NÚMERO 512

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Effect of Tariff Liberalization on Mexico's Income Distribution in the Presence of Migration

NOVIEMBRE 2011

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Abstract

This paper studies how the North American Free Trade Agreement (NAFTA) affected income distribution within Mexico given internal migration. Trade liberalization should theoretically increase the income of low-skilled workers in low-skilled labor-abundant developing countries, decreasing income disparity. However, anecdotal evidence indicates that NAFTA increased the gap between rich and poor in Mexico, and empirical evidence is mixed (Chiquiar, 2005; Nicita, 2009; Hanson, 2007). Because trade may affect wages differently across regions within the country, accurate trade welfare measures must incorporate intra-national migration. I find that workers far away from the US-Mexico border earn significantly lower wages in comparison to their counterparts in the border. Large traded sectors induced migration, particularly for the poor, and a higher wage overall. I also find that regional transportation benefits have slightly increased migration towards the North. As a result, trade liberalization has not reduced income inequalities, but rather led to a greater regional polarization.

Keywords: Income Distribution, Regional Disparities, Trade Liberalization; Internal-Migration.

Resumen

Este trabajo estudia cómo el Tratado de Libre Comercio de América del Norte (TLCAN) afectó la distribución de los ingresos dentro de México tomando en cuenta la migración interna. La liberalización del comercio debería, en teoría, aumentar los ingresos de los trabajadores poco calificados en países en desarrollo con mano de obra de baja calificación abundante; disminuyendo así la disparidad de ingresos. Sin embargo, la evidencia anecdótica indica que el TLCAN aumentó la brecha entre ricos y pobres en México, mientras que la evidencia empírica es mixta (Chiquiar, 2005; Nicita, 2009; Hanson, 2007). Dado que el comercio puede afectar a los salarios de manera diferente en todas las regiones dentro del país, las medidas precisas del bienestar del comercio deben incorporar la migración intranacional. En este estudio encuentro que los trabajadores que están lejos de la frontera México-Estados Unidos ganan salarios significativamente más bajos en comparación con sus contrapartes en la frontera. Grandes sectores comerciales inducen la migración especialmente para los pobres, y en general proveen un salario más alto. También encuentro que los beneficios regionales de transporte han aumentado ligeramente la

migración hacia el norte. Como resultado, la liberalización del comercio no ha reducido las desigualdades de ingresos, sino que condujo a una mayor polarización regional.

Palabras clave: distribución de ingresos, disparidades regionales, liberalización del comercio, migración intranacional.

Effect of Tariff Liberalization on Mexico's Income Distribution in the presence of Migration

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Abstract

This paper studies how the North American Free Trade Agreement (NAFTA) affected income distribution within Mexico given internal migration. Trade liberalization should theoretically increase the income of low-skilled workers in low-skilled labor-abundant developing countries, decreasing income disparity. However, anecdotal evidence indicates that NAFTA increased the gap between rich and poor in Mexico, and empirical evidence is mixed (Chiquiar, 2005; Nicita, 2009; Hanson, 2007). Because trade may affect wages differently across regions within the country, accurate trade welfare measures must incorporate intra-national migration. I find that workers far away from the US-Mexico border earn significantly lower wages in comparison to their counterparts in the border. Large traded sectors induced migration, particularly for the poor, and a higher wage overall. I also find that regional transportation benefits have slightly increased migration towards the North. As a result, trade liberalization has not reduced income inequalities, but rather led to a greater regional polarization.

Keywords: Income Distribution, Regional Disparities, Trade Liberalization; Internal-Migration

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1. Introduction

Globalization has opened markets to products and services often through international agreements that facilitate trade. While economists generally agree that trade can deliver benefits to an economy, the distribution of those benefits is in question (Anderson, et al., 2004). One of the critiques of globalization is that by benefiting some regions and workers more than others, globalization may accentuate economic inequality, and induce greater mobility of people (Anzaldo Gómez, et al., 2008).

A number of studies shed light on the impact of trade liberalization on wage inequality in Mexico.[2] Nicita (2009) shows that the benefits of trade have not spread to all households and have primarily gone to more skilled workers, especially in Mexican states close to the U.S. border.[3] Similarly, Hanson (2007) and Garduño-Rivera (2008) find that Northern states, which have greater access to the US market than the Southern states, benefit more from trade by obtaining higher prices because of lower transportation costs, which translates into higher labor income. One disadvantage of these papers is that they do not take into account that households may respond to variations in labor demand by changing the type of labor they sell, or by relocating.[4] The distribution of benefits from NAFTA will presumably not only accrue to those already working in export industries and/or living in regions close to the U.S. border, but also to those who can more easily migrate into those regions and sectors. Conversely, those people who face higher barriers to migration may be penalized by the kind of structural shift in the economy brought about by trade. Failure to account for labor migration may result in an over-estimation of the growth income in the region receiving migrants, since 3.98 million Mexicans (4% of the total population in 2000) and five percent of working age men migrated from one state to another between 1995 and 2000 (Vega, 2005). (INEGI, 2008)[5]. Most of these migrants are workers coming from the Southern states of Guerrero, Oaxaca, Veracruz, Puebla and Hidalgo

[2] Some of them are Esquivel, et al., 2003; Airola, 2008; Cragg, et al., 1996; Feenstra, et al., 1996; Feliciano, 2001; Hanson, 2003; Hanson, et al., 1995; Revenga, 1997; Robertson, 2007; Chiquiar, 2005.

[3] Robertson (2007) finds that the expansion of assembly activities in Mexico has increased the demand for less-skilled workers, and Chiquiar (2005) finds that physical capital and infrastructure are the main reasons why Northern Mexican states reaped the benefits from trade liberalization more than the Southern states. While insightful, these papers do not explicitly analyze the distribution of gains across income levels and geographical regions.

[4] For example, Hanson (2007) assumes that "labor is sufficiently immobile across regions of Mexico for region-specific labor-demand to affect regional differentials in labor income" (pg. 419).

[5] Between 1985 and 1990 the interstate migration was 6% and for 2005 to 2010 was 4%.

(SEDESOL, 2004). The recipient states are in the North—mainly Sinaloa, Sonora, Baja California, and Baja California Sur (see Figure 1)—. By exclusively looking at growth within a region, one will overestimate the benefits going to the pre-existing residents and estimate a higher increase in income disparity in Mexico as a result of NAFTA. To correct this problem, this research proposes to measure the effects of trade liberalization on income distribution while taking labor migration into account.

