EFFECT OF WAGE INEQUALITY ON MIGRATION BETWEEN MEXICO-UNITED STATES: AN EMPIRICAL ASSESSMENT USING MEXICAN AND UNITED STATES MICRO-DATA

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Abstract

Raw income differentials between the two countries have gone from 2.9 times larger in the US than in Mexico during the 1970s to 3.2 times larger in 2010. Along with the widening of the regional economic and wage gap, the international migration from Mexico to US has increased from less than 120 thousand migrants a year in 1970 to more than half million migrants a year in 2010. Using United States and Mexican micro-data on socioeconomic characteristics of workers living in communities close to the border, this paper compares wages of identical individuals both sides of the border after controlling for unobserved differences between the productivity of migrants and non-migrants as well as explain the Mexican social and economic policies to indirect control of emigration in the country. We found that domestic-born, domestic-educated workers in the US side gain around 3.4 times the wage of an identical domestic-born, domestic-educated worker in Mexico. However, Mexican-born-educated legal workers in the US side of the border gain 2.8 times the wage of an identical worker in the Mexican side. Illegal workers in the US side of the border gain only 1.8 times more than their Mexican counterparts, which may not represent the larger benefit of moving, as their wages increase 1.6 times just for moving close to Mexican side of the border.
Introduction

Economic conditions have been and will continue to be the most important driver of international migration from Mexico to the United States. Raw income differentials between the two countries have gone from 2.9 times larger in the US than in Mexico during the 1970s to 3.2 times larger in 2010. Along with the widening of the regional economic and wage gap, the international migration from Mexico to US has increased from less than 120 thousand migrants a year (or less than 2.4% of the total population of Mexico) in 1970 to more than half million migrants a year (or more than 5.1% of the total population) in 2010.¹

During the course of time many attempts have made to narrow economic differences between the two countries and indirectly reduce the migration flows, and NAFTA (North American Free Trade Association) is the most recent and ambitious. However, neither wage differentials nor migration flows have reduced. On the contrary, the wage gap between Mexico and the United States every day becomes wider, and the exodus of more than a half million Mexicans a year becomes an important concern. This situation and the lack of coordinated policies between the two countries, point out the urgent need of bi-national economic and migration strategies to provide better labor conditions in Mexico, reducing in the middle run, wage differentials and migration incentives. Up to now, economic policies exclusively oriented to promote economic growth through the flow of capital and products, such as NAFTA, have not been effective to improve Mexicans´ labor markets, to reduce migration, and to increase the total welfare of the North America region. Similarly, social policies targeted to relieve poverty and to increase the social wellbeing of the most

¹ Source: OECD
disadvantaged families in Mexico have not been effective on reducing international migration either. Migration literature suggests that very poor individuals can not afford migration costs, but when their income is slightly increased, they start migrating (Borjas, 1991). Poverty conditions should be reduced enough to make individuals better off staying in Mexico than migrating to the United States; something that current social policies in Mexico have not achieved.

Thus, this chapter reviews the effects of US-Mexico wage differentials on promoting migration from Mexico to the United States. Then, it discusses the some social and economic policies adopted by the Mexican government to reduce the poverty and socioeconomic inequality in the country to indirect reduction of migration. Finally, this chapter discusses some thoughts and suggestions to handle the Mexico-US migration problem and points out the urgent need of bi-lateral strategies to deal with one of the most important concerns on the Mexico-US relation: international migration.

**Wage differentials and migration flows**

Mexican-US migration has a long history, but the dynamic of such population flow has changed through time. However, the main driver of such movements of people has always been the same: the significant difference on economic conditions between both labor markets.

International migration from Mexico to the US started in large scale during the middle of the twentieth century, especially after the implementation of the Bracero program (Woodruff and Zenteno 2007, Durand, Massey and Zenteno 2001, Ver dusco and Unger
The way the bracero program was implemented generated a peculiar map of emigration rates in Mexico and immigration rates in the United States. Specific Mexican states such as Michoacán, Guanajuato and Zacatecas, were characterized by large rates of migration to the United States, principally from rural areas. Similarly, some American States such as California and Texas received large flows of Mexican immigrants, principally to perform agricultural activities.

Nowadays, Mexicans migrate to the United States from virtually every corner of Mexico and live in almost every city or town of the US. However, the strong social networks created more than a half century ago are still present, making the previously mentioned Mexican states, the prevailing main source of international migrants. Such social migration networks have been — and continue to be — the main channels individuals use to find their way to the United States. So, it is not surprising that very well-defined migrant enclaves exist in almost all American cities and towns and come from specific Mexican villages and towns (Durand, Massey, and Zenteno 2001; Card and Lewis 2007).

In the figure 1 we have presented the yearly flow of Mexican migrants to the US since 1970 as a percentage of total population. Migration from Mexico to the US increased constantly during the 1980s and 1990 and only decreased slightly after 2000. During the 1970s, migration to the US was not larger than 3% of the population a year, increasing to 4% at the end of the 80s and beginning of 90s, and increasing to more than 6% in the year 2000. After that year, the migration ratio decreased slightly but at the end of the 2010s, it was still larger than 5% a year.
As mentioned before, labor condition differences are one of the most important drivers of international migration from Mexico to the United States.\(^2\) Using a multi-choice model to consider simultaneously internal and international migration in Mexico and controlling for differences on observable and unobservable characteristics of migrants (such as productivity), Aguayo-Téllez and Martínez-Navarro (2013) found that; wage differentials are the main determinant of migration from Mexico to the US. Reviewing selection of Mexican migrants in the US, Chiquiar and Hanson (2005) also conclude that wage differentials are the most important determinant of migration, where the younger and less educated the ones that present higher wage differentials. The authors also suggested that migration costs play an important role in determining who migrates, where the younger and more educated the ones that confront lower costs.

