NTCA Workers in Mexico: A Job Market Insertion Analysis

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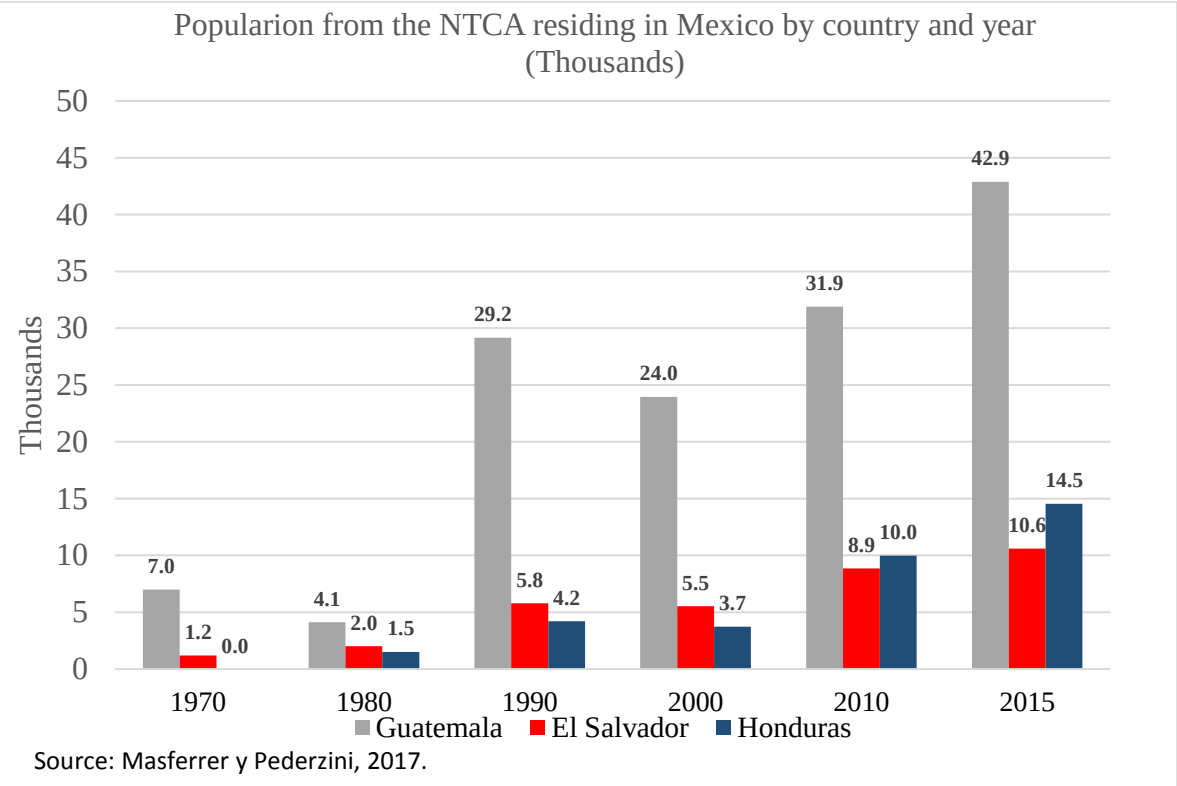
Abstract

Even though still small, population from the NTCA in Mexico grew substantially in the recent years. The majority of these migrants belong to the working age group, which means most likely they will join the Mexican labor market. We seek to analyze the conditions in which migrants from the NTCA join the Mexican labor market. Using data from the Mexican Census of 2000 and EIC 2015 we compare income and fringe benefits of NTCA and Mexican workers. We analyze how being a migrant form the NTCA affects unemployment, working in the informal sector, working without pay and self-employment. Our initial theoretical framework based on Chiswick, (1978) and Carliner (1980) implies lower income for migrants. However, preliminary findings from EIC (2015) does not confirm this. We intend to tackle the phenomenon using the Borjas (1985) approach, which implies that different migrant cohorts bring different human capital to the labor market.

Introduction

Even though small in absolute terms, population from the NTCA in Mexico has increased substantially in the recent years. Between 2000 and 2015 Guatemalans increased 47%, Salvadorans 83% and Hondurans 246%.

