years of similar formal education. Thus the results obtained by RCN and AMCO would

[6] These graphs are based on data from the 2005 CENSO for Colombia and a sample from CENSAL of 1% for the United States. Both data bases were provided by IPUMS. The graphs demonstrate the components of completed university courses or more, and primary education or less, according to age.

[7] A house-to-house survey carried out by Colombia's National Statistics Department (DANE) in 2004 for the Central West Metropolitan Area (AMCO for its initials in Spanish). This survey embraced the city of Pereira and the municipalities of Dosquebradas and La Virginia.

seem to contradict one another. This could be due, on the one hand, as is mentioned by Medina (2008), to the fact that AMCO did a haphazard survey of people in Pereira with an experience of migration, whereas RCN allowed the better educated members of the population to make their own pre-selection. Also, there is the fact that the RCN survey did not include those Colombians who have migrated with their entire families. If those who migrate with their families prove to be better educated on average than those who return, then the AMCO survey will have overestimated the educational level of those returning.

The descriptive statistics provided in the appendix show that if you rely on figures taken from the American censuses of 1990, 2000 and 2005, you find that, during the period between 1990 and 2005, Colombians returning home are relatively less educated than those who remain in the United States. The tables which compare the medium variables employed later on in an empirical exercise, present, in the last column, a statistic to prove the significance of the differences between averages in the year 2000 (2005) and those in 1990 (2000).

On the other hand, the tables suggest that, although it was less probable that from 1990 to 2000 more women returned than men, between the years 2000 and 2005 there is no difference recorded based on gender. The tables also show that from 1990 to 2000 those more likely to return home were older people, non-whites, non-Hispanics, people who had spent more than 59 years in a household, who did not have children under ten years of age, and who had been living in the US for over five years (results consistent with figures shown in Table 5).

Gaviria and Mejía (2006), using information from the RCN survey, show what the desire to return depends on, in the case of a specific sample taken from Colombians. The authors note that the desire to return stems from three factors: the circumstances which led to migration originally, the existence of family or social ties in the home country and the migrant's lack of adaptation to the receiver country. Among problems of adaptation they mention language and low educational levels, which is in accordance with the "positive selection" category; that is, the better qualified remain abroad.

Gaviria and Mejía find that the most important factor determining the desire to return is an improvement in the perspectives of economic activity, as well as security and employment. There is a greater desire to return among high school graduates than among professionals. Between the first and fifth year of residence in a foreign country, the percentage of those who manifest a desire to return diminishes by ten percentage point or more. The authors explain this phenomenon by an increase in transnational practices and a propensity for sending money back home. They also argue that money transfers to relatives at home, "transnationalism[8]" and the desire to return are permanent features of Colombian life abroad.

Gaviria and Mejía (2006) also find, among other results, that the desire to return is greater for those who have a husband or wife in Colombia, then diminishes in about two

[8] Transnational practices are implemented by regular and sustained social contacts over time across national borders (Cassarino, 2004).

percentage points with each year of further education, and diminishes very noticeably in the first years of residence abroad, although it later increases.

This exercise, however, suffers from a lack of census data, since when we use population information taken from statistics over a particular period of time in order to estimate variables such as the sending of money transfers, "transnationalism" and the desire to return as related to the number of years spent in the United States, we are only looking at those Colombians who "stayed to tell the story". In other words, if several of those who have returned after, say, five years in the US had been forced to stay there, they would probably now be sending home a money transfer considerably different from what they were dispatching before, if we can rely on what was stated by Colombians interviewed in the surveys.

Medina (2008), using statistics from the US censuses of 1990 and 2000, designs a logit model to identify the determining factors in the probability of returning, defined as the probability that those people who were in the United States in 1990 had returned to Colombia by the year 2000. The author finds that probably more men than women will have returned, as well as the less educated (those with incomplete university education or less), the more elderly, whites, Hispanics, those without children under ten to be cared for, and who had been living in the US for over five years (that is, between the years 1986 and 1990). They also found that the most likely to return were Colombians living in Alabama, California, Washington D.C., Illinois, Louisiana, Maryland, Massachusetts, Michigan, New Jersey, New Mexico, New York, Rhode Island, Texas and Utah, than those who were living in Florida, Georgia, South Carolina or North Carolina.

Notwithstanding the consistency of several of these results when compared with the descriptive statistics estimated on the basis of US censuses, the results of the exercise are affected by a phenomenon known in the literature on the evaluation of social programs as the "contamination bias" (Heckman and Robb, 1985). In what follows we develop a calculation of the probability of not returning from the United States using a methodology which enables us to correct this "bias", thus allowing us to infer the determining factors in the decision to return on the part of Colombians residing in the US during the periods being studied.

4. Methodology

The problem of the "contamination bias" is brought about by the fact that available information does not enable us to distinguish between the population that is the subject of our study and that which is not its subject. In order to assess the factors which determine the decision to return we need to know the characteristics of those who did return and of those who remained in the United States; that is, their characteristics at a time previous to the moment when they took the decision to return, or otherwise. In our case, for example, when we analyze the period between 1990 and 2000, we need to know what were the characteristics in 1990 of those Colombians who returned (data (i)). However, while we know for certain that those Colombians observed in the year 2000 who had been living for at least ten years in the US form, when taken as a group, the number of Colombians who decided not to return home during that period, the information available for 1990 (data (iii)) does not enable us to establish which among those Colombians observed in that year did finally decide to return to their home country.

Only in some very special cases, as for example cases in which the decision to return was taken by a random subset of the population, estimates such as those of Medina (2008) produce results which do not correspond to the parameters which interest us, since they implicitly assume that the whole population studied in 1990 was made up of people who did in fact return. In our exercise, we will confine ourselves to information about Colombians resident in the United States in 1990 who at that time were between 25 and 55 years of age, and residents in the year 2000 who were between 35 and 65 at the time and had been living in the US for at least ten years. By choosing this population range we avoid two kinds of "bias". On the one hand, given that the census of people in the year 2000 does not ask retrospective questions (that is, questions about the past), and that we need information about those people as they were in 1990, we must use variables about them that cannot have undergone change between the years 1990 and 2000. Bearing in mind that the level of education of Colombians in 1990 is the most important variable for our exercise, the inclusion of that factor in the case of young people observed in the year 1990 does not allow us to presume with any degree of reliability that the educational level of those studied in 2000 is the same as that of those we are looking at ten year earlier. On the other hand, to include people over 55 years of age would lead to a greater probability that by the year 2000 many of them would no longer be alive, thus weakening the significance of the data along with the respective "bias" deriving from this very information.

Heckman and Robb (1985) propose a simple formula for correcting this "contamination bias". In our case, we would start from a standard model in which the result *Y*, in this case the decision to remain in the United Status, is explained by a group of control variables *X*, and a haphazard termination *U*: $Y = X\beta + U$.

Based on some simple suppositions, among which are included[9]

$$p\lim_{I_t \to \infty} \frac{\sum X'_{it} U_{it}}{I_t} = 0$$

and knowing that from the simple (iii), that is, from the 1990 census, it is possible to generate the following product crossed with $I_{(iii)}$ observations

$$\frac{\sum X'_{it} X_{it}}{I_{(iii)}}$$

which, under certain conditions of state converge with the desired population-oriented counterparts. Now, note that if the decision to return were observed, then

$$p\lim_{I_t \to \infty} \frac{\sum X'_{it} d_i}{I_{(iii)}} = p \frac{\sum E\left(X'_{it} \mid d_i = 1\right)}{I_{(iii)}}$$

Where *p* is the proportionate number of Colombians who remain in the United States, which we can infer on the basis of the 1990 and 2000 censuses, and from which we deduce the proportion of those who remained in the US in the year 2000.

[9] See Heckman and Robb (1985), pp. 184-185, assumptions A-6 and A-7.

Given the above scheme, for purposes of our exercise the so-called "*Contamination Bias*" can be corrected by the following formula, (where 0 is the person who returns home and 1 is the person who remains in the US)

$$\hat{\beta}_w = \left[\begin{pmatrix} X_0 \\ X_1 \end{pmatrix}' \begin{bmatrix} \widetilde{W}_D^0 & 0 \\ 0 & \widetilde{W}_D^1 \end{bmatrix} \begin{pmatrix} X_0 \\ X_1 \end{pmatrix}\right]^{-1} \left[\begin{pmatrix} X_0 \\ X_1 \end{pmatrix}' \begin{bmatrix} \widetilde{W}_D^0 & 0 \\ 0 & \widetilde{W}_D^1 \end{bmatrix} \begin{pmatrix} Y_0 \\ Y_1 \end{pmatrix}\right]$$

$$= \left[\begin{pmatrix} X_0'\widetilde{W}_D^0 & X_1'\widetilde{W}_D^1 \end{pmatrix} \begin{pmatrix} X_0 \\ X_1 \end{pmatrix}\right]^{-1} \left[\begin{pmatrix} X_0'\widetilde{W}_D^0 & X_1'\widetilde{W}_D^1 \end{pmatrix} \begin{pmatrix} Y_0 \\ Y_1 \end{pmatrix}\right]$$

$$= \left[X_0'\widetilde{W}_D^0 X_0 + X_1'\widetilde{W}_D^1 X_1\right]^{-1} \left[X_0'\widetilde{W}_D^0 Y_0 + X_1'\widetilde{W}_D^1 Y_1\right]$$

$$= \left[X_0'\widetilde{W}_D^0 X_0 + X_1'\widetilde{W}_D^1 X_1\right]^{-1} \left[X_1'\widetilde{W}_D^1 Y_1\right] = \left[X_0'\widetilde{W}_D^0 X_0 + X_1'\widetilde{W}_D^1 X_1\right]^{-1} \left[X_1' p\widetilde{\widetilde{W}}_D^1 Y_1\right]$$

where

$$W_D = \begin{bmatrix} W_D^0 & 0 \\ 0 & W_D^1 \end{bmatrix}, \text{ y } W_D^j = \begin{bmatrix} W_{D11}^j & 0 & \cdots & 0 & 0 \\ 0 & W_{D22}^j & \cdots & 0 & 0 \\ \vdots & \vdots & \ddots & \vdots & \vdots \\ 0 & 0 & \cdots & W_{DN_{0-1},N_{0-1}}^j & 0 \\ 0 & 0 & \cdots & 0 & W_{DNN}^j \end{bmatrix},$$

$$\widetilde{W}_D^j = \frac{W_D^j}{\sum_{i=1}^{N} W_{Dii}}, \ \widetilde{\widetilde{W}}_D^j = \frac{W_D^j}{\sum_{i=1}^{N_j} W_{Dii}^j}, \text{ y } p = \frac{\sum_{i=1}^{N_j} W_{Dii}^1}{\sum_{i=1}^{N} W_{Dii}}, \text{ para } j = 0, 1.$$

As mentioned previously, the population included in the exercise will be a population that was in the United States in 1990 and was still there in the year 2000. It is worth underlining the fact that, to arrive at the final bases, age (and other variables which require it) will be assessed on what it is assumed was their value in the year 1990. For example, when we need to construct the variable of the number of children under ten years of age for the population in 1990, we will look at the variables of the number of those under 19 in the year 2000. In order to verify the sensitivity of the results, especially those related to education, we develop an alternative exercise for those members of the population who were between the ages of 35 and 55 in 1990.

A preliminary exercise is carried out on the period from 1990 to the year 2000. Nonetheless, IPUMS has made available a CENSAL sample of 1% of the population in the United States in the year 2005. On the basis of this information we can carry out an exercise similar to the one detailed above, but with information from the years 2000 to 2005 (in which case the information will be standardized to the year 2000).

Several assumptions are implicit in the approach outlined above, among which a key one is that if the US census did not include a representative sample of the whole Colombian population in that country in one of the years (maybe because illegal Colombians did not show up at the interview day), then inferences would be only applicable to the sample of Colombians included in the census, provided that in the other year used in the estimation the source of bias did not change.

5. Results

Results for Colombia

The following results intend to establish the factors determining the decision to remain in the United States on the part of Colombian immigrants, especially in that particular aspect which pertains to the part played by educational levels in the taking of this decision.

We showed above that the rate of migration by Colombians to the United States (Borjas and Bratsberg, 1996) was approximately 24.7% (46,136 Colombians) for the period 1975-1980, whereas for the period 1970-1974 it was approximately 17% (28,254 Colombians). Also we saw that Colombians, compared with immigrants from Central and South America and the Caribbean, is one of the groups with the greatest number of returnees for these same periods.

Medina and Cardona (2006, see Graph 3) show that the net rate of migration reaches a maximum in the year 1999 and from then on begins to descend until the year 2003,[10] which indicates a behavioural pattern of Colombians returning home. Gaviria and Mejía (2006) show that, for the RCN survey, 65% of those queried desired to return or had contemplated returning to their home country, which implies a subjective indication of the behavioural pattern of those who did return.

In attempting to establish the determining factors for remaining in the United States on the part of Colombian migrants, we designed a model on the lines of the methodology described above. As our baseline scenario, we estimate a standard OLS model which is affected by the "contamination bias", similar to that estimated by Medina (2008), the results of which are presented in Table 10.[11] Later they were estimated correcting the "contamination bias", following on proposals made by Heckman and Robb (1985) and presented in the methodology.

According to the model presented in Table 5, Colombians who have completed secondary level education, or have done university courses but without graduating, are 5.3% more likely to stay on in the United States than those with an incomplete secondary education or less; while Colombians who have graduated from university, or have an even higher level of education, are 8% more likely to remain in the US. To measure the education factor in this regard, we designed a model for the population between the ages of 35 and 55.

[10] Estimates are based on migration reports by Colombia's Security Department (DAS).
[11] The tables in the appendix show the results of "biased" calculations using OLS so that they may be directly comparable with the results of estimates that correct the bias. Nonetheless, the "biased" estimates were calculated on the Logit and Probit models, arriving at results very like those of OLS.