Similarly, studying economic development and migration at the municipality level in Mexico, Unger (2005) finds that “…the municipalities that exhibit higher migration

\(^2\text{Numerous studies have discussed the effects of earning disparities (or expected earning disparities) as the main determinant of international migration from less-developed countries (Todaro 1980, Yap 1977).}
[rates] are those with a large gap in economic development, living conditions, and infrastructure …”. Stark and Taylor (1991) suggest that not only absolute income differences but also relative deprivation have significant impacts on migration to the US. The authors concluded that after controlling for absolute income, relatively deprived households are more likely to engage in international migration. Finally, Taylor (1986) and Curran and Rivero (2003) argue that social migration networks are, in addition to wage differentials, one of the main determinants of international migration in Mexico.

Thus, taking into consideration the above discussion, in the figure 2 we have analyzed the income differences between Mexico and the US since 1970 using National income per capita. National income includes labor income as well as other sources of income, but it can give us an idea of raw wage differentials. We can observe that, in 1970, per capita income in the US was 2.9 times larger than in Mexico. This ratio decreased slightly during the 1970s but increased considerably during the 1980s and 1990s; going from 2.53 in 1981 to 3.72 in 1999. During the 2000s, the US-Mexico per capita income gap decreased, although it is still larger than the 1980s.
From the above two figures, the main conclusion we can take is that; migration and wage differentials are strongly linked: when the US-Mexico income gap stretched, such as in the 1970s and 2000s, the migration rate from Mexico to US decreased, and when the income gap widened, such as in the 1980s and 1990s, migration increased. In the next section we will discuss the theoretical framework that links wage differentials and migration.

**Migration as a response to economic inequality**

Following the seminal work of Todaro (1962) and Sjaasstad (1962), economic theory models migration as a result of an individual utility maximization process where the migrant decides to move only if the benefits of moving are larger than the costs. Initially, net benefits are approximated by wage differentials, although, it is possible to add other non pecuniary determinants, such as externalities, amenities, and career opportunities. Harris and Todaro (1970) relaxed the assumption of full employment and introduce expected probabilities of earnings rather than actual earning differentials to model the migration decision.

In principle, individuals seek to maximize the present value of their incomes by moving to places where wages are higher, been expected wage differentials the main engine on the migration decision. The existence of wage differentials drives migration flows from low wage regions to high wage regions. This reallocation of labor generates upward
pressures on wages in the sending regions and downward pressures on wages in the receiving regions, leading to a wage convergence in the long run.\(^3\)

As suggested by Sjaastad (1962), migration is an investment in human capital. Therefore, modeling individual migration decisions requires a migration decision function that considers not only expected wage differentials between origin and destination regions but also the associated moving costs. Individuals compute a cost-benefit analysis and depending on the skill levels, age, gender and other labor related variables such as occupation, experience and training, individuals calculate the net present value of migration, and if positive, they migrate.\(^4\)

Refined versions of Sjaastad 1962’s model, such as Polacheck and Horvath (1977), and Borjas (1987), included non-pecuniary factors such as externalities, regional amenities, and other long run opportunities as migration determinants, besides the individual’s wage differences and moving costs.

\(^3\) Neoclassical theory states that regional earnings differentials should disappear over the long run for various reasons. One reason is labor migration from low-wage areas to high-wage areas; however, perfect mobility of workers and perfect information should be assumed. Another reason is capital flows to regions with relatively low labor costs. In this case, perfect mobility of capital and perfect information should be assumed. A third reason is the ability to produce cheaper goods and services in the low-wage areas, which allows competitively advantaged local industries to export their products, increasing their labor demand and consequently increasing wages. In this case, perfect mobility of goods and perfect information should be assumed. However, workers, capital, and goods are not perfectly mobile. Transport and legal costs may deter the flows of people, capital, and goods, as may regional differences such as amenities, local taxes, and cultural backgrounds.

\(^4\) The individual’s target function must reflect not only the wage difference between the community of origin and destination but also the associated moving costs: 

\[ V(t) = \int_0^T \left[ Y_m(t) - Y_n(t) \right] e^{-\rho t} dt - C_{mn} \]

where \([Y_m(t) - Y_n(t)]\) denotes the individual’s earnings differential in regions \(m\) (destination) and \(n\) (origin) at period \(t\), \(C_{mn}\) is the cost of moving from region \(n\) to \(m\), \(\rho\) is the implicit discount rate, and \(T\) represents the length of time during which the individual remains economically active. Under this scheme, the individual chooses to migrate only when \(V(t)\) is positive.
With relation to wage differentials, econometric studies usually depart from Mincer (1974) wage equations. However, in the migration case, there is a problem to estimate the wage differentials, i.e. origin and destination wages cannot be observed simultaneously for the same individual. Origin wages for migrants and destination wages for resident (stayers) need to be estimated using information from the other group, providing biased results due to self-selection. Workers with identical characteristics (for example: young, male, Mexican-born, Mexican-educated gardeners) are not randomly distributed in both countries, plus, Mexican immigrants in the United States may have unobserved characteristics that make them different from the Mexicans who stay in Mexico. Such differences may encourage them to travel to the United States and stay, and even though such differences are unobserved, they do have effects on their observed wages.