Graph 1

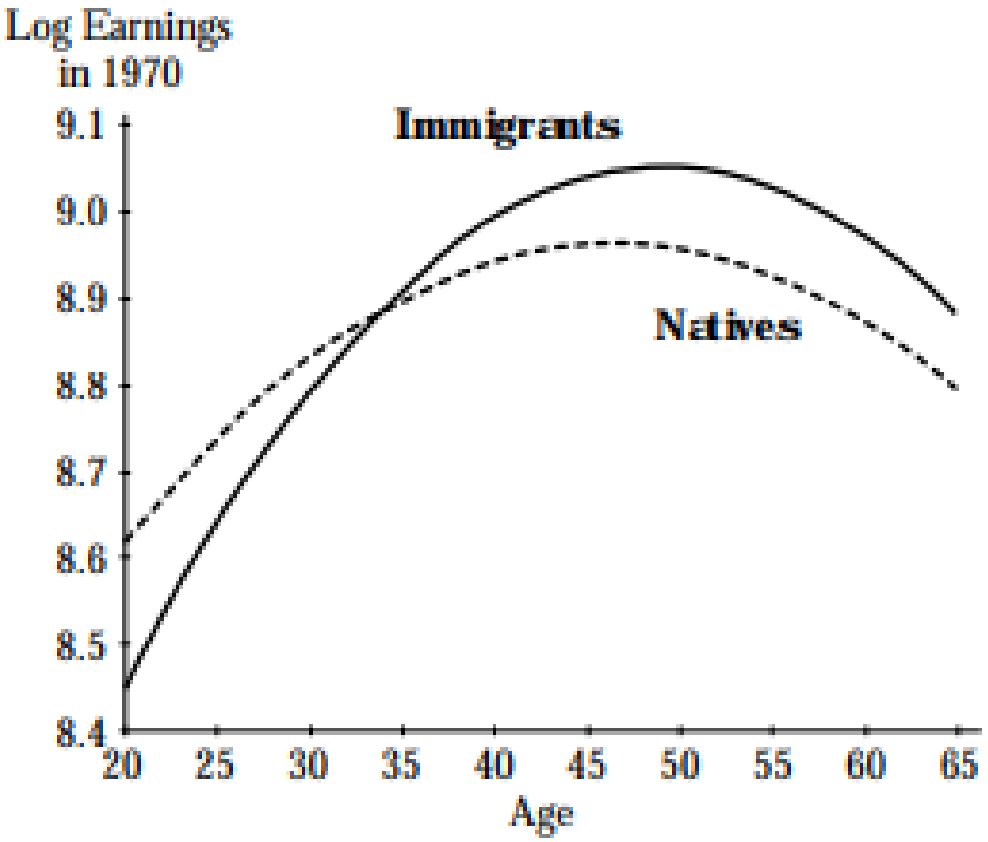


Source: Masferrer y Pederzini, 2017.

Theoretical Framework

The initial literature on migrant´s labor performance (Chiswick, 1978 and Carliner, 1980) argues that, when migrants have just arrived in the host country, their wages are lower than those of native-born workers. After migrants have integrated, their wages get even higher than national workers' wages. The reason behind their performance in the labor market of the country of destination is that immigrants "are selected positively" in the town of origin, which enables them to stand out in the host country.

Graph 2



The most common method to analyze wage differentials between natives and immigrants is to estimate a model such as the one we show here:

$$\log w_i = X_i\phi + \delta A_i + \gamma_o I_i + \gamma_1 y_i + \varepsilon_i, \quad (1)$$