Results for 1990-2000 provide evidence to suggest that the better educated Colombians stay on in the United States (See Table 6). The significance of the effect is the same, both in the "biased" regression and in the "unbiased" one. Nevertheless, the magnitude of the effect changes significantly, especially for higher levels of education. For example, the coefficient of those who have completed a university degree or more is over 8% in the OLS model when not corrected by taking into account the "contamination bias", and 22.6% when this "bias" is in fact corrected. When one introduces interactions between educational "dummies" and the age factor, the results suggest that part of the effect found initially could be explained by the educational process of migrants in the US. However, the magnitude does not manage to alter the initial result, but rather it keeps maintaining consistency once both coefficients are weighed against one another (the net effect). Also, the effect's solidity is verified by the results of the exercise that was carried out on the population between the ages of 35 and 55 in 1990, in which case the conclusions did not vary. In the particular case of people with a university degree or more, the coefficient is 19.8%. The above results are consistent with the presence of "positive selection" (as expounded by Borjas and Bratsberg (1996)), in the case of Colombian migrants in the United States.

Results on the basis of surveys in 2000 and 2005 are consistent with the above results (See Table 7), although the effect of education is more noticeable. This indicates that the phenomenon of exporting educated Colombians to the United States would seem to be of a structural nature.

Some additional results for data supplied in 1990 and 2000 show that women are more likely to remain in the US. However, if they have children under ten or adults over sixty at home, the likelihood of their remaining in the US is lessened. Those who have arrived in the US recently (that is, in the last five years) are more likely to stay. For the period 2000 to 2005, the meaning of some of these variables changes. For example, the gender effect is no longer statistically significant. Having children under ten increases the likelihood of remaining in the US, and those who arrived after 1999 are less likely to remain in the United States. This last observation may reflect the effects of the 1999 crisis in Colombia, which could have altered the Colombians' normal migration pattern.

Also, results for the period 1990 to 2000 show that, in the following regions – the State of Massachusetts (-0.311), Rhode Island, New Hampshire, Maine, Vermont (-0.49), New Jersey, Pennsylvania (-0.35), New York (-0.42), Illinois (-0.33), Maryland, Delaware, District of Columbia (-0.50), West South Central division, not including Texas (-0.70), Texas (-0.22) and California (-0.50) – there exists a negative and statistically significant effect when compared with Florida, Georgia, Virginia, West Virginia, North and South Carolina, where one finds a positive and statistically significant effect. This latter result could be associated with the fact that in the south-east coast, from Florida on, there is a considerable presence of Colombians. Map 1 shows that one of the zones of greatest growth between the years 1990 and 2000 was precisely this coastal area.

Finally, we developed an exercise with the above structure but taking advantage of information from Colombia's 2005 Census and the US Census taken in the year 2000. In this last exercise, we change the structure of the dependent variable, since now we will be estimating the probability of the person's returning home. The results are presented in the appendix, and it is shown that mixing US and Colombian census data would lead us to conclude the opposite, that is, that actually the more educated migrants are more likely to return to Colombia, although in this case, the magnitude of the coefficient is much smaller: the coefficient of those who have completed a university degree or more is only 3%. This result might be due to one or several of the following reasons: (i) what people answer to the interviewer in one country is different to what they would answer in the other country, and in particular, Colombians might be systematically overestimating their education when answering the Colombian census in relation to what they would answer had they answered the US census, (ii) the estimations that use the US census control for more variables than those that use the Colombian census, in particular, they control for whether the migrant arrived to the US five years earlier than 2000, and they also include state of residence fixed effects, (iii) if there are people living illegally in the United States, which there should, and that status is a reason for not showing up at the US census interview, then it is more likely for Colombian returnees identified by Colombian census to be representative sample of the actual population of Colombian returnees, that it is for the Colombians included in the US census to be representative of the whole population of Colombians living in the US. That is, in this case we would be violating an implicit assumption of our empirical model which is comparing comparable populations.

Results for South America

Table 8 presents the results of estimates for the overall number of foreigners in the United States who have arrived from South America, including Colombians. Although there would appear to be "positive selection", in this case it is of a lesser magnitude. While the likelihood that a Colombian with a complete university education will remain in the United States is over 22%, the average probability for South Americans as a whole is only 9%. Results related to other variables for controlling the model are consistent with those obtained for Colombia.

Up to now the results obtained for Colombia and South America enable us to state that the countries of the region are brute exporters of human capital. Nonetheless, these countries receive foreigners. Thus the net effect of the exchange of human capital with the rest of the world depends on the difference between the number of educated South American citizens who emigrate and the number of people with equivalent educational levels who migrate to a South American country.

In Table 9 we present a first attempt to quantify the net effect of this exchange of human capital between the South American countries and the rest of the world. The Table embraces a determined group of countries and shows the number of citizens and the number of foreigners in those countries according to their levels of education, and the number of citizens in each case who have emigrated to the United States. In the case of Colombia we find that the country is a net exporter of people with a university degree or more, since while 150,000 well educated Colombians live in the United States, only about 24,000 educated foreigners live in Colombia, which means there is a net result of exportation to the extent of 128,000 Colombians, who represent 5.4% of the total number of educated Colombians who are living in Colombia.

It is worth noting that this statistic is underestimated, since we are only taking into account the Colombians who reside in the United States, a country which, as we have already said, is the destination of approximately one third of the total number of people who migrate from Colombia. While Ecuador, like Colombia, is a net exporter of human capital, the other countries that figure in the Table – Argentina, Brazil and Chile – are net importers.

6. Labour Conditions for Foreigners in the United States

Evidence provided in the previous section points out, therefore, beyond any doubt, that a good level of education is an important determining factor in a South American migrant's decision to remain in the United States. Nonetheless we might validly wonder whether or not a higher degree of education has contributed to the fact that these well educated migrants enjoy a better standard of life in their adopted country, and to what extent that is determining their decision to stay abroad. This query arises from the abundant source of anecdotes which recount stories of many professionals who have migrated to the United States and are employed in jobs for which their academic qualification is not required. The following communiqué illustrates the point. It can be found on a Colombian media company's website.

> "*According to the most recent official census of New York City, of a total of 162,120 Colombian workers, both legal and illegal, 3.994 are at present engaged in subsistence employment, working in jobs that have nothing to do with their original professions in Colombia. The number has increased due to the constant influx of professionals from Colombia entering the United States (…) and according to a recent report by the Organization for Cooperation and Economic Development entitled International Migration Perspective 2007, an average of 30.6% of Colombian migrants worldwide are overqualified for their jobs (…) There are more and more surgeons, lawyers and engineers from other countries who make their living driving taxis, selling hot dogs or working on building sites in search of the American Dream. And the majority of them are here in New York*".[12]

Since we do not have information regarding the tasks Colombian migrants observed in the 2000 US census were performing in 1990, we cannot use that information as an additional control variable in our empirical model. In addition, if we had it available, it would require a different methodology, since people self-select into different tasks and thus that would be an endogenous variable. On the other hand, if we showed that task choices are highly related to migrant's education, then we would have at least partially accounted for the task dimension in the empirical model by having included the education. In order to reply to the above query we will use the United States CENSOS for 2000 and 2005.[13] Let us begin by reporting the distribution of the overall human capital in the United States. For the year 2000, the OECD estimated that 34.6% of the total number of migrants were qualified

[12] See http://www.caracol.com.co/nota imp_aspx?id=476144

[13] According to Skeldon (2005) the United Status houses at least 20% of the total number of international migrants and the US is also the chief receiver country for Colombians who migrate (Cárdenas and Mejía, 2006).

persons and that of them 50% were located in the United States. Tables 10A and 10B show the percentage of qualified persons in the US by country of origin for the years 2000 and 2005.[14] The countries with the greatest proportion of people with at least complete university level education are the United States and India, the Russian Federation, Iran and Taiwan. As for Latin America's place in this regard, the most notable countries in 2000 were Brazil, Chile, Peru, Colombia and Cuba. However, by 2000 the countries with the greatest number of well qualified people who were migrating to the United States were India (9.5% of the total), Philippines (8.4%), China (5.4%), Mexico (4.8%) and Germany (4.1%). Colombia participates with 1.5%.

Jobs Employing Foreigners in the United States by Level of Education

To determine what jobs are being done by foreigners working in the United States, we use information provided by Autor, Levy and Murnane (2003), ALM, who define the levels of intensity of each kind of employment in five kinds of task of which two are analytical (that is, they require analysis and quantitative abilities), two are routine (that is, they require precision and can often by computerized) and one manual (not able to be computerized).[15]

Table 11 shows the principal areas in which foreigners in the United States are working.[16] Immigrants from countries like Taiwan, India, Iran, Hong Kong, Nigeria, United Kingdom, Canada, France and Japan are, on average, those whose presence is most intense in analytical tasks such as planning and/or direction. Also, as was shown earlier, these tend to be the countries with the greatest number of qualified personnel who have migrated. The above is clear proof of the "brain drain" in these countries, for the migrants are not only highly qualified (on average) but also tend to develop tasks with a high analytical component, such as planning and/or direction – tasks which probably have to do with their original professions.

Now, not all countries tell the same story. Migrants arriving from Mexico, Guatemala, Honduras, Haiti, El Salvador, Portugal, Puerto Rico, Nicaragua, Ecuador, Dominican Republic and Laos are immigrants whose average work consists of manual or manual-routine jobs. That is to say, quite apart from their level of qualification, these immigrants tend to be employed in tasks with a high manual labour component, such as for example cleaning and other housework, driving, waiting, and so forth. In other words, usually in jobs with a minimum of analytical component.

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[14] These Tables were drawn up using the US CENSO for 2005 (CENSAL sample of 1%) and 2000. The two data bases were obtained from IPUMS. The graphs show the share of complete university education (or more) and university incomplete (or more) for those employed between 25 and 55 years of age.

[15] Peri and Sparber (2008, 2009) also use the DOT data to look for complementarities among low educated Americans and migrants, while previous work by used as proxy of the level of complexity of the tasks by the average education in the occupations.

[16] Following the methodology of Autor, Levy and Murnane (2003), we estimate in what kind of employment foreigners in the United States are working, on average: whether analytical, routine or manual. The Table presents only those countries which have at least 100,000 migrants in the US in the year 2000 and are ordered in accordance with a category known as "Nonroutine Cognitive/Analytical" which is related to employed people who have a high intensity in tasks associated with work which contains a high analytical component, in areas such as engineering, mathematics, economics, finances, etc. (which are not operative tasks).

Colombia is number 15 in the manual labour category, number 33 when it comes to manual-routine jobs, 28 in the field of cognitive-routine work, 30 in planning and directional tasks and 34 in the analytical area.[17] While it is true that there is a significant leakage of well qualified people from Colombia, on average Colombians mostly are in jobs with a high routine-manual component, as against what occurs with other migrants, such as those from India, the Philippines, Taiwan or Hong Kong, for whom the above results would not permit us to play down the evidence from anecdote which we mentioned above.

On the other hand, the benefits which countries obtain when their emigrants return home depends to a large extent on the sort of jobs that these same people had been working at while they were abroad, for it is in such activities that they will have acquired knowledge and skills which may be used to advantage in their countries of origin (spillovers). In this sense it is fundamental that we assess what are the determining factors that enable migrants to work in tasks which will generate the greatest personal and social benefits. It is especially important to determine whether or not education contributes to enhancing the possibilities of the migrant's gaining employment in tasks which lead to obtaining further knowledge and greater satisfaction.

To examine this point more closely, we begin by analyzing descriptive statistics of the complexity of the tasks migrants perform conditional on their education levels. Figure 4 illustrates the relationship between the education level and the task intensities for the two tasks, the least complex, "Manual", and the most complex, "Math", for all the South American countries, their aggregate, and the aggregate of the top ranked countries in the Math task intensity of table 11. Let us keep in mind that each occupation has a level of intensity for each of the five possible tasks adopted, thus a higher level of intensity in one specific column implies that migrants are more likely to be in occupations that are more intensive in that task. Both graphs show a close relationship between education and task intensity, decreasing and increasing with education in the first and second case respectively. Nonetheless, there are differences between countries: Migrants from the Top Math countries have the lowest levels of intensities in the Manual task and the highest in the Math task, very similar to the levels of Argentina. The rest of the migrants of South American countries are lagged in the Math task intensities even controlling for education. The worst performing migrants in Math are those from Ecuador and Peru, and Ecuadorian migrants are also among the most intensive in Manual tasks. In both graphs, Colombian migrants perform very similar to the average South American.

The superiority in the performance of Argentineans in the US labour market is striking. That superiority might be related to a history of the development of the financial sector in Argentina, and of young Argentineans migrating to work in the financial sector in the US. Iglesias (2007) describes how strong the ties between Argentineans and the US financial sector were by pointing to several facts. On the one hand he mentions that the first US bank that opened a branch outside the US was the Citibank, and it did it in Argentina in late 1914, and that by the end of the First World War the most important foreign banks in Argentina were the Citibank, J.P. Morgan, Kuhn Loeb, Goldman Sachs and Lehman Brothers. On the other hand, the book mentions that a migration process of Argentineans

[17] Examples on the type of work can be found in Autor, Levy and Murnane (2003), Table 1 in the Appendix.

going to the US that began in the mid eighties and that was strengthen in part thanks to the privatizations and the wave of openness that took place in Argentina in the nineties. By the late nineties, five Argentineans directed the emerging markets groups of five of the most important financial institutions of Wall Street.