To overcome the problem of self-selection and estimate comparable of origin and destination wages for Mexicans in both countries, we follow the standard two-step procedure provided by Heckman (1979), bearing in mind that the relevant wage in the United States for a potential Mexican migrant should consider is not the average wage that an American citizen with same characteristics may get, but the average wage for a Mexican-born migrant with same (observable and unobservable) characteristics may obtain.

Hence, Mincer wage equations for Mexican worker \((i)\) in Mexico \((M)\) and in the United States \((US)\) can be defined as:

\[ \ln(w_i) = \theta_0 + \theta_1 X_i + \theta_2 Z_i + \epsilon_i \]

where \(\ln(w_i)\) is the natural logarithm of the wage of individual \(i\), \(X_i\) are individual characteristics, \(Z_i\) are other local characteristics, and \(\epsilon_i\) is the residual.

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5 Following Mincer (1976), wages are mostly explained by individual characteristics such as experience, education, and gender, as well as other local characteristics, as follows: \(\ln(w_i) = \theta_0 + \theta_1 X_i + \theta_2 Z_i + \epsilon_i\), where \(\ln(w_i)\) is the natural logarithm of the wage of individual \(i\), \(X_i\) are individual characteristics, \(Z_i\) are other local characteristics, and \(\epsilon_i\) is the residual.
\[
\ln(w_{Mi}) = \theta_{M0} + \theta_{M1}X_i + \theta_{M2}Z_{Mi} + \varepsilon_{Mi} \quad \text{(1)}
\]

\[
\ln(w_{USi}) = \theta_{US0} + \theta_{US1}X_i + \theta_{US2}Z_{USi} + \varepsilon_{USi} \quad \text{(2)}
\]

where \(w_{Mi}\) is the wage of Mexican worker \(i\) in Mexico and \(w_{USi}\) is the wage of the same Mexican worker \(i\) in the United States. \(X_i\) are her individual characteristics. \(Z_{Mi}\) and \(Z_{USi}\) are local characteristics for worker \(i\) in Mexico and the US respectively.

If Mexican workers are not randomly distributed at both sides of the border, wage equations (1) and (2) are missing important information, (i.e. workers’ productivity, entrepreneurship, and other unobservable characteristics), and OLS estimation delivers biased and inefficient coefficient estimators.

Heckman’s methodology inserts a selection correction variable into the regression equations (1) and (2) that controls for such missing information. Such a correction variable is called the “inverse Mills ratio” and can be proved to generate efficient and unbiased estimators for all the other parameters.\(^6\) Inverse Mills ratios are computed for migrants and non-migrants Mexicans using the individuals’ probabilities of being part of each group. Corrected Mincer wage equations are estimated by maximum likelihood, and according to Lee (1982), this two-stage estimation procedure results in unbiased, efficient, and consistent estimates.

\(^6\) For a detailed explanation see Heckman (1976).
Estimating wage differentials


The ENOE is a quarterly survey aimed to identify occupational characteristics from the Mexican population. It provides information about 124,000 families that lived in Mexico in 2008. The ENOE includes individual and family socioeconomic characteristics such as age, education, employment status, wage, and hours worked, as well as some migration characteristics. The ENOE is a large database, significant for every state of Mexico and for 32 metropolitan areas, including the northern border cities of Tijuana, Mexicali, Ciudad Juarez, Nuevo Laredo, Reynosa, and Matamoros.

The ACS of 2008 includes 1,304,000 families living in the United States in 2008 and also reports individual and family socioeconomic characteristics, as well as some migration characteristics. The ACS is significant for every state of the United States and for all communities larger than 100,000 inhabitants, including southern border cities such as San Diego, Calexico, El Paso, Laredo, McAllen, and Brownsville.

In the table 1 we have analyzed some averaged characteristics of the populations of Mexico and the United States, paying special attention to the US-Mexico border region (all monetary numbers are in US dollars as of 2008). In the table we have analyzed the information for the whole countries as well as for their border regions in order to observe if

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7 The Mexico-US border region includes the cities of San Diego, Calexico, El Paso, Laredo, McAllen, and Brownsville in the US and Tijuana, Mexicali, Ciudad Juarez, Nuevo Laredo, Reynosa and Matamoros in Mexico.
there are some differences on the migration and wage gap dynamics at the border area. A smaller wage differential at the border region may imply a sort of local labor and economic integration.

As data indicates, Mexican born migrants represent 4% of the total population of the US and 10.8% of the total population of Mexico, but it is important to underline that migration in the border region is considerably larger, for example Mexican born migrants in the US border region represent 20% of the population living in that area. Together, the US-Mexico border region accounts for about 11 million people, with 6.3 million living in the Mexican border cities and 5 million living in the US border cities. The Mexican border cities represent 5.8 percent of the total population of Mexico, while the US border cities represent 1.7 percent of the total population of the United States.