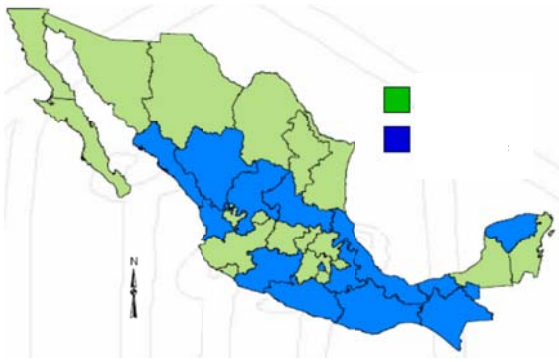
The results of this research can help identify those barriers facing individuals and regions that limit their ability to benefit from trade. Thus, I can help identify the areas of social investment and infrastructure investment[6] that may help smooth wage inequality. Even if this research can merely identify those regions and individuals who benefited and lost from trade openness, this information can be used to target compensation. Furthermore, using this estimation approach, regional governments can anticipate migration and wages in their region, and adjust local development plans accordingly.

To study the effect of NAFTA on migration I predict the probability to migrate based on the potential growth in regional GVA associated with tariff reductions from NAFTA. Because migration and wage outcomes are jointly determined, and likely both related to unobservable individual characteristics, I instrument for migration using crop yield shocks, which have been shown to influence migration (Feng, et al., 2010) yet are unlikely to affect wages in the manufacturing, retail or service sectors except through labor supply. By analyzing trade openness and distance to the border, I find that workers closer to the US-Mexico border get a higher wage than their counterparts far away. Also, and as a result, there is a slight increase in migration to the north of Mexico in the years after NAFTA. Further, I find that men with high incomes get an important boost from the NAFTA in their wages while NAFTA has virtually no effect for those with low incomes. Thus, trade liberalization appears to have increased income disparities.

[6] Following (Costa-i-Font, et al., 2005) I divide the public investment into social & infrastructure investments. The social investment goes to areas such as health education whereas the infrastructure goes to areas such as: transportation, and telecommunication.

This paper has the following potential contributions: First, to my knowledge, this is one of the first papers to consider the effect of income distribution while explicitly controlling for migration. Second, I correct for the potential endogeneity of internal migration and wages by using a two stage least squares (2SLS) instrumental variable estimation. Third, by comparing low vs. high income earners, I explore which workers gained and lost from trade. Fourth, I include the latest population census (2010) to observe if, after fifteen years of NAFTA, income disparity has increased in Mexico, or whether as the economy adapts to trade, inequalities decrease. These results will contribute to the literature by clarifying the effect that trade openness has on the distribution of gains across income levels and geographic regions, taking internal migration into account.

Figure 1: Net Migration by state, 1995-2000



Source: CONAPO, with information from INEGI's 2000 Population Census (Vega, 2005 p. 17).

2. Motivation

Developing countries, such as Brazil, China, India and Mexico, have experienced rapid economic growth. They have made significant policy adjustments to foster globalization, including lowering tariffs and other trade barriers, reducing barriers to foreign direct investment (FDI) and entering into complex trade agreements. The main motivation for these changes was the promise of growth, higher wages, and lower income inequality (Robertson, 2007; Harrison, 2007). While increased trade may have benefited the Mexican economy, some initial evidence shows that NAFTA may have worsened inequality in Mexico (Baylis, et al., 2010; Nicita, 2009).

Trade can affect income disparity across skills, sectors and regions. The Heckscher-Ohlin model of trade states that countries should benefit overall from trade, and in particular, low-skilled labor should reap higher wages in developing countries where such labor is abundant. If inputs are not completely mobile across sectors and regions, we would further expect factors employed in the export-oriented sectors to benefit more than those in import-competing industries. Further, we might expect those regions with lower transport costs to export markets to benefit more which, if labor is not freely mobile, may either improve or exacerbate wage inequality depending on whether those same regions were relatively high or low income before trade.

A number of papers provide evidence of an increase in wage inequality in Mexico after NAFTA[7]. For example, Nicita (2004) finds that the effect of trade liberalization has been almost exclusively transferred to skilled workers, and has increased the gap between the remuneration of skilled and unskilled jobs.[8] As noted above, Hanson (2007) and Nicita (2009) also show that trade primarily benefited certain skills and regions in Mexico.

New Economic Geography also generates predictions about which regions might reap the gains from trade. The economic effects of trade may increase the concentration of economic activity in certain regions more than others

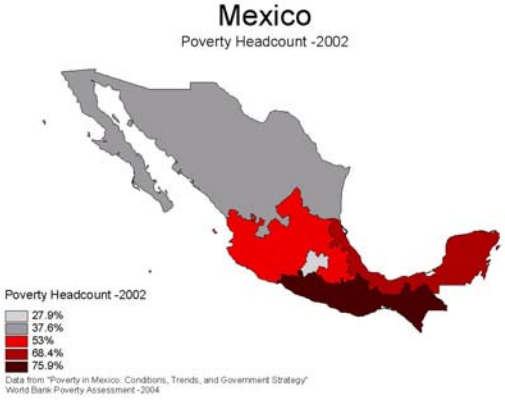
[7] For example, see Esquivel, et al., 2003; Airola, 2008; Cragg, et al., 1996; Feenstra, et al., 1996; Feliciano, 2001; Hanson, 2003; Hanson, et al., 1995; Revenga, 1997; Robertson, 2007; Chiquiar, 2005.

[8] Nicita (2004) finds that unskilled workers in the Southern and Northern agricultural regions have suffered because trade liberalization has produced a decline in the prices of agricultural products, which has contributed to the widening gap in the remunerations between skilled and unskilled individuals.

(Krugman, 1991). This concentration generates increased labor demand in these regions and their sectors, which results in increasing wages in these markets. Other effects of trade such as skill-biased technological change, modifications in industry-specific wage premiums, foreign investment, quality upgrading, skill scarcity, exchange rate and demographic changes have all been suggested as being more accurate explanations for the increase in wage inequality (Robertson, 2007; Ranjan, 2008).

Mexico's trade liberalization, via NAFTA, has caused important changes in regional economic growth, exacerbating the disparities between the North and South of Mexico which have existed since industrialization began in the 1930s (López Malo, 1960; Hanson, 2007; Baylis, et al., 2010). The regional distribution of poverty is illustrated in Figure 2. Here we observe the poverty headcount, which is the share of people living on less than $2.00 USD per person per day (Walton, et al., 2004). The darker colors denote states with higher share of people living on less than $2 dollars per person per day. States in the South, in dark red[9], have 76% of their people living on less than two dollars per person per day; whereas Northern states, in light gray[10], have only 28% of their population in this situation.

Figure 2: Poverty Headcount 2002



[9] Guerrero, Oaxaca, and Chiapas

[10] The Baja Californias (Norte and Sur), Sonora, Chihuahua, Coahuila, Nuevo Leon, Tamaulipas, Sinaloa, Durango and Zacatecas.