In order to assess whether there exists an important mismatch between education levels and tasks complexities, figure 5 shows the distribution of *Manual* and *Math* tasks by education level of migrants from South America, Colombia, Argentina and the top ranked countries in their *Math* task intensity. The figure shows that there is actually a share of educated migrants in each country with incomplete higher education or more, that are misplaced in occupations with some amount of *Manual* task intensity, nonetheless, the vast majority of them has no *Manual* task dedication. It is true though that it is less likely for an educated migrant of the denominated "Top Countries" to be working in an occupation with any amount of *Manual* task intensity than it is for any average South American, Colombian or Argentinean. On the other hand, while the distribution across *Math* task intensities are very similar for South Americans and Colombians, they clearly have more weight on their right for the cases of the Argentineans, and even more for migrants of the *Top Countries*. Even migrants in the last two countries with complete secondary are much more likely to have higher intensities of Math task that are migrants from South America or Colombia.

In short, figure 5 presents a picture much less dramatic than what has been previously presented in terms of skilled Latin Americans commonly performing low skilled tasks. For example, the work by Ozden (2006), uses as well 2000 US Census data to show that only 42 percent of Colombian migrants in the US with a bachelor degree work in skilled jobs, while figure 5 shows that only a small share of them works in activities with low levels of *Math* task intensities, while most perform in tasks with no *Manual* intensity. Ozden's definition leads him to conclude that in Taiwan, Iran and Nigeria, countries that are included in our "Top Countries", only 46, 34 and 40 percent of their migrants with a bachelor degree works in skilled jobs, levels at or below Colombian's.

The difference between these results should be explained by the way skilled jobs are defined in Ozden's paper. According to his definition, a skilled job is that in which the average education in that occupation is at least 16 years. That definition is very likely to misclassify several migrants with a bachelor degree who perform a complex task, nonetheless works with peers which average education is below 16. Despite these differences in the magnitude of the mismatches between education and job quality of migrants, Ozden's conclusions and ours point at the same direction: Latin American migrants perform in the US labour market poorly in relation to migrants from developing countries in Asia, and from developed countries.

We now proceed to build a model in which the intensity of each of the five tasks under consideration are explained in their relation to variables associated with the amount of human capital which the person possesses, and variables which determine his or her decision to participate or not in the labour market and implicitly to choose from among the different kinds of employment available. The model is $Y_i^{\,j} = X_i\beta^j + u_i^{\,j}$, where $Y_i^{\,j}$ is the intensity of the task *j* carried out by migrant *i*.

Table 12 presents the results of the model estimated on the basis of the United States population census of Colombian migrants in the year 2000. The results conclusively give the lie to the concept that Colombian migrants are systematically employed in jobs for which they are over qualified. In fact, Colombians with a university education (or more) are less likely to be systematically employed in manual labour, and are more likely to find work which requires analytical and cognitive skills.

A similar result as that obtained for Colombia is obtained also when one performs the same exercise for migrants from the South American countries as a whole, as can be seen in Table 13, where not only do we use the control variables included in estimates for Colombia, but also fixed effects for each country.

We should also underline what the fixed effect of this estimate reveals: namely, that migrants from Argentina, Bolivia, Chile, Uruguay and Venezuela are employed in activities relatively more intense in cognitive non-routine analytical tasks than the Colombians. The only country whose migrants are employed on average with less intensity than the Colombians in these kinds of jobs are those from Ecuador and Peru.

To sum up, the results indicate that the belief that South American professionals are employed in the United States in poorly qualified jobs – that is, in jobs unrelated to their level of qualification – is no more than a popular myth.

7. Conclusions

Colombia is engaged in a process of net exportation of those members of its population with university or post-graduate degrees, while some other countries in the region are net importers of well qualified people. Also, the estimates provided in this article enable us to conclude that the flight of human capital ("brain drain") is being accentuated by the "negative selection" of the returnees; in other words, by the fact that the Colombians who are most likely to leave the United States and return to Colombia are the less well educated from among the migrants in that country. Although it is true that certain countries in the region are net importers of highly qualified personnel, South American countries taken as a whole suffer from the phenomenon of "negative selection" of their returnees, albeit to a lesser degree than Colombia. While Colombians in the United States who are university graduates or post-graduates are 22.6% more likely to remain in the US than those who have only secondary education or less, in the case of South American countries as a whole, this likelihood is 9%.

The fact that the exercise has produced consistent results for the period 1990-2000, and also for the years between 2000 and 2005, and bearing in mind that the former period included the economic crisis which Colombia suffered towards the end of the nineteen nineties, whereas during the latter period the country underwent a process of economic recovery, the results would suggest that over and above short-term considerations and contingencies, the "negative selection" tendency of the returnees is a structural phenomenon that will continue to contribute to the flight of human capital, at least in the medium term.

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Tables

Table 1

Migrant Population 2005

Geographic area	Migrants (millons)	% of the area
Europe	64.1	8.8
Asia	53.3	1.4
North America	44.5	13.5
Africa	17.1	1.9
Latin America	6.7	1.2
Oceania	5	15.2

Source: Internacional Organization for migration

Table 2

Countries hosting the largest number of international migrants in 2005

Country	Migrants (millons)
United States	38.4
Russian Federation	12.1
Germany	10.1
Ukraine	6.8
France	6.5
Saudi Arabia	6.4
Canada	6.1
India	5.7
Unit Kingdom	5.4
Spain	4.8
Australia	4.1

Source: Internacional Organization for migration

Table 3

Latin American's Migrants in United States (1960, 1970, 1980, 2000, 2005)

Country of birth	1960	1970	1980	1990	2000	2005	Annual Population Growth			
	Population	Population	Population	Population	Population	Population	60-70	70-80	80-90	90-00
Argentina	16,579	44,803	68,887	99,587	131,055	192,195	10.5	4.4	3.8	2.8
Bolivia	2,168	6,872	14,468	32,194	52,913	64,667	12.2	7.7	8.3	5.1
Brazil	13,988	27,069	40,919	94,529	222,836	344,475	6.8	4.2	8.7	9.0
Chile	6,259	15,393	35,127	62,092	84,242	95,890	9.4	8.6	5.9	3.1
Colombia	**12,582**	**63,538**	**143,508**	**303,204**	**525,881**	**566,394**	**17.6**	**8.5**	**7.8**	**5.7**
Costa Rica	5,425	16,691	29,639	48,455	76,276	101,400	11.9	5.9	5.0	4.6
Cuba	79,150	439,048	607,814	751,988	883,439	923,608	18.7	3.3	2.2	1.6
Dominican Republic	11,883	61,228	169,147	353,755	698,106	729,244	17.8	10.7	7.7	7.0
Ecuador	7,670	36,663	86,128	143,006	299,106	352,466	16.9	8.9	5.2	7.7
El Salvador	6,310	15,717	94,447	472,449	823,832	994,418	9.6	19.6	17.5	5.7
Guatemala	5,381	17,356	63,073	228,029	487,288	652,909	12.4	13.8	13.7	7.9
Haiti	4,816	28,026	92,395	225,639	429,848	491,131	19.3	12.7	9.3	6.7
Honduras	6,503	19,118	39,154	112,004	287,470	393,349	11.4	7.4	11.1	9.9
Jamaica	24,759	68,576	196,811	341,590	568,686	592,879	10.7	11.1	5.7	5.2
Mexico	575,902	759,711	2,199,221	4,409,033	9,325,452	11,164,770	2.8	11.2	7.2	7.8
Nicaragua	9,474	16,125	44,166	171,045	228,346	227,606	5.5	10.6	14.5	2.9
Panama	13,076	20,046	60,740	121,714	146,216	148,832	4.4	11.7	7.2	1.9
Paraguay	595		2,858	7,092	13,542	17,772	-	-	9.5	6.7
Peru	7,102	21,663	55,496	151,856	282,264	381,052	11.8	9.9	10.6	6.4
Puerto Rico	-	-	-	1,180,383	1,437,006	1,339,162	-	-	-	2.0
Uruguay	1,170	5,092	13,278	23,121	25,031	53,251	15.8	10.1	5.7	0.8
Venezuela	6,851	11,348	33,281	50,862	116,867	162,466	5.2	11.4	4.3	8.7
Total	**817,643**	**1,694,083**	**4,090,557**	**9,383,627**	**17,145,702**	**19,989,936**	7.6	9.2	8.7	6.2

Fuente: IPUMS-University of Minesota (1990,2000,2005), US CENSUS BUREAU (1960,1970,1980). Author's calculation.

Table 4

	Emigrants			Returned Migrants	
	AMCO	**USA Census**	**RCN Survey**	**AMCO**	**RCN Survey****
Age	36.14	41.80		39.40	
Years of schooling	11.52	12.30	14.50	12.88	14.25
Sex (Men)	46.9%	43.9%		66.7%	
Single	29.8%	22.8%		19.7%	
Years of residence abroad	6.80		5.50	3.80	5.30
Residence	64.7%				
Frequently communicates by telephone with family	62.9%		81.0%		
Employed	82.0%	64.2%		76.7%	
Unemployed	5.3%	7.7%			
Speaks English		62.3%	79,1%*	55.6%	75,7%*
Spouse has lived abroad				21.8%	
Parents have lived abroad				18.6%	
Sends remmittances	71.2%		73.2%	99.1%	70.2%
Monthly average amount in US$	166.8		247.6		
Spouse lives in Colombia			5.0%		5.65%
Children live in Colombia			21.0%		21.48%
Parents live in Colombia			73.8%		73.22%

* Para esta encuesta aplica si habla otro idioma diferente al Español

**Para esta encuesta aplica en esta columna quienes manifiestan deseo de retorno

Source: Medina y Cardona (2006)

Table 5

OLS - Biased regression (population 25-35)

Variable	Model 1			Model 2			Model 3			Model 4		
	Coeff.	Std.Err.	*t*	Coeff.	Std.Err.	*t*	Coeff.	Std.Err.	*t*	Coeff.	Std.Err.	*t*
Complete Secondary or Incomplete Higher	0.053	0.015	3.47									
Incomplete or Complete Secondary				0.124	0.063	1.97						
Incomplete Secondary							0.159	0.087	1.83	0.158	0.087	1.82
Complete Secondary							0.114	0.064	1.76	0.113	0.064	1.75
Incomplete Higher										0.069	0.068	1.03
Incomplete Higher or more				0.113	0.063	1.78	0.114	0.063	1.79			
Complete Higher or more	0.080	0.019	4.12							0.181	0.071	2.53
Woman	0.031	0.008	3.79	0.030	0.008	3.70	0.030	0.008	3.70	0.030	0.008	3.73
Age	0.005	0.005	0.93	0.006	0.005	1.21	0.006	0.005	1.23	0.006	0.005	1.16
Age Squared	0.000	0.000	-0.66	0.000	0.000	-0.74	0.000	0.000	-0.76	0.000	0.000	-0.68
Incomplete or Complete Secondary * Age				-0.004	0.002	-2.49						
Incomplete Secondary * Age							-0.006	0.002	-2.67	-0.006	0.002	-2.66
Complete Secondary * Age							-0.003	0.002	-2.08	-0.003	0.002	-2.07
Incomplete Higher * Age										-0.002	0.002	-0.95
Incomplete Higher or more * Age				-0.003	0.002	-1.61	-0.003	0.002	-1.62			
Complete Higher or more * Age										-0.004	0.002	-2.18
White	0.115	0.029	3.93	0.119	0.029	4.06	0.117	0.029	4.01	0.115	0.029	3.96
Children under 10 in household	-0.024	0.009	-2.70	-0.025	0.009	-2.84	-0.025	0.009	-2.78	-0.024	0.009	-2.64
People older than 60 in household	-0.090	0.016	-5.61	-0.091	0.016	-5.65	-0.091	0.016	-5.65	-0.091	0.016	-5.63
Children under 10 * People older than 60 in hhold	0.037	0.028	1.35	0.038	0.028	1.36	0.037	0.028	1.35	0.037	0.028	1.36
Hispanic	-0.056	0.024	-2.34	-0.059	0.024	-2.48	-0.059	0.024	-2.47	-0.056	0.024	-2.34
Arrived to USA in last 5 years (1985-1990)	0.084	0.010	8.09	0.085	0.010	8.20	0.085	0.010	8.24	0.084	0.010	8.08
Connecticut	-0.008	0.028	-0.30	-0.010	0.028	-0.34	-0.008	0.028	-0.28	-0.008	0.028	-0.28
Massachusetts	-0.081	0.028	-2.92	-0.081	0.028	-2.93	-0.080	0.028	-2.88	-0.081	0.028	-2.93
Rhode Island,New Hampshire,Maine,Vermont	-0.124	0.031	-3.96	-0.127	0.031	-4.03	-0.124	0.031	-3.96	-0.124	0.031	-3.96
New Jersey,Pennsylvania	-0.083	0.013	-6.35	-0.083	0.013	-6.42	-0.083	0.013	-6.40	-0.083	0.013	-6.35
New York	-0.105	0.011	-9.32	-0.106	0.011	-9.45	-0.105	0.011	-9.36	-0.105	0.011	-9.34
East North Central division (does not include Illinois)	-0.051	0.045	-1.12	-0.050	0.046	-1.10	-0.047	0.045	-1.05	-0.048	0.045	-1.07
Illinois	-0.074	0.028	-2.68	-0.074	0.028	-2.68	-0.073	0.028	-2.65	-0.075	0.028	-2.70
West North Central division	-0.024	0.064	-0.37	-0.018	0.064	-0.28	-0.017	0.064	-0.27	-0.024	0.064	-0.37
Georgia, Virginia, West Virginia, North and South Carolina	0.055	0.023	2.40	0.057	0.023	2.48	0.056	0.023	2.46	0.055	0.023	2.41
Maryland,Delaware,District of Columbia	-0.128	0.033	-3.92	-0.127	0.032	-3.90	-0.126	0.033	-3.88	-0.128	0.032	-3.94
East South Central division	-0.063	0.058	-1.07	-0.064	0.058	-1.09	-0.064	0.058	-1.10	-0.065	0.058	-1.11
West South Central division (does not include Texas)	-0.201	0.053	-3.80	-0.198	0.053	-3.72	-0.198	0.053	-3.72	-0.198	0.053	-3.74
Texas	-0.050	0.021	-2.38	-0.050	0.021	-2.35	-0.049	0.021	-2.32	-0.051	0.021	-2.41
Mountain division	-0.041	0.035	-1.18	-0.040	0.035	-1.15	-0.041	0.035	-1.17	-0.041	0.035	-1.19
California	-0.123	0.015	-8.30	-0.123	0.015	-8.31	-0.123	0.015	-8.30	-0.124	0.015	-8.33
Washington, Oregon, Alaska	-0.024	0.057	-0.42	-0.024	0.057	-0.42	-0.025	0.057	-0.43	-0.024	0.057	-0.43
Constant	0.386	0.099	3.90	0.321	0.118	2.72	0.318	0.118	2.70	0.324	0.118	2.75
Number of Observations	17714											
Population	393228											

The comparison state is Florida.

