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Assimilation of Immigrants in Spain: A Longitudinal Analysis

Mario Izquierdo, Aitor Lacuesta and Raquel Vegas

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ASSIMILATION OF IMMIGRANTS IN SPAIN: A LONGITUDINAL ANALYISIS

Mario Izquierdo

BANCO DE ESPAÑA

Aitor Lacuesta

BANCO DE ESPAÑA

Raquel Vegas

BANCO DE ESPAÑA

ABSTRACT

In this paper we use the Continuous Sample of Working Histories 2005 to analyze the earnings assimilation of migrants from outside the EU-15 in Spain. Using our panel dataset we show that immigrants reduce the wage gap respect to natives in 15pp during the first 5 to 6 years. However, it is not apparent from the data further reductions of the wage gap (20pp after 15 years of residence). We also show that estimates based on cross-section data are downward biased since an important increase in the quality of migrants has taken place over the last years. The skill upgrading of new immigrant cohorts is evident in the Spanish case as well as the depreciation of the value of most of the experience that is brought from abroad. Some additional research tends to find that the improvement in the skill of immigrants is related to a change in the composition of new entrants (more individuals coming from the countries of the EU enlargement and latinamericans respect to other nationalities) instead from selective emigration. Finally, we have some preliminary research indicating that an important mechanism underlying the assimilation is the higher likelihood of recent immigrants in changing jobs among different sectors and firms, but also improving their situation within the firm.

1. **Introduction**

Assimilation of immigrants in the host country is a broad concept. Some people place special emphasis on the fact that immigrants adopt the values, culture and traditions with the underlying idea of keeping a cohesive society. However, this concept of assimilation is certainly difficult to measure. A much easier concept to quantify is assimilation in earnings power. It has been proven that immigrants have a wage gap differential respect to observationally equivalent natives. This gap partly reflects the fact that migrants cannot use all the human capital they have acquired in their country of origin. In that case, a typical human capital model (Ben Porath (1967)) would predict a big incentive to invest in human capital upon arrival which will consequently generate a steeper wage earnings profile along the migrants' life cycle compared to otherwise identical native workers. Moreover, in a regulated labour market such as the Spanish, there are many institutions that exacerbate economic differences across regions, municipalities or sectors. Migrants are more prone to benefit from those differences since they have lower social attachments than natives and they have lower prejudices to perform "bad-reputated" jobs. Therefore, the initial wage gap between migrants and non-migrants might disappear as long as migrants reallocate themselves into jobs that offer better economic opportunities.

In Spain immigrants do not perform very well respect to natives. As it is observed in several studies (Adsera and Chiswick (2005) and de la Rica and Amuedo-Dorantes (2006)) immigrants coming from outside the EU-15 tend to earn 30% less than natives and face a higher unemployment rate (7% respect to 12,3% in 2007). In this context, the main question is whether we actually observe a reduction of the initial gap over time. Notice that immigration in Spain has become a matter of huge importance in the recent years. The robust annual inflow of immigrants (an average of 700,000 per annum during the last two years) pushed up the percentage of immigrants in the Spanish population from 2% in 2000 to 11% six years later. Between 2000 and 2006, this inflow accounted for more than 80% of the total growth in the working age population and almost 50% of the growth in employees.

The literature on assimilation of wage earnings starts with Chiswick (1978) who found an assimilation rate of 2% per year in the United States. This means that an initial wage gap of 30% is completely vanished after 15 years of residence. However, the robustness of his empirical results were critized because of the usage of a single cross section. In a single cross section, migrants with different number of years of residence in the destination country belonged to different entry cohorts. If there is a decrease in the quality of migrants that entered the country over time, as it happened in the United States (Borjas (1985)), the wage growth estimated is an upward biased measure of the real one. On the other hand, if there is an improvement in the quality of immigrants, the actual wage growth would be underestimated. This problem was traditionally solved by using repeated cross sections and following the history of different individuals belonging to the same entry cohort (LaLonde and Topel (1992)).

Even in the case that the quality of migrants does not change over different entry cohorts, we might get biased estimations of the actual assimilation derived from selective emigration. Let's assume that migrants who decide to go back home after a while are those who perform the worse. In that case, following the wage growth of a particular entry cohort gets an upward biased estimation of the actual wage growth because those foreigners that have stayed longer are better than the average foreigner at the moment of entry. We might partly solve this problem by using longitudinal data as in Lubotski (2006). Longitudinal data tracks the wage growth of individuals who belonged to a particular entry cohort and stayed for a certain number of years in the country. In a sense, with longitudinal data we empirically estimate the assimilation profile of that selective group of foreigners[1].

Following the spirit of that paper, this analysis is the first one in using a longitudinal data set for Spain (Continuous Sample of Working Histories 2005) to disentangle the earnings assimilation profile of immigrants

[1] Notice that this is not an estimation of the assimilation profile of all foreigners who entered in a particular year. In order to extrapolate the abovementioned results we would require more assumptions. For example, assuming that differences between migrants who succeed and fail are wage level instead of wage growth differences.

in Spain. Although this is the first study to incorporate the longitudinal analysis, we are not the first ones in considering assimilation of immigrants in Spain. De la Rica and Amuedo Dorantes (2006) used a cross section in 2002 and several assumptions due to their data limitations to find that immigrants decreased the wage gap in 15pp during the first 5 years of residence in Spain. However, Ortega and Fernández (2007) used the labour force survey to find that many migrants do not improve their labour conditions in terms of temporality.

2 Data

The sample comes from the Continuous Sample of Working Histories 2005 (*"Muestra continua de Vidas Laborales"* in Spanish). This data set is formed by a 4% random sample of all individuals who have had an affiliation in the Social Security during the current year.[2] The data set gives historical information of all relationships within the Social Security Sstem (in terms of work, unemployment benefits and other contributed pensions perceived). On the one hand, it gives information respect to the type of contract, length, sector of activity, type of working day, and monthly capped earnings. The data from the Continuous Sample of Working Histories is matched with information on administrative data ("Padron") adding information on education[3], place of birth, place of residence and characteristics of the household.

When using the longitudinal aspect of the data set, it is certainly important to note that the information is only representative of the social security records in the current year. Workers in 2005 are a random sample of workers affiliated to the Social Security in 2005, however; for previous years we only observe the historical relationships for those individuals who either work or earn unemployment benefits in 2005. Therefore, workers in years before 2005 are not a representative sample of workers in that particular year because of non-random exit form the labour market[4]. For the purpose of this study, this feature is going to be valuable as it will be noted in the next section.

We restrict the sample to males between 25 and 54 years old in order to have the analysis free of selection on the labour market. At those ages, almost all natives and immigrant males are active. The paper uses daily wages. We perform the analysis using two different measures. Firstly, daily wages are computed as the ratio between monthly earnings and the days worked in a particular month. Since the data on Social Security contributions is given monthly, this is the more sensible way to proceed. However, since migrants are expected to rotate between employment and unemployment much more than natives, we might be capturing a self selected sample of immigrants (only those who are employed in a particular month). Moreover, we identify some individuals whose firms do contribute to the social security with a certain delay[5]. In order to solve those problems we check the robustness of the results computing daily earnings as the ratio between the sum of the current year earnings and the days worked during the year.

Since there is no earnings information before 1979 we keep individuals who start their labour career after that date. However, we keep track of earnings only in the case of being employed in the Social Seucrity General Regime. We do not take into account earnings obtained as self-employed since they might have more freedom to choose their reported contribution bases and, given this fact, the wage might be a downward proxy of the real earnings. We also drop unemployment insurance earnings.

Experience in the Spanish labour market is computed sequentially from the moment the worker enters the sample. If the person entered for the first time the job market in February 1980 we keep that particular monthly earning as his initial earning. The earnings on February 1981 represent the earnings after 1 year of experience and so on[6]. If the person did not work at all in one particular month, he will have a missing value in earnings (or out of the labour force). However, that year counts for the experience profile of the person. Indeed, if the individual comes back to work 5 years after, he is considered to have 5 years more of experience. Therefore, experience should be considered as years after the first entry in the labour market[7].

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[2] Indeed we use information from the simple 2005B that has information on the Social Security records and the Population registers (Padrón) but it does not have any information on fiscal registers. The sample has 1.142.118 individuals.

[3] Education is not well captured in the Population registers since it does not capture appropriately educational upgrading, unless someone renew voluntarily the register..