Geography may also play a role in determining the distributions of the benefits of trade. In the case of Mexico, one might anticipate that, due to lower transportation costs, regions closest to the U.S. border, which also tend to be wealthier, might stand to gain from trade. Similarly, those regions with pre-existing export-industries, such as the Northern manufacturing centers, would likely benefit the most from trade (Rostow, 1960). Further, the urban labor market will benefit more than workers in rural regions because of their higher reliance on skilled wages, whereas rural labor tends to work more in agriculture, and often consumes most of what they produce (Nicita, 2009). Thus we may expect increasing regional wage disparity which may induce migration.

There is a growing literature on the effect of migration on wages in Mexico, primarily focused on the effect of international labor movement. Mishra (2007) finds that "emigration has a strong and positive effect on Mexican wages due to changes in local labor supply" (pg. 180). Unger (2005) also finds a positive link between migration and local development, working through remittances. Aroca and Maloney (2005) find that trade and FDI slow migration, in the sense that increased linkages to global markets decrease the incentive to emigrate. However, if trade affects different regions within a country differently, it might induce internal migration, making benefits from trade available primarily to those households who can move (Garduño-Rivera, 2011).

3. Methodology

This chapter estimates a model analyzing the impact of trade liberalization on wage inequality while controlling for labor migration. To account for an endogeneity problem between wages and migration, I estimate the wage equation using two-stage least squares (2SLS).

In the first stage, I predict the probability of migration. To capture trade openness, I include the measures of the GVA in period *t-1* (GVA_{it-1}), from the state where the person lived 5 years ago[11], multiplied by the change in tariffs ($\Delta\tau_t$). This interaction term captures the potential growth or contraction in regional GVA associated with a reduction in tariffs ($\Delta\tau_t * GVA_{it-1}$). I also include the measures of GVA for four different sectors (commerce, manufacturing, services and mining) in period *t-1* (GVA_{sit-1}), from the region where the person lived 5 years ago multiplied, to capture the effect of the economy on migration and wages. To predict migration, Sahota (1968) uses the geographical distance from capital of region *k* to capital of region *j*. I instead use distance from the capital of each region to the closest U.S. border-crossing point($distF_i$), from the region where the person lived 5 years ago since economic opportunities provided by NAFTA will be greater closer to the U.S. border, due to the accessibility to markets (Hanson, 1996). I control for characteristics of the household, the source and destination municipalities. Following Feng, et al. (2010), I use changes in crop yields as an instrumental variable to predict people's migration responses. Changes in crop yield work as a good instrument because it influences migration out-flows (Feng, et al., 2010), without being correlated with non-agricultural wages. I create a pooled cross-section of individuals in all municipalities over 3 years (1990, 2000 and 2010). The complete migration function is:

Equation 1

$$P(M_{it} = 1|\ \Delta\tau_t * GVA_{it-1}; GVA_{sit-1}; distF_i; distF_i * \Delta\tau_t * GVA_{it-1}; I_{it}; H_{it}; S_{it-1};\ Y_{it})$$

[11] For the 1990's census, INEGI only asked the state were the person was living in 5 years ago but not the municipality.

where

M_i = 1 if individual *i* migrated within Mexico; 0 otherwise

$\Delta\tau_t$ = % change on Tariff from *t-1* to *t* for sending region

GVA_{it-1} = Total GVA in real 2003 Mexican pesos for sending region

GVA_{sit-1} = GVA in Manufacturing/Mining/Services/Commerce sector in real 2003 Mexican pesos for sending region

$distF_i$ = Road distance (in thousands of kilometers) from the capital of sending region *i* to the closest U.S. border crossing point

I_i = Vector of individual characteristics (i.e. education, age, and household head)

H_i = Vector of household characteristics in time *t* (i.e. electricity, # of people, water, and drainage)

S_{it-1} = Vector of sending state characteristics for individual *i,* in time *t-1*

Y_{it} = Sum of the number of negative changes in crop yields in the last 5 years in sending region[12] for individual *i*, in time *t*

In a second stage, following Nicita (2009), I estimate a wage function based on individual data, as a function of trade-related, demographic and household characteristics and the instrumented probability of migration for individual *i*. Similar to Nicita, I include control variables such as age, years of education, gender of the worker, and status as household head. I run the regression for separate segments of income to analyze the effect that trade openness had on income distribution. I define the segment of low income earners by separating out those individuals earning one standard deviation lower than the mean wage or less for each year. In the same way, the high income segment is defined as those people earning more than one standard deviation greater than the mean wage for each year. The wage function is

Equation 2

$$ln(\omega_i) = f(\Delta\tau_t * GVA_{it-1}; GVA_{sit-1}; distF_i; distF_i * \Delta\tau_t * GVA_{it-1}; I_{it}; H_{it}; S_{it-1}; \widehat{P(M_i)})$$

[12] Since there is no data for crop yield in 1990 and 2010, we use crop yield for 1991 and 2009, respectively.

where

ω_{it} = Observed wage of individual *i*

$\widehat{M}_i$ =instrumented probability to migrate

To capture trade openness, I include the measures of the GVA for four different sectors (commerce, manufacturing, services and mining) in period *t-1* (GVA_{sit-1}) multiplied by the change in tariffs in the respective sector ($\Delta\tau_{st}$). This interaction term captures the potential growth or contraction in regional GVA associated with a reduction in tariffs ($\Delta\tau_{st} * GVA_{sit-1}$).

I use data on individual level wages, individual and household characteristics, as well as regional level data in terms of economic growth, education, migration, and other characteristics, to determine regional income disparities throughout Mexico.

4. Data

I use the 1990, 2000 and 2010 micro-sample of the Population Census, collected by the National Institute of Statistics and Geography (INEGI), which provides household level data of the Mexican population. These data create a cross-section across time data that spans the introduction of NAFTA. The variables used are described below.

Migration(M_i): Migration data come from the 1990, 2000 and 2010 Population Censuses from a question that asks in what state (or municipality) the interviewee resided five years earlier. Though this approach might be standard, these data have the drawback of failing to count migrants who might have left and returned over the five-year period.

GVA sectors: I include the measurements of the GVA for four different sectors (commerce, manufacturing, services, and mining) in period *t-1* for the origin and destination areas. These data were obtained from the INEGI's economic censuses.

% Change in Tariffs$(\Delta\tau)$: Trade openness was not the same across all sectors. Some sectors reduced tariffs faster than others, making these sectors grow faster than the others (Aguayo-Tellez, et al., 2010). Therefore, to identify the effect that NAFTA had on wages and internal migration through trade openness, I use the different tariffs available for the different sectors. These data were obtained from the United States International Trade Commission (USITC). I use the data available, with an annual frequency, of the U.S. tariffs on Mexican exports at the 1-digit Standard Industrial Classification (SIC) level for the light/heavy manufactured, mining and intermediate goods, which I matched to the manufacturing, mining and commerce sectors, respectively.