Table 6

Correction of the Contamination Bias (Population 25-55) - CENSUS 1990 (iii) Vs CENSUS 2000 (i)

Variable	Model 1			Model 2			Model 3			Model 4		
	Coeff.	**Std.Err.**	***t***	**Coeff.**	**Std.Err.**	***t***	**Coeff.**	**Std.Err.**	***t***	**Coeff.**	**Std.Err.**	***t***
Complete Secondary or Incomplete Higher	0.056	0.041	1.38									
Incomplete or Complete Secondary				**0.497**	**0.191**	**2.60**						
Incomplete Secondary							**0.654**	**0.292**	**2.24**	**0.595**	**0.309**	**1.93**
Complete Secondary							0.459	0.269	1.70	0.411	0.243	1.69
Incomplete Higher										0.263	0.246	1.07
Incomplete Higher or more				0.464	0.260	1.78	0.458	0.279	1.64			
Complete Higher or more	**0.226**	**0.066**	**3.43**							**0.740**	**0.306**	**2.42**
Woman	0.128	0.036	3.56	0.117	0.040	2.93	0.118	0.037	3.21	0.116	0.028	4.12
Age	-0.003	0.019	-0.14	0.018	0.019	0.94	0.017	0.023	0.76	0.016	0.020	0.81
Age Squared	0.000	0.000	0.09	0.000	0.000	-0.41	0.000	0.000	-0.34	0.000	0.000	-0.33
Incomplete or Complete Secondary * Age				-0.011	0.007	-1.61						
Incomplete Secondary * Age							**-0.023**	**0.007**	**-3.16**	**-0.022**	**0.008**	**-2.75**
Complete Secondary * Age							**-0.013**	**0.007**	**-1.95**	**-0.013**	**0.006**	**-1.98**
Incomplete Higher * Age										-0.007	0.006	-1.03
Incomplete Higher or more * Age				0.565	0.446	1.27	-0.010	0.007	-1.49			
Complete Higher or more * Age										-0.016	0.008	-2.05
White	0.385	0.085	4.55	0.497	0.191	2.60	0.407	0.083	4.88	0.386	0.099	3.91
Children under 10 in household	-0.089	0.039	-2.27	-0.093	0.034	-2.71	-0.092	0.036	-2.59	-0.100	0.039	-2.58
People older than 60 in household	-0.325	0.052	-6.21	-0.326	0.049	-6.61	-0.336	0.048	-6.99	-0.340	0.053	-6.40
Children under 10 * People older than 60 in hhold	0.155	0.105	1.48	0.158	0.088	1.79	0.151	0.081	1.86	0.169	0.092	1.84
Hispanic	-0.252	0.130	-1.94	-0.269	0.127	-2.12	-0.260	0.114	-2.29	-0.262	0.123	-2.12
Arrived to USA in last 5 years (1985-1990)	0.368	0.059	6.25	0.372	0.050	7.49	0.373	0.056	6.70	0.364	0.048	7.59
Connecticut	0.009	0.140	0.07	-0.007	0.156	-0.05	0.017	0.179	0.09	0.010	0.138	0.07
Massachusetts	-0.312	0.116	-2.69	-0.339	0.116	-2.93	-0.320	0.113	-2.83	-0.329	0.116	-2.83
Rhode Island,New Hampshire,Maine,Vermont	-0.498	0.115	-4.35	-0.521	0.114	-4.56	-0.506	0.118	-4.30	-0.494	0.099	-4.99
New Jersey,Pennsylvania	-0.351	0.055	-6.39	-0.355	0.058	-6.12	-0.346	0.057	-6.10	-0.344	0.056	-6.19
New York	-0.420	0.050	-8.34	-0.428	0.046	-9.35	-0.428	0.050	-8.57	-0.424	0.047	-8.96
East North Central division (does not include Illinois)	-0.220	0.180	-1.22	-0.218	0.196	-1.11	-0.172	0.206	-0.84	-0.126	0.227	-0.56
Illinois	-0.333	0.117	-2.84	-0.315	0.112	-2.81	-0.331	0.112	-2.96	-0.334	0.114	-2.94
West North Central division	-0.089	0.449	-0.20	-0.054	0.415	-0.13	-0.110	0.318	-0.35	-0.135	0.313	-0.43
Georgia, Virginia, West Virginia, North and South Carolina	**0.426**	**0.152**	**2.80**	**0.387**	**0.147**	**2.64**	**0.396**	**0.189**	**2.10**	**0.391**	**0.182**	**2.15**
Maryland,Delaware,District of Columbia	-0.502	0.118	-4.24	-0.541	0.110	-4.91	-0.512	0.105	-4.86	-0.519	0.120	-4.34
East South Central division	-0.296	0.272	-1.09	-0.319	0.241	-1.32	-0.274	0.280	-0.98	-0.262	0.259	-1.01
West South Central division (does not include Texas)	-0.706	0.145	-4.89	-0.727	0.148	-4.91	-0.746	0.135	-5.54	-0.716	0.145	-4.94
Texas	-0.226	0.102	-2.22	-0.222	0.099	-2.25	-0.239	0.099	-2.40	-0.227	0.085	-2.68
Mountain division	-0.181	0.169	-1.07	-0.187	0.174	-1.08	-0.186	0.166	-1.12	-0.201	0.153	-1.32
California	-0.501	0.059	-8.55	-0.504	0.057	-8.87	-0.506	0.054	-9.35	-0.504	0.051	-9.97
Washington, Oregon, Alaska	-0.015	0.318	-0.05	-0.090	0.313	-0.29	-0.079	0.374	-0.21	-0.027	0.353	-0.08
Constant	1.080	0.389	2.78	-0.016	0.005	-3.22	0.570	0.516	1.11	0.645	0.436	1.48
Number of Observations	n_90 = 8802						n_00 = 8912					
Population	N_90 = 197184						N_00 = 196044					

The comparison state is Florida. *t* statistics based on bootstrap standard errors.

Table 7

Correction of the Contamination Bias (Population 25-55) - CENSUS 2000 (iii) Vs CENSUS 2005 (i)

Variable	Model 1			Model 2			Model 3			Model 4		
	Coeff.	**Std.Err.**	***t***	**Coeff.**	**Std.Err.**	***t***	**Coeff.**	**Std.Err.**	***t***	**Coeff.**	**Std.Err.**	***t***
Complete Secondary or Incomplete Higher	0.316	0.052	6.09									
Incomplete or Complete Secondary				**0.349**	**0.380**	**0.92**						
Incomplete Secondary							**0.045**	**0.420**	**0.11**	**-0.089**	**0.456**	**-0.19**
Complete Secondary							0.447	0.330	1.35	0.326	0.362	0.90
Incomplete Higher										0.411	0.378	1.09
Incomplete Higher or more				0.775	0.326	2.38	0.806	0.284	2.84			
Complete Higher or more	**0.575**	**0.070**	**8.25**							**0.984**	**0.369**	**2.67**
Woman	0.021	0.051	0.41	0.023	0.048	0.46	0.015	0.045	0.33	0.016	0.050	0.33
Age	-0.017	0.024	-0.71	-0.007	0.027	-0.26	-0.008	0.028	-0.29	-0.014	0.028	-0.49
Age Squared	0.000	0.000	0.72	0.000	0.000	0.45	0.000	0.000	0.47	0.000	0.000	0.57
Incomplete or Complete Secondary * Age				-0.495	0.096	-5.16						
Incomplete Secondary * Age							**0.002**	**0.010**	**0.18**	**0.005**	**0.011**	**0.42**
Complete Secondary * Age							**-0.001**	**0.008**	**-0.15**	**0.001**	**0.009**	**0.17**
Incomplete Higher * Age										-0.002	0.009	-0.19
Incomplete Higher or more * Age				0.067	0.158	0.42	-0.008	0.007	-1.21			
Complete Higher or more * Age										-0.009	0.009	-1.04
White	-0.041	0.148	-0.28	-0.025	0.149	-0.17	-0.026	0.174	-0.15	-0.047	0.165	-0.28
Children under 10 in household	0.237	0.121	1.97	0.251	0.121	2.07	0.245	0.105	2.35	0.232	0.127	1.82
People older than 60 in household	-0.156	0.049	-3.18	-0.160	0.051	-3.14	-0.158	0.051	-3.13	-0.154	0.058	-2.63
Children under 10 * People older than 60 in hhold	-0.417	0.050	-8.27	-0.433	0.065	-6.62	-0.429	0.066	-6.50	-0.425	0.070	-6.08
Hispanic	0.141	0.140	1.01	0.110	0.127	0.86	0.112	0.131	0.86	0.129	0.120	1.07
Arrived to USA in last 5 years (1985-1990)	-0.242	0.054	-4.51	-0.221	0.051	-4.30	-0.225	0.048	-4.64	-0.249	0.055	-4.57
Connecticut	-0.503	0.083	-6.06	0.069	0.184	0.37	-0.486	0.103	-4.73	-0.518	0.088	-5.88
Massachusetts	0.030	0.162	0.18	-0.065	0.077	-0.85	0.051	0.168	0.31	0.016	0.149	0.10
Rhode Island,New Hampshire,Maine,Vermont	0.070	0.187	0.37	-0.139	0.062	-2.23	0.048	0.186	0.26	0.085	0.206	0.41
New Jersey,Pennsylvania	-0.061	0.068	-0.90	-0.369	0.189	-1.95	-0.065	0.072	-0.90	-0.067	0.077	-0.87
New York	-0.143	0.055	-2.58	-0.308	0.134	-2.30	-0.140	0.066	-2.14	-0.139	0.058	-2.39
East North Central division (does not include Illinois)	-0.407	0.181	-2.25	-0.132	0.247	-0.53	-0.382	0.148	-2.58	-0.413	0.147	-2.81
Illinois	-0.347	0.139	-2.50	-0.189	0.099	-1.92	-0.323	0.121	-2.66	-0.317	0.146	-2.18
West North Central division	-0.155	0.253	-0.61	-0.052	0.199	-0.26	-0.097	0.312	-0.31	-0.137	0.270	-0.51
Georgia, Virginia, West Virginia, North and South Carolina	**-0.187**	**0.095**	**-1.98**	**0.429**	**0.380**	**1.13**	**-0.173**	**0.093**	**-1.86**	**-0.197**	**0.090**	**-2.20**
Maryland,Delaware,District of Columbia	-0.071	0.212	-0.33	-0.160	0.382	-0.42	-0.061	0.178	-0.34	-0.075	0.206	-0.36
East South Central division	0.413	0.388	1.06	0.342	0.141	2.43	0.522	0.428	1.22	0.441	0.386	1.14
West South Central division (does not include Texas)	-0.193	0.393	-0.49	-0.231	0.125	-1.85	-0.200	0.383	-0.52	-0.202	0.381	-0.53
Texas	0.334	0.144	2.32	-0.084	0.087	-0.96	0.331	0.168	1.97	0.316	0.155	2.04
Mountain division	-0.243	0.142	-1.71	-0.079	0.232	-0.34	-0.221	0.142	-1.56	-0.229	0.141	-1.63
California	-0.101	0.087	-1.15	0.000	0.009	0.00	-0.076	0.089	-0.86	-0.094	0.078	-1.21
Washington, Oregon, Alaska	-0.135	0.247	-0.54	-0.007	0.008	-0.96	-0.022	0.260	-0.08	-0.084	0.286	-0.29
Constant	0.974	0.513	1.90	0.645	0.630	1.02	0.658	0.596	1.10	0.846	0.630	1.34
Number of Observations	n_00 = 14701						n_05 = 2310					
Population	N_00 = 328927						N_05 = 273208					

The comparison state is Florida. *t* statistics based on bootstrap standard errors.