[4] In the future, it is expected to follow up the cohorts adding some information to keep the representativeness of the sample in each particular year.

[5] We treat those as missing values in the monthly payments

[6] The same reasoning is applied for the second measure of daily wages using current years, but at this point all earnings in a current year should be added up.@@@QUÉ PASAS SI UNA BASE SUPERA LA CAP Y LAS DEMÁS NO?

[7] Since the study is restricted to males between 25 and 54 years old we do not think that exit and re-entry is an important issue.

Sometimes, the administrative records report a zero or negative earnings while the person has a contract. Most of the time, this fact means a delay in the payment of social security contributions or adjustments of the administration. The measure of wages using annual earnings should be free of this problem. Many individuals have different contracts during a month, therefore we add up all earnings for an individual in that month. If the total earnings, once all contracts are added up, exceed the corresponding cap per year and group of contribution, we substitute that number for the cap.

In order to compute the days worked during a month or a year we consider all contracts in a particular month/year for each individual. In order to verify that we were doing a good job, we counted the days of work in a month and in a year and the days of inactivity in a month and in a particular year. Those numbers are verified to add up to the total number of days per month and per year.

A migrant is a person who has no Spanish nationality. Indeed we restrict the sample of migrants in the empirical exercise to be not members of the EU-15 since immigration from those countries has been traditionally very different to the immigration coming from the rest of the world with a high share of retirees. We could have chosen the place of birth as a better approximation to migrant status, however, we decided to pick the definition of nationality in order to follow the definition of migrant coming form the Institute of National Statistics, and used in other data sets such as the Earnings Structure Survey 2002[8].

Many migrants entered Spain with some experience from abroad. However, we do not have information on that issue. This ingredient is key in order to compare the wage experience profile of migrants and non-migrants since otherwise, at the moment of entry; we are comparing people at different stages of their working careers. In order to have information on experience abroad we estimate potential experience abroad substracting potential age of entry in the labour market in the origin country to the age of entry in Spain. Potential age of entry in the origin country is 16 if the person has lower education than a university degree and 22 if the person received a university degree. On the other hand the age of entry in Spain is the age of the person at the moment of the first contribution in the social security. One evident problem with this estimation of potential experience is that our measure of education comes from administrative data ("Padron") and as it was commented above it does not appropriately depict actual education, and is not available for every one[9]. Many people present a lower education in the "pardon" compared to their real level. This is the case because the administrative data is not updated unless someone changes residence into a different municipality. This problem should be smaller for immigrants since most of them arrive in Spain to work. Even in that case, people might decide not to update the information, since could be inconvenient. However, we are going to assume that answers of foreigners are correct. On the other hand, the age of entry does not necessarily depict the real age of entry into Spain, since many migrants, as it will be shown later, enter illegally into the country or work in the informal sector even being legal. Lubotsky (2007), who have alternative measures for the age of entry, showed that different measures affect slightly the quantitative results without affecting them qualitatively. Since we do not have alternative measures we need to stick to the abovementioned concept of year of entry. One additional problem on this regard is the existence of several regularization processes in Spain. For an illegal migrant that is legalized, years since migration is an upward biased measure of the real years spent in Spain and the number of years abroad is a downward measure of the experience in the home country. The following table shows the processes of regularization in the recent past (Papademetriou et al (2004) and OECD (2007)):

[8] Results do not change by using place of birth.
[9] We consider as low educated thos who do not report education.

Year	Number regularized	Primary policy target	Benefit granted	Conditions
1985-1986	38.181	All foreigners	Residence and work permit	Applied to unauthorized workers and residents
1991	110100	Workers	Residence and work permit	Illegal aliens working in Spain since May 15, 1991, rejected asylum seekers or those with asylum request pending
1996	21.300	All foreigners (13800 work permits and 7500 residence)	One year residence and work permit	Applied to those residing in Spain since January 1, 1996
2000	163.900	All foreigners	One year residence and work permit	Applied to those who had previously held or applied for either work of residence permits in the three years prior to 2000, or had filed an asylum application before 2000
2001	216.400	Workers	One year residence and work permit	Applied to those who could prove employment as well as social ties in Spain
2005	548.700	All foreigners	Six months residence and work permit	Applied to those who have an employment offer lasting for 6 months.

In order to analyze whether our results are affected by those regularizations, we repeat all the analysis substracting all individuals who report to have had their first labour experience in those particular years.

3 Empirical strategy

Let's begin with a model of wage generation for natives and immigrants. Spaniards enter into the labour force with some specific skills, depending on their gender, education and birth cohort. From that moment on, the wage is increased by a function $\delta^n{}_k$ due to a process of on the job learning. Macroeconomic shocks μ_t and good or bad luck ε_{it} affect someone's wage. Given these ingredients the wage is defined:

$$W^n{}_{it} = e^{(\mu_t + \varepsilon_{it})} W^n{}_0 \prod_{k=1}^{t} \left(1 + \delta^n{}_k\right)$$

$$\ln W^n{}_{it} = \ln W^n{}_0 + \sum_{k=1}^{t} \delta^n{}_k = f^n(educ, birth\_cohort) + \sum_{k=1}^{t} \delta^n{}_k + \mu_t + \varepsilon_{it} \quad (1)$$

On the other hand, immigrants arrive to the country with certain labour market experience in addition to their initial particular skills. The experience acquired abroad has certain value in the Spanish labour market say $\lambda^I{}_k$. And once in the country, immigrants start to increase their human capital at a rate $\delta^I{}_k$. Given that the individual enters at the age of t^a, the wage is given by:

$$W^I{}_{it} = e^{(\mu_t + \varepsilon_{it})} W^I{}_0 \prod_{k=1}^{t^a} \left(1 + \lambda^I{}_k\right) \prod_{s=t^a}^{t} \left(1 + \delta^I{}_s\right)$$

$$\ln W^I{}_{it} = \ln W^I{}_0 + \sum_{k=1}^{t^a} \lambda^I{}_k + \sum_{s=t^a}^{t} \delta^I{}_s = f^I(educ, entry\_cohort) + \sum_{k=1}^{t^a} \lambda^I{}_k + \sum_{s=t^a}^{t} \delta^I{}_k + \mu_t + \varepsilon_{it} \quad (2)$$

Earnings assimilation is the process by which two individuals with the same years of labour market experience in their lives have different wage growth, in such a way the one with the initial lowest wage approaches the one with the highest. Mathemathically, assuming that immigrants have the lowest wage we would require that:

$$\delta^I{}_{t+1} - \delta^I{}_t > \delta^n{}_{t+1} - \delta^n{}_t$$

Let's define an indicator of migrant status *I*. Pooling (1) and (2) we have a model for the pool of workers in this economy:

$$\ln W_{it} = \ln W^N{}_0 + \sum_{k=1}^{t} \delta^N{}_k + \left(\ln W^I{}_0 - \ln W^N{}_0\right) I + \sum_{k=1}^{t^a} \left(\lambda^I{}_k - \delta^N{}_k\right) I_i + \sum_{s=t^a}^{t} \left(\delta^I{}_k - \delta^N{}_k\right) I_i + \mu_t + \varepsilon_{it} \quad (3)$$

As it has been suggested in the literature there are some problems associated to the estimation of equation (3) using a single cross section. In a single cross section, migrants with different years of labour market experience have entered Spain at different points in time. Therefore, it is impossible to distinguish the wage growth associated with labour experience and changes in the entry cohort quality. Provided that there was a decrease in the quality of migrants that enter the country over time, as it happened in the United States (Borjas (1985)), the wage growth over the life cycle in the cross section is an upward biased measure of the actual average wage growth. On the other hand, if there was an improvement in the quality of immigrants, the actual wage growth would be underestimated. This problem has been traditionally solved by using several cross sections allowing to follow the history of different individuals belonging to the same entry cohort.

Even in the case that the quality of migrants was the same over year of entry, we might face an additional estimation problem derived from selective emigration. Let's assume that migrants who decide to go back home after a while are those who perform the worse. In that case the actual wage growth would also be

over-estimated in the cross section because those who present higher levels of experience are the best migrants of their cohort of entry. The opposite is true if those migrants who go back home have performed better. This shortcoming cannot be solved by using repeated cross sections. .