Transportation cost (distF): I consider that economic growth will be correlated with transportation cost to the U.S. border, which I proxy with the road distance (measured in thousands of kilometers) from the region of origin to the closest U.S. border crossing point. To create the border distance variable, d*istF*, I first obtain the name of the municipality or state capitals (INEGI, 2008). Second, I calculate the road distance from each of the municipality or states capitals to the different U.S. border crossing points, by entering the destination and origin points in the

webpage "Traza tu Ruta" provided by the Secretaría de Comunicaciones y Transportes (2008). Finally, I chose the shortest distance for each municipality or state capital from the different distances provided by each border crossing point. For municipality capitals that do not appear as origin points, I calculate the distance of the nearest available city or town and add the road distance from that point to the district capital of interest, which I calculate manually by using a map of Mexico.

Infrastructure (Infrastructure): Investment in infrastructure provided by the local governments plays an important role in the migration decision and wage since people tend to migrate from places with low levels of infrastructure and to places with high levels of infrastructure. Therefore, I include the percentage of households with water, electricity and sewage from the region where the person lived 5 years ago. This information was obtained from the INEGI's population censuses.

Population density (Pop.Density): Greenwood (1997) mentions that migration is directly related to the population size of the origin places. Thus, I control for the population size from the region where the person lived 5 years ago, since regions with larger concentrations of people will tend to have more out-migration. In this case I use the population density (population per squared kilometer) that districts and states report, including children and elderly, in every population census.

Individual Characteristics

Age: For this study I consider only males of working age (18 to 65 years), because I see a large increase in labor force participation of women from 1990 to 2000, which I would have difficulty controlling for; whereas 78% and 80% of men of working age were participating in the labor force in 1990 and 2000, respectively. Hanson (2007) and Nicita (2009) also work with the working-age male population due to the same problem. Hanson explains that female participation in the labor force is low and varies considerably across time. He further argues that including women creates a sample selection problem since many of them report zero labor earnings but may work in family

businesses or family farms[13]. The age effect is approximated by a quadratic function. Here I expect that the older the person, the less their probability to migrate but the higher their income.

Education: Education is the stock of productive skills and technical knowledge embodied in labor. Mexico has a competitive advantage in unskilled labor-intensive goods. Then the effect of the education variables will be: $\frac{\partial y}{\partial edu} > 0$. That means, more education will provide higher income.

Literacy: These data comes from the 1990, 2000 and 2010 Population Censuses from a question that asks whether the interviewee can read and write. Literacy is important because immigrants tend to have little formal education (Camarota, 2001).

[13] For a deeper analysis of the problems caused by including working age women population see also Borjas, et. al. (2008)

5. Hypotheses

The literature identifies that trade liberalization has increased economic growth, but affected the distribution of gains across income levels and geographic regions. However, these effects are confounded by a third important factor: migration. If all workers are completely mobile, then an increase in inequality among regions or sectors does not imply an increase in overall wage inequality and instead just reflects a change in the distribution of jobs. Failure to account for migration may result in an over-estimation of income in the region receiving migrants and therefore an overestimation of the inequality of income distribution. In this chapter, I identify the effect of trade on income inequality, taking labor migration into consideration. Since migration will not be equally available to all households, understanding who can and who does migrate goes to understanding which households are more likely to benefit from or be hurt by trade.

The objective of this chapter is to analyze how migration patterns and incomes change from 1990 to 2010. The main research question is: Did NAFTA increase wage inequality, taking internal migration into account? Combining the New Economic Geography (NEG) and the standard trade theory, I obtain the following testable hypotheses:

1. Over the past decades, trade openness has caused a substantial increase in income inequality in Mexico (Esquivel, et al., 2003). This effect will be observed by having a positive effect between trade openness and wage for the high income group and/or a negative effect of trade openness on the low income group.
2. The wage increases have been almost exclusively transferred to workers especially in Mexican states close to the U.S. border, increasing the income disparity (Nicita, 2009).This hypothesis can be tested by observing the sign on the coefficient on distance in the regression on worker wage.
3. People who migrate are able to obtain more remunerative and secure employment opportunities than those people who did not migrate (Morrison, et al., 2007; Finan, et al., 2005).This hypothesis can be tested by observing the coefficient on migration in the regression on wage

6. Results

Overall, the coefficients on the core variables are generally statistically significant and with the predicted signs (Table 1). The first two columns show the result of the first and second stage regressions for the whole working age male population. Columns 3 to 6 show the result only for working age population for the low and high income, respectively. Table 2 shows the marginal effects of a change in tariffs and distance to the border. Next I will explore each of these results.

Whole Working Age Male Population

I find that the interaction variable of the GVA with the change in tariff $(\Delta\tau_t * GVA_{t-1})$ is significant and with a negative coefficient, as expected. Thus, a one percent decrease in the change in GVA induced by a change in tariffs increases the probability to migrate by 1% and the wage by 10%. The coefficient indicates that the larger the traded sector in that region, the more migration and the higher the wage. Most of the variables of the sectoral GVA are significant, but their signs are different. While an increase in commerce, manufacturing and service GVA reduced the probability of migration only an increase in mining GVA significantly increases the average wage. Interestingly, higher manufacturing and service GVA will actually reduce their average wage. While this result shows that trade openness increases migration and wages, it does not show the effect that trade openness has on income inequality. For that reason we will split the data into high and low income in the following section.

I find that literacy and years of education are positive and significant for migration but also for wages. I also find that distance to the border has a significant effect on migration and wages, whereas the interaction of distance with GVA and changes in tariff has a significant effect only in the migration regression. This evidence agrees with my second hypothesis that, following Nicita's (2009) findings, the effect of NAFTA has been almost exclusively transferred to workers especially in Mexican states close to the US-Mexico border, increasing the income disparity.

Moving to the third hypothesis, I find that people who migrate tend to receive a lower wage than those people who did not migrate, which indicates that people who migrate end up in lower paying jobs than those who do not, on average over the whole country. This implies that those people who migrate have characteristics that are also

associated with lower wages. But this effect reduces in half for the years after NAFTA (2000 and 2010), implying that people who migrated after NAFTA may have different characteristics than those who migrated in 1990, which allow them to have a better wage, although still lower than their counterparts who did not migrate.

Low Vs. High Income

When I divide the data between high and low income, I find that the potential effect of NAFTA is negative and significant. However we observe very different coefficient magnitudes for both groups. While high income workers gain a 28% increase on their wages for a 1% decrease in tariffs, low income workers get only a mere 0.04% increase. This result fails to reject the first hypothesis that trade openness has increased income inequality because it has only benefited high and not low income people, thereby increasing the income disparity. In terms of migration, we also observed that the potential effect of NAFTA is stronger with low income people than with high income people. This implies that low income workers are more sensitive to migrate, especially those that are in traded sectors at the origin.