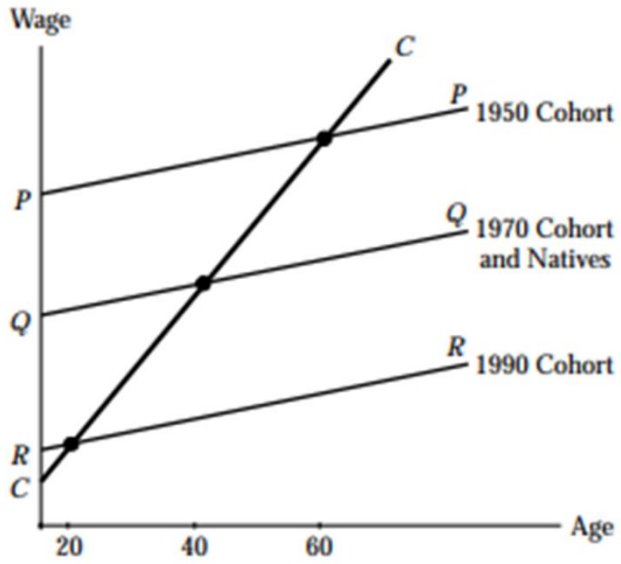
where w_i is wage; X_i a vector of socio-demographic characteristics; A_i is work experience (proxied by age); I_i is *dummy* variable indicating if the worker is an immigrant or not; y_i is the number of years in the host country (zero for natives) and e_i the stochastic error.

In this model γ_0 may be interpreted as the wage percent difference between natives and immigrants at the time of arrival, and γ_1 shows the rate at which wages increase compared to wages of native workers.

Studies in different countries have shown that γ_0 shows a negative sign while γ_1 is positive. These findings have been interpreted as a positive selection of immigrants.

In 1985, George Borjas questioned the validity of the so-called "positive selection" hypothesis and argued that immigrant wage "convergence" with respect to the wages of native-born workers was due to socio-demographic characteristics of immigrants which vary over time. The so called "cohort effects" can be confused with the "positive selection of immigrants".

Graph 3



Graph 3 is a representation of the cohort effects. It shows that wage differentials have to be analyzed with a longitudinal approach, if "convergence" between immigrants and native-born workers' wages is considered. As the number of immigrants in the censuses and household surveys are relatively small, synthetic cohorts of immigrants are created and

followed over time. An example of a cohort study in the United States presented by Borjas (1985) is shown below:

Table 1

TABLE 3
PERCENTAGE WAGE DIFFERENTIAL BETWEEN IMMIGRANT AND NATIVE MEN, 1970–1990

Group:	1970	1980	1990
All Immigrants	.9	−9.2	−15.2
Cohort:			
1985–1989 Arrivals	—	—	−31.7
1980–1984 Arrivals	—	—	−27.8
1975–1979 Arrivals	—	−27.6	−17.8
1970–1974 Arrivals	—	−18.9	−9.3
1965–1969 Arrivals	−16.6	-7.8	1.1
1960–1964 Arrivals	−4.4	.1	9.0
1950–1959 Arrivals	5.6	5.7	19.6
Pre-1950 Arrivals	10.3	10.6	26.2

Source: Author's tabulations from the 1970, 1980, and 1990 Public Use Samples of the U.S. Census. The statistics are calculated in the subsample of men aged 25–64 who work in the civilian sector, who are not self-employed, and who do not reside in group quarters.

The drawback of using Cohort effects to study wage differentials is that it only focuses on supply factors, ignoring the demand factors.

For the Mexican case, so far no literature has been produced to analyze wage differentials between immigrant and native-born workers. Thus, our paper represents an important contribution to the knowledge of the subject in the country.

Literature Review

Butcher and Dinardo (2002) explain the wage difference between immigrants and natives in the United States and the reasons behind the change in the gap between them over time. The change in the structure and distribution of wages is taken into account to explain differences in subgroups, thus not only explaining the wage gap, but also comparing the

distribution at different points. They use micro-data from the censuses for 1960, 1970, 1980 and 1990. It is also important for the analysis to define recent immigrants, which are those who came to the United States five years prior to the data. Through an Oaxaca/Blinder decomposition, the authors come to two relevant outcomes: differences in wage patterns of men and women highlight the importance of comparing wage gaps by gender between natives and immigrants. Besides, the effects of institutional changes in gender wage gaps are important. For example, the effect that the minimum wage has on female wages.

Brodmann and Polavieja (2011), analyze the access of immigrants to the labor market in Denmark, finding wide gaps in the labor market, specifically in regards to the participation and unemployment among natives and immigrants. The hypothesis of the study is that immigrants are less successful in the labor market and are at disadvantage when competing for jobs that require certain skills. It focuses on both demand and supply factors that affect the possibility of integration of immigrants to the labor market, taking into account the importance of access to certain kinds of work for different groups. The problem is that this is a study of cross section, presenting the problems discussed in the theoretical section of this paper.