In order to see both problems mathematically notice that in a single cross section we estimate the wage growth by comparing different cohorts at the same moment of time. For ease of understanding, let's illustrate the problem with a simple example. Suppose that we would like to measure the degree of assimilation after five years of residence in Spain. With the 2005 cross section, we can only compare wages of recent migrants and migrants who arrived five years in advance[10]:

$$E\left[\ln W_{i,2005} \mid entry = 2005\right] = \ln W^0{}_i(entry = 2005) + \left(\lambda^I - \delta^N\right)\exp\_abroad_i I_i$$
$$E\left[\ln W_{i,2005} \mid entry = 2000\right] = \ln W^0{}_i(entry = 2000) + \left(\lambda^I - \delta^N\right)\exp\_abroad_i I_i + 5\left(\delta^I - \delta^N\right)I_i$$

With a single cross section we are not able to distinguish the part of the increase in earnings due to acquisition of experience and human capital as time goes on $5\left(\delta^I - \delta^N\right)$ -the true measure of assimilation-, and the part due to differences in quality of the different entry cohorts.

$$E\left[\ln W_{i,2005} \mid entry = 2005\right] - E\left[\ln W_{i,2005} \mid entry = 2000\right] = \ln W^0{}_i(entry = 2000) - \ln W^0{}_i(entry = 2005) + 5\left(\delta^I - \delta^N\right)I_i$$

The previous equation shows very clearly that increasing the quality of the cohort of entry downward bias the assimilation profile and vice versa. This possible bias in measuring the size of assimilation on earnings using a single cross section is exacerbated under the presence of selective emigration. Indeed, not all migrants from a particular entry cohort remain in the country for five years. Some might have been unable to pursue their plans, or some might have entered with the idea of a temporary migration. Mathematically,.we could write this statement in the following way[11]:

$$E\left[\ln W_{i,2005} \mid entry = 2005\right] - E\left[\ln W_{i,2005} \mid entry = 2000, \text{stayer 5 years}\right] =$$
$$\ln W^0{}_i(entry = 2000, \text{stayer 5 years}) - \ln W^0{}_i(entry = 2005) + 5\left(\delta^I - \delta^N\right)I_i$$

Again, if better immigrants stay longer, assimilation is overestimated. Using repeated cross sections we solve the first problem but not the second one. Indeed, we compare the same entry cohort at different moments of time:

$$E\left[\ln W_{i,2000} \mid entry = 2000\right] = \ln W^0{}_i(entry = 2000) + \left(\lambda^I - \delta^N\right)\exp\_abroad_i I_i$$
$$E\left[\ln W_{i,2005} \mid entry = 2000, \text{stayer 5 years}\right] = \ln W^0{}_i(entry = 2000, \text{stayer 5 years}) + \left(\lambda^I - \delta^N\right)\exp\_abroad_i I_i + 5\left(\delta^I - \delta^N\right)I_i$$

However, using longitudinal data, we observe information on wages in a retrospective way for every individual who enter in a particular year and have stayed in the country until 2005, what allows overcoming both problems:

$$E\left[\ln W_{i,2000} \mid entry = 2000, \text{stayer 5 years}\right] = \ln W^0{}_i(entry = 2000, \text{stayer 5 years}) + \left(\lambda^I - \delta^N\right)\exp\_abroad_i I_i$$
$$E\left[\ln W_{i,2005} \mid entry = 2000 \text{ stayer 5 years}\right] = \ln W^0{}_i(entry = 2000, \text{stayer 5 years}) + \left(\lambda^I - \delta^N\right)\exp\_abroad_i I_i + 5\left(\delta^I - \delta^N\right)I_i$$

$$E\left[\ln W_{i,2005} \mid entry = 2000, \text{stayer 5 years}\right] - E\left[\ln W_{i,2000} \mid entry = 2000, \text{stayer 5 years}\right] =$$

$$= 5\left(\delta^I - \delta^N\right)I_i$$

[10] For easiness in the exposition we convert (3) into a linear model in experience.

[11] Notice that the diifference between stayers and temporary migrants enter additively instead of in a different wage growth profile in the destination country. This assumption is key and it does not necessarily hold. More comments on this below.

Of course, if both the initial wage level and the wage growth once in the country is different for individuals who succeed and individuals who failed, the panel cannot solve completely the problem. In that case, longitudinal data only identifies the assimilation profile of stayers. In future sections we are going to analyze the assimilation profile of different entry cohorts. Recent entry cohorts did not have much time to be selected, whereas previous entry cohorts should be much more selected. If we do not observe many differences in the assimilation profile between the different entry cohorts, we should be more prone to accept the assumption that assimilation is similar for stayers and temporary workers.

In any case, longitudinal data is not absent of problems since it is impossible to discriminate between experience, birth cohort and time effects [Deaton and Paxson (1994)]. In the case of United States, Lubotsky (2007) added a time dummy without considering variations in the cohort effects of natives. In the case of Spain this could generate important shortcomings since there has been an important upgrade in real salaries over Spanish entry cohorts in our data set (due especially to educational upgrading). There are several ways of identifying cohort effects from time dummies (see Deaton and Paxson (1994) or Kapteyn et al (2003)). We follow the strategy of Lemieux (@@@) identifying time effects with the NAIRU and birth cohorts with different dummies for the age of entry.

4 Comparison of the Social Security records and other surveys

Traditionally employment figures in Spain have been drawn from the Labour Force Survey. The LFS is a quarterly survey designed to interviewing a random sample of the national population residing in the country in a particular quarter. Instead, the Continuous Sample of Working Histories is a random sample of social security records. Therefore, the first step in order to understand the results is to compare the new data set with the old one.

First, we observe that the number of workers that are registered in the Social Security is smaller than the number of workers that are registered in the Labour Force Survey. As it is shown in Figure 1, we observe that 3% of nationals are not registered in the Social Security. This could be an image of the informal work in Spain. This number increases a lot for migrants. Notice that submerged economy could be a major problem for migrants because of illegal entry. Indeed, the differences in terms of social security contributors and foreign workers in the Labour Force Survey has been growing a lot in the last years, following the big increase in immigration and the boom in construction.

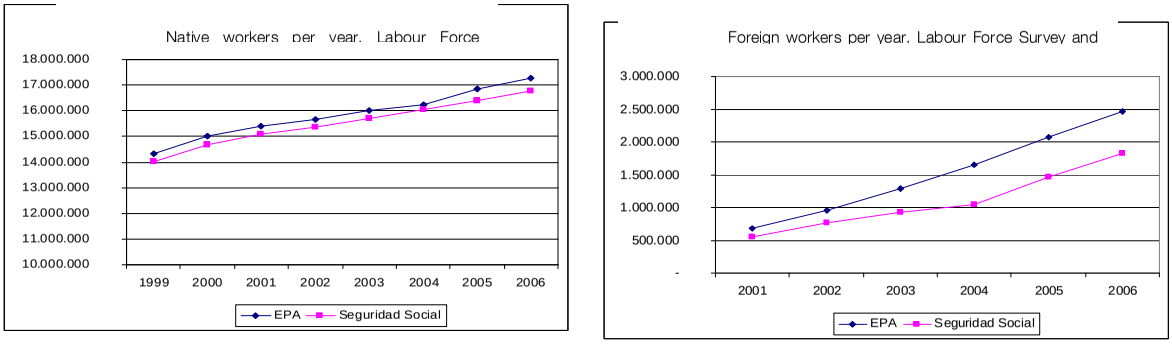


Figure 1

There are two problems of coherence between the two data sets. The sampling process is different and in the Social Security records people might have more than one job. The National Institute of Statistics treated those problems in order to get a better comparison of the two data sets. They take all employment records in the Social Security for an analyzed quarter and choose a random week in that quarter for each individual. This is the week of reference for that individual and the week defines the job that the person holds. If the person has multiple relationships with the Social Security, they choose the permanent contract. In case of having several temporary contracts, they choose the longer relationship and in case of being equal the one that started before.

They identified most of the differences between the two data sets for youth, females and foreigners. They attribute those differences to the informal sector. They also analyzed differences in professional status (employee or self-employed), type of contract (temporary versus permanent) and length of the working day; obtaining very similar distributions in both samples. Using the same mechanism, we obtain very similar results with our sample for the fourth quarter of 2005 and those results are available upon request[12].

[12] In order to extend the results of the Social Security sample to the population we could weight observations in our sample accordingly to the proportion of the observation's characteristics in the Labour Force Survey for a particular year. This is left for further work.