On the other hand, the education levels in the two countries — and in the cities on both sides of the border — are quite different. The average schooling level of a worker in the United States is 13.4 years, while the average schooling level of a worker in Mexico is 9.7 years. The average schooling level of a Mexican-born worker in the United States is slightly lower than their counterpart in Mexico (9.6 years versus 9.7). The average schooling level of a worker in the US border cities is around 3.5 years higher than their

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Descriptive Statistics: 2008</th>
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<tbody>
<tr>
<td></td>
<td>Total US</td>
</tr>
<tr>
<td>Population (million)</td>
<td>292.4</td>
</tr>
<tr>
<td>Mexican-born</td>
<td>11.7</td>
</tr>
<tr>
<td>Education (years)</td>
<td>13.4</td>
</tr>
<tr>
<td>Mexican-born</td>
<td>9.6</td>
</tr>
<tr>
<td>Wage/hour (dollars)</td>
<td>19.52</td>
</tr>
<tr>
<td>Mexican-born</td>
<td>12.77</td>
</tr>
</tbody>
</table>

The border region includes the city pairs of: San Diego-Tijuana, Calexico-Mexicali, El Paso-Ciudad Juárez, Laredo-Nuevo Laredo, McAllen-Reynosa, and Brownsville-Matamoros.

Source: Own estimations with data from ACS 2008 and ENOE 2008
counterpart in the Mexican border cities (13.0 years versus 9.6). However, Mexican-born workers in the US border cities are less educated than all workers on the American side of the border (10.5 years versus 13.0), they are more educated than their conational workers on the Mexican side of the border (10.5 years versus 9.6).

Similarly, hourly wages are also considerably larger in the United States than in Mexico. On average, a US-born, US-educated worker in the United States earns $19.52 per hour compared to $2.60 per hour for a Mexican-born, Mexican-educated worker in Mexico (The US wages are 7.5 times higher.) However, such differences are not so large when comparing Mexican-born workers on both sides of the border. On average, before controlling for differences in skills and unobserved productivity, a Mexican-born worker in the United States makes $12.77 per hour compared to the $2.60 that a Mexican-born worker can make in Mexico (a ratio of 4.91).8 Within the border region, a worker in the Mexican border cities makes, on average, $2.95 per hour while a Mexican-born worker in the US border cities makes $12.53 per hour (a ratio of 4.24). Given that Mexican-born workers on the US side of the border are more educated than Mexican-born workers on the Mexican side, this difference may get smaller when we compare the similar individuals.

To estimate composition-fixed and selection-corrected Mexican-born wages in Mexico and in the US, we followed the standard Heckman (1979) procedure as mentioned before. We included in our regressions both male and female Mexican-born workers.

between 16 and 65 years old, who worked at least 20 hours a week and present positive labor earnings either in Mexico or in the United States.

To analyze the selection correction variables or “inverse Mill’s ratios” we run migrant probit regressions with age, age squared, gender, years of schooling, marital status, family size, number of children in the family, and possession of health insurance as the independent variables. ⁹ We run two independent regressions: one considering the probability of moving from any place in Mexico to any place in the United States, and other considering only the border region. ¹⁰

With the inverse Mill’s ratios computed, wage equations (1) and (2) are regressed using as independent variables gender; years of schooling; years of experience; years of experience squared; the interaction of gender with schooling, experience, and experience squared; and eight dummies for industry sector. ¹¹ Coefficient estimates are presented in Table 2.

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⁹ Given to space limitations, estimated coefficients are not presented here but can be consulted in Aguayo-Téllez and Rivera-Mendoza (2011).
¹⁰ The border region regression includes six city-pair dummies to control for possible regional differences along the US-Mexico border.
¹¹ Border city-pair dummies for the border region regression and industry dummies are also included but due to space limitations their coefficients are not displayed in table 2.
The first two columns of the table display wage regressions for non-migrants, and the second two columns display wage regressions for migrants. The first and third columns display wage regressions for the whole countries while the second and fourth columns display wage regressions including only workers living in the border region. As expected, in all cases schooling and experience increase wages for both men and women. The sign and significance of the estimated coefficients of the inverse Mills ratio tell us the existence of self-selection and whether it is positive or negative. The coefficients obtained are statistically significant and suggest the presence of negative self-selection into the migrants group. Migrants from Mexico to the US have lower earnings capabilities in the US than non-migrants. Into the non-migrants group, non-migrants are negatively self-selected but positively self-selected if they would migrate into the border region.12 Non-migrants have lower earning capabilities in Mexico than migrants, except within the border region.13

12 Intuitively this means that people who actually stay earn relatively more on Mexico than migrants if such migrants were on Mexico. Similarly, people who actually crossed the border earn relatively less on the United States than non-migrants if such non-migrants were on the United States.
13 Negative self-selection is consistent with the findings of Aguayo-Tellez and Martinez-Navarro (2013), Borjas (1996) and Orrenius and Zavodny (2001). However, other authors such as Chiquiar and Hanson (2005)

Table 2
Mincer Wage Regressions: Equations (1) and (2)

<table>
<thead>
<tr>
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<tbody>
<tr>
<td></td>
<td>Mexico to US</td>
<td>Border Region</td>
<td>Mexico to US</td>
<td>Border Region</td>
</tr>
<tr>
<td>Gender</td>
<td>0.114 **</td>
<td>0.007</td>
<td>0.081 **</td>
<td>0.250 **</td>
</tr>
<tr>
<td>Education</td>
<td>0.069 **</td>
<td>0.071 **</td>
<td>0.039 **</td>
<td>0.070 **</td>
</tr>
<tr>
<td>Experience</td>
<td>0.020 **</td>
<td>0.016 **</td>
<td>0.022 **</td>
<td>0.022 **</td>
</tr>
<tr>
<td>Experience squared</td>
<td>0.000 **</td>
<td>0.000 **</td>
<td>0.000 **</td>
<td>0.000 **</td>
</tr>
<tr>
<td>Gender * Education</td>
<td>-0.003 **</td>
<td>0.003</td>
<td>-0.005 **</td>
<td>-0.017 **</td>
</tr>
<tr>
<td>Invers Mill’s ratio</td>
<td>0.006 **</td>
<td>0.012 **</td>
<td>0.013 **</td>
<td>0.012 **</td>
</tr>
<tr>
<td>Industry dummies</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>Border city dummies</td>
<td>no</td>
<td>yes</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>Observations</td>
<td>389,368</td>
<td>18,355</td>
<td>49,773</td>
<td>4,174</td>
</tr>
<tr>
<td>F-value</td>
<td>4354 **</td>
<td>281 **</td>
<td>380 **</td>
<td>43 **</td>
</tr>
<tr>
<td>Pseudo-R²</td>
<td>0.33</td>
<td>0.36</td>
<td>0.15</td>
<td>0.23</td>
</tr>
</tbody>
</table>

