Keep it or lose it?
Labor market returns to origin-specific immigrant skills

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Does trade with immigrants' country of origin generate returns to country-specific knowledge and skills that they bring to the destination? I examine this question in the context of US trade with Mexico. Using NAFTA as a shock, I show that trade intensification with Mexico strongly and positively affects wages, occupational upgrading and inter-industry sorting of Mexican descendants in the US, specifically those employed in managerial occupations. The results suggest complementarity between origin- and destination-specific skills and knowledge, as the benefits of trade are mostly accrued to the US-born Mexican descendants.

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I. Introduction

When immigrants cross the border of the destination country, along with labor, they bring their knowledge about the country of origin, its institutions, language, as well as networks and connections to their community. In other words, they bring in their country-of-origin-specific human capital or *soft* skills. These skills can potentially be productive in the destination. In the context of cross-border interactions, they can reduce cultural biases and transaction costs to trade or establish productive networks among workers and businesses. Positive correlation between the number of immigrants in a country and the volume of trade between the country of origin and destination surely points in that direction (see Gould, 1994; Head and Ries, 1998; Rauch, 1999, 2001; Rauch and Trindade, 2002, among others). Little is known, however, about how important these skills are or whether there are returns to these skills for the immigrants.

The objective of this article is to shed light on this issue. Are there labor market returns to the immigrant soft skills in the destination country? The answer is yes. The analysis in this article shows that trade between immigrants' country of origin and destination generates positive labor market returns to the immigrants' soft skills, as measured by their employment outcomes. The key challenge to the question above is that individual endowment of soft skills is not easily measurable, and therefore it is hard to distinguish the effect of these skills from others that affect immigrants' productivity. Exogenous shocks that make soft skills of a particular immigrant group more valuable in the destination country can be used to identify labor market returns to these skills within difference-in-difference framework. This is the type of experiment used in this paper.

The focus of the paper is on the US labor market and its largest immigrant group, Mexicans. The ratification of the North American Free Trade Agreement (NAFTA) and the subsequent intensification in trade between the US and Mexico are used as a shock to the productivity of Mexico-specific soft skills in the US labor market. By reducing formal barriers to trade, NAFTA makes trade with Mexico more attractive to US businesses, but transactional costs to trade are high (Anderson and van Wincoop, 2004) and informational frictions between trading partners and imperfect contract enforcement are important components of these costs (Anderson and Marcouiller, 2002; McMillan and Woodruff, 1999; Casella and Rauch, 2002; Rodrik, 2000).[1] The main hypothesis of this research is that Mexican workers are relatively more productive at reducing these informal barriers to trade with their country of origin. For this reason, when formal barriers to trade with Mexico fall, labor market returns to Mexico-

[1] Portes, Rey and Oh (2001) and Portes and Rey (2005) provide evidence for the importance of informational frictions for the FDI.

specific soft skills increase, and as Mexican workers in the US reap the benefits this should be reflected in their wages and other employment outcomes relative to other natives.

Three sources of variation are exploited for identification: industry-level trade intensification within manufacturing, individual ancestry, and the timing of NAFTA implementation. Given that only high-skilled individuals and individuals employed within relevant occupations, specifically managers, are expected to be endowed with the mix of skills and/or to be in a position to affect transactional costs of trade, additional sources of variation are provided by individual education and occupation.[2] Using individual ancestry as a proxy for the individual endowment of origin-specific soft skills relies on the assumption that the two are correlated. Immigrants' imperfect assimilation and the intergenerational transmission of language, cultural norms, knowledge about the country of origin, as well as human capital are the likely sources of such correlation (evidence for intergenerational transmission of traits and behavior can be found in Fernandez and Fogli (2009), Algan, Dustmann, Glitz, and Manning (2010), Dohmen, Falk, Huffman, and Sunde (2012), among others).