5 Empirical results for assimilation

As it was mentioned in section 3, there has been a certain upgrade in real earnings over entry cohorts for nationals.

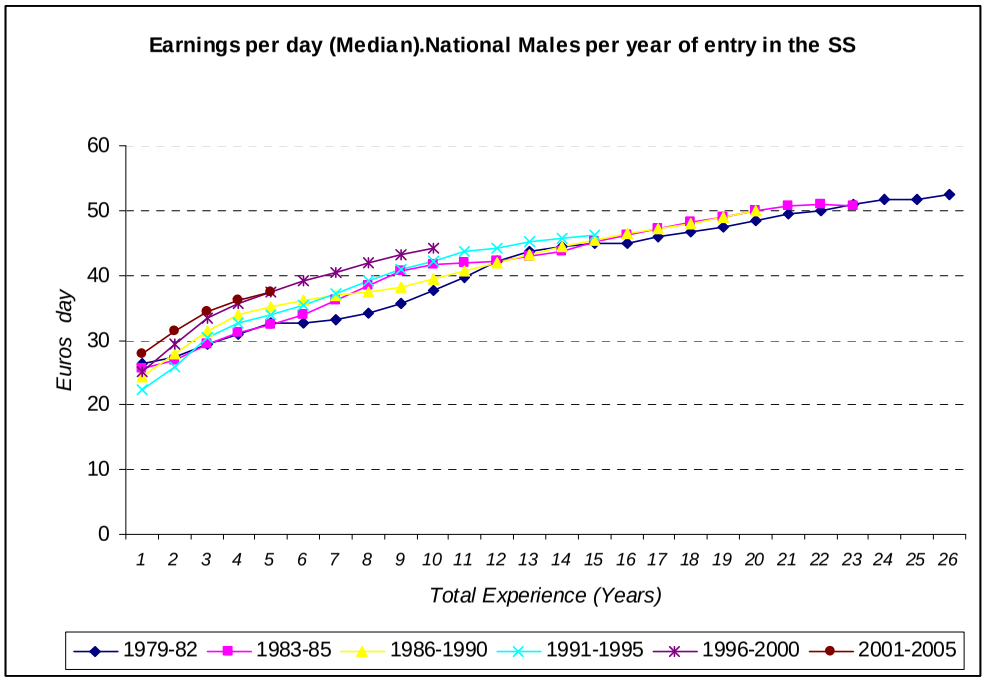


Figure 2

Part of this increase could be attributed to the educational upgrading in the labour force over the last decades. Indeed, those individuals who enter the labour market in 2001-2005 are more educated, and consequently older than those entering in 1978-1982. Moreover, the quality of education has also increased, therefore controlling for education do not appropriately pick cohort effects.

Figure 2 shows the daily wage experience profile for non EU 15 migrant's earnings. The initial level is slightly lower than that of natives, especially for early entry cohorts. In this case, it is clear the increase of wages per cohort of entry. This issue might be picking up an increasing demand for unskilled labour, however, if this was the only reason underlying the upgrading, Figure 1 would also suffer the same movement. Therefore there should be a notable upgrading of the quality of migrant cohorts. Indeed, in the recent years there has been a shift in the country of origin flows of non-EU-15 migrants, increasing the amount of foreigners coming from South America and the countries of the European enlargement as opposed to Africans. Those first two groups used to have higher educational levels which generate higher wages.

The experience earnings profile is flatter than the Spanish one especially for those cohorts entering in recent years. However, this does not mean that over time in Spain the wage gap between migrants and non-migrants increases. This is so because total experience is the sum of experience abroad and in Spain. Indeed, for those migrants who enter in the recent years, the slope of the curve is almost flat meaning that the experience abroad is not very well valued..Instead, the slope becomes steeper for those migrants who have been in Spain for a certain number of years. This could be also observed in a graph of migrant's earnings with years in the country (see Figure 3).

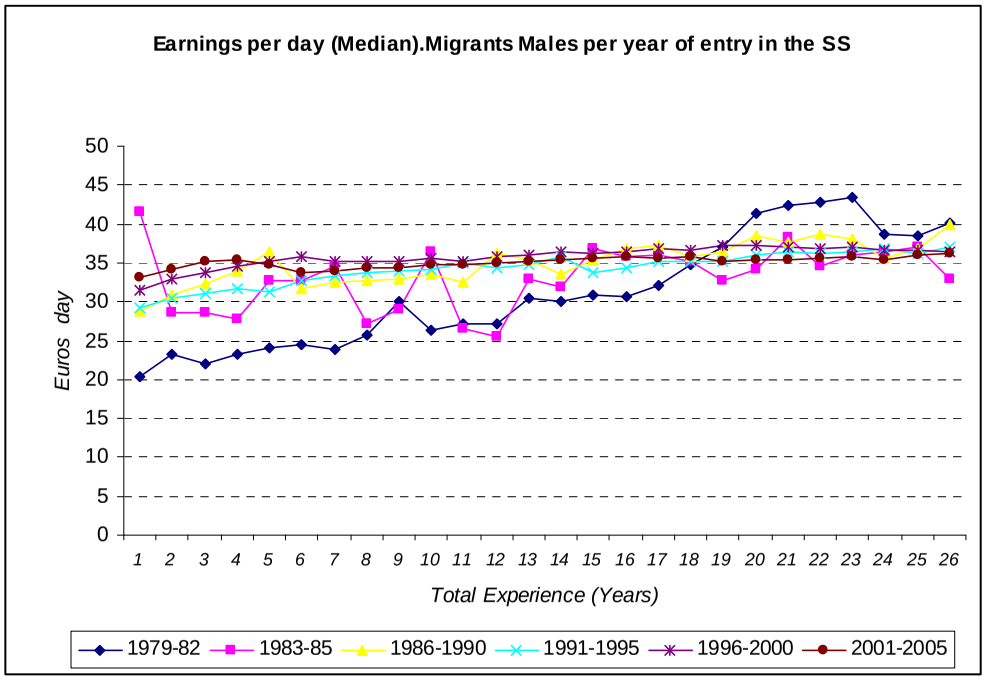


Figure 3

The abovementioned preliminary evidence makes clear the importance of controlling the experience before migration and the cohort of entry for migrants and the birth cohort for natives.

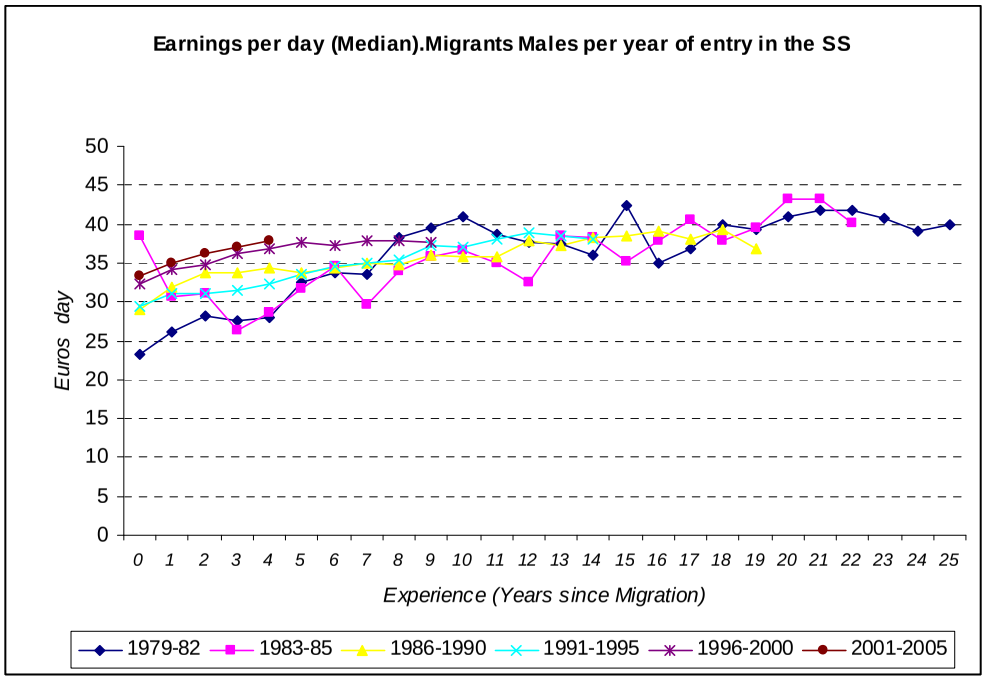


Figure 4

Notice that the results for the assimilation profile in the single cross section will be downward biased because of the increase in quality by migrant cohort. In this case we will need to use the longitudinal data set to solve the problem.