* and ** denote significance at 5% and 1%, respectively.

Source: Own estimations with data from ACS 2008 and ENOE 2008.
On the other hand, biased-corrected wages in Mexico and in the United States are calculated for all workers (migrants and non-migrants) using the estimated coefficients presented in table 2. Taking into consideration above, we can compute selection-corrected wages for the same worker in Mexico and in the US. This procedure allows us to compare average wage ratios for specific sub-groups of Mexican-born workers. However, in the table 3 we have analyzed US-Mexico Mean Wage Ratios in total and divided by gender and by three schooling groups. The upper panel presents wage ratios for all Mexican-born workers in Mexico and in the US. The lower panel presents wage ratios for Mexican-born workers only within the Mexico-US border area. The first row of each panel presents computed wage ratios considering the wage information of all Mexican-born workers in the US (legal and illegal, speaking English or not, etc.). However, when a Mexican worker is considering moving to the US, she/he must compare her/his wage in Mexico with a wage she/he will obtain in the US. The second row of each panel presents wage ratios considering wages in the US for Mexican-born workers who are not American citizens. In the same way, the third row of each panel displays Mexico-US wage ratios considering wages in the US for Mexican-born workers who are not American citizens and who do not speak English. Finally, the fourth row of each panel lists Mexico-US wage ratios considering wages in the US for Mexican-born workers who are not American citizens, who do not speak English and who arrived to the US during the last 5 years.

have found positive self-selection. Aguayo-Tellez and Rivera-Mendoza (2011) find that the size of the negative self-selection is smaller for the more disadvantaged groups of workers.  

Up to 5 years of schooling or elementary school dropouts, 6 to 11 years of schooling or elementary school graduates to high school dropouts, and 12 years or more of schooling or high school graduates and above.  

As mentioned before, the Mexico-US border area includes the cities of San Diego, Calexico, El Paso, Laredo, McAllen, and Brownsville in the US and Tijuana, Mexicali, Ciudad Juarez, Nuevo Laredo, Reynosa and Matamoros in Mexico.
Thus from the table it is appear that on average, after controlling for observable and unobservable characteristics, a Mexican-born worker who is not American citizen, does not speak English, and is planning to migrate to the US will increase her/his labor earnings 4.39 times when moving from Mexico to the US. Migration wage differentials are larger for men (4.52) and for unschooled workers (5.79). In all cases, migration wage differentials are larger for American citizen and English speaker Mexican-born workers. Nevertheless, results indicate that; within the border region, US-Mexico wage differentials are not that large; which may imply regional economic integration. After controlling for observable and unobservable characteristics, a not citizen not English speaker Mexican-born worker who works in the Mexican side of the US-Mexico border will increase their wage 3.55 times in average just by crossing to work to the American side of the border.16 Again, migration wage differentials are larger for men (3.82), unschooled (4.59) and English speakers. Unschooled workers have such low wages in Mexico that they are much better off migrating to the United States even if they go illegally and don’t speak any English.

16 Within the border region, wage differentials may be considerably different for different areas. For example, the San Diego area records much better wages than the Brownsville area. Aguayo-Tellez and Rivera-Mendoza (2011) paper, presents wage differentials within each border city pair. Moving from Tijuana to San Diego increases the wage of a not American, not English Speaker Mexican-born worker 4.12 times, while moving from Reynosa to McAllen increases her/his wage 3.16 times.
Above analysis clearly indicates that lower wages compared to US and poverty in Mexico are important push factors behind the massive international migration in the country. During different phases of time both government of US and Mexico have implemented plans to regulate as well as reduce migration between two nations, which we have discussed in the following section.

**Mexico-US migration policy**

Both Mexico US knows that principal reason behind migration, but none of these nations have intend to address the core issue, although they have formulated different social economic policies to address the migration issues. It is necessary to underline that in recent years immigration policy has been an ongoing subject of congressional attention and a topic of concern for the US public at large. In our earlier analysis we have observed that Mexicans are by far the largest group of U.S. migrants, and about 1 in 10 Mexicans now live (legally or illegally) in the United States. Indeed, Mexico-U.S. migration represents the largest bi-national migration flow in the world.