The main data sources used in the analysis are the US Population Census and the American Community Survey (ACS). Mexicans are an especially convenient case study for two reasons: NAFTA provides a vital source of variation in US-Mexico trade relations, while the size of Mexican population in the US allows me to focus on the US-born individuals only, who arguably are more comparable to other native workers than the first-generation Mexican immigrants.[3] Moreover, the assimilation of Mexicans in the US –in terms of earnings, education, and other socio-economic characteristics – has been shown to be slow and unequal (Trejo, 1997; Grogger and Trejo, 2002; Borjas and Katz, 2007; Duncan and Trejo, 2011). Mexicans are one of the most disadvantaged groups in the US. In this research, the focus is on returns to the specific skills that can potentially improve their labor market outcomes.

The key finding of the analysis is in line with the main hypothesis: increased trade with Mexico strongly and positively affects Mexicans employed in managerial occupations, especially those with at least some college education. The effect on low-skilled Mexicans is small and statistically insignificant. NAFTA-induced trade intensification leads to a faster wage growth and more occupational upgrading among Mexican descendants relative to other

[2] Guiso, Sapienza and Zingales (2009) show that cultural similarities generate trust, and higher levels of trust generate more trade. In that line, I argue that managers with Mexican background in the US can act as intermediaries between Mexican and US trading partners and thus reduce informational asymmetries between them, potentially generating higher levels of trust and lowering transaction costs to trade.

[3] Labor market outcomes of the first-generation immigrants are likely to be affected by their migration decision, lack of assimilation, and the contemporaneous immigrant inflows. About 3 per cent of US population are Mexican descendants.

natives. One standard deviation increase in the industry-level trade share with Mexico generates 4 per cent faster wage growth among Mexican managers. Among managers with at least some college education the effect is nearly 6 per cent. Trade also positively affects occupational upgrading among Mexican descendants. One standard deviation in trade intensification with Mexico leads to more than 11 per cent higher probability of being employed in a managerial occupation among high-skilled Mexican descendants.[4] Finally, after NAFTA's implementation, Mexican descendants also become more likely to be employed in industries that trade more intensively with Mexico. Specifically, Mexican managers experience nearly 4-percentage-point increase in the likelihood to be employed in an industry with an above-median increase in trade share with Mexico, nearly 8 per cent over the baseline share. The effect among college-educated Mexican managers is nearly 14 per cent.

The effects of trade are consistently stronger among high-skilled individuals, even within occupations. This meaningful heterogeneity with respect to individual education suggests an existence of complementarities between country-specific soft skills and generic human capital. Reducing barriers to trade entails bargaining and coordination with overseas partners, as well as selection and processing of relevant information. These, among other tasks, are highly intensive in analytical and communication skills that are usually acquired through education. For this reason, only high-skilled Mexican descendants and specifically Mexicans employed in managerial occupations benefit from trade intensification with Mexico. The results are robust to the inclusion of a wide array of controls and alternative specifications. All in all, the main findings are twofold. First, the demand for, and therefore the returns to, Mexico-specific soft skills increases as a result of the intensification in the trade relations with Mexico. Second, the effect is concentrated among Mexican descendants employed in managerial occupations, which implies complementarity between country-specific soft skills and generic human capital.

Soft skills are essentially a "black box" that contain all country-specific skills, knowledge, as well as personal connections, but which typically are not observable in the data. After establishing the baseline results, I pursue to isolate the relevance of specific elements that constitute the black box. Language is probably its most salient feature and the one that fortunately can – to some extent – be observed in the data. Language has also been shown to foster international trade (Melitz, 2008). Using individual language spoken at home as a proxy for Spanish language skills, I test whether returns to Spanish changed after NAFTA and whether that can explain the changes in the labor market outcomes of Mexican descendants. I

[4] All of the occupational upgrading occurs among individuals with at least some college education, the effect is zero among those with a lower level of education.