In this section we estimate equation (3) using the cross section and the longitudinal data set. Since the observed value of earnings is top-coded and the censored part is around 20% in the whole sampling period we will use median regressions for the dependent variable, being $\overline{\ln W_{it}}$ the salary cap:

$$\ln W_{it}^{*} = \min\left(\ln W_{it}, \overline{\ln W_{it}}\right)$$

As in Lubotsky (2007) we use Powell (1984) semiparametric censored least absolute deviation. We compute the standard deviation with a sandwich estimator. In table 1 we show the preliminary results for the regression pooling natives and immigrants coming from countries outside the EU-15. In that table the analysis is done with daily wages measured as the ratio between monthly earnings and the days worked in a particular month. Table 1 b shows the same results using annual wages. The first column shows the wage model estimated using only the information in 2005, as it would be in a cross section. The coefficients in front of the dummies of years since migration express the way the wage gap decreasing over time in Spain. The results do show some assimilation over the time of residence (the first 8 years of experience in Spain reduced the wage differential by 17%). On the contrary, after that date, assimilation decreases enormously. However, these results, are affected by both changes in the quality of the cohort of entry and selective emigration. Indeed, if there is an increase in the quality of immigrants in the recent years, as it was suggested by the previous figures, the conclusions of assimilation are biased downward. This issue will be analyzed later on.

The second column uses the wage model in (3) with the whole panel. The advantage of using the panel is that it allows the introduction of quality of entry cohort for migrants and birth cohort for natives. Indeed, the importance of introducing these two variables is clear since in both cases there has been an upgrading of quality. Once we control for this fact, the results regarding assimilation change enormously respect to what was observed in the cross section. The coefficient in front of the dummy regarding the first two years of experience in Spain indicates that the initial wage gap decreases 8 pp after the first two years. The following two years the wage gap decreases 4pp additionally (reducing the wage gap in 12pp). Finally, those who have stayed in Spain for longer than 8 years present a reduction in the initial wage gap of 20 pp. From that moment on it does not appear to be further reductions.

The third column presents the same type of regression excluding those years of the regularization and the results are kept. This issue makes as confident that the definition of experience abroad is well measured overall.

In order to plot the initial wage gap between natives and immigrants and the way it closes over time, we need to compute the wage level for a particular native and a particular immigrant. It is clear from the coefficients of the regression that natives increase their real wages for a given experience and educational attainment the later they are born. In a similar fashion, immigrants increase the wage with the cohort of entry and with a lower level of experience abroad given a level of total experience. Figure 5 plots the wage differential of a native born between 1964 and 1975 and an immigrant who enter Spain between 1995 and 2000 with less than 5 years of experience abroad.

Table II a. Wage equation estimations at percentile 50. Dependent variable: logarithm of daily wages*

*Wages measured as the monthly contribution registered over total days worked in a given month

	1	*2*	*3*
Independent variables	Coefficients	Coefficients	Coefficients
	Std. Err	Std. Err	Std. Err
Illiterate	**-0.711**	**-0.764**	**-0.767**
	0.003	0.001	0.000
Primary education	**-0.645**	**-0.689**	**-0.690**
	0.003	0.001	0.000
Secondary education	**-0.331**	**-0.338**	**-0.336**
	0.003	0.001	0.000
Birth Cohort <=1934		**-0.014**	**-0.014**
		0.013	0.000
Birth Cohort 1935-1944		**0.032**	**0.032**
		0.004	0.000
Birth Cohort 1945-1954	**0.120**	**0.084**	**0.083**
	0.008	0.002	0.000
Birth Cohort 1955-1964	**0.123**	**0.041**	**0.040**
	0.003	0.001	0.000
Birth Cohort 1965-1974	**0.052**	**-0.006**	**-0.007**
	0.002	0.001	0.000
NAIRU		**-0.021**	**-0.021**
		0.000	0.000
Total experience	**0.107**	**0.100**	**0.101**
	0.003	0.001	0.000
Total experience2	**-0.011**	**-0.010**	**-0.010**
	0.000	0.000	0.000
Total experience3	**0.000**	**0.000**	**0.000**
	0.000	0.000	0.000
Total experience4	**0.000**	**0.000**	**0.000**
	0.000	0.000	0.000
noUE15	**-0.305**	**-0.395**	**-0.349**
	0.022	0.019	0.000
Years since migration 0-2	**0.047**	**0.086**	**0.103**
	0.010	0.005	0.000
Years since migration 3-4	**0.121**	**0.127**	**0.142**
	0.008	0.006	0.000
Years since migration 5-6	**0.167**	**0.143**	**0.161**
	0.011	0.009	0.000
Years since migration 7-8	**0.179**	**0.169**	**0.178**
	0.021	0.012	0.000
Years since migration 9-10	**0.145**	**0.192**	**0.206**
	0.027	0.015	0.000
Years since migration 10-12	**0.091**	**0.193**	**0.207**
	0.051	0.018	0.000
More than 13 Years since migration	**0.148**	**0.201**	**0.204**
	0.024	0.022	0.000
Experience Abroad (From 5 to 9 years)	**0.077**	**0.093**	**0.057**
	0.022	0.013	0.000
Experience Abroad (From 10 to 14 years)	**0.075**	**0.063**	**0.025**
	0.022	0.013	0.000
Experience Abroad (From 15 to 19 years)	**0.048**	**0.009**	**-0.020**
	0.022	0.014	0.000
More than 25 years of Experience Abroad	**0.040**	**0.004**	**-0.023**
	0.024	0.015	0.000
Arrival 1983-1985		**-0.100**	**-0.139**
		0.040	0.000
Arrival 1986-1990		**-0.012**	**-0.041**
		0.022	0.000
Arrival 1991-1995		**-0.002**	**-0.048**
		0.013	0.000
Arrival 1996-2000		**0.080**	**0.046**
		0.013	0.000
Arrival 2001-2005		**0.058**	**0.019**
		0.013	0.000
constant	**8.526**	**8.763**	**8.760**
	0.009	0.004	0.000
R^2			

1. Cross- Section 2005

2.Longitudinal Regresion 1980-2005

3. Without including those migrants whose arrival was during a period of Special Immigrant Legalization

Table II b. Wage equation estimations at percentile 50. Dependent variable: logarithm of daily wages*

*Wages measured as the yearly contribution registered over total days worked in a year

	1	*2*	*3*
Independent variables	Coefficients Std. Err	Coefficients Std. Err	Coefficients Std. Err
Illiterate	**-0.716**	**-0.752**	**-0.757**
	0.003	0.001	0.001
Primary education	**-0.650**	**-0.678**	**-0.681**
	0.003	0.001	0.001
Secondary education	**-0.355**	**-0.353**	**-0.352**
	0.003	0.001	0.001
Birth Cohort <=1934		**-0.081**	**-0.079**
		0.012	0.011
Birth Cohort 1935-1944		**-0.042**	**-0.041**
		0.004	0.003
Birth Cohort 1945-1954	**0.108**	**0.023**	**0.022**
	0.009	0.002	0.002
Birth Cohort 1955-1964	**0.113**	**-0.004**	**-0.006**
	0.003	0.001	0.001
Birth Cohort 1965-1974	**0.042**	**-0.024**	**-0.024**
	0.002	0.001	0.001
NAIRU		-0.025	-0.025
		0.000	0.000
Total experience	**0.084**	**0.102**	**0.103**
	0.004	0.001	0.001
Total experience2	**-0.007**	**-0.009**	**-0.009**
	0.001	0.000	0.000
Total experience3	**0.000**	**0.000**	**0.000**
	0.000	0.000	0.000
Total experience4	**0.000**	**0.000**	**0.000**
	0.000	0.000	0.000
noUE15	**-0.282**	**-0.406**	**-0.529**
	0.023	0.018	0.039
Years since migration 0-2	**0.020**	**0.058**	**0.073**
	0.011	0.005	0.008
Years since migration 3-4	**0.109**	**0.104**	**0.123**
	0.009	0.006	0.009
Years since migration 5-6	**0.141**	**0.115**	**0.143**
	0.012	0.009	0.012
Years since migration 7-8	**0.146**	**0.154**	**0.164**
	0.021	0.012	0.014
Years since migration 9-10	**0.122**	**0.197**	**0.216**
	0.028	0.015	0.018
Years since migration 10-12	**0.058**	**0.182**	**0.194**
	0.052	0.017	0.020
More than 13 Years since migration	**0.112**	**0.183**	**0.212**
	0.024	0.021	0.025
Experience Abroad (From 5 to 9 years)	**0.078**	**0.093**	**0.067**
	0.023	0.013	0.016
Experience Abroad (From 10 to 14 years)	**0.072**	**0.055**	**0.025**
	0.022	0.013	0.016
Experience Abroad (From 15 to 19 years)	**0.041**	**-0.008**	**-0.021**
	0.023	0.013	0.016
More than 25 years of Experience Abroad	**0.036**	**-0.041**	**-0.055**
	0.025	0.014	0.018
Arrival 1983-1985		**-0.220**	**-0.085**
		0.038	0.053
Arrival 1986-1990		**-0.045**	**0.095**
		0.020	0.039
Arrival 1991-1995		**-0.025**	**0.087**
		0.013	0.035
Arrival 1996-2000		**0.106**	**0.227**
		0.012	0.036
Arrival 2001-2005		**0.090**	**0.208**
		0.012	0.036
constant	**8.569**	**8.758**	**8.755**
	0.010	0.004	0.004
R^2	0.126	0.122	0.123