Table 8 Results for South American Countries

Correction of the Contamination Bias (South America, Population 25-55) - CENSUS 1990 (iii) Vs CENSUS 2000 (i)

Variable	Model 1			Model 2			Model 3			Model 4		
	Coeff.	Std.Err.	*t*	Coeff.	Std.Err.	*t*	Coeff.	Std.Err.	*t*	Coeff.	Std.Err.	*t*
Complete Secondary or Incomplete Higher	0.030	0.026	1.15									
Incomplete or Complete Secondary				-0.112	0.175	-0.64						
Incomplete Secondary							-0.019	0.214	-0.09	-0.023	0.212	-0.11
Complete Secondary							-0.135	0.172	-0.79	-0.174	0.162	-1.07
Incomplete Higher										0.022	0.171	0.13
Incomplete Higher or more				0.178	0.178	1.00	0.196	0.169	1.16			
Complete Higher or more	**0.090**	**0.031**	**2.86**							**0.334**	**0.202**	**1.65**
Woman	0.072	0.017	4.16	0.072	0.022	3.24	0.071	0.019	3.78	0.065	0.018	3.58
Age	0.000	0.012	-0.01	0.004	0.011	0.40	0.005	0.013	0.40	0.001	0.011	0.06
Age Squared	0.000	0.000	0.05	0.000	0.000	-0.11	0.000	0.000	-0.13	0.000	0.000	0.22
Incomplete or Complete Secondary * Age				-0.001	0.004	-0.15						
Incomplete Secondary * Age							-0.006	0.005	-1.15	-0.006	0.005	-1.11
Complete Secondary * Age							0.001	0.004	0.18	0.002	0.004	0.41
Incomplete Higher * Age										-0.002	0.004	-0.40
Incomplete Higher or more * Age				-0.00572	0.00434	-1.31887	-0.006	0.004	-1.50			
Complete Higher or more * Age										**-0.010**	**0.005**	**-1.95**
White	0.103	0.057	1.81	0.125	0.048	2.60	0.125	0.063	2.00	0.120	0.058	2.06
Children under 10 in household	-0.055	0.022	-2.46	-0.050	0.023	-2.16	-0.054	0.020	-2.75	-0.051	0.020	-2.52
People older than 60 in household	-0.329	0.028	-11.94	-0.335	0.030	-11.03	-0.336	0.026	-12.88	-0.338	0.028	-11.98
Children under 10 * People older than 60 in hhold	0.133	0.049	2.73	0.149	0.054	2.74	0.147	0.054	2.74	0.150	0.057	2.64
Hispanic	-0.006	0.028	-0.21	-0.010	0.029	-0.35	-0.009	0.027	-0.33	-0.002	0.026	-0.08
Arrived to USA in last 5 years (1985-1990)	0.234	0.030	7.90	0.242	0.026	9.14	0.243	0.027	9.01	0.237	0.025	9.42
Connecticut	-0.285	0.069	-4.15	-0.285	0.072	-3.94	-0.272	0.076	-3.58	-0.282	0.073	-3.85
Massachusetts	-0.551	0.051	-10.82	-0.552	0.055	-10.04	-0.541	0.058	-9.41	-0.546	0.051	-10.76
Rhode Island,New Hampshire,Maine,Vermont	-0.452	0.085	-5.30	-0.421	0.077	-5.47	-0.430	0.089	-4.84	-0.431	0.083	-5.18
New Jersey,Pennsylvania	-0.274	0.034	-8.10	-0.272	0.037	-7.26	-0.266	0.036	-7.38	-0.278	0.041	-6.85
New York	-0.358	0.031	-11.65	-0.362	0.033	-10.85	-0.358	0.032	-11.09	-0.366	0.037	-9.90
East North Central division (does not include Illinois)	-0.292	0.096	-3.03	-0.315	0.076	-4.11	-0.300	0.084	-3.59	-0.313	0.087	-3.61
Illinois	-0.361	0.058	-6.23	-0.351	0.062	-5.65	-0.354	0.065	-5.42	-0.367	0.055	-6.65
West North Central division	-0.177	0.119	-1.49	-0.177	0.126	-1.41	-0.203	0.115	-1.76	-0.195	0.133	-1.47
Georgia, Virginia, West Virginia, North and South Carolina	-0.020	0.066	-0.30	-0.017	0.067	-0.26	-0.028	0.066	-0.42	-0.033	0.051	-0.66
Maryland,Delaware,District of Columbia	-0.460	0.055	-8.30	-0.481	0.051	-9.51	-0.477	0.059	-8.09	-0.477	0.063	-7.57
East South Central division	-0.164	0.137	-1.19	-0.187	0.146	-1.28	-0.175	0.147	-1.19	-0.193	0.139	-1.39
West South Central division (does not include Texas)	-0.476	0.101	-4.69	-0.491	0.105	-4.69	-0.513	0.111	-4.63	-0.507	0.092	-5.50
Texas	-0.334	0.045	-7.40	-0.337	0.051	-6.58	-0.334	0.056	-6.00	-0.348	0.058	-5.98
Mountain division	0.011	0.081	0.14	0.011	0.091	0.12	-0.014	0.082	-0.17	-0.021	0.080	-0.26
California	-0.445	0.036	-12.45	-0.452	0.032	-14.20	-0.454	0.036	-12.71	-0.460	0.034	-13.73
Washington, Oregon, Alaska	-0.305	0.102	-2.99	-0.316	0.105	-3.00	-0.326	0.095	-3.43	-0.331	0.102	-3.24
Constant	1.109	0.244	4.55	1.061	0.255	4.16	1.040	0.301	3.45	1.151	0.270	4.26
Number of Observations	27371						27,617					
Population	612111						604522					

The comparison state is Florida. *t* statistics based on bootstrap standard errors.

Table 9

Selected South American Countries (Col, Bra, Chi, Arg, Ecu)		People in South America: South Americans	People in South America: Foreigners	South Americans in the US	(iii)-(ii)	(iv)/(i)
		(i)	(ii)	(iii)	(iv)	(v)
All	Skill	10,253,467	260,090	299,848	39,758	0.39%
	Unskill	261,275,957	2,768,457	1,003,785	-1,764,672	-0.68%
25-55	Skill	8,322,169	181,288	249,243	67,955	0.82%
	Unskill	97,701,051	1,151,243	560,600	-590,643	-0.60%
Colombia		**People in Colombia: Colombians**	**People in Colombia: Foreigners**	**Colombians in the US**	**(iii)-(ii)**	**(iv)/(i)**
		(i)	(ii)	(iii)	(iv)	(v)
All	Skill	2,355,356	23,785	151,848	128,063	5.44%
	Unskill	38,712,879	83,593	414,546	330,953	0.85%
25-55	Skill	1,844,135	16,528	128,728	112,200	6.08%
	Unskill	14,335,617	19,904	224,951	205,047	1.43%
Brasil		**People in Brazil: Brazilians**	**People in Brazil: Foreigners**	**Brazilians in the US**	**(iii)-(ii)**	**(iv)/(i)**
		(i)	(ii)	(iii)	(iv)	(v)
All	Skill	5,585,971	117,816	55,876	-61,940	-1.11%
	Unskill	163,574,218	566,934	166,960	-399,974	-0.24%
25-55	Skill	4,628,524	78,750	48,099	-30,651	-0.66%
	Unskill	61,806,114	169,519	91,352	-78,167	-0.13%
Chile		**People in Chile: Chileans**	**People in Chile: Foreigners**	**Chileans in the US**	**(iii)-(ii)**	**(iv)/(i)**
		(i)	(ii)	(iii)	(iv)	(v)
All	Skill	480,150	34,140	21,037	-13,103	-2.73%
	Unskill	14,078,030	546,820	63,205	-483,615	-3.44%
25-55	Skill	380,880	26,180	16,369	-9,811	-2.58%
	Unskill	5,906,410	237,160	35,060	-202,100	-3.42%
Ecuador		**People in Ecuador: Ecuadorians**	**People in Ecuador: Foreigners**	**Ecuadorians in the US**	**(iii)-(ii)**	**(iv)/(i)**
		(i)	(ii)	(iii)	(iv)	(v)
All	Skill	429,800	17,310	32,437	15,127	3.52%
	Unskill	11,587,220	102,920	266,669	163,749	1.41%
25-55	Skill	360,480	13,700	26,986	13,286	3.69%
	Unskill	3,914,820	45,670	162,395	116,725	2.98%
Argentina		**People in Argentina: Argentinias**	**People in Argentina: Foreigners**	**Argentinias in the US**	**(iii)-(ii)**	**(iv)/(i)**
		(i)	(ii)	(iii)	(iv)	(v)
All	Skill	1,402,190	67,040	38,650	-28,390	-2.02%
	Unskill	33,323,610	1,468,190	92,405	-1,375,785	-4.13%
25-55	Skill	1,108,150	46,130	29,061	-17,069	-1.54%
	Unskill	11,738,090	678,990	46,842	-632,148	-5.39%

Source: Argentina 2001, Brazil 2000, Colombia 2005, Chile 2001, Ecuador 2001, and US 2000 and 2005 PopulationCensuses.

Table 10. A

Pattern of Skilled Emigration in United States, 2000

Rank	Country	% Complete University (25-55)	% Incomplete or complete university (25-55)	Total population (25-55)
1	India	74.6%	85.6%	622,827
2	Taiwan	72.0%	87.8%	201,848
3	Russia/USSR	64.1%	82.1%	160,776
4	Iran	60.1%	83.7%	165,971
5	Pakistan	56.3%	72.9%	121,488
6	Hong Kong	54.4%	75.9%	136,120
7	France	51.7%	79.8%	105,894
8	Ukraine	51.5%	75.4%	103,118
9	China	50.9%	63.4%	515,404
10	Japan	50.7%	81.8%	254,252
11	Philippines	49.2%	79.6%	831,110
12	Venezuela	48.9%	78.6%	64,051
13	Canada	45.9%	77.8%	413,270
14	Korea	45.9%	70.2%	375,872
15	United Kingdom	44.5%	78.0%	398,049
16	Germany	36.4%	71.5%	548,303
17	Brazil	35.6%	58.9%	121,907
18	Chile	33.6%	64.7%	45,875
19	Poland	27.7%	55.5%	219,619
20	Italy	27.5%	50.8%	189,856
21	Peru	26.2%	59.8%	160,946
22	**Colombia**	**25.0%**	**52.8%**	**287,597**
23	Cuba	24.1%	51.2%	404,501
24	Vietnam	22.8%	49.9%	602,603
25	Jamaica	21.2%	52.8%	320,605
26	Trinidad and Tobago	21.0%	54.2%	115,549
27	Guyana/British Guiana	19.0%	46.8%	122,272
28	Puerto Rico	16.0%	42.1%	636,995
29	Haiti	15.5%	44.1%	240,288
30	Nicaragua	15.1%	41.8%	125,448
31	Ecuador	15.1%	41.8%	165,790
32	Dominican Republic	11.9%	34.2%	364,635
33	Portugal	10.9%	27.6%	118,162
34	Laos	9.6%	32.4%	116,858
35	Honduras	8.8%	24.2%	157,824
36	Guatemala	6.6%	21.0%	269,693
37	El Salvador	5.3%	18.8%	494,672
38	Mexico	4.9%	16.3%	4,727,944

Source: IPUMS-University of Minesota. Author's calculation. Employees.

Table 10. B

Pattern of Skilled Emigration in United States, 2005

Rank	Country	% Complete University (25-55)	% Incomplete or complete university (25-55)	Total population (25-55)
1	India	78.5%	87.9%	873,528
2	Russia/USSR	65.4%	85.6%	182,682
3	Nigeria	64.6%	89.8%	117,221
4	Iran	64.2%	83.5%	162,511
5	China	59.7%	72.8%	992,143
6	Pakistan	58.7%	74.3%	135,309
7	France	57.6%	84.4%	106,755
8	Korea	57.3%	78.5%	518,959
9	Israel	54.7%	73.6%	76,275
10	Venezuela	52.1%	77.0%	91,001
11	Japan	51.9%	85.8%	264,037
12	Canada	51.6%	80.2%	431,794
13	Ukraine	51.2%	78.5%	139,403
14	Philippines	50.2%	80.8%	935,803
15	Romania	49.9%	71.1%	86,818
16	United Kingdom	48.3%	78.8%	391,536
17	Argentina	41.6%	62.5%	108,660
18	Chile	37.8%	68.3%	48,067
19	Thailand	37.9%	65.5%	98,157
20	Germany	37.3%	72.2%	536,849
21	**Colombia**	**36.8%**	**63.2%**	**318,092**
22	Greece	35.3%	58.5%	61,249
23	Panama	34.2%	71.4%	78,631
24	Poland	33.6%	62.5%	233,371
25	Italy	33.1%	59.4%	140,917
26	Brazil	32.5%	52.6%	214,230
27	Peru	31.7%	63.3%	233,919
28	Africa, n.s.	28.7%	61.9%	92,151
29	Vietnam	27.1%	53.0%	669,301
30	Trinidad and Tobago	26.9%	60.4%	116,914
31	Jamaica	26.4%	55.5%	346,339
32	Cuba	25.8%	54.0%	396,178
33	Guyana/British Guiana	21.0%	50.9%	151,246
34	Puerto Rico	20.5%	47.4%	579,786
35	Nicaragua	19.3%	45.7%	136,173
36	Haiti	18.9%	48.7%	289,113
37	Ecuador	18.2%	43.2%	205,270
38	Cambodia (Kampuchea)	17.3%	42.6%	87,771
39	Portugal	16.4%	33.2%	97,440
40	Dominican Republic	14.9%	39.2%	406,424
41	Laos	14.6%	39.8%	129,917
42	Honduras	10.2%	26.2%	232,946
43	El Salvador	7.3%	21.7%	679,702
44	Guatemala	6.0%	20.5%	380,239
44	Mexico	5.8%	17.3%	6,278,681

Source: IPUMS-University of Minesota. Author's calculation. Employees.