Lehmer and Ludsteck (2011) compare wages of immigrants from countries who are new members of the European Union with those of German natives and immigrants from other countries. They take into account workers' qualifications and the industries in which they work to understand if Eastern Europeans are in specific disadvantages. They estimate the gaps by nationality. The wage gap is partly explained by discrimination. It is concluded that immigrants from Eastern Europe who are part of the European Union show similar conditions to the rest of the immigrants. Discrimination is more pronounced for immigrants from Eastern European countries who are not part of the European Union. The paper shows that the distribution of immigrant wages tends to be more dispersed. Discrimination is more pronounced in lower-wage jobs for most of the immigrant countries of origin, while human capital endowments are heterogeneous.

Data and Methodology

This study uses data from Mexico's population and Housing Census of 2000 and from the Intercensal Survey of 2015 (EIC 2015).

For our first estimations, we use data from the EIC 2015 on wage differentials. We present the estimation of a model similar to Chiswick (1978).

In a second stage, following Borjas (1985) we will estimate a model using synthetic cohorts with data from the two sources mentioned before.

Model to be estimated. Note that under this approach, two wage equations are estimated: one for immigrants (i) and one for native workers (n).

$$\log w_{ij} = X_j\phi_i + \delta_i A_j + \alpha y_j + \beta C_j + \gamma_i \pi_j + \varepsilon_{ij},$$

$$\log w_{nI} = X_I\phi_n + \delta_n A_I + \gamma_n \pi_I + \varepsilon_{nI},$$

- π is a dummy variable indicating the database where the observation comes from
- γ_i and γ_n show time effects on wages on immigrants or native workers.
- A is the age of the worker at the time of the Census or Survey.
- C_j is the calendar year in which the immigrant arrived to Mexico. This variable is not available in the databases. We will use a dummy variable indicating whether the migrant lived in Mexico or not five years before the Census or Survey.
- δ_n Shows the effect of time (age) on native workers, while $(\delta_i + \alpha)$ shows the effect of time (age) on immigrant workers
- If $(\delta_i + \alpha) > \delta_n$ we can say that immigrant wages converge to native wages

Main Findings from Encuesta Intercensal 2015

Descriptive Statistics

Table 2

Main Demographic Characteristics according to Place of Birth (Population 15-64)	N (Thousands)	% Female	% Recent*	%Household Head	% Children of Head	Average Number of Children	Average Schooling (years)
México	77,164.1	52.0	0.5	34.1	24.9	2.1	9.6
Guatemala	35.4	54.4	18.4	40.1	33.0	2.9	4.8
El Salvador	9.3	48.5	19.9	46.2	31.2	2.6	8.9
Honduras	13.0	53.4	24.0	40.1	36.0	2.5	7.9
Other	375.2	49.3	23.2	32.0	22.4	1.0	12.9
Total	77,597.1	52.0	0.7	34.1	24.8	2.1	9.6
*Living in another country 5 years before Census or Survey							
Source: Encuesta Intercensal 2015							