I also observe that low income workers who migrate do not do well with respect to their final wages whereas high income workers who migrate do improve their wages. Thus, we see two types of migrants, a low skilled worker migrating to occupy low income jobs and high skilled migrant workers that get higher paid jobs. These findings agree with my field work where I found that most of the migration for high skilled labor was concentrated in Nuevo Leon, in the Banking and Consulting Sectors. This type of migration moves mainly from large cities such as Mexico City, Guadalajara, and Veracruz. In contrast to the low skilled labor, this group did not send remittances to their families. The low skill workers moved mainly from rural areas in the south of Mexico (from the states of Oaxaca and Guerrero). Most came from small villages where they were working their land, but due to the economic crisis they decided to migrate north. The majority of these migrants work in the agriculture and service sectors, where skill requirements are low.

7. Conclusions

This chapter helps strengthen the understanding of the factors that influence Mexico's regional income differentials and the effect that NAFTA has had on them. It takes into consideration internal migration when determining that NAFTA has exacerbated interregional income differences. I use data on individual level wages, individual and household characteristics, as well as regional level data in terms of economic growth, education, migration, and other characteristics, to determine regional income disparities throughout each Mexican region. Thus, this study sheds light on the effect of trade openness on individual and wage inequalities.

This research provides initial evidence of the effect of trade liberalization on income inequality, suggesting that trade liberalization has not reduced income inequalities, but rather led to a greater regional polarization. Men with higher income benefited more from NAFTA than those with low income, indicating an increase in income disparity. The potential effect of NAFTA on migration is also stronger with low income people than with high income people, because low income workers are more sensitive to migrate, especially those that worked in traded sectors in the same region where the worker lived 5 years ago. Also, large traded sectors induced migration, particularly for the poor, and offered a higher wage overall, which results in an increase in income inequality because it has only benefited workers in traded sectors but not in non-traded sectors.

The effects of trade liberalization, such as regional transportation benefits, have slightly increased migration towards the US-Mexico border. This evidence conforms with Krugman & Livas-Elizondo (1996) finding that trade leads to more migration because the U.S. market appears to be increasing in importance.

While workers close to the U.S. market have a higher wage, workers far away from the United States are receiving a lower income. However, north-south disparities are only one part of the story. I find that large manufacturing sectors seem to be associated with a smaller wage. This implies that because trade benefits manufacturing, it decreases income disparity. Thus, it appears as if NAFTA did have some redistributive effect.

Potential policy implications of this study are that investment in manufacturing can be used as means to ease regional wage inequality. This evidence also suggests that policies that facilitate internal migration will be good for

economic growth and will reduce income inequality. However it is important to mention, that those policies should have a broad access to make sure it reaches all the household and regions. In this way, it will avoid increasing inequality among households and regions.

8. Bibliography

Aguayo Tellez Ernesto Rural–Urban Migration in the 1990s Mexico: Switching the 'Ejido'for the 'Maquiladora' [Report] : Thesis-Doctor of Philosophy / Economics ; Rice University. - Houston : Unpublished, 2005. - pp. 78-104. - UMI Number: 3168052.

Aguayo-Tellez Ernesto, Airola Jim and Juhn Chinhui DID TRADE LIBERALIZATION HELP WOMEN? THE CASE OF MEXICO IN THE 1990S [Report]. - Cambridge, MA : NBER working paper series, 2010.

Airola Jim A Regional Analysis of the Impact of Trade and Foreign Direct Investment on Wages in Mexico, 1984-2000 [Journal]. - [s.l.] : Review of Development Economics, 2008. - 2 : Vol. 12.

Anderson James E. and Van Wincoop Eric Trade costs [Journal] // Journal of Economic Literature. - 2004. - Vol. 42. - pp. 691–751.

Anzaldo Gómez Carlos, Hernández Esquivel Juan Carlos and Rivera Vázquez Ahidé Migración interna, distribución territorial de la población y desarrollo sustentable [Book Section] // La situación demográfica de México 2008 / book auth. (CONAPO) Consejo Nacional de Población. - Mexico : CONAPO, 2008.

Aroca Patricio and Maloney William F. Migration, Trade and Foreign Direct Investment in Mexico [Journal] // The World Bank Economic Review. - December 14, 2005. - 3 : Vol. 19. - pp. 449-472.

Aroca Patricio and Maloney William F. Migration, Trade and Foreing Direct Investment in Mexico [Journal] // The World Bank Economic Review. - December 14, 2005. - 3 : Vol. 19. - pp. 449-472.

Aroca Patricio and Maloney William F. Migration, Trade, and Foreign Direct Investment in Mexico [Journal] // World Bank Economic Review. - 2005. - pp. 449-472.

Aroca Patricio, Bosch Mariano and Maloney William F. Spatial dimensions of trade liberalization and economic convergence: Mexico 1985-2002 [Journal] // The World Bank Economic Review. - December 2005.

Audley John J. [et al.] NAFTA's Promise and Reality: Lessons from Mexico for the Hemisphere [Report]. - Washington, D.C. : Carnegie Endowment for International Peace, 2004.

Baylis Kathy, Garduño-Rivera Rafael and Piras Gianfranco The distributional effects of NAFTA in Mexico: evidence from a panel of municipalities [Journal] // Working Paper. - [s.l.] : University of Illinois, 2010. - pp. 1-30.

Blanchard Olivier Jean [et al.] Regional Evolutions [Journal] // Brookings Papers on Economic Activity. - [s.l.] : The Brookings Institution, 1992. - 1 : Vol. 1992. - pp. 1–75.

Borjas George J. Economics of Migration [Article] // International Encyclopedia of the Social and Behavioral Sciences. - February 2000. - pp. 1-21. - Section No. 3.4, Article No. 38.

Borjas George J. The economic analysis of immigration [Book Section] // Handbook of Labor Economics / book auth. Ashenfelter Orley and Card David. - New York : Elsevier, 1999. - Vol. 3A : 3.

Borjas George J., Grogger Jeffrey and Hanson Gordon H. Imperfect substitution between immigrants and natives: a reappraisal [Journal]. - [s.l.] : NBER Working Paper, 2008. - Vol. 13887.

Borts G. H. and Stein J. L. Economic Growth in a Free Market [Book]. - New York : Columbia University Press, 1964.

Camarota Steven A. Immigration From Mexico: Assessing the Impact on the United States [Report]. - Washington, DC : Center for Immigration Studies, 2001.

Canas Jesus [et al.] The Impact of the Maquiladora Industry on U.S. border Cities [Report] : Working Paper. - Dallas : Federal Reserve Bank of Dallas, 2011. - p. 32. - 1107.

Cashin Pauk and Sahay Ratna Internal Migration, Center-State Grants, and Economic Growth in the States of India [Journal]. - [s.l.] : IMF Staff Papers, mARCH 1996. - 1 : Vol. 43.