Table 11

Means of Dictionary of Occupational Titles Job Task Measures by Country of the Immigrant

Country (immigrant)	Rank (ehf)	Nonroutine Manual	Rank (finger)	Routine Manual	Rank (sts)	Routine Cognitive	Rank (dcp)	Nonroutine Cognitive / Interactive	Rank (math)	Nonroutine Cognitive / Analytical
USA Total	-	**1.220**	-	**3.700**	-	**4.210**	-	**2.590**	-	**3.600**
USA Americans	-	**1.200**	-	**3.700**	-	**4.160**	-	**2.660**	-	**3.660**
Average Foreigners	-	**0.917**	-	**3.959**	-	**1.852**	-	**4.747**	-	**3.252**
Taiwan	44	0.611	18	3.992	34	4.157	1	3.925	1	4.642
India	34	0.744	2	4.289	29	4.267	2	3.725	2	4.544
Iran	41	0.685	9	4.053	44	3.746	3	3.519	3	4.470
Hong Kong	45	0.599	20	3.989	21	4.610	5	3.197	4	4.303
Nigeria	7	0.973	28	3.959	36	4.137	15	2.779	5	4.246
United Kingdom	39	0.702	30	3.939	37	4.009	6	3.174	6	4.230
Canada	30	0.782	19	3.990	35	4.149	9	2.991	7	4.211
France	38	0.705	44	3.803	45	3.699	4	3.260	8	4.144
Japan	40	0.685	38	3.875	42	3.904	8	3.014	9	4.123
Pakistan	20	0.844	5	4.129	40	3.934	7	3.050	10	4.060
Russia/USSR	28	0.792	4	4.129	26	4.408	17	2.590	11	4.044
Argentina	31	0.778	14	4.021	41	3.922	10	2.884	12	3.972
Ireland	14	0.863	24	3.973	24	4.496	18	2.462	13	3.900
Germany	35	0.730	29	3.940	30	4.262	16	2.595	14	3.894
China	11	0.913	8	4.066	13	4.828	13	2.836	15	3.850
Korea, RO (South)	43	0.641	16	4.002	39	3.993	14	2.812	16	3.846
Korea	42	0.663	11	4.029	38	4.003	11	2.854	17	3.835
Philippines	23	0.828	3	4.151	5	5.234	27	1.877	18	3.778
Greece	25	0.799	41	3.850	33	4.171	12	2.850	19	3.705
Panama	36	0.723	37	3.879	31	4.253	20	2.277	20	3.704
Ukraine	17	0.852	7	4.078	14	4.787	22	2.153	21	3.693
Africa, n.s.	16	0.853	36	3.908	32	4.171	19	2.330	22	3.653
Trinidad and Tobago	29	0.791	22	3.979	22	4.565	25	1.980	23	3.636
Jamaica	12	0.898	23	3.977	18	4.688	31	1.766	24	3.621
Guyana/British Guiana	33	0.747	13	4.025	11	4.915	28	1.869	25	3.557
Italy	18	0.847	17	3.992	16	4.721	21	2.249	26	3.506
Thailand	32	0.755	15	4.016	19	4.671	23	2.031	27	3.458
U.S. Outlying Areas and Territories	27	0.797	27	3.962	12	4.849	33	1.728	28	3.427
Cuba	24	0.817	21	3.982	20	4.643	26	1.948	29	3.409
Brazil	9	0.943	45	3.781	43	3.853	24	1.990	30	3.350
Poland	13	0.878	10	4.035	8	4.982	29	1.793	31	3.285
Vietnam	37	0.719	1	4.362	4	5.244	34	1.654	32	3.253
Peru	22	0.836	34	3.919	25	4.435	32	1.751	33	3.174
Colombia	**15**	**0.859**	**33**	**3.921**	**28**	**4.347**	**30**	**1.769**	**34**	**3.172**
Haiti	4	1.071	39	3.867	27	4.380	38	1.337	35	3.111
Puerto Rico	19	0.846	32	3.922	17	4.701	35	1.608	36	3.067
Nicaragua	21	0.842	31	3.937	15	4.725	37	1.420	37	3.032
Portugal	6	0.997	12	4.027	2	5.395	36	1.525	38	2.956
Ecuador	8	0.949	25	3.965	10	4.924	39	1.323	39	2.836
Dominican Republic	10	0.920	26	3.965	23	4.553	40	1.268	40	2.834
Honduras	3	1.071	35	3.909	6	5.027	42	0.997	41	2.609
Laos	26	0.798	6	4.106	1	5.710	41	1.089	42	2.533
El Salvador	5	1.039	43	3.835	9	4.961	44	0.942	43	2.511
Guatemala	2	1.076	40	3.863	7	4.983	43	0.959	44	2.458
Mexico	1	1.162	42	3.839	3	5.298	45	0.855	45	2.35522

Source: CENSUS 2000 from IPUMS-University of Minnesota. Job task from the Dictionary of Occupational Titles (DOT), Censuses codes crosswalk files - National Crosswalk Service Center, University of Wisconsin system. The DOT data we employ here are based on an aggregation of these detailed occupations into three-digit CENSUS Occupation Codes (COC) following Autor, Levy and Murnane (2001). Author's calculation.

Note:

Nonroutine Manual	=	ehf
Routine Manual	=	finger
Routine Cognitive	=	sts
Nonroutine Cognitive/Interactive	=	dcp
Nonroutine Cognitive/Analytical	=	math

Table 12

OLS Task Intensity Vs Skill - Colombians

Task Intensity Vs Skill, Colombians	Nonroutine Manual	Routine Manual	Routine Cognitive	Nonroutine Cognitive / Interactive	Nonroutine Cognitive / Analytical
Incomplete Secondary	-0.0927	0.0828	0.0524	0.0324	0.125
	[0.0441]	[0.0478]	[0.0748]	[0.1524]	[0.0559]
Complete Secondary	-0.1632	0.091	0.2667	-0.067	0.3521
	[0.0332]	[0.0359]	[0.0593]	[0.1163]	[0.0432]
Incomplete Higher	-0.3413	0.1184	0.9625	-0.225	1.039
	[0.0341]	[0.0381]	[0.0689]	[0.1213]	[0.0468]
Complete Higher or more	-0.3526	0.0677	2.8796	-1.2669	2.2222
	[0.0345]	[0.0431]	[0.0838]	[0.1250]	[0.0530]
Age	0.0247	-0.0183	0.0303	-0.0259	-0.0104
	[0.0034]	[0.0047]	[0.0088]	[0.0133]	[0.0054]
Age2	-0.0002	0.0002	-0.0005	0.0003	-0.00004
	[0.0000]	[0.0001]	[0.0001]	[0.0002]	[0.0001]
Hosehold size	0.0051	-0.0117	-0.028	0.001	-0.0232
	[0.0053]	[0.0063]	[0.0130]	[0.0185]	[0.0078]
Female	0.2321	-0.1171	0.2712	0.6578	-0.0742
	[0.0179]	[0.0219]	[0.0450]	[0.0631]	[0.0275]
Year of immigration	0.0057	-0.0007	-0.0257	0.0013	-0.0262
	[0.0009]	[0.0011]	[0.0025]	[0.0033]	[0.0014]
Hispanic	-0.0507	-0.0068	0.0661	0.2061	-0.0607
	[0.0544]	[0.0751]	[0.1464]	[0.1951]	[0.0864]
White	-0.0356	-0.1043	0.0441	-0.5127	-0.0289
	[0.0632]	[0.0839]	[0.1550]	[0.2380]	[0.1089]
Unearned Income	-0.000001	0.000002	0.000011	-0.000007	0.000007
	[0.0000]	[0.0000]	[0.0000]	[0.0000]	[0.0000]
Constant	-10.8078	5.7388	51.2359	2.576	54.9306
	[1.8329]	[2.2845]	[4.9163]	[6.5864]	[2.8296]
Observations	16778	16778	16778	16778	16778
R-squared	0.030	0.004	0.160	0.030	0.220

OLS, Robust standard errors in brackets

Source: CENSUS 2000 from IPUMS-University of Minnesota. Job task from the Dictionary of Occupational Titles (DOT), Censuses codes crosswalk files - National Crosswalk Service Center, University of Wisconsin system. The DOT data we employ here are based on an aggregation of these detailed occupations into three-digit CENSUS Occupation Codes (COC) following Autor, Levy and Murnane (2001). Author's calculation.

Table 13

OLS Task Intensity Vs Skill - South Americans

Task Intensity Vs Skill, South America	Nonroutine Manual	Routine Manual	Routine Cognitive	Nonroutine Cognitive / Interactive	Nonroutine Cognitive / Analytical
Incomplete Secondary	-0.0765	0.0779	0.0121	-0.0656	0.0842
	[0.0256]	[0.0277]	[0.0455]	[0.0867]	[0.0325]
Complete Secondary	-0.1471	0.0823	0.2135	-0.1866	0.3059
	[0.0192]	[0.0207]	[0.0349]	[0.0654]	[0.0245]
Incomplete Higher	-0.319	0.1018	0.9049	-0.408	0.9572
	[0.0198]	[0.0218]	[0.0396]	[0.0679]	[0.0264]
Complete Higher or more	-0.3357	0.0766	2.7716	-1.3302	2.1071
	[0.0199]	[0.0241]	[0.0465]	[0.0698]	[0.0293]
Age	0.0222	-0.0189	0.0392	-0.0149	-0.0047
	[0.0020]	[0.0026]	[0.0047]	[0.0073]	[0.0030]
Age2	-0.0002	0.0002	-0.0005	0.0002	-0.0001
	[0.0000]	[0.0000]	[0.0001]	[0.0001]	[0.0000]
Hosehold size	0.0071	-0.0037	-0.0279	0.0082	-0.0253
	[0.0028]	[0.0034]	[0.0070]	[0.0098]	[0.0042]
Female	0.2185	-0.1414	0.2865	0.6259	-0.0759
	[0.0097]	[0.0124]	[0.0251]	[0.0349]	[0.0149]
Year of immigration	0.0059	-0.0019	-0.0233	-0.0003	-0.0243
	[0.0005]	[0.0007]	[0.0014]	[0.0018]	[0.0008]
Hispanic	-0.0005	-0.0357	0.0032	0.0904	-0.0956
	[0.0203]	[0.0287]	[0.0574]	[0.0737]	[0.0316]
White	-0.039	-0.0681	0.0472	-0.3003	-0.0118
	[0.0329]	[0.0418]	[0.0817]	[0.1191]	[0.0517]
Unearned Income	0.0000061	-0.0000035	0.0000081	0.0000023	-0.0000004
	[0.0000]	[0.0000]	[0.0000]	[0.0000]	[0.0000]
Argentina	-0.0449	0.0837	0.6553	-0.2734	0.4454
	[0.0197]	[0.0282]	[0.0586]	[0.0720]	[0.0323]
Bolivia	0.0067	0.034	0.0387	0.0257	0.1326
	[0.0269]	[0.0389]	[0.0725]	[0.1053]	[0.0433]
Brazil	0.1029	-0.1731	0.0922	-0.3316	-0.0013
	[0.0250]	[0.0334]	[0.0672]	[0.0886]	[0.0378]
Chile	0.061	-0.0307	0.1968	-0.2097	0.2011
	[0.0240]	[0.0309]	[0.0659]	[0.0863]	[0.0384]
Ecuador	0.0459	0.063	-0.1894	0.3917	-0.1252
	[0.0156]	[0.0179]	[0.0354]	[0.0535]	[0.0225]
Paraguay	0.1862	0.0649	0.028	-0.2162	0.0764
	[0.0635]	[0.0923]	[0.1585]	[0.2289]	[0.0960]
Peru	-0.015	-0.0027	-0.0766	0.1006	-0.046
	[0.0145]	[0.0184]	[0.0377]	[0.0529]	[0.0228]
Uruguay	-0.0451	0.0559	0.2546	0.104	0.229
	[0.0389]	[0.0524]	[0.1091]	[0.1470]	[0.0611]
Venezuela	-0.0843	-0.0181	0.3677	-0.0574	0.3204
	[0.0209]	[0.0288]	[0.0633]	[0.0798]	[0.0350]
Constant	-11.2458	8.1219	46.4813	5.5289	51.239
	[1.0145]	[1.3202]	[2.7865]	[3.6685]	[1.5993]
Observations	56323	56323	56323	56323	56323
R-squared	0.030	0.010	0.160	0.030	0.230

OLS, Robust standard errors in brackets

Source: CENSUS 2000 from IPUMS-University of Minnesota. Job task from the Dictionary of Occupational Titles (DOT), Censuses codes crosswalk files - National Crosswalk Service Center, University of Wisconsin system. The DOT data we employ here are based on an aggregation of these detailed occupations into three-digit CENSUS Occupation Codes (COC) following Autor, Levy and Murnane (2001). Author's calculation.

Table 14

Número de retornados 2000-2005

	Total Nacional		Urbano		Rural	
Año	**No. Personas**	**%**	**No. Personas**	**%**	**No. Personas**	**%**
2000	4,053	6.5	3,851	6.6	202	5.8
2001	5,571	9.0	5,252	8.9	319	9.2
2002	8,511	13.7	7,982	13.6	530	15.3
2003	12,090	19.4	11,494	19.6	596	17.2
2004	12,756	20.5	12,029	20.5	727	21.0
2005	18,701	30.1	17,807	30.3	894	25.8
Unknown	548	0.9	349	0.6	199	5.7
Total	62,230	100.0	58,764	100.0	3,467	100.0

Fuente: DANE, CENSO 2005

Figures

Figure 1. Patterns of Migration to the US of Colombians and South Americans.