1. Cross- Section 2005
2.Longitudinal Regresion 1980-2005
3. Without including those migrants whose arrival was during a period of Special Immigrant Legalization

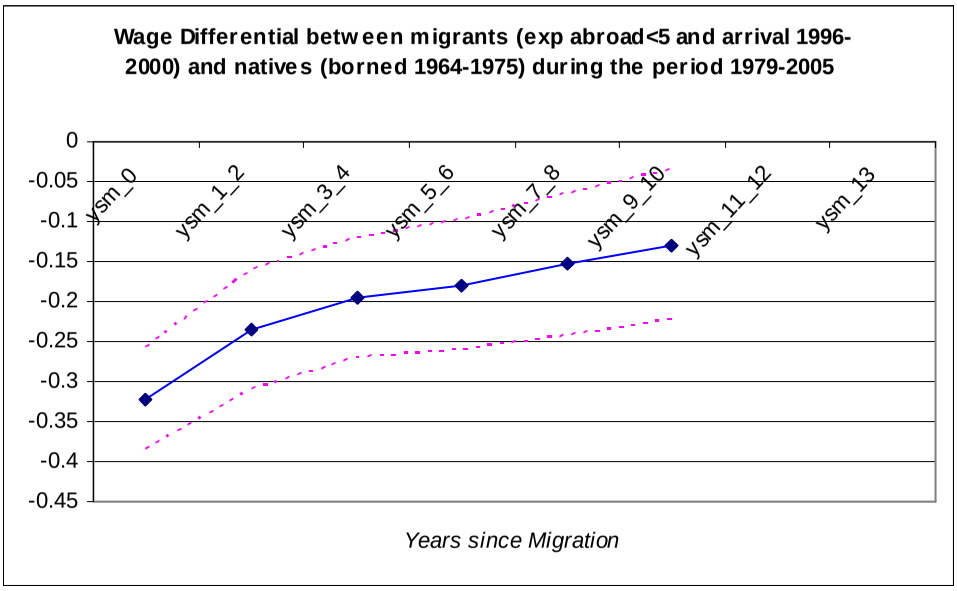

Wage Differential between migrants (exp abroad<5 and arrival 1996-2000) and natives (borned 1964-1975) during the period 1979-2005
0
-0.05
-0.1
-0.15
-0.2
-0.25
-0.3
-0.35
-0.4
-0.45
ysm_0
ysm_1_2
ysm_3_4
ysm_5_6
ysm_7_8
ysm_9_10
ysm_11_12
ysm_13
Years since Migration

Figure 5

6 Change in the quality of immigrants over the cohort of entry and selective emigration

The previous section indicates that the quality of immigrants increases by cohort of entry. The question is whether this change in the quality of immigrants could be attributed to either particular observed characteristic of the new incomers (an improvement in the quality of those who enter Spain for the first time),or selective emigration (those who come back home earlier present a higher quality than the average immigrant) or both.

Immigration in Spain has changed enormously in the recent past and this is reflected in our data set. Table 2 shows the way the sources of immigration outside the EU-15 have changed in our sample. In the 80's and the beginning of the 90's, the weight of immigrants coming from Africa attained a percentage around 50%. However, over time the weight of migrants coming from Latinamerican countries and from countries of the latter European Enlargement has increased a lot. As it has been suggested above the 2005 figure is biased due to the regularization process that legalized 600.000 individuals (mostly Ecuadorians and Romanians). Both latinamericans and immigrants coming from the enlargement have some particularities that make their migrants more likely to have productivity above the average. Migrants coming from Latinamerican countries know the Spanish language, something that is very valuable to find jobs and interact with other co-workers. On the other hand, migrants coming from the enlargement possess high levels of education and although they usually cannot achieve a job that requires all the potential skills they have, they face a much smaller wage gap than other migrants from alternative countries of origin. Indeed, when we break the educational level of immigrants by the year of entry, it is evident that recent migrants present a much higher educational level than those who arrived earlier[13].

Citizenship by year of entry

	Enlargement	Africa	Latinamerican	Asia	North American	Unknown	Total
Year of entry							
1979-1982	0.00%	44.89%	16.00%	22.54%	15.63%	0.95%	100%
1983-1985	0.00%	40.51%	15.68%	34.28%	7.65%	1.89%	100%
1986-1990	3.79%	48.81%	13.97%	20.38%	5.07%	7.99%	100%
1991-1995	5.85%	71.50%	7.98%	10.29%	1.53%	2.85%	100%
1996-2000	9.41%	59.70%	18.45%	11.71%	0.66%	0.08%	100%
2001-2005	20.48%	31.98%	39.27%	7.74%	0.34%	0.20%	100%

Table 2

In order to observe whether these figures represent higher entries of particular origin countries, we use information from the Survey on Residential Variation. This is an administrative record of entries, exits and change of address regarding the pardon. The "padron" is an administrative data set that provides access to some basic civil rights for all migrants regardless their legal status: in particular education and public health care. Therefore, it is expected that even illegal migrants who enter the country will be soon incorporated in these figures. The official numbers can be broken by nationality and it is evident that the changes in the corresponding entries match fairly well the previous findings.

[13] This is not only an effect of the compositional change of immigration but it also occurs given a particular country of origin.

Entries by country of origin

	Enlargement	Africa	Latinamerican	Other
1988	8.53%	22.20%	54.49%	14.78%
1989	5.78%	26.90%	53.91%	13.41%
1990	5.71%	21.97%	58.90%	13.42%
1991	5.69%	38.29%	46.30%	9.72%
1992	4.30%	43.48%	40.73%	11.49%
1993	5.44%	39.17%	42.51%	12.87%
1994	6.52%	37.13%	42.59%	13.76%
1995	5.61%	36.37%	45.26%	12.76%
1996	6.57%	40.89%	41.11%	11.42%
1997	7.69%	39.43%	43.62%	9.25%
1998	8.82%	38.28%	45.29%	7.61%
1999	10.64%	30.99%	52.74%	5.62%
2000	13.83%	19.23%	63.29%	3.65%
2001	16.87%	16.71%	63.05%	3.37%
2002	23.39%	15.06%	58.35%	3.19%
2003	25.42%	19.96%	53.50%	4.12%
2004	29.61%	21.29%	41.12%	7.98%
2005	28.11%	21.96%	41.84%	8.08%

Table 3

It is certainly difficult finding information regarding selective emigration. However, we could use the results of a law that made compulsory the renewal of the register every 2 years to immigrants coming from non EU-15 countries and having a non-permanent visa. The law was promoted in 2003 and executed for the first time in December 2005. At that moment all non-comunitarian migrants who enter before the 31st of December had to renew their registers. All potential migrants where informed by mail and it was found that around 500.000 did not renew the register. Municipalities worked hard to find whether individuals left the country or just forgot to renew, since the public budget depends on the number of residents. In November 2006, around 260.000 were definitely lost and 280.000 were still being pending. The Institute of Statistics provided us the data set with the characteristics of those definite and pending no-renovations in terms of nationality and the year of entry. We could attribute definite no-renovations as individuals who emigrated back home or to another country, and some pending no-renovations will also fit in that category. For a given year of entry, the comparison of the number of no-renovations and the number of entries gives an emigration rate. As suggested by the Institute of National Statistics we impute a rate of no renovations of 50% for those registers still pending, but this fact does not affect the qualitative results. The emigration rate has only a meaning for the entries of 2003, because the initial register for people who change residency among provinces is replaced by the last movement. For those who enter in 2003 there is no much time to move to another province.