As our earlier result indicates, international migration is primarily a function of economic as well as structural social, demographic differences. Limited economic opportunities including other social factors encourage emigration from Mexico; while high wages and employment opportunities are the “pulling factors” within the United States (Rosenblum, et. al, 2012). In this sense, Rosenblum et. al., (2012) classified US-Mexico migration policies into four phases: a) Pre-world war II or limited seasonal flow, b) The

During the pre-world war II period U.S. Congress created the first guest worker program and allowed Mexican non-immigrant admissions between 1917 and 1920. Beginning in 1921 the U.S. Congress exempted Mexicans and other Western Hemisphere migrants from per-country immigration limits imposed on the rest of the world. Whereas, in 1929, U.S. migration policy swung the other way, there was a tighter screening criteria for Mexican visa applicants, which resulted 75% reduction in LPR admissions. Hundreds of thousands of Mexicans and their U.S.-born children returned to Mexico during the Great Depression, including many who were deported. After this, Mexico also discouraged emigration (i.e., migration to the United States), with a 1926 law requiring exiting workers to obtain permission from municipal authorities, and a series of public relations campaigns to discourage outflows and support return migration. As a result, the 1930s were the only decade in which net migration in the region flowed north to south.

During the 2nd World War, there was a high demand of workers by U.S. agricultural employers. However, they struggled to recruit Mexican workers as Mexican officials continued to oppose new emigration, which they viewed as a drain on Mexican resources and—based on the experiences of earlier migrants—as a threat to workers’ rights. Thus, at the time of Roosevelt Administration there was a negotiation with Mexico for a bilateral guest worker program, which became known as the Bracero program. Under this program Mexican workers were guaranteed a minimum wage, health benefits, housing, and transportation expenses. This program’s peak in the late 1950s, strong constituencies on
both sides of the border grew to favor labor flows. Both governments supported the program, including by developing a transportation infrastructure to move agricultural workers from the Mexican interior to the border region and beyond.

At the conclusion of Bracero program, Mexican labourer faced difficulty on legal pathways to enter the United States. The imposition of strong anti-immigration laws affected legal migration from Mexico, as a result of which, the illegal migration grew three-fold between 1965 and 1970, and by 1979 around 1.7 million unauthorized migrants resided in the United States, including 1.4 million from Mexico. After 15 years of discussions, U.S. Congress passed the Immigration Reform and Control Act of 1986 (IRCA), which combined employer sanctions with a pair of legalization programs for 2.6 million illegal migrants through IRCA, which included about 2.1 million Mexican migrants.

During 1990s after IRCA, there was a high demand for foreign workers in new types of occupations, but U.S Congress responded to these trends by passing four additional laws focused on illegal migration, authorizing additional investments in border security, restricting migrants access to welfare and other public benefits, and streamlining procedures to remove unauthorized migrants. Border enforcement and migration control received additional attention after the 9/11 attacks, with Congress passing five more laws related to immigration control in 2002-2006. These immigration reforms sought to reduce low-skilled employment-based inflows, but in reality the consequences is different. These immigration reforms just act as a “wall” or “barrier” between two nations, which main aim is to reduce the current migration flow not the potential migration flow. Nevertheless, these
immigration reforms address the principal reasons of migration such as reduction of economic disparity.

Compared to US government, we have observed that government of Mexico has developed different social policies for the benefits of poor that indirectly aim to reduce migration. As mentioned, in addition to geographical proximity and transnational migration networks, regional income inequality is one of the major factors underlying international migration. Hence, social policies designed by the Mexican government to combat poverty should, by reducing income inequality, lessen emigration pressures (Latapi, 2008).

**Mexican social and economic policies**

Over the last fifteen years, Mexican government has adopted different social policies that abandon the vision of a highly regulated economy as the main instrument against poverty. The new policies relay on State intervention in the pricing and distribution systems to ensure that the poor drew particular benefits from state subsidies. Under this new system and through prices, the federal government provides substantial subsidies to producers of staples, and provides additional subsidies to consumers in the cities. Similar mechanisms are in place in the case of fuel, electricity, mass transit systems and others (Latapi, 2008, Szekely, 2002).

Other successful policies recently implemented by the Mexican government are health and nutrition programs for the poor. These programs have effectively reduced malnutrition among the poor, rural and indigenous children. Recently, government has
created and re-created some social policies for the benefit of poor that indirectly may reduce migration from Mexico, such as: *Solidaridad, Progresa, Oportunidades* and *Seguro Popular*.

During the 1970s, Mexican government created *COPLAMAR* (Coordinación General del Plan Nacional de Zonas Deprimidas y Grupos Marginados) and *CONASUPO* (Compañía Nacional de Subsistencias Populares). *COPLAMAR* was created to encourage the rural development in agriculture and timber productions, industry, communications, health, education and transportation. The main objective of this program was to provide the social and economical benefits to marginal zone of the country. On the other hand, *CONASUPO* was created to promote Mexico’s economic and social development by regulating the markets of staples (or popular subsistence crops) through the creation of more efficient and rational relationship between producer and consumer and the elimination of inefficient and dishonest intermediaries, protecting low-income consumers, by granting them access to basic foods, and protecting low-income producers, by allowing them to obtain a livelihood from their production activities. *COPLAMAR* and *CONASUPO* stopped operating in the early 1990s.

In seventies and early eighties, to secure the food and nutritional aspects of marginalized and poor people, Mexican government created *LICONSA*. The main objective of this program is to distribute low-cost milk to low-income families with children aged one to 11 years. Up to now, *LICONSA* continues operating and its production and distribution is very efficient and it helps the marginalized communities of Mexico. The program is effective in reducing the prevalence of anemia in 12 to 30 month-old children over a six-month period.
Like LICONSA, the Programa Nacional de Solidaridad is arguably the most widely known poverty relief program implemented in Mexico (Latapi, 2008). This program was implemented for a short period of time; it started in 1989 and continued till 1994. Its main objectives were aimed at improving public service provision and development indicators. This program was the cornerstone of the government’s poverty relief strategy as well as reduction of infant mortality, providing proper nutrition and caloric intake, particularly for girls, women and the old. Its resources represented, on average, 1.18 percent of GDP each year.