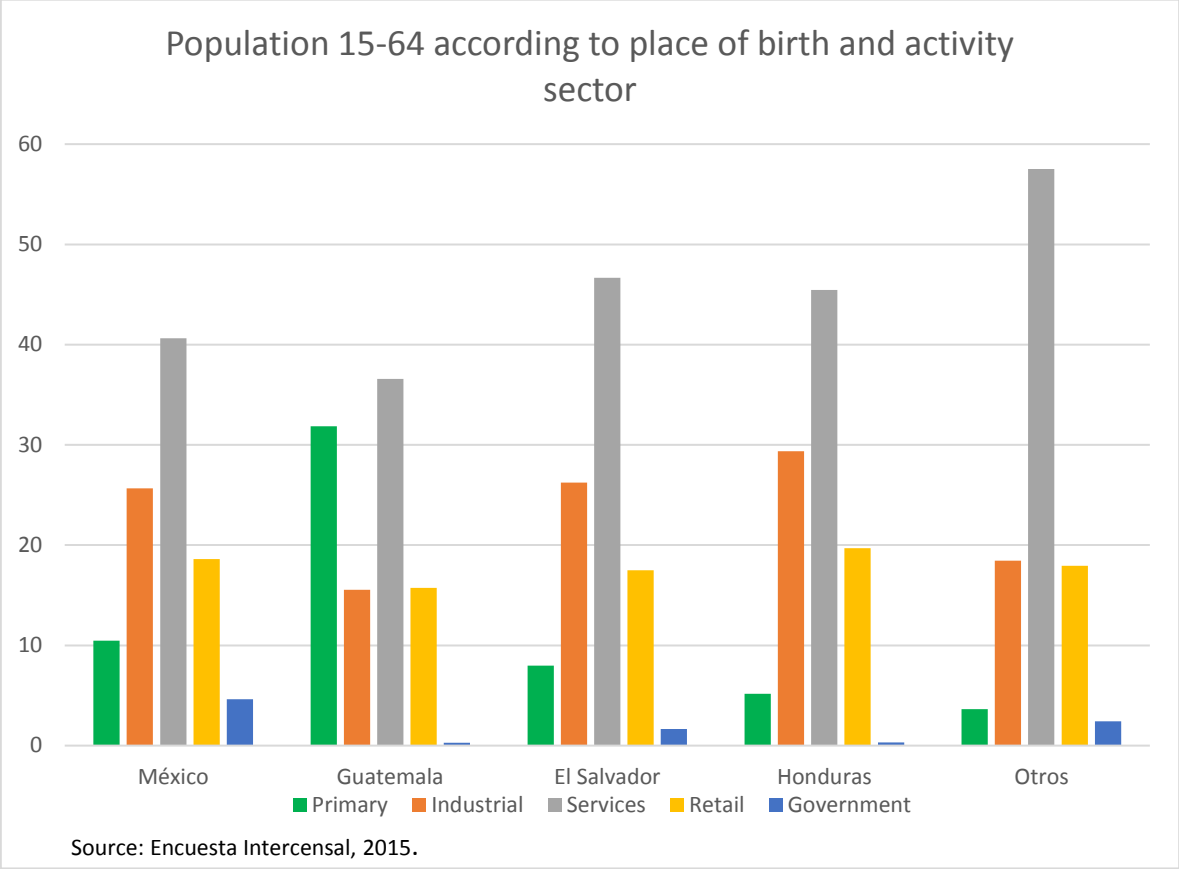
Guatemalans comprise the largest population from the NTCA in Mexico. They show the lowest schooling levels, the highest female participation and the highest fertility. The percentage of recent migrants is lower than in the other two countries. All these characteristics indicate a more integrated population. Salvadorans show the highest schooling levels and the lowest female participation. The highest percentage of recent migrants can be found among Hondurans.

Table 3

Laboral Characteristics according to Place of Birth (Population 15-64)	Formal Sector	Christmas bonus	Paid holidays	Profit Sharing	Paid disability	Pension	Housing credit	Average Monthly Income
	Percentage							
México	23.0	25.4	22.5	14.4	20.5	20.1	19.0	6297
Guatemala	6.2	12.0	7.4	3.7	5.8	4.1	4.1	4149
El Salvador	14.8	18.1	14.0	7.9	13.6	11.7	11.5	6990
Honduras	9.1	13.3	9.2	4.9	7.4	5.8	5.4	6597
Other	19.8	20.2	20.8	12.7	18.4	15.2	14.3	18587
Total	22.9	25.3	22.4	14.3	20.4	20.0	19.0	6345
Source: Encuesta Intercensal 2015								

Guatemalans show the lowest participation in the formal sector and, hence, the lowest fringe benefits and income. Participation in the formal sector and percentage of population with fringe benefits is lower for Guatemalans and Salvadorans than for the native population. However, monthly income is higher for Salvadorans and Hondurans, compared to the native population.

Graph 4



Source: Encuesta Intercensal, 2015.

Guatemalans are mainly located in the primary sector, while Salvadorans and Hondurans mainly concentrate in services and industry.

First econometric results

So far, we have only estimated wage and fringe benefits ordered probit regressions with data from the Intercensal Survey. This means that we have followed a Chiswick (1978) cross section approach. We are already working on the next step, which is an estimation based on Borjas (1985), with a cohort approach. For this, we are going to put together the 2000 Census and the 2015 Intercensal Survey.