The following table shows the emigration rates for particular nationalities. This emigration rate is around 16%[14]. It is found that emigration rates do not differ enormously for different countries of origin, although the higher rate is for immigrants coming from the enlargement (17%). Africans and Asian immigrants have very similar emigration rates (16%) and latinamericans appear to be the group with the lowest emigration rates. Older males in all nationalities appear to be more likely to emigrate back home.

[14] In the case that all pending registers were found in Spain the rate would be 9% and it would be 22% if all pending registers were found to be lost.

No renewals in 2005 for individuals who entered in 2003

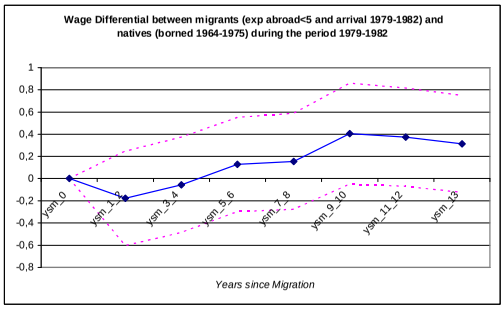
		Romania and Bulgaria	Africa	America
Total		22,33%	16,20%	13,16%
Gender				
	Males	24,23 %	17,22%	13,40%
	Females	20,23 %	14,16%	12,95%
Age				
	<16	16,55%	11,48%	10,08%
	16-30	21,97%	16,29%	13,08%
	31-45	22,22%	17,02%	13,13%
	46-65	32,25%	21,79%	17,22%
	>65	46,17%	25,21%	23,70%

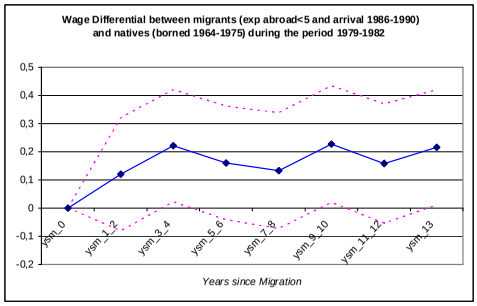
Table 4

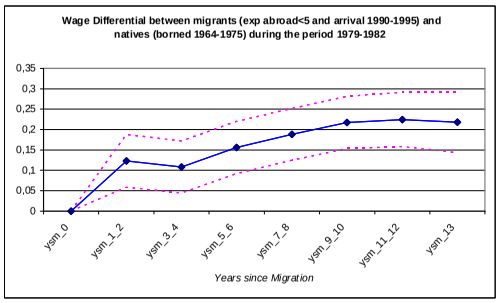
7 Assimilation by cohort of entry

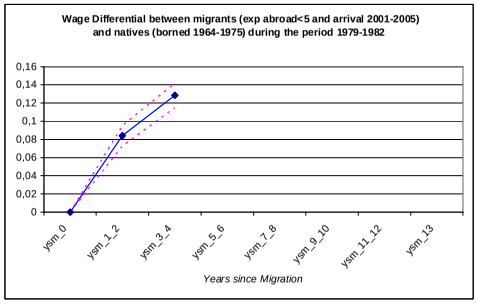
The estimation procedure in section 5 assumed that the wage differences between immigrants of different entry cohorts could be modelled as differences in terms of wage levels instead of assimilation profiles. The following graphs show that most of the cohorts of entry, especially those that have a higher number of observations (new cohorts) present an assimilation pattern.

Wage differential between immigrants and natives by entry cohort









8 Mechanisms underlying assimilation

In the previous sections we analyzed whether the immigrant wage gap reduces with the time spent in Spain. We have shown that the pace of immigrant growth wage is faster than the one corresponding to their native counterparts, and therefore the existing arrival wage gap reduces notably, although it does not disappear completely.

The next step should be to understand the mechanisms underlying this wage assimilation process. A possible explanation of this different wage growth rhythm might be the relatively lower mobility restrictions for migrants. More occupationally mobile and dynamic workers should be prone to improve their wages, because they will move to those places or sectors of activity where they are better paid. In order to asses whether the catching up to the native born earnings levels could be explained as a result of the higher degree of migrants mobility, we have considered three different dimensions to measure it: changes in the province, in the sector of activity and/ or the company of working. Notice that immigrants are less attached to a particular region than natives. Moreover, despite the fact that during the first year of residence, many visas restrict their movements of province and sector, once it is renewed, the immigrant might move freely.

Other plausible reason that may be behind the observed wage convergence could be the conventional human capital accumulation once in the destination country. As time goes on, they adapt their knowledge and qualifications to the host country and acquire new skills and abilities that make them more productive and therefore better paid, as we have showed in section 5. These improvements might be reflected in changes in the type of labour contract they signed in subsequent labour relations –inside or outside the firm they work- from temporary to permanent contracts.

Doing the previous analysis with MCVL requires defining the labour status of the worker in a bunch of categories: type of contract, sector of activity, province, working company, part-time or full time working day, etc. Since the MCVL provides information about all the "legal" labour relations that the workers have during their working-life, it is difficult to assign a value to all the dimensions, because they might be working simultaneously in two or more jobs with different characteristics. As a strategy we proceed in six steps: we restrict the period of interest to a specific quarter of the year: we choose the second quarter. It makes easier the comparison with other data sources as EPA. Each individual is randomly assigned to a reference week during the second quarter of the year (as it happens with the interviews of the EPA). After that, we define her labour situation during that quarter depending on what she is doing during her reference week. If the individual has more than one job during the reference week, we choose among all of them the permanent one. If several are permanent (or all are temporal), we choose the longer during the month corresponding to the reference week in the quarter. If several are permanent (or all are temporal) and have the same length during the month, we choose the one that begins earlier. If still those conditions are the same, we choose the one that finishes later. We repeat the process for all the working years. Doing this we get a labour sequence of all the labour dimensions mentioned before for each individual in the sample and, it is possible to compute probability of changes from one year to other for each specific dimension considered. It is also important to remark that we restrict the analysis only to those labour relations that are under General Regime.

Tables below provide probit coefficients for the regression of changes in labour status from one year to another. The tables show that no UE 15 workers in Spain are more occupationally mobile than natives in the four dimensions above mentioned. This higher mobility decreases as years since migration increase. Table IV also shows a higher propensity for migrants to improve their labour contract conditions getting permanent contracts during their first years in Spain. However, after seven years of residence, it goes the other way around, and the immigrants' chances of getting a permanent contract from a temporary one are lower than for their native counterparts.

As we said in previous sections, immigrants' assimilation, understood as the process such that puts the immigrants' wages on a level with the natives' ones, do exist in Spain during the recent years. What implies -given the observed initial wage gap- a faster wage growth for immigrants. What we would like to disentangle is whether the steeper wage increase for immigrants rather than natives, can be put on the hypothesis of skill and human capital accumulation, or is the result of a higher working flexibility of migrants, which redounds in a different wage profile, or if is a mixture of these two plausible explanations. Previous tables document that immigrant behaves differently than natives.

TABLAS PROBITS ON CHANGES

To inspect the influence of the labour choices - changes in province, sector, firm and type of contract within the company- on the increase of wages, we will perform OLS regression of the increase in the logarithm of wages of the non top coded observations. OLS regressions coefficients tell us that, even if human capital accumulation reveals as a source of immigrant's earnings assimilation, two thirds can be explained as a result of the higher migrant's mobility, revealing thus migrants flexibility as the main source of assimilation.

TABLA IB

Since the choice of a voluntary movement from a province (sector, company) to another should entails a wage improvement, and the probability of movement is higher for no UE 15 workers, considering the probability of movement as exogenous regresor no correlated with no UE15 would bias the results of the OLS regression. We perform instrumental variables *(IV)* regression to overcome this problem. We use the information provided by Padron about the individual's household characteristics, to instrument the variables province movement, working sector change, company change and contract change. We instrumented in separated regressions all these variables, with a dummy that values one when there are children below the age of five within the household. We tried other instruments such as average household size, average household age, number of childs, and a dummy variable for living in couple. We collapsed all the "movement" variables in a unique one equal to one if a change in whatever dimension takes place and zero otherwise. Results are similar for the other dimensions separately considered, and are available under request.