perform two tests. First, I directly control for individual Spanish language skills, allowing for the labor market returns to Spanish to change after NAFTA. Then, exploiting the fact that Spanish is spoken in a number of countries across the world, I estimate the effect of US-Mexico trade on Mexican workers relative to other Spanish speakers. The results from the first test provide evidence of appreciation of Spanish skills after NAFTA. The baseline results remain nearly identical when controlling for individual Spanish skills or using non-Mexican Spanish speakers as a control group. This implies that changes in the returns to language are not the only driver of the trade effect. A partial treatment test further shows that the effects of trade are concentrated specifically among Mexican descendants. While still positive, they are smaller and statistically insignificant among individuals from other Latin American countries – that are culturally and historically related to Mexico – as well as among the first-generation Mexican immigrants. The latter result suggests existence of a complementarity between the destination- and origin-specific skills. In other words, there are positive returns to assimilation. Geographic variation in a demand and supply of Mexico-specific soft skills – generated by clustering of both, Mexican workers and industries that trade with Mexico – provides an additional source of meaningful variation. The analysis of heterogeneity across US states suggests that the positive wage effect and occupational upgrading are more prevalent where the supply of Mexican soft skills is lower and the demand, driven by industrial composition, is higher. [5] Meanwhile, inter-industry sorting occurs mostly in the states with higher concentration of Mexican population. This is in line with the returns to Mexico-specific soft skills being the highest when either the transactional costs and/or trade intensification are high. The effects are persistent in time and are observed up to 18 years after the shock.[6]

Finally, to corroborate these findings and show that the conclusions are generalizable to other immigrant groups, I perform an equivalent analysis for Chinese workers in the US. China's accession to the WTO in 2001 and the subsequent trade intensification with China are used as a shock to the value of China-specific soft skills. As a result of trade intensification with China, high-skilled Chinese workers in the US experience faster occupational upgrading, while Chinese managers disproportionately sort into industries that trade more with China.

This article makes a two-fold contribution to the economic literature. First, it complements and expands trade literature that documents trade-generating effect of immigrants on their destination countries. Gould (1994) and Head and Ries (1998) show that the size of immigrant

[5] Variation, in part, generated by Mexican assembly, *Maquiladora*, plants that are strategically located along the Mexico-US border, generating high volumes of circular trade (Hanson, 1996).

[6] To some extent, this is likely to be driven by the long phase-in period of NAFTA, although most of the tariffs for manufacturing products were to be eliminated within 5-10 years.

population in a country is positively associated with trade volume. Rauch (1999, 2001) and Rauch and Trindade (2002) pointed to the contract enforcement and the reduction in information asymmetries between trading partners as principle mechanisms through which ethnic networks affect trade. In a recent paper, Burchardi, Chaney and Hassan (2019) show similar positive effects of immigrants on the FDI. They suggest that the reduction in the informational frictions are the primary drivers of the effect. This paper looks at the other side of the coin: *Given* an intensification in trade between the country of origin and destination due to trade liberalization, what is its effect on *wages, occupations,* and *employment* of immigrants from the relevant country of origin?

The main contribution of this paper is the direct evidence of positive returns to the immigrants' soft skills in the destination country labor market, showing that the knowledge and connections to the origin that immigrants bring with them are valuable and productive in the context of international trade. By pointing to a specific channel through which complementarities between immigrants and natives arise, this paper contributes to the debate on immigrant-native substitutability (see Borjas, Grogger, and Hanson (2008, 2012), Ottaviano and Peri (2012) and Peri (2016) for discussion). The fact that the returns to the origin-specific skills are higher among better educated workers and higher-generation immigrants suggest that they are complementary to both, generic human capital and destination-specific skills and knowledge. These results imply that a degree of assimilation is necessary to benefit from the positive returns to immigrants' skills. Hence, this paper also speaks to the literature on immigrant assimilation (Bisin and Verdier, 2000; Borjas, 1998). In an influential paper, Lazear (1999) assumes that trade between individuals is more costly if they come from different cultures. Immigrant assimilation into the majority culture is, therefore, welfare-enhancing for the members of the majority group. This is a sound assumption, but in the context of international trade it implies that full assimilation of immigrants would be suboptimal due to the ability of the minority group to act as liaison between trading partners. Finally, by showing that there exist returns to country-specific soft skills, which encompass cognitive skills, such as language, but also social connections, this paper speaks to the growing research on the labor market returns to social skills (Deming, 2017).