In 1997 the government of Mexico implemented PROGRESA (Programa de Educación, Salud, y Alimenación), an integrated approach to poverty alleviation through the development of human capital. PROGRESA was one part of a larger poverty alleviation strategy, and its role was to lay the groundwork for a healthy, well-educated population who could successfully contribute to Mexico’s economic development and break the intergenerational cycle of poverty and to help abstaining migration. The program offered conditional cash transfers to the rural poor in exchange for sending their children to school and for regular attendance at health clinics and small group sessions focusing on health and nutrition education. The conditional cash transfers replaced many earlier programs focused on poverty alleviation through the delivery of food subsidies and other in-kind transfers, which for political and logistical reasons often did not reach the rural poor in great numbers and were largely regarded as inefficient. The conditional cash transfers were demand-driven interventions that sought to remove many of the practical barriers and opportunity costs rural families faced in attending health clinics and sending their children to school (for example, children were often taken out of school to earn income for the family).
program sought to work with program beneficiaries and enable them to take responsibility for their own family’s welfare. Overall, the program was found to be quite successful in improving conditions of the poor (Skoufias, 2001).

In 2002 PROGRESA was renamed Oportunidades. Up to date, this program continues to be the principal anti-poverty program of the Mexican government and it focuses on helping poor families in rural and urban communities invest in human capital, improving the education, health, and nutrition of their children, leading to the long-term improvement of their economic future and the consequent reduction of poverty in Mexico. By providing cash transfers to households through linking to regular school attendance and health clinic visits, the program fulfills the aim of alleviating current poverty and indirectly preventing international migration.

From the above discussion we observe that government of Mexico has implemented number of social programs to eliminate the poverty as well as has given priorities to lower income families and indigenous groups to improve their quality of life. It is necessary to mention that; through these programs Mexican government aim is to indirectly reduce the internal and international migration. However, we should keep in mind that migration requires a minimum quantity of money to afford the costs of migration and extremely low income families can’t afford it. Hence, increasing the income of the poorest families may promote migration, at least at the beginning.

On the other hand, looking to the enormous importance of these capital flows and their potential to contribute to development, Mexican governments has designed public policies for the productive use of the remittance, so that remittances are not only devoted to
current consumption but are also directed to the improvement of living conditions and improve the provision of social and productive infrastructure in backward communities. One such policy is 3x1 Program for Migrants.

The 3x1 Program for Migrants initiated in the state of Zacatecas in the year 1986. The Federation of Zacatecans Clubs, which comprised over 70 hometown associations (HTAs) located in Southern California, started to raise funds to help expatriates abroad mostly in the event of illness or death and to fund social and recreational projects back home. In its initial design, the 1x1 program contemplated only the state support to double the amount of money sent by migrants associations. Although just 28 projects were carried out under the program between 1986 and 1992, the initiative encouraged the Federation of Zacatecan Clubs to undertake more and more philanthropic activities (Aparicio, et.al 2007).

During 1988-1994, the Zacatecan initiative received further support and President Salinas, interest in courting migration, created the program of International Solidarity among Mexicans, also known as the 2x1 Program. Under this scheme, not only the state but also the federation matched the contributions of hometown associations (HTAs). In the meantime, the initiative was replicated by the state governments of Jalisco, Durango and Guanajuato (Burguess, 2005).

When Vicente Fox reached power in 2000, he restored the federal support to collaborative programs and created the Instituto para los Mexicanos en el Exterior and resurrected the matching grant program with federal support. The 3x1 Program–Citizen Initiative started in 2002, and later on became the 3x1 Program for Migrants. The main objective of this program is to increase the coverage and the quality of basic social
infrastructure in localities with a high proportion of population living in poverty, social backwardness or high migration, following the investment initiatives of migrants living abroad (Soto and Velázquez 2006). Among the others, this program also aims to strengthen the links between migrants and its communities through collaborative development projects and the organization of migrants abroad.

As it described above many policies and programs have been implemented by Government of Mexico are subjected to increase the quality of life, employment opportunities, education and health, and indirectly control migration flows, but in this chapter we have found that principal reason behind migration between two nations is wage inequality and lack of economic opportunities and thus we believe that fostering development in Mexico could be the only way to diminish migratory pressures over time. Many scholars have suggested that the United States should support development projects in Mexico to discourage emigration. About this, in 2011, the United States provided around $178 million in foreign assistance to Mexico, including about $25 million in development aid and $143 million under the Mérida Initiative (Rosenblum et.al, 2012).

Alternative strategies may also be applied. For example, Wainer (2011) suggested that there should be farmer-to-farmer exchange programs to connect rural farmers’ cooperatives in Mexico with Mexican farmers in the United States. Another possibility would be to expand the mandate of the North American Development Bank from environmental infrastructure projects to also include broader development goals. Thus, economic assistance should be as a tool to reduce emigration as it creates jobs and reduces emigration in the long run.
Final considerations and recommendations

Mexico is a country of emigration; nearly 18% of its workforce is in abroad. Thus, it necessitates some effective policies assuring that emigration benefits it, taking proactive steps to regulate migration and to ensure it meets national interests. On the other hand, the United States is a country of immigrants; almost 13% of its population is born abroad. Hence, it also requires creating fair and effective migration policies that allows the country to take full advantage of this phenomenon, benefiting not only employers and consumers but also ensuring respect for the human rights of migrants.