Chiquiar Daniel Why Mexico's regional income convergence broke down [Journal] // Journal of Development Economics. - 2005. - Vol. 77. - pp. 257– 275.

Connell J. Migration remittances and rural development in the South Pacific [Report]. - Tonga : Noumea: South Pacific Commission, 1983. - Country Report No. 18.

Costa-i-Font Joan and Rodriguez-Oreggia Eduardo Is the Impact of Public Investment Neutral Across the Regional Income Distribution? Evidence from Mexico [Journal] // Economic Geography. - 2005. - 3 : Vol. 81. - pp. 305–322.

Cragg Michael Ian and Epelbaum Mario Why Has Wage Dispersion Grown in Mexico? Is It the Incidence of Reforms or the Growing Demand for Skills? [Journal]. - [s.l.] : Journal of Development Economics, 1996. - 1 : Vol. 51.

Cravey Altha J. Women and work in Mexico's maquiladoras [Book]. - Boulder : Lanham, Md. : Rowman & Littlefiel, 1998.

Duranton Gilles Urban Evolutions: The Fast, the Slow, and the Still [Journal]. - [s.l.] : THE AMERICAN ECONOMIC REVIEW, March 2007. - 1 : Vol. 9. - pp. 197-221.

Esquivel Gerardo and Rodríguez-López José Antonio Technology, Trade, and Wage Inequality in Mexico before and after NAFTA [Journal]. - [s.l.] : Journal of Development Economics, 2003. - 2 : Vol. 72. - pp. 543– 565.

Feenstra Robert C. and Hanson Gordon Globalization, Outsourcing, and Wage Inequality [Journal]. - [s.l.] : The American Economic Review, 1996. - 2 : Vol. 86. - pp. 240-245.

Feliciano Zadia M. Workers and Trade Liberalization: The Impact of Trade Reforms in Mexico on Wages and Employment [Journal]. - [s.l.] : Industrial and Labor Relations Review, 2001. - 1 : Vol. 55. - pp. 95-115.

Feng Shuaizhang, Krueger Alan B. and Oppenheimer Michael Linkages among climate change, crop yields and Mexico–US cross-border migration [Journal]. - Washington, DC : PNAS, 2010. - 32 : Vol. 107.

Fernández-Kelly Patricia NAFTA and Beyond: Alternative Perspectives in the Study of Global Trade and Development [Journal] // The ANNALS of the American Academy of Political and Social Science. - March 2007. - 1 : Vol. 610. - pp. 6-19.

Finan Frederico, Sadoulet Elisabeth and de Janvry Alain Measuring the poverty reduction potential of land in rural Mexico [Journal]. - [s.l.] : Journal of Development Economics, 2005. - Vol. 77. - pp. 27–51.

Garduño-Rivera Rafael Regional Economic analysis of Internal Migration in Mexico [Report] : Working Paper. - Champaign, IL : University of Illinois at Urbana-Champaign, 2011.

Garduño-Rivera Rafael The Effect of Trade on Regional Distribution in Mexico [Journal] // Working Paper. - Champaign-Urbana, IL : Agricultural & Consumer Economics Department; University of Illinois, 2008. - pp. 1-32.

Greenwood Michael J. An Econometric Model of Internal Migration and Regional Eeconomic Growth in Mexico [Journal]. - [s.l.] : JOURNAL OF REGIONAL SCIENCE, 1978. - 1 : Vol. 18.

Greenwood Michael J. International Migration in Developed Countries [Book Section] // Handbook of Population and Family Economics / book auth. Rosenzeweig Mark R. and Stark Oden. - Amsterdam : Elsevier Science B.V., 1997. - Vol. 1b.

Hamalainen Kari and Bockerman Petri Regional Labor Market Dynamics, Housing and Migration [Journal]. - [s.l.] : Journal of Regional Science, 2004. - 3 : Vol. 44. - pp. 543–568.

Hanson Gordon and Harrison Ann Trade, Technology, and Wage Inequality [Journal]. - [s.l.] : National Bureau of Economic Research, 1995. - Vol. Working Paper No. 5110.

Hanson Gordon H. Globalization, Labor Income, and Poverty in Mexico [Book Section] // Globalization and Poverty / book auth. Harrison Ann. - Chicago : University of Chicago Press and the NBER, 2007.

Hanson Gordon H. North american economic integration and industry location [Journal]. - [s.l.] : Oxford Review of Economic Policy, 1998a. - 2 : Vol. 14. - pp. 30-44.

Hanson Gordon H. The Economic Logic of Illegal Immigration [Report] : The Bernard and Irene Schwartz Series on American Competitiveness. - [s.l.] : Council on Foreign Relations, 2007. - CSR No. 26.

Hanson Gordon Localization economies, vertical organization, and trade [Journal]. - [s.l.] : American Economic Review, 1996. - Vol. 86. - pp. 1266–78.

Hanson Gordon What Has Happened to Wages in Mexico since NAFTA? Implications for Hemispheric Free Trade [Journal]. - [s.l.] : National Bureau of Economic Research, 2003. - Vol. Working Paper No. 9563..

Harris John R. and Todaro Michael P. Migration, Unemployment and Development: A Two-Sector Analysis [Journal]. - [s.l.] : The American Economic Review, 1970. - 1 : Vol. 60. - pp. 126-142.

Harris Richard and Trainor Mary Capital subsidies and their impact on total factor productivity: firm-level evidence from Northern Ireland [Journal]. - [s.l.] : Journal of Regional Science, 2005. - 1 : Vol. 45. - pp. 49–74.

Harrison Ann Globalization and poverty: An Introduction [Book]. - Chicago : University of Chicago Press, 2007.

Huerta Carillo Mario M. The Impact of Maquiladoras on Migration in Mexico [Book]. - [s.l.] : Commission for the Study of International Migration and Cooperative Economic Development, 1990.

INEGI Catálogo de Entidades, municipios y localidades [Online] // Instituto Nacional de Estadística y Geografía. - April 18, 2008. - May 14, 2008. - http://mapserver.inegi.gob.mx/mgn2k/?s=geo&c=1223.

INEGI Estadística de la Industria Maquiladora de Exportación (EME) [Online] // Banco de Información Económica / ed. Estadística Instituto Nacional de. - 12 13, 2007. - June 12, 2008. - http://dgcnesyp.inegi.org.mx/cgi-win/bdieintsi.exe/NIVJ15000200060005#ARBOL.

INEGI Sistema Municipal de Base de Datos [Online] = TABLRS // Censos Economicos 1989, 1994, 1999, 2004 and Censo General de Poblacion y Vivienda 1980, 1990, 2000 and Conteo de Poblacion 1995. - October 15, 2005. - May 13, 2008. - http://sc.inegi.gob.mx/simbad/index.jsp?c=125. - tABLES.