The paper is organized as follows. In Section 2, the implications of trade intensification with Mexico on labor market outcomes of Mexican workers are discussed. The identification strategy is outlined in Section 3. In Section 4, data sources and the sample used in the analysis are described. The main results are presented and discussed in Section 5. In Section 6, the results from an external validity test are reported. Section 7 summarizes and concludes.

II. Trade and the Demand for Country-Specific Soft Skills

The underlying reasons why immigrants may be more productive than other workers at reducing informal barriers to trade between their country of origin and destination are multiple. Arguably, immigrants are better at navigating formal and informal institutions operating in their country of origin, they possess language skills that make communication and coordination between the trading partners easier, they may also be better placed to screen potential business partners, and reduce informational asymmetries imbedded in the cross-border trade. All these qualities are expected to be valuable to firms that either trade with a specific country of origin or consider doing so. Hence, when formal barriers to trade fall, and trade relations between two countries intensify, labor market demand for individuals endowed with the relevant country-specific skills is expected to rise.

This means that when US and Mexico engage in trade due to NAFTA, the demand for workers with a Mexican immigrant background in the US is expected to go up in industries that engage in trade with Mexico.[7] The increase in the demand is expected to be concentrated, specifically, among individuals employed in occupations related to trade activity – occupations intensive in tasks such as coordination, bargaining, information processing, establishment of business networks, and navigating through foreign institutions–, e.g. managerial occupations. The increase in the demand for Mexico-specific soft skills could be reflected in the wages of Mexican workers, but also in their occupational and inter-industry sorting. I expect to observe a combination of the following three effects of trade intensification with Mexico.

Effect 1 (Wages): If as a result of trade intensification with Mexico, the productivity of Mexican managers increases relative to their non-Mexican colleagues, after NAFTA, wages of Mexican managers should increase faster in industries that trade more with Mexico compared to other managers within the same industry as well as Mexicans employed in non-managerial occupations.

Effect 2 (Occupational upgrading): To the extent that the returns to the Mexico-specific soft skills increase across managerial occupations, (qualified) Mexican workers are expected move to occupations that reward their specific skills. This is expected to generate faster occupational upgrading among Mexican workers in industries that engage in more trade with Mexico after NAFTA.

[7] Effectively, the effect is expected to stem from the firms that trade with Mexico, which I aggregate to the industry level because of the nature of the data used in the analysis.

Effect 3 (Inter-industry sorting): Similarly, after trade liberalization, Mexican managers are expected to seek employment in industries that trade with Mexico, those that reward their specific skills and knowledge. This should be reflected in higher employment shares of these workers in industries most exposed to trade with Mexico.

Workers' mobility costs and the overall speed of the labor market adjustment to the changes in the demand for Mexico-specific soft skills determine which effects prevail. If the inter-industry mobility costs were high, then an increase in the demand would be mostly reflected in wages and occupational upgrading. If, in addition, changing occupations was costly then an increase in the demand would show up as a larger wage premium in managerial occupations in industries most exposed to trade with Mexico. I do not make any assumptions about inter-industry or occupational mobility costs and estimate all three effects in parallel.

III. Identification Strategy

The effects 1 through 3 (see Section 2) can be tested using difference-in-difference techniques, where the time dimension is determined by the implementation of NAFTA, and the cross-sectional dimension is given by the individual ancestry, occupation and – for wage and occupational effects – industry of employment. Mexican ancestry is used as a proxy for individual endowment of Mexico-specific soft skills, while industry-level trade intensification with Mexico reflects the change in the demand for these skills.[8] In this Section, I describe the context and present the estimation equations used to test how trade with Mexico affects wages, occupations and inter-industry sorting among Mexican workers.