Last three decades have been an exceptional period in Mexico-United States migration. As recently as 1970, the share of Mexico’s population living in the US was only 1.5%; by 2010, it had risen to 10.2%. As we have seen from our earlier analysis, the flow of labor across the Mexico-US border is not a new phenomenon, with previous surges occurring in the 1920s and 1950s. However, persistent mass migration between the countries did not take hold until late in the 20th century.

During the 60s and 70s Mexico enjoyed sustained economic progress, but in 80s country’s economy stagnated. Repeated currency crises reversed the effects of short-lived expansions, leaving per capita GDP in the late 2000s more or less unchanged from two decades before. During periods of wage decline in Mexico, emigration from the country spiked. So, in this sense our results indicate that over the period there is an increase in the migration flow and the main reason behind is the growing wage difference between the two nations.

Under these circumstances, U.S. and Mexican governments have adopted some unilateral policies to deter immigration, in the case of the U.S. and to provide job
opportunities to potential migrants in their places of origin, in the case of Mexico. However it seems that such unilateral efforts of both governments haven’t had an effect on migration flows. The ineffectiveness of such U.S. and Mexican policies and the absence of any coordinated or bi-national policy to regulate migration flows or to smooth its bilateral effects have allowed the market forces to take over. In the absence of any North American institutional response to migration issues, U.S.-Mexico labor condition and wage inequalities are, and will continue to be, the most important drive on moving people from south to north.

Mexico, by itself, has not been able to keep workers in its domestic market. On the other hand, the U.S., by itself, has not been able to deter Mexican migration inflows. A natural candidate to reduce and/or to control Mexico-U.S. migration and, at the same time, to ensure the wellbeing of migrants, should be a bi-national initiative. However, the absence of any coordinated policy between the two countries can be explained by the difference on short run objectives between the two nations. Such short run differences seem to be stronger than the region common interest of ensuring better jobs for Mexicans in Mexico, better jobs for Americans in the United States and better conditions for migrants.

In the short run, Mexico does not have any real interest on reducing migration to the United States. To Mexico, international migration represents the second more important source of capital inflows (smaller than oil but larger than tourism and FDI) and an essential exhaust valve for the increasing labor supply that grows faster than the labor demand.

Similarly, although the government of the United States has tried to coordinate migration policies to reduce inflows of Mexicans, such policies have not effectively
prospered. Different manufacturing and farmers associations as well as Mexican migrants associations do not have short run interests on reducing the inflow of Mexican workers and have put strong efforts to prevent migration from being completely abated. Illegal Mexican immigration ensures a constant flow of cheap labor, which translates into more production and benefits, lower prices and better economic conditions.

Mexico and U.S. long run migration objectives should be to ensure better jobs for Mexicans in Mexico, allowing the country to generate its own income, increase its internal demand and promote sustained development. Seeking such long run objectives can significantly reduce Mexico-U.S. migration, while avoiding the tremendous costs many Mexican migrants have to suffer while working in the U.S. Costs such as risking their lives when crossing the border, being apart from their families, working on unsafe or uninspected conditions, or being persecuted. In addition, seeking such long run objectives may ensure better labor conditions for lower income American workers, without diminishing American wellbeing and economic conditions.

We understand that promoting such long run objectives may be politically costly for both Mexican and American governments and none is willing to undertake such costs. However, a coordinated bi-national policy on migration issues is urgently needed to solve a problem that is getting bigger, before it becomes uncontrollable. In addition, a well-coordinated and established bi-national program may allow both governments to share political costs. Promoting economic integration and reducing income inequalities within the region must to be the most important first steps that a coordinated bi-national initiative should seek. And in order for this initiative to be effective, institutional links between the two nations should be created.
The following is a list of steps that both U.S. and Mexican governments should coordinately adopt to stem the migration issue.

1. From this study it is clearly understood that wage differences between Mexico and U.S. is a reason for migration, thus there is an urgent need for both countries to promote economic development in Mexico. It is important to notice that any increase on real wages must be large enough to make Mexican workers better off staying in Mexico and not just to give them the necessary income to afford moving to the U.S.

2. Social programs like Oportunidades, Progresa and Linconsa are some of the important steps adopted unilaterally by the Mexican government to reduce poverty. However, these programs have not been effective on reducing international migration. Thus, it is essential to address how these programs can help reduce international migration.

3. There is an urgent need of large scholarship programs and incentives for higher education, which may provide the educated laborer ample opportunities and higher wages.

4. Mexican government should support returned migrants in term of employment and ease their access to Mexican social programs.

5. It is very essential for government creates the provision of lower-cost credit and finance to poor families. These kinds of initiatives help financially to poor families and reduce the risk of migration.
6. The 3 X 1 initiative program should not consider as a motor regional development. Government must invest their fiscal resources for the regional development unless depending on 3 x 1 program.

7. Mexican government must consider the agricultural sector development and creates some funds particularly for the benefits for farmers.

8. US Government should provide more economic resources to help Mexico’s development and job creation. U.S. aid may be targeted to promote education, health and technology development in Mexico.

9. The US and Mexico governments should promote economic integration. As mentioned earlier, wage differences at the border region are smaller, which may suggest that economic integration reduces wage differences. A narrower wages difference reduces migration.

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