The following tables present the main results of our first estimations. It is important to notice that once we control for age, education and other socio-demographic characteristics,

Guatemalan immigrants earn higher wages when compared to native workers. The highest effect is observed in the primary sector, although all sectors present this result, except for commerce. We interpret this as a result of the high demand for workers of Guatemalan origin, mainly in the southern border region, probably because Mexican workers are migrating either to northern states or to the United States. This increased demand may also hold for Honduran workers and, in part, for Salvadorans. The interactions with a dummy variable that signals when a migrant has recently arrived indicate that both Guatemalan and Honduran recent workers experience a high demand in Mexico. Recent Salvadoran, on the other hand, show a lower demand when compared to migrants arrived more than 5 years earlier. In all cases, the primary sector shows the highest premiums for immigrants. These results contradict what other scholars find in developed host countries, and deserves a new theory of south-south migration. With Oaxaca-Blinder decomposition analyses, we will try to understand what is behind the wage differentials between immigrants and natives that drive immigrant earnings up. We speculate that, besides emigration, in Mexico native workers are subject to discrimination, mainly based on their indigenous origin. To understand what happens through time, we will create age groups and estimate what is the immigration prize for different cohorts.

Table 4

Wage regressions, both sexes, total and by sector (dependent variable: log natural wages)
Data from the Intercensal Survey, 2015

Independent variables	All sectors	Primary sector	Industrial sector	Services sector	Commerce sector
Guatemalan	0.0333 **	0.1179 **	0.0689 **	0.0996 **	0.0407
	(2.89)	(6.62)	(2.57)	(4.33)	(1.28)
Hondurean	0.1312 **	0.1594 ^	0.0679 ^	0.1033 **	0.0291
	(5.43)	(1.85)	(1.80)	(2.83)	(0.49)
Salvadoran	0.0796 **	0.3456 **	0.0478	-0.0614	0.1561 **
	(2.77)	(3.83)	(0.97)	(-1.41)	(2.35)
Guatemalan*recent	0.1322 **	0.1928 **	0.0980	-0.0287	0.0522
	(4.93)	(4.57)	(1.44)	(-0.57)	(0.74)
Hondurean*recent	0.0313	0.1655	0.1208	-0.0317	-0.0786
	(0.62)	(0.90)	(1.38)	(-0.44)	(-0.65)
Salvadorean*recent	-0.0288	0.1028	0.0072	-0.0269	-0.2634
	(-0.43)	(0.53)	(0.06)	(-0.27)	(-1.58)
R squared	0.2931	0.1719	0.2786	0.3439	0.2318
R squared adjusted	0.2931	0.1719	0.2785	0.3439	0.2318
Prob > F	0.000	0.000	0.000	0.000	0.000
Number of observations	5,775,717	990,232	1,536,870	1,988,313	941,030

**/ Significant at 99% confidence
*/ Significant at 95% confidence
^/ Significant at 90% confidence
t statistics in parenthesis
Own estimations based on data from the Intercensal Survey

When we estimate an ordered probit model for fringe benefits, we find that Guatemalans receive higher benefits when compared to native workers, but Salvadoran and Honduran workers receive less. Recent Guatemalans receive even higher benefits, but not Hondurans and Salvadorans, which seem to receive on average the same fringe benefits that native workers or immigrant workers from older waves. Overall, immigrants from the NTCA seem to perform better in the Mexican labor market when compared to Mexican workers. This indicate that Mexican firms do not use foreign workers to decrease costs as it happens in more developed countries. Foreign labor in Mexico seem to bring unobserved positive trails that promote higher productivity and a better labor environment.

The estimations based on the Borjas approach will shed light on the cohort effects, but our findings may suggest that it is necessary to consider south-south migration where immigrant workers are demanded based on their unobserved characteristics and paid accordingly to their higher productivity, given the excess supply of unskilled labor in the host country.