A. North American Free Trade Agreement

NAFTA was implemented on January 1st 1994, creating a free trade bloc between the US, Canada and Mexico.[9] NAFTA's provisions guaranteed market integration between the bloc members, as its implementation meant an immediate elimination of a large part of tariff and non-tariff barriers to the intra-bloc trade. Within 5 to 10 years, most of the tariffs between the US and Mexico were eliminated.[10] Consequently, intra-bloc trade increased 118 per cent for

[8] See Appendix A for details of how Mexican descendants are identified in the data.

[9] It extended to Mexico a pre-existing free trade agreement between the United States and Canada (CUSFTA) and followed Mexican unilateral trade liberalization of the mid-1980s. Mid-1980s Mexican liberalization may generate some anticipatory effects in the analysis, I use data from the pre-NAFTA period that allows us to test for their relevance, and I focus on exploiting the variation in trade generated specifically by NAFTA.

[10] The exception constituted agricultural products, on which the tariffs were to be phased out within 15 years.

Mexico, 41 per cent for US, and 11 per cent for Canada (Caliendo and Parro, 2015). US trade with Mexico accelerated dramatically. Figure 1 illustrates a clear change in trends after 1994. Between 1988 and 1994, the share of US trade with Mexico has been increasing at about 0.5 per cent per year, this rate nearly doubled between 1995 and 2000. In year 2000, 12 per cent of US' international trade was carried out with its southern neighbor.

Two characteristics of NAFTA make it a suitable policy experiment for the analysis. First, its effects on the US economy where concentrated in manufacturing and specifically among low skilled workers (Burfisher, Robinson, and Thierfelder, 2001; Hakobyan and McLaren, 2016). Second, NAFTA's impact on trade was large, hence its effect on the demand for Mexico-specific soft skills is also expected to be non-negligent.

B. Quantifying industry-level intensity of trade shock

Throughout the analysis, I focus on the US manufacturing industries.[11] These differed to a large extent in their exposure to trade with Mexico (see Figure 2). In 1980, industry-level trade shares with Mexico varied across manufacturing between 0.1 and 19 per cent.[12] In the decade that followed, between 1980 and 1990, there was a slight shift of the distribution towards more trade with Mexico.[13] The dramatic change, however, came after NAFTA's implementation. Between 1990 and 2000, both the median and the standard deviation of the distribution nearly doubled, increasing from 5.6 to 10 per cent for the median and from 3.3 to 6.2 for the standard deviation. This implies that despite the fact that manufacturing industries on average intensified their trade with Mexico, the degree of this trade intensification varied to a large extent across industries. I exploit this variation to identify changes in the demand for the Mexico-specific soft skills.

The first step to the estimation is quantifying industry's degree of trade intensification with Mexico. Using manufacturing trade data that spans five years before and after NAFTA's implementation, I regress each industry's trade share with Mexico on the set of industry and

[11] Manufacturing is the main tradable sector, at least when it comes to the trade liberalization episodes considered in this paper. NAFTA's phase-in period for agricultural goods spans 15 years, beyond the time period I use in the analysis. As to the analysis of trade with China in Section 6, it is overwhelmingly manufacturing goods that are being traded.

[12] Industry with lowest trade share with Mexico was *Newspaper: Publishing and Printing*, while *Railroad Equipment* and *Paperboard Containers and Boxes* had the highest trade shares at about 20 per cent. I exclude *Paperboard Containers and Boxes* (SIC rev. 1987 industry 265) from the figure as an outlier. Its trade share in 1980 was 20 per cent, but it increased to about 38 per cent in 1990 and 2000. Its inclusion increases the standard deviation for distribution in 2000 to 7.1.