Jordan Mary and Sullivan Kevin Trade brings riches, but not to Mexico's poor [Article] // The Washington Post. Guardian Weekly. - April 3-9, 2003. - p. 33.

Kearney Michael From the Invisible Hand to Visible Feet: Anthropological Studies of Migration and Development [Journal] // Annual Review of Anthropology. - 1986. - Vol. 15. - pp. 331-361.

Krugman Paul and Livas-Elizondo Raul Trade policy and the Third World metropolis [Journal] // Journal of Development Economics. - [s.l.] : Elsevier, April 1996. - 1 : Vol. 49. - pp. 137-150.

Krugman Paul Increasing Returns and Economic Geography [Journal] // The Journal of Political Economy. - Jun. 1991. - 3 : Vol. 99. - pp. 483-499.

Kuznets S. Introduction: Population Redistribution Migration, and Economic Growth [Book Section] // Population Redistribution and Economic Growth: United States, 1870-1950 / book auth. Eldridge H. T. and Thomas D. S.. - Philadelphia : The American Philosophical Society, 1964. - Vols. III, Demographic Analysis and Interrelations.

LaLonde Robert J. and Topel Robert H. Economic Impact of International Migration and of Migrants [Book Section] // Handbook of Population and Family Economics / book auth. Rosenzweig Mark R. and Stark Oded. - Amsterdam : Elsevier, 1997. - Vol. 1B.

LeSage James P. and Fischer, Manfred M. Spatial Econometric Methods for Modeling Origin-Destination Flows [Book Section] // Handbook of Applied Spatial Analysis: Software Tools, Methods and Applications / book auth. (eds.) M.M. Fischer and A. Getis. - Berlin Heidelberg : Springer-Verlag, 2010.

LeSage James P. and Llano Carlos A Spatial Interaction Model With Spatially Structured Origin and Destination Effects [Report]. - [s.l.] : SSRN: http://ssrn.com/abstract=924603, 2007.

LeSage James P. and Pace R. Kelley Spatial Econometric Modeling of Origen-Destination Flows [Journal]. - [s.l.] : Journal of Regional Sciences, 2008. - 5 : Vol. 48. - pp. 941–967.

López Malo Ernesto Ensayo sobre localización de la industria en México [Report]. - Mexico DF : UNAM, 1960.

Lucas Robert E.B. Internal Migration in Developing Countries [Book Section] // Handbook of Populalion and Family Economics / book auth. Rosenzweig M. R. and SIark O.. - Amsterdam : Elsevier, 1997. - Vol. 1B.

Martin Philip Immigration, Agriculture, and the Border [Book Section] // Both Sides of the Border / book auth. Fernandez Linda and Carson Richard T.. - [s.l.] : Springer Netherlands, 2002.

Martin Philip Trade and Migration: NAFTA and Agriculture [Book]. - Washignton : Institute of International Economics, 1993.

Massey Douglas S. Social Structure, Household Strategies, and the Cumulative Causation of Migration [Journal] // Population Index. - [s.l.] : Office of Population Research, Spring 1990. - 1 : Vol. 56. - pp. 3-26.

Mincer Jacob Family Migration Decisions [Journal]. - [s.l.] : NBER Working Paper, 1978. - August 1977 : Vol. No. 199.

Mishra Prachi Emigration and wages in source countries: Evidence from Mexico [Journal] // Journal of Development Economics. - 2007. - Vol. 82. - pp. 180-199.

Molho Ian Theories of migration: A review [Journal] / ed. Society Scottish Economic. - [s.l.] : Scottish Journal of Political Economy, November 1986. - 4 : Vol. 33. - pp. 396-419.

Morrison Andrew, Raju Dhushyanth and Sinha Nistha Gender Equality, Poverty and Economic Growth [Report] : Policy Research Working Paper 4349 / Poverty Reduction and Economic Management Network ; Gender and Development Group. - Washington, DC : The World Bank, 2007. - September.

Nicita Alessandro The price effect of tariff liberalization: Measuring the impact on household welfare [Journal] // Journal of Development Economics. - 2009. - pp. 19-27.

Nicita Alessandro Who Benefited from Trade Liberalization in Mexico? Measuring the Effects on Household Welfare [Journal] // World Bank Policy Research Working Paper. - Washington DC : [s.n.], 2004. - Vol. 3265.

OECD Growing Unequal? Income Distribution and Poverty in OECD Countries [Book]. - Paris : The Organisation for Economic Co-operation and Development (OECD), 2008.

Partridge Mark D. [et al.] Dwindling U.S. Internal Migration: Evidence of Spatial Equilibrium? [Report]. - [s.l.] : Munich Personal RePEc Archive, 2010. - Working Paper. - 28157.

Ranjan Priya Growth and Inequality in Closed and Open Economies: The Role of the Product Cycle [Journal] // The B.E. Journal of Economic Analysis & Policy. - 2008. - 1 : Vol. 8. - p. Article 36.

Ravallion Martin Issues in Measuring and Modelling Poverty [Journal]. - [s.l.] : The Economic Journal, 1996. - 438 : Vol. 106. - pp. 1328-1343.

Revenga Ana Employment and wage effects of trade liberalization: the case of Mexican manufacturing [Journal]. - [s.l.] : Journal of Labor Economics, 1997. - S3 : Vol. 15. - pp. 20-43.

Robertson Raymond Trade and Wages:Two Puzzles from Mexico [Journal] // The World Economy. - 2007. - pp. 1378-1398.

Rodríguez-Pose Andres and Sánchez-Reaza Javier Economic Polarization through Trade: Trade Liberalization and Regional Growth in Mexico [Book Section] // Spatial Inequality and Development / book auth. Kanbur R. and Venables A. J.. - Oxford : Oxford University Press, 2005.

Rostow W. The Stages of Growth: A Non-Communist Manifesto [Book]. - Cambridge, UK : Cambridge University Press., 1960.

Sahota Gian S. An Economic Analysis of Internal Migration in Brazil [Journal] // The Journal of Political Economy. - [s.l.] : The University of Chicago Press, 1968. - 2 : Vol. 76. - pp. 218-245.

Secretaría de Comunicaciones y Transportes Traza tu Ruta [Online] // Secretaría de Comunicaciones y Transportes. - 2008. - May 23, 2008. - http://aplicaciones4.sct.gob.mx/sibuac_internet/ControllerUI?action=cmdEscogeRuta.

SEDESOL Programa de Atención a Jornaleros Agrícolas [Report]. - Mexico City : Secretaria de Desarrollo Social, 2004.

SEGOB Secretaría de Gobernación Enciclopedia de los Municipios de México [Online] / ed. Municipal Instituto Nacional para el Federalismo y el Desarrollo. - 2005. - May 13, 2008. - http://www.e-local.gob.mx/wb2/ELOCAL/ELOC_Enciclopedia.