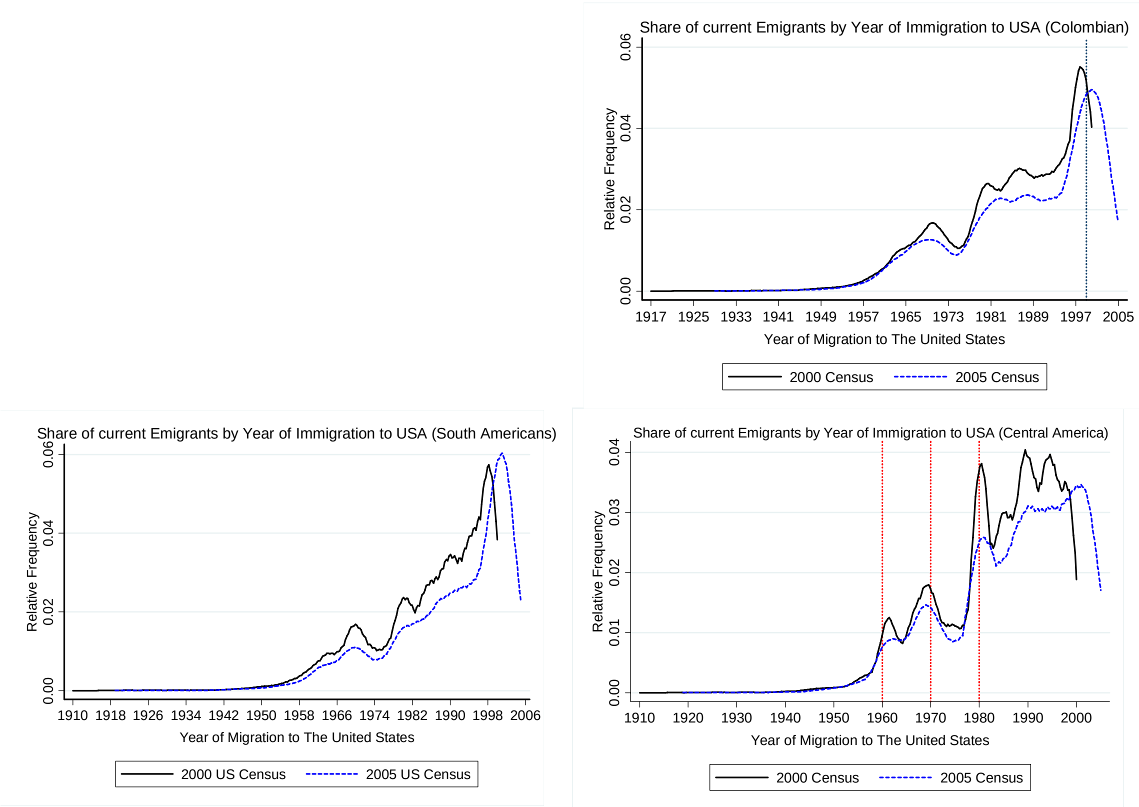


Figure 2. Education of Colombians Living in Colombia and the United States

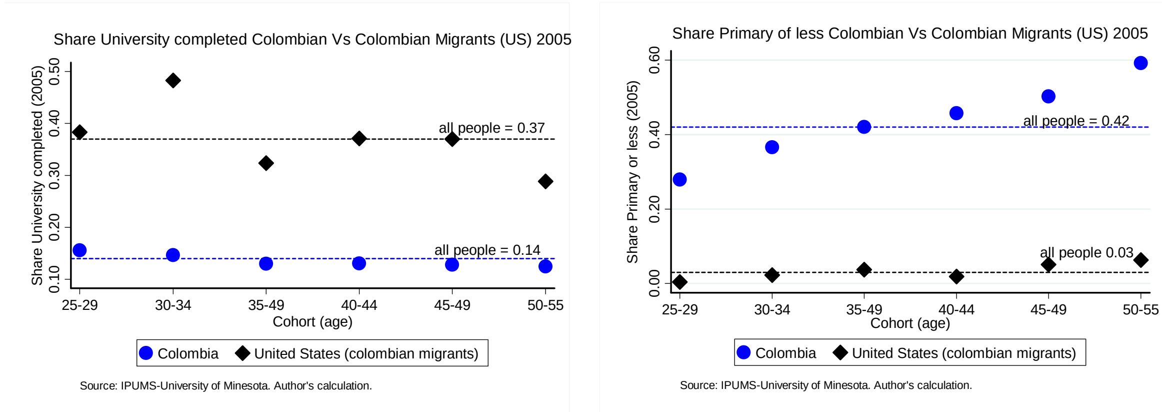
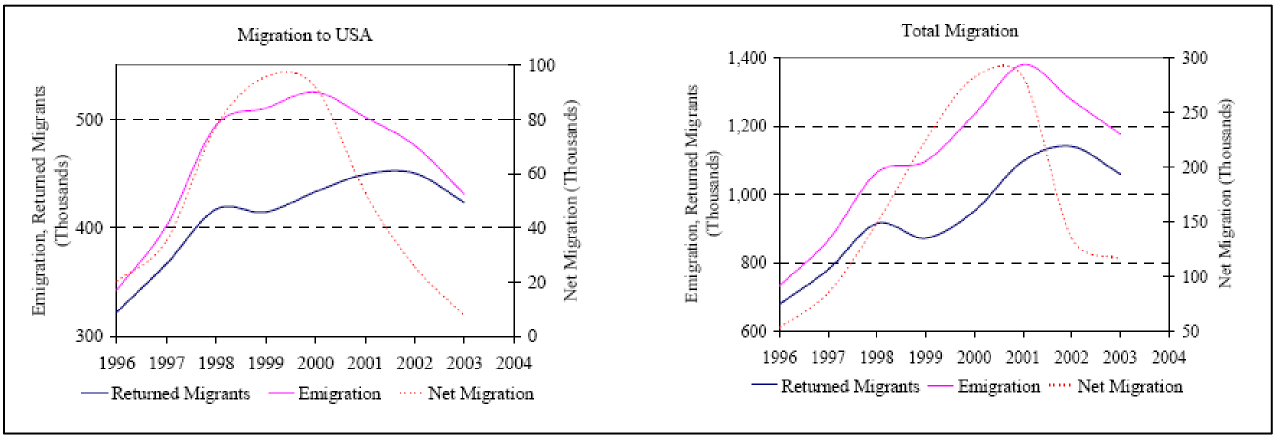


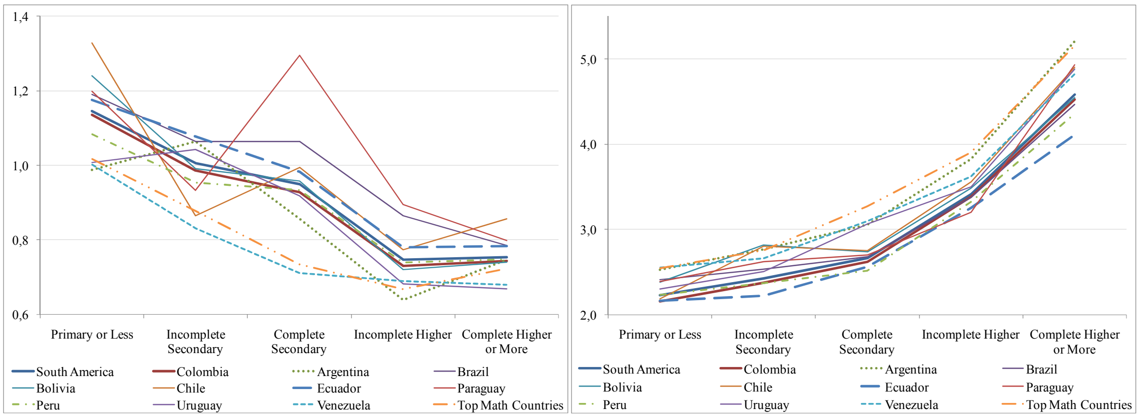
Figure 3. Recent Evolution of Migration in Colombia



Source: Medina and Cardona (2006)

Figure 4. Task Intensity by Country Conditional on Education. South American and Aggregate of Top Math Countries, 2000

Manual **Math**



Source: 2000 US Census from IPUMS-University of Minnesota. Job task from the Dictionary of Occupational Titles (DOT), Censuses codes crosswalk files - National Crosswalk Service Center, University of Wisconsin System. The DOT data we employ here are based on an aggregation of these detailed occupations into three-digit CENSUS Occupation Codes (COC) following Autor, Levy and Murnane (2001). Author's calculation.

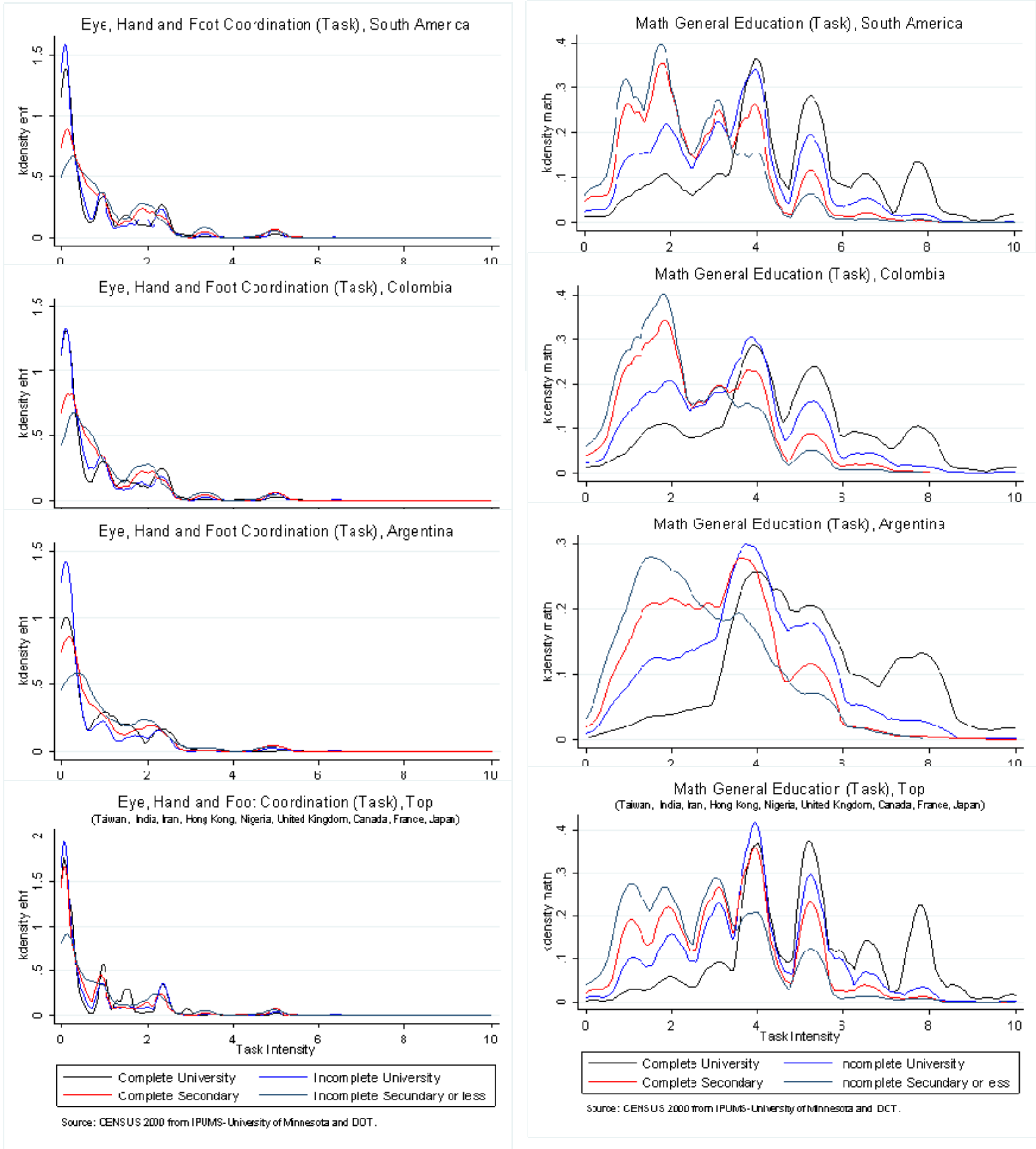
Top Math Countries: Taiwan, India, Iran, Hong Kong, Nigeria, United Kingdom, Canada, France, Japan.

Math General Education (Math) = Nonroutine Cognitive / Analytical

Direction Control and Planning (dcp) = Nonroutine Cognitive / Interactive

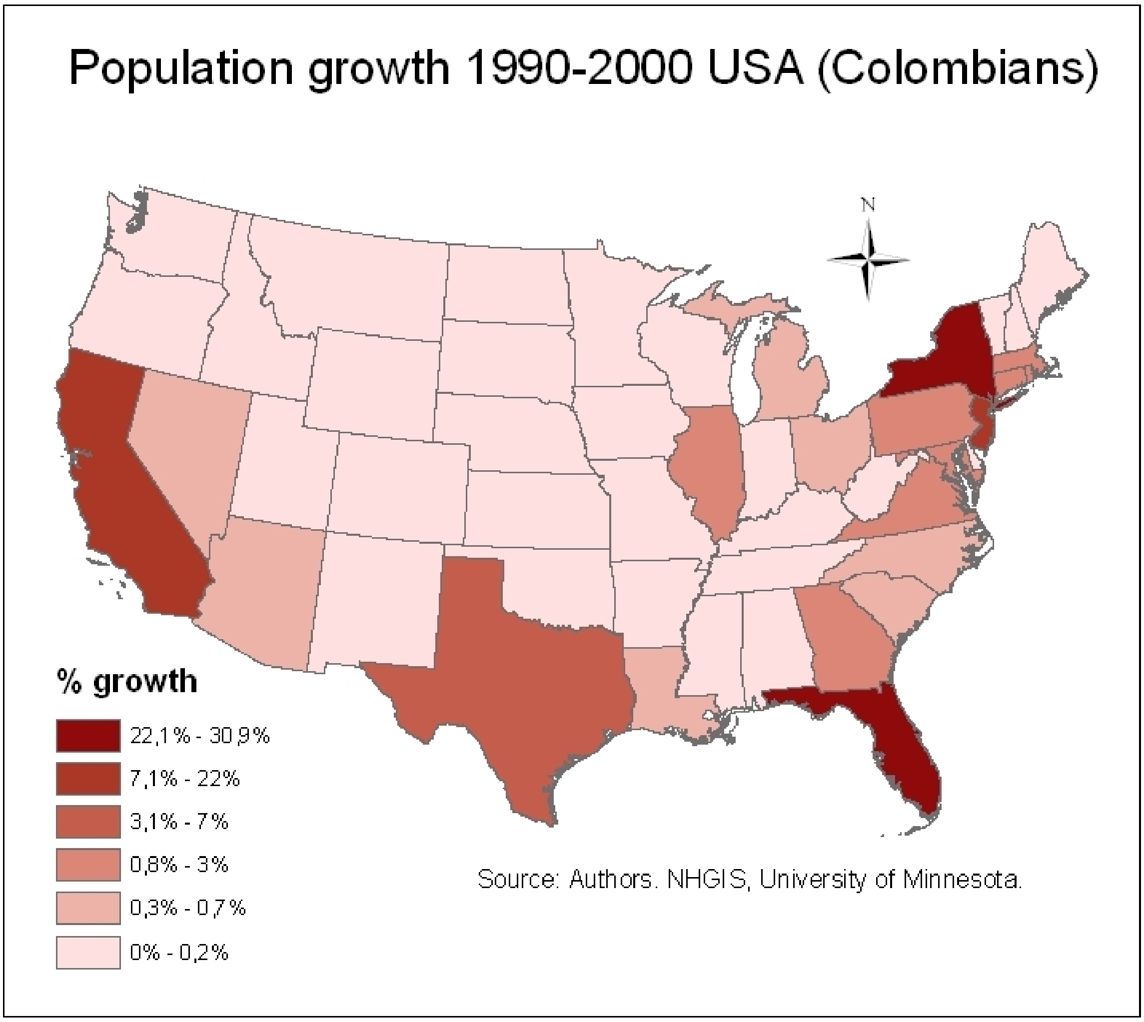
Figure 5. Distribution of Task Intensities by Education Level of Migrants

Manual **Math**



Maps

Map 1.