[13] US-Mexico trade most likely increased due to Mexican unilateral liberalization in the 1980s. The median of the distribution increased from 5.2 to 5.6 per cent, while the standard deviation remained almost the same.

year fixed effects, as well as the interaction between each industry and a post-NAFTA indicators. The coefficients on the interaction terms reflect industry-level trade deviation towards Mexico after NAFTA. The deviations from the trend might be endogenous to many industry characteristics. Nevertheless, my estimates of trade intensification through NAFTA will be unbiased unless one of these characteristics were correlated with the presence of individuals with the relevant immigrant background in the industry. To mitigate this potential problem, the share of Mexican workers in the industry prior to NAFTA interacted with the time trend is explicitly controlled for in the regression. This allows industries with a high initial share of Mexican workers to be on a different time trend in terms of trade with Mexico. Equation 1 reflects the estimation procedure:

$$Share_{jt}^{Mexico} = \sum_{j=1}^{64} \theta_j D_{jt} + \delta_j + \delta_t + \mu\left(e_j^{Mex} \times t\right) + \epsilon_{jt} \quad (1)$$

$Share_{jt}^{Mexico}$ is an industry j's trade share with Mexico in year t;[14] D_{jt} is an indicator that industry j is observed in a post-NAFTA year t, i.e. it is an interaction between post-NAFTA and industry j's indicators; δ_j and δ_t are industry and year fixed effects; e_j^{Mex} is industry j's share of Mexican workers in 1980 and t is a linear time trend. Coefficient θ_j measures industry j's post-NAFTA trade deviation towards Mexico from the pre-existing trend, net of any potential trade-creating effects of Mexican workers employed in the industry before NAFTA. It is estimated for all 64 manufacturing industries that could be consistently matched through the censuses and to the trade data.[15]

Taking the estimation results from the Equation 1, TI_j variable takes on value θ_j for each industry j. Average trade intensification with Mexico following NAFTA was about 6 percentage points, with the values ranging from -1 to 14 percentage points (see Figure 3).[16] Industries are then classified into *high* and *low* trade intensification on the basis of these

[14] The trade share with Mexico is calculated as follows: $Share_{jt}^{Mexico} = \frac{M_{jt}^{Mexico} + X_{jt}^{Mexico}}{\sum_{c \in C}(M_{jt}^{c} + X_{jt}^{c})}$, where M_{jt}^{c} is the value of total imports from country c to US for industry j in year t and X_{jt}^{c} is the value of industry j's exports from US to country c in year t. C is the set of US trade partners.

[15] See Section 4 for the description of the matching process.

[16] This means that conditional on the industry concentration of Mexican workers prior to NAFTA, some industries experienced much slower increase in the trade. Notice that this does not mean that trade volumes actually shrank for some industries. Trade intensification is better interpreted as a trade deviation towards Mexico in deterrence of other trade partners.

estimates. Specifically, an industry is classified as having *high* trade intensification if its trade intensification measure is above the median of the distribution:

$$HI_j = I[TI_j \geq median(TI_j)]$$

The range of TI_j's values falling into this category is represented as a shadowed area in the Figure 3.

The continuous trade intensification measure, TI_j, is used to estimate the effect of trade liberalization on wages and occupations of Mexicans. The discretized measure, HI_j, is used to analyse inter-industry sorting patterns of Mexican descendants in the post-NAFTA period.

C. Identifying the effect of trade on the returns to Mexico-specific skills

In this subsection, I lay out the econometric specifications used to estimate the effect of trade with Mexico on wages, occupations and inter-industry sorting of Mexican workers in the US.