Smith Geri and Lindbland Cristina A tale of what free trade can and cannot do [Article] // BusinessWeek. - December 22, 2003. - pp. 36-43.

Stark Oded Rural-to-Urban Migration in LDCs: A Relative Deprivation Approach [Journal] // Economic Development and Cultural Change. - 1984. - 3 : Vol. 32. - pp. 475-486.

Todaro Michael P. Internal Migration in Developing Countries: A Review of Theory, Evidence, Methodology and Research Priorities [Book]. - Geneva : International Labour Office, 1976.

Unger Kurt Regional Economic Development and Mexican Out-Migration [Report]. - [s.l.] : NBER Working Paper No. W11432, 2005.

Vega Daniel Migración interna: Dimensión, alcances y desafíos [Report] : Presentation / Dirección General de Estudios Sociodemográficos y Prospectiva. - Guanajuato, Gto. : Consejo Nacional de Población (CONAPO), 2005. - Jornada Nacional de Migración Interna y Género: Origen, Tránsito y Destino.

Verhoogen Eric A. Trade, Quality Upgrading, and Wage Inequality in the Mexican Manufacturing Sector [Journal]. - [s.l.] : The Quarterly Journal of Economics, 2008. - 2 : Vol. 123. - pp. 489-530.

Walton Michael and Lopez-Acevedo Gladys Poverty in Mexico: An Assessment of Conditions, Trends and Government Strategy [Report]. - Washington : World Bank, 2004. - Report No. 28612-ME.

ANNEX

Table 1: 1st Stage xtProbit: P(Migrate).2nd Stage POLS across time: Ln(Wage). Significance levels: *** 0.001, ** 0.01, * 0.05

	All		Low Income		High Income	
	(1)	(2)	(3)	(4)	(5)	(6)
	Prob_Migrate	wage	Prob_Migrate	wage	Prob_Migrate	wage
$\Delta\tau_t * GVA_{it-1}$	-4.49e-10***	-9.61e-10***	-2.50e-09***	-1.79e-09***	-4.46e-10*	-5.09e-09***
	(-5.24)	(-5.16)	(-9.51)	(-17.32)	(-2.36)	(-8.80)
$GVA_{commercet-1}$	-1.39e-09***	1.57e-09	4.80e-09***	9.90e-10***	-3.40e-09***	-6.04e-09**
	(-4.16)	(1.83)	(4.04)	(4.75)	(-4.64)	(-2.62)
$GVA_{manufac\,t-1}$	-3.43e-10**	-1.46e-09***	-2.15e-09***	-5.65e-10***	5.82e-11	5.34e-10
	(-3.22)	(-6.32)	(-6.51)	(-12.61)	(0.25)	(0.95)
$GVA_{minning\,t-1}$	5.04e-11	1.27e-09***	2.42e-10***	6.28e-11***	4.84e-10***	9.47e-10***
	(1.60)	(16.62)	(3.72)	(5.99)	(3.46)	(3.88)
$GVA_{service\,t-1}$	-7.27e-10***	-4.25e-09***	2.04e-09***	1.46e-09***	-7.69e-10***	-4.39e-09***
	(-7.35)	(-11.68)	(4.97)	(4.31)	(-4.25)	(-6.45)
Literacy	0.0366***	0.380***	0.0149	0.00312*	-0.0114	-0.0805***
	(5.32)	(29.35)	(1.16)	(1.97)	(-0.63)	(-3.48)
Education	0.0241***	0.143***	0.0347***	0.00386***	0.0336***	-0.0382***
	(69.70)	(66.93)	(34.28)	(5.87)	(40.82)	(-11.85)
$distF_i$	0.0417***	-0.197***	-0.0347**	0.00922***	0.119***	0.193***
	(10.23)	(-20.74)	(-3.11)	(5.23)	(11.33)	(6.31)
$distF_i * \Delta\tau_t * GVA_{it-1}$	3.66e-10***	-1.43e-10	1.61e-09***	1.69e-09***	4.06e-10*	2.40e-09***
	(4.69)	(-0.88)	(6.81)	(18.56)	(2.35)	(5.65)
$\widehat{M}_i$		-21.39***		-1.379***		-8.101***
		(-25.23)		(-6.35)		(-10.20)
$\widehat{M}_i$*2000		10.65***		-0.356**		10.59***
		(31.63)		(-2.58)		(19.25)
$\widehat{M}_i$*2010		9.969***		-0.352		19.08***
		(14.10)		(-1.70)		(14.87)
Age	0.00880***	0.194***	0.0128***	0.00627***	0.0298***	-0.0711***
	(10.56)	(95.38)	(7.46)	(22.04)	(16.68)	(-16.25)
Age^2	-0.000244***	-0.00263***	-0.000196***	-0.0000877***	-0.000447***	0.000710***
	(-22.94)	(-105.91)	(-9.32)	(-23.96)	(-19.87)	(13.00)
Married	0.0273***	0.576***	0.0320***	0.0364***	0.0606***	-0.187***
	(7.35)	(63.96)	(3.45)	(28.64)	(6.28)	(-8.68)
Indigenous Lang.	0.0101	-1.083***	-0.109***	-0.00249*	-0.000978	0.0857**
	(1.77)	(-76.63)	(-9.19)	(-2.05)	(-0.06)	(2.92)
$Infrastructure_{t-1}$	-0.0601***	0.101***	-0.00699	0.00864***	-0.0464***	-0.0169
	(-41.38)	(17.33)	(-1.76)	(19.48)	(-10.37)	(-1.88)
$Pop.Density_{t-1}$	0.000149***	0.000233***	0.00000876	-0.0000104***	0.000136***	0.000168***
	(47.97)	(13.34)	(0.88)	(-5.45)	(17.07)	(5.52)
x2000	0.116***	0.0479**	-0.259***	-0.0878***	0.0976***	-2.253***
	(27.57)	(2.78)	(-19.59)	(-22.14)	(7.54)	(-59.97)
x2010	0.00586	0.341***	-0.511***	-0.0997***	-0.0509**	-2.355***
	(0.86)	(11.98)	(-20.57)	(-17.36)	(-3.18)	(-30.59)
Y_{it}	-0.00425***		-0.00870***		-0.00583*	
	(-3.97)		(-3.36)		(-2.37)	
_cons	-2.160***	-1.062***	-3.953***	-0.111***	-3.279***	16.38***
	(-63.53)	(-12.12)	(-39.06)	(-6.25)	(-40.17)	(72.47)
N	7248450	6057400	1211408	1211408	1385570	194520

Table 2 Marginal Effect of Change in Tariffs and Distance after NAFTA

Marginal Effect	All		low		High	
	probit	wage	probit	wage	probit	wage
$\Delta\tau_t$	-1%	-10%	-5%	-0.04%	-0.6%	-28%
$distF_i$	3%	-19%	-6%	-2%	11%	13%

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