Table 5

Ordered probit regressions of fringe benefits, both sexes, total and by sector (dependent variable: total fringe benefits)
Data from the Intercensal Survey, 2015

Independent variables	All sectors	Primary sector	Industrial sector	Services sector	Commerce sector
Guatemalan	0.1476 **	0.7670 **	-0.1367 ^	0.0180	0.1299
	(5.26)	(19.34)	(-1.68)	(0.32)	(1.57)
Hondurean	-0.3415 **	-0.0006	-0.3047 **	-0.3360 **	-0.5131 **
	(-6.10)	(-0.00)	(-3.19)	(-3.87)	(-3.33)
Salvadorean	-0.1265 **	0.7815 **	-0.1939	-0.3999 **	-0.0184
	(-2.06)	(4.99)	(-1.56)	(-4.15)	(-0.11)
Guatemalan*recent	0.3725 **	0.3255 **	0.1601	0.2360 *	0.2301
	(6.22)	(3.94)	(0.77)	(1.93)	(1.37)
Hondurean*recent	-0.0092	0.3800	-0.1227	-0.1024	-0.0059
	(-0.07)	(0.95)	(-0.52)	(-0.56)	(-0.02)
Salvadorean*recent	0.0816	0.08113	0.0681	0.1217	-0.1936
	(0.56)	(0.25)	(0.24)	(0.51)	(-0.50)
Pseudo R squared	0.0995	0.0638	0.1130	0.0889	0.0635
Prob > chi2	0.000	0.000	0.000	0.000	0.000
Number of observations	4,729,708	777,442	1,341,281	1,669,859	611,154
**/ Significant at 99% of confidence					
*/ Significant at 95% of confidence					
t statistics in parenthesis					
Own estimations based on data from the Intercensal Survey.					

For this research we will also estimate probabilistic regressions to see if immigrants from the NTCA are more likely to be in the informal sector, unemployed, working without a payment or self-employed. In these probabilistic regressions, we expect immigrant workers to perform better when compared to native workers.

Concluding remarks

- The cohort approach proposed by Borjas may be a suitable theoretical framework to analyze wage differentials between natives and NTCA nationals in Mexico.
- In the descriptive statistics, Salvadoran and Honduran workers show higher average income, which is not the case for Guatemalans.
- Controlling for observable characteristics, workers from NTCA show greater income, mainly explained by the primary sector.
- Fringe benefits for Guatemalans are also higher than for natives. However, Salvadorans and Hondurans show a different pattern.

- The fact that many workers from the Southern states in Mexico are leaving the area, is probably increasing the labor demand for NTCA workers, which explains better working conditions for NTCA nationals. However, it is also possible that native workers are subject to discrimination, or that immigrant workers have unobservable characteristics that make them more productive in Mexican firms.
- A longitudinal analysis will allow us to determine whether labor conditions are improving for workers from the NTCA in Mexico.

Bibliography:

Borjas, G. (1985) "Assimilation, Changes in Cohort Quality and the Earnings of Immigrants" Journal of Labor Economics, Oct 1985, 3(4), pp. 463-489.

Borjas, G. (1994) "The Economics of Immigration" *Journal of Economic Literature*, Vol. XXXII, pp. 1667-1717.

Brodmann S. and J. G. Polavieja (2011) "Immigrants in Denmark: Access to Employement, Class Attainment and Earnings in a High-Skilled Economy*". International Migration, pp. 1-42.*

Butcher K.F. and J. Dinardo (2002) "The Immigrant and Native-Born Wage Distributions: Evidence from the United States Censuses*". Industrial and Labor Relations Review*, Vol. 56, No. 1. (Oct., 2002), pp. 97-121.

Carliner, G. (1980) "Wages, Earnings and Hours of First, Second and Third Generation American Males". Economic Inquiry, Jan. 1980. 18(1) pp. 87-102.

Chiswick, B. (1978) "The effect of Americanization on the Earnings of Foreign Born Men". Journal of Political Economy, Oct. 1978. 86(5) pp. 897-921.

Lehmer F. and J. Ludsteck (2011) "The Inmigrant Wage Gap in Germany: Are East Europeans Worse Off?". 50th Congress of the European Regional Science Association: "Sustainable Regional Growth and Development in the Creative Knowledge Economy", 19-23 August 2010, Jönköping, Sweden, European Regional Science Association (ERSA), Louvain-la-Neuve

Masferrer C. and C. Pederzini (2017) "Más allá del tránsito: Perfiles Diversos de la Población del Triángulo Norte de Centroamérica en México" in *Coyuntura Demográfica* No. 12, Sociedad Mexicana de Demografía, Mexico.