Wages and occupational upgrading — To identify the effect of trade intensification with Mexico on the labor market returns to Mexico-specific soft skills, I start by analyzing its effect on wages and occupations of Mexican workers using triple difference Equation 2:

$$y_{igjt} = \beta_0 + \beta_1(D_{it} \times TI_j) + \lambda_{gt} + \lambda_{gj} + \lambda_{jt} + \boldsymbol{X}_{it}\gamma + u_{igjt} \quad (2)$$

The outcome variable y_{igjt} in Equation 2 is a log weekly wage of individual i from group g employed in industry j and year t in wage regressions or, when estimating occupational effects, an indicator variable equal to 1 if individual is employed in a managerial occupation.[17] D_{it} is an indicator that an individual reports having Mexican ancestry in the post-NAFTA period[18]; TI_j measures industry j's trade intensification, as defined above. λ_{gt} is a group-time fixed effect, which controls for the shocks to the wages and the occupational distribution among Mexican and other workers; λ_{gj} is a group-specific industry fixed effect that captures wage or occupational distributions across industries in the pre-liberalization period for Mexican and non-Mexican workers; and λ_{jt} is an industry-year fixed effect that allows for flexible industry-

[17] See Appendix B for a detailed description of occupations included under this definition.

[18] D_{gt} is effectively an interaction between an indicator that takes on value 1 if individual i reports having Mexican ancestry (I_i^{Mex}) and a post-NAFTA indicator (I_t^{Post}) that equals to 1 if year $t \geq 1994$, i.e. $D_{it} \equiv I_i^{Mex} \times I_t^{Post}$.

specific time trends.[19] $\boldsymbol{X}_{it}$ is a set of individual socio-demographic characteristics, such as age and education, which is also used when estimating Equation 3 below.

To simplify the interpretation of the coefficients, I standardize the measure of trade intensification, TI, to have a standard deviation equal to 1. Hence, the reported coefficients reflect the effect of one standard deviation increase in TI on wages and occupations. The coefficient of interest is β_1. In the wage regressions, β_1 represents the effect of trade intensification with Mexico on the wages of Mexican workers in the post-NAFTA period. In the occupational regressions, β_1 is interpreted as the effect of trade intensification on the occupational upgrading of Mexican workers. Triple difference strategy can be summarized as identifying the wage growth of Mexicans in industries affected by trade with Mexico relative to the wage growth of other natives employed in these industries, over and above the relative wage growth of Mexican descendants in other industries.

The effect on wages is expected to be concentrated among individuals employed in managerial occupations. For this reason, I interact the main regressor in the Equation 2 ($D_{it} \times TI_j$) with an indicator of managerial occupations (OCC_i), which allows me to estimate a differential effect of trade intensification with Mexico on wages of Mexicans employed in these occupations. I also add to the estimation equation all pairwise interactions to account for the fact that wages of Mexican workers in these occupations may have evolved differently after NAFTA ($D_{it} \times OCC_i$), that wages of non-Mexican managers may also be affected by trade intensification with Mexico ($I_t^{Post} \times TI_j \times OCC_i$), and that Mexican managers may have sorted into the ex-post high intensification industry before NAFTA ($I_i^{Mex} \times TI_j \times OCC_i$). The interacted equation A1 can be found in Appendix C.

Sorting across industries — Trade intensification with Mexico is likely to affect the industries in which individuals choose to work. Specifically, Mexican workers are expected to seek employment in industries that are most likely to reward their specific skills, i.e. those with high exposure to trade with Mexico. The Equation 3 is used to tackle workers' mobility across industries in the post-NAFTA period:

$$HI_{ijt} = \alpha_0 + \alpha_1 D_{it} + \alpha_2 I_i^{Mex} + \lambda_t + \boldsymbol{X}_{it}\gamma + \xi_{ijt}. \quad (3)$$

[19] I adopt the following notation, λ_{gt} and λ_{gj}, for clarity and convenience. In fact, these group-specific fixed effects could be written as $I_i^{Mex} \times \lambda_t$ and $I_i^{Mex} \times \lambda_j$, respectively. The subscript g refers to ancestry group, either Mexican or Other.

The outcome (HI_{ijt}) is a binary variable that equals to 1 if individual i is employed in a high-trade-intensification industry in year t. The coefficient of interest is α_1. It reflects the differential change in probability of being employed in a high-trade-intensification industry for Mexican workers relative to individuals without Mexican ancestry. The other components of the equation are interpreted as follows: λ_t is a time fixed effect that captures common trends in cross-industry sorting and coefficient α_2 gives us a differential probability of being employed in high-trade-intensification industries for Mexican workers before NAFTA. Similar to wage specification, I estimate differential employment effects on individuals employed in managerial occupations by interacting right-hand-side variables from Equation 3 with an indicator for being employed in managerial occupation. (See Appendix C for the interacted equation).[20]

IV. Data and Sample Description

Two data sources are combined for the main analysis. Industry-level data on US imports and exports (see Schott, 2008, 2010) and individual-level data from several waves of the US Population Census as well as American Community Survey (ACS) provided by the Integrated Public Use Microdata Series (IPUMS) (Ruggles et al., 2018). Hereafter, the data is described in more detail.

A. Trade data

To quantify each industry's trade intensification with Mexico in the post-NAFTA period, I use "U.S. Manufacturing Exports and Imports by SIC Category and Partner Country" (Schott, 2008, 2010). This data provides information on industry-level imports and exports between the United States and 156 trade partners between 1972 and 2005.[21] Schott uses Standard Industrial Classification (SIC, revision 1987) and covers trade data for 449 4-digit manufacturing industries.

To match the trade data to the census, I use a crosswalk between SIC-1987 and the industrial classification used in the US Population Census and the American Community Survey (IND1990) provided by Scopp (2003). Industrial classification in the censuses is aggregated on a higher level than the 4-digital classification used by Schott. For this reason, I aggregate

[20] The effects of trade intensification on occupational upgrading as well as the inter-industry sorting are estimated using ordinary least squares, which assumes linearity, but allows for intuitive and straight-forward interpretation of regression coefficients.

[21] Customs value is used to measure the value of imports.

the trade data to the level used in the census. Matching both classifications leaves us with 64 industries that are consistently observed across all census years used in the analysis.[22]

B. Individual-level data

The source of the individual-level data is a 5 per cent sample from the US Population Census for years 1980, 1990 and 2000 provided by the Integrated Public Use Microdata Series (IPUMS) (Ruggles et al, 2018).[23] The sample consists of US-born men aged 25 to 64 with positive salary income in the year prior to the interview. I exclude individuals who live in group quarters as well as self-employed individuals. My main group of interest are workers who report having Mexican ancestry, while the comparison group consists of white US-born men that report ancestry other than Mexican.

I focus on manufacturing sector. Manufacturing employment share among non-Mexican male workers who meet the selection criteria was 31 per cent in 1980 and it decreased to 23 per cent in 2000 (see Table 1). Manufacturing employment share among Mexican descendants was about 5 percentage points lower throughout the period. This leaves us with a final sample of 1,252,399 individuals, 31,859 of whom are Mexican descendants. The main underlying hypothesis of this paper is that Mexicans possess skills that can reduce barriers to trade, but not all workers may be in the position to do so. Hence, through much of the analysis I focus on high-skilled workers, those with at least one year of college education. The high-skilled sample consists of 540,504 individuals, 1.7 per cent of whom are Mexican descendants. The share of managers among individuals with at least one year of college education is nearly two times higher than among those without any college education, 26 vs 14 per cent.

Table 1 reports main descriptive statistics for Mexican descendants and other natives for the census years 1980, 1990 and 2000. Panel A shows descriptive statistics for the overall sample, while panel B reports the summary statistics for the subsample of high-skilled workers. Three outcomes of interest in the analysis are log weekly wages, an indicator of being employed in a managerial occupation, and an indicator of being employed in an industry that experienced above-median trade intensification with Mexico. Individual weekly wages are computed using the pre-tax salary income and the reported number of weeks worked in the previous year.

[22] The level of aggregation for some industries (generally those with fewer subgroups) corresponds to 2-digit SIC classification (e.g. *Tobacco*), while some other correspond to 3-digit codes had to be grouped under *Miscellaneous* category (