Dependent Variable: Province movement	(A)	(B)	(C)	(D)
noUE15	**0.016**	**0.015**	**0.008**	**0.0047**
	0.000	0.000	0.001	0.0005
Years since migration 3-4			**0.026**	**0.0253**
			0.001	0.0010
Years since migration 5-6			**0.011**	**0.0108**
			0.001	0.0014
Years since migration 7-8			**0.000**	**-0.0006**
			0.002	0.0020
Years since migration 9-10			**0.001**	**-0.0005**
			0.002	0.0023
Years since migration 10-12			**0.002**	**0.0005**
			0.003	0.0026
More than 13 Years since migration			**-0.006**	**-0.0085**
			0.003	0.0027
edad		**0.000**	**0.000**	**-0.0002**
		0.000	0.000	0.0000
Illiterate		**0.003**	**0.003**	**0.0005**
		0.000	0.000	0.0003
Primary education		**0.003**	**0.003**	**0.0005**
		0.000	0.000	0.0003
Secondary education		**0.002**	**0.002**	**0.0006**
		0.000	0.000	0.0003
Total experience				0.0007
				0.0000
constant	**0.011**	**0.001**	**0.001**	**0.0099**
	0.000	0.000	0.000	0.0005

Dependent Variable Change company	(A)	(B)	(C)	(D)
noUE15	**0.029**	**0.027**	**-0.021**	**-0.046**
	0.001	0.001	0.002	0.002
Years since migration 3-4			**0.140**	**0.137**
			0.003	0.003
Years since migration 5-6			**0.092**	**0.088**
			0.005	0.005
Years since migration 7-8			**0.063**	**0.056**
			0.006	0.006
Years since migration 9-10			**0.074**	**0.064**
			0.008	0.008
Years since migration 10-12			**0.023**	**0.010**
			0.009	0.009
More than 13 Years since migration			**0.021**	**0.002**
			0.009	0.009
edad		**0.001**	**0.001**	**-0.002**
		0.001	0.000	0.000
Illiterate		**0.017**	**0.016**	**0.001**
		0.001	0.001	0.001
Primary education		**0.016**	**0.016**	**-0.001**
		0.001	0.001	0.001
Secondary education		**-0.006**	**-0.006**	**-0.014**
		0.001	0.001	0.001
Total experience				**0.005**
				0.000
constant	**0.143**	**0.110**	**0.111**	**0.176**
	0.000	0.001	0.001	0.001

Dependent Variable Change sector activity	(A)	(B)	(C)	(D)
noUE15	**0.007**	**0.012**	**-0.006**	**-0.013**
	0.001	0.001	0.001	0.001
Years since migration 3-4			**0.055**	**0.054**
			0.002	0.002
Years since migration 5-6			**0.029**	**0.028**
			0.003	0.003
Years since migration 7-8			**0.019**	**0.017**
			0.004	0.004
Years since migration 9-10			**0.023**	**0.020**
			0.005	0.005
Years since migration 10-12			**0.007**	**0.003**
			0.006	0.006
More than 13 Years since migration			**0.004**	**-0.002**
			0.006	0.006
edad		**-0.001**	**-0.001**	**-0.002**
		0.000	0.000	0.000
Illiterate		**-0.002**	**-0.002**	**-0.006**
		0.001	0.001	0.001
Primary education		**0.002**	**0.002**	**-0.003**
		0.001	0.001	0.001
Secondary education		**-0.003**	**-0.003**	**-0.005**
		0.001	0.001	0.001
Total experience				**0.001**
				0.000
constant	**0.063**	**0.079**	**0.080**	**0.099**
	0.000	0.001	0.001	0.001

Dependent Variable: **Temporary to permanent contract**	(A)	(B)	(D)	(C)
Inside the firm				
noUE15	**0.048**	**0.053**	**0.068**	**0.050**
	0.002	0.003	0.005	0.004
Years since migration 3-4			**-0.021**	**-0.033**
			0.007	0.005
Years since migration 5-6			**-0.027**	**-0.034**
			0.009	0.007
Years since migration 7-8			**0.005**	**-0.038**
			0.012	0.010
Years since migration 9-10			**-0.024**	**-0.051**
			0.015	0.012
Years since migration 10-12			**-0.068**	**-0.078**
			0.016	0.014
More than 13 Years since migration			**-0.048**	**-0.063**
			0.017	0.015
edad		**-0.001**	**-0.001**	**-0.003**
		0.000	0.000	0.000
Illiterate		**0.018**	**0.018**	**-0.029**
		0.002	0.002	0.002
Primary education		**0.028**	**0.028**	**-0.013**
		0.001	0.001	0.001
Secondary education		**0.018**	**0.018**	**0.000**
		0.001	0.001	0.001
Total experience				**0.004**
				0.000
constant	**0.071**	**0.072**	**0.072**	**0.170**
	0.000	0.002	0.002	0.002

Dependent Variable: **Temporary to permanent contract**	(A)	(B)	(C)	(D)
Outside the firm				
noUE15	**0.038**	**0.050**	**0.071**	**0.050**
	0.002	0.002	0.004	0.005
Years since migration 3-4			**-0.031**	**-0.022**
			0.005	0.007
Years since migration 5-6			**-0.032**	**-0.028**
			0.007	0.009
Years since migration 7-8			**-0.033**	**0.001**
			0.010	0.012
Years since migration 9-10			**-0.042**	**-0.031**
			0.012	0.015
Years since migration 10-12			**-0.067**	**-0.078**
			0.014	0.016
More than 13 Years since migration			**-0.046**	**-0.062**
			0.015	0.017
edad		**0.000**	**0.000**	**-0.002**
		0.000	0.000	0.000
Illiterate		**-0.018**	**-0.018**	**0.011**
		0.002	0.002	0.002
Primary education		**-0.001**	**-0.001**	**0.019**
		0.001	0.001	0.001
Secondary education		**0.005**	**0.005**	**0.014**
		0.001	0.001	0.001
Total experience				**0.003**
				0.000
constant	**0.114**	**0.132**	**0.131**	**0.099**
	0.000	0.002	0.002	0.002

Table IB. Dependent variable: Increases logarithm of daily wages*

* Year to year increase in wages,measured as the yearly contribution registered over total days worked in a year

	1	*2*	*3*	*4*
Independent variables	Coefficients Std. Err	Coefficients Std. Err	Coefficients Std. Err	Coefficients Std. Err
noUE15	**0.028**	**0.016**	**0.011**	**0.012**
	0.004	0.004	0.004	0.004
Years since migration	**-0.003**	**-0.003**	**-0.002**	**-0.002**
	0.001	0.001	0.001	0.001
Total experience	**-0.018**	**-0.017**	**-0.017**	**-0.017**
	0.000	0.000	0.000	0.000
Total experience2	**0.001**	**0.001**	**0.001**	**0.001**
	0.000	0.000	0.000	0.000
Total experience3	**0.000**	**0.000**	**0.000**	**0.000**
	0.000	0.000	0.000	0.000
Year dummies	YES	YES	YES	YES
	**	**	**	**
Province movement		**0.009**	**0.008**	**0.008**
		0.002	0.002	0.002
Sector Change		**0.030**	**0.030**	**0.030**
		0.001	0.001	0.001
Company Change		**0.023**	**0.023**	**0.024**
		0.001	0.001	0.001
Contract Change (inside the company)		**0.054**	**0.054**	**0.054**
		0.001	0.001	0.001
Province movement x noUE15			**0.025**	**0.025**
			0.009	0.009
Sector Change x noUE15			**0.008**	**0.008**
			0.007	0.007
Company Change x noUE15			**0.004**	**0.003**
			0.005	0.005
Contract Change (inside the company) x noUE15			**-0.015**	**-0.016**
			0.011	0.011
tenure				**0.000**
				0.000
_cons	**0.070**	**0.063**	**0.063**	**0.063**
	0.007	0.007	0.007	0.007
R^2	**0.362**	**0.362**	**0.362**	**0.362**

9 Conclusions

To be added

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