Population growth 1990-2000 USA (Colombians)
N
% growth
22,1% - 30,9%
7,1% - 22%
3,1% - 7%
0,8% - 3%
0,3% - 0,7%
0% - 0,2%
Source: Authors. NHGIS, University of Minnesota.

Annexes

CENSUS 1990 (iii) Vs. CENSUS 2000 (i)

Variable (population 25-55)	1990		2000		ALL		t
	Mean	sd	Mean	sd	Mean	sd	
Complete Secondary or Incomplete Higher	0.621	0.485	0.611	0.487	0.616	0.486	-1.25
Incomplete or Complete Secondary	0.457	0.498	0.416	0.493	0.437	0.496	**-5.50**
Incomplete Secondary	0.097	0.297	0.074	0.262	0.086	0.280	**-5.57**
Complete Secondary	0.360	0.480	0.342	0.474	0.351	0.477	**-2.44**
Incomplete Higher	0.261	0.439	0.269	0.444	0.265	0.441	1.26
Incomplete Higher or more	0.426	0.495	0.467	0.499	0.447	0.497	**5.51**
Complete Higher or more	0.165	0.371	0.198	0.399	0.182	0.386	**5.66**
Woman	0.533	0.499	0.560	0.496	0.546	0.498	**3.53**
Age	37.383	8.443	37.136	8.390	37.260	8.418	**-1.95**
Age Squared	1468.77	660.47	1449.48	655.46	1459.16	658.05	**-1.95**
Incomplete or Complete Secondary * Age	17.205	19.626	15.488	19.133	16.349	19.401	**-5.90**
Incomplete Secondary * Age	3.735	11.664	2.773	10.069	3.255	10.909	**-5.87**
Complete Secondary * Age	13.471	18.701	12.715	18.308	13.094	18.510	**-2.72**
Incomplete Higher * Age	9.371	16.290	9.701	16.496	9.536	16.394	1.34
Incomplete Higher or more * Age	15.459	18.681	16.870	18.818	16.163	18.763	**5.01**
Complete Higher or more * Age	6.088	14.061	7.169	14.869	6.627	14.479	**4.97**
White	0.975	0.158	0.984	0.126	0.979	0.143	**4.38**
Children under 10 in household	0.442	0.497	0.425	0.494	0.434	0.496	**-2.18**
People older than 60 in household	0.116	0.321	0.088	0.283	0.102	0.303	**-6.36**
Children under 10 * People older than 60 in hhold	0.038	0.190	0.029	0.167	0.033	0.179	**-3.25**
Hispanic	0.973	0.161	0.968	0.177	0.970	0.169	**-2.21**
Arrived to USA in last 5 years (1985-1990)	0.175	0.380	0.232	0.422	0.203	0.403	**9.41**
Connecticut	0.019	0.136	0.025	0.155	0.022	0.146	**2.55**
Massachusetts	0.021	0.144	0.020	0.142	0.021	0.143	-0.33
Rhode Island,New Hampshire,Maine,Vermont	0.018	0.134	0.014	0.120	0.016	0.127	**-2.02**
New Jersey,Pennsylvania	0.156	0.363	0.143	0.350	0.150	0.357	**-2.51**
New York	0.293	0.455	0.243	0.429	0.268	0.443	**-7.43**
East North Central division (does not include Illinois)	0.009	0.094	0.010	0.099	0.009	0.096	0.72
Illinois	0.028	0.166	0.027	0.163	0.028	0.165	-0.43
West North Central division	0.005	0.070	0.006	0.077	0.005	0.073	0.99
Georgia, Virginia, West Virginia, North and South Carolina	0.025	0.157	0.044	0.204	0.035	0.183	**6.67**
Maryland,Delaware,District of Columbia	0.017	0.130	0.014	0.117	0.016	0.124	-1.77
East South Central division	0.005	0.070	0.005	0.071	0.005	0.071	0.12
West South Central division (does not include Texas)	0.008	0.087	0.004	0.067	0.006	0.078	**-2.73**
Texas	0.043	0.203	0.046	0.210	0.045	0.207	0.96
Mountain division	0.013	0.114	0.015	0.122	0.014	0.118	1.16
California	0.111	0.314	0.088	0.283	0.099	0.299	**-5.24**
Washington, Oregon, Alaska	0.005	0.071	0.007	0.081	0.006	0.076	1.31
Number of Observations	8802		8912		17714		
Population	197184		196044		393228		

The comparison state is Florida.

CENSUS 2000 (iii) Vs. CENSUS 2005 (i)

Variable (population 25-55)	2000		2005		ALL		t
	Mean	***sd***	**Mean**	***sd***	**Mean**	***sd***	
Complete Secondary or Incomplete Higher	0.594	0.491	0.593	0.491	0.593	0.491	-0.02
Incomplete or Complete Secondary	0.398	0.489	0.379	0.485	0.389	0.488	-1.70
Incomplete Secondary	0.073	0.260	0.049	0.216	0.062	0.241	**-4.80**
Complete Secondary	0.325	0.468	0.330	0.470	0.327	0.469	0.51
Incomplete Higher	0.269	0.443	0.263	0.440	0.266	0.442	-0.57
Incomplete Higher or more	0.511	0.500	0.572	0.495	0.539	0.499	**5.56**
Complete Higher or more	0.242	0.428	0.309	0.462	0.273	0.445	**6.56**
Woman	0.549	0.498	0.551	0.497	0.550	0.497	0.20
Age	39.275	7.984	39.371	8.038	39.318	8.009	0.53
Age Squared	1606.26	638.42	1614.67	646.32	1610.08	642.03	0.58
Incomplete or Complete Secondary * Age	15.781	20.044	15.273	20.180	15.551	20.107	-1.13
Incomplete Secondary * Age	2.890	10.529	1.996	8.976	2.485	9.865	**-4.34**
Complete Secondary * Age	12.891	19.116	13.277	19.485	13.066	19.285	0.89
Incomplete Higher * Age	10.387	17.644	10.260	17.646	10.329	17.645	-0.32
Incomplete Higher or more * Age	19.637	20.043	21.996	19.907	20.707	20.016	**5.29**
Complete Higher or more * Age	9.251	16.811	11.735	18.047	10.378	17.427	**6.21**
White	0.981	0.137	0.980	0.141	0.980	0.139	-0.34
Children under 10 in household	0.427	0.495	0.391	0.488	0.410	0.492	**-3.28**
People older than 60 in household	0.141	0.348	0.094	0.292	0.119	0.324	**-6.95**
Children under 10 * People older than 60 in hhold	0.052	0.221	0.038	0.192	0.046	0.208	**-3.04**
Hispanic	0.973	0.162	0.973	0.161	0.973	0.161	0.07
Arrived to USA in last 5 years (1985-1990)	0.259	0.438	0.214	0.410	0.239	0.426	**-4.83**
Connecticut	0.023	0.151	0.011	0.106	0.018	0.132	**-4.76**
Massachusetts	0.027	0.161	0.028	0.166	0.027	0.163	0.47
Rhode Island,New Hampshire,Maine,Vermont	0.016	0.127	0.018	0.134	0.017	0.130	0.61
New Jersey,Pennsylvania	0.153	0.360	0.147	0.354	0.150	0.357	-0.78
New York	0.216	0.412	0.192	0.394	0.205	0.404	**-2.80**
East North Central division (does not include Illinois)	0.011	0.102	0.008	0.088	0.009	0.096	-1.42
Illinois	0.022	0.148	0.016	0.127	0.020	0.139	**-2.06**
West North Central division	0.009	0.094	0.009	0.093	0.009	0.093	-0.07
Georgia, Virginia, West Virginia, North and South Carolina	0.055	0.229	0.049	0.215	0.052	0.223	-1.38
Maryland,Delaware,District of Columbia	0.014	0.118	0.015	0.122	0.015	0.120	0.35
East South Central division	0.006	0.080	0.011	0.103	0.008	0.091	1.91
West South Central division (does not include Texas)	0.004	0.062	0.004	0.062	0.004	0.062	0.00
Texas	0.044	0.205	0.067	0.250	0.055	0.227	**4.22**
Mountain division	0.018	0.134	0.016	0.124	0.017	0.130	-0.94
California	0.072	0.259	0.074	0.262	0.073	0.260	0.30
Washington, Oregon, Alaska	0.007	0.081	0.007	0.084	0.007	0.083	0.25
Number of Observations	14701		2310		17011		
Population	328927		273208		602135		

The comparison state is Florida.

Correction of the Contamination Bias (Population 25-55) - CENSUS-US 2000 (iii) Vs CENSUS 2005-Colombia (i)

Variable	Model 1			Model 2			Model 3			Model 4		
	Coeff.	Std.Err.	*t*	Coeff.	Std.Err.	*t*	Coeff.	Std.Err.	*t*	Coeff.	Std.Err.	*t*
Complete Secondary or Incomplete Higher	-0.009	0.004	-2.10									
Incomplete or Complete Secondary				0.060	0.032	1.86						
Incomplete Secondary							0.029	0.048	0.60	0.019	0.043	0.44
Complete Secondary							0.069	0.032	2.18	0.069	0.029	2.40
Incomplete Higher										0.037	0.026	1.40
Incomplete Higher or more				0.086	0.033	2.62	0.087	0.031	2.76			
Complete Higher or more	**0.031**	**0.007**	**4.31**							0.137	0.032	4.32
Woman	-0.022	0.004	-5.71	-0.023	0.004	-5.29	-0.023	0.004	-6.03	-0.023	0.004	-5.31
Age	-0.006	0.002	-3.04	-0.004	0.002	-1.56	-0.004	0.002	-1.53	-0.004	0.002	-1.61
Age Squared	0.000	0.000	2.66	0.000	0.000	2.09	0.000	0.000	1.89	0.000	0.000	2.10
Incomplete or Complete Secondary * Age				-0.070	0.026	-2.74						
Incomplete Secondary * Age							-0.001	0.001	-0.42	0.000	0.001	-0.27
Complete Secondary * Age							-0.002	0.001	-2.22	-0.002	0.001	-2.43
Incomplete Higher * Age										-0.001	0.001	-1.72
Incomplete Higher or more * Age				-0.012	0.013	-0.90	-0.002	0.001	-2.38			
Complete Higher or more * Age										-0.003	0.001	-3.20
White	-0.069	0.022	-3.21	-0.014	0.004	-3.19	-0.062	0.023	-2.75	-0.062	0.021	-3.01
Children under 10 in household	-0.012	0.004	-2.71	-0.001	0.001	-1.80	-0.014	0.004	-3.53	-0.012	0.004	-2.90
People older than 60 in household	0.025	0.011	2.33	-0.002	0.001	-2.22	0.026	0.009	2.74	0.025	0.010	2.40
Children under 10 * People older than 60 in hhold	-0.012	0.014	-0.86	0.025	0.010	2.49	-0.014	0.013	-1.05	-0.012	0.013	-0.90
Constant	0.238	0.045	5.24	0.164	0.055	3.00	0.159	0.055	2.89	0.161	0.054	2.98
Number of Observations	n_00 = 14708						n_05 = 783					
Population	N_00 = 329066						N_05 = 11550					

The dependent variable is return (returned = 1). *t* statistics based on bootstrap standard errors.

CENSUS 2000US (iii) Vs. CENSUS 2005COL (i)

Variable (population 25-55)	2000 US		2005 COL	
	Mean	***sd***	**Mean**	***sd***
Complete Secondary or Incomplete Higher	0.594	0.491	0.401	0.490
Incomplete or Complete Secondary	0.398	0.489	0.422	0.494
Incomplete Secondary	0.073	0.260	0.072	0.258
Complete Secondary	0.325	0.468	0.350	0.477
Incomplete Higher	0.269	0.443	0.051	0.221
Incomplete Higher or more	0.511	0.500	0.500	0.500
Complete Higher or more	0.242	0.428	0.449	0.497
Woman	0.549	0.498	0.387	0.487
Age	39.277	7.985	38.072	8.470
Age Squared	1606.47	638.56	1521.216	668.503
Incomplete or Complete Secondary * Age	15.777	20.043	16.199	19.718
Incomplete Secondary * Age	2.889	10.527	2.919	10.812
Complete Secondary * Age	12.887	19.114	13.279	18.694
Incomplete Higher * Age	10.398	17.653	1.964	8.580
Incomplete Higher or more * Age	19.646	20.047	18.417	19.311
Complete Higher or more * Age	9.249	16.809	16.453	19.077
White	0.981	0.137	0.945	0.227
Children under 10 in household	0.427	0.495	0.316	0.465
People older than 60 in household	0.140	0.347	0.203	0.402
Children under 10 * People older than 60 in hhold	0.052	0.221	0.050	0.217
Number of Observations	14708		783	
Population	329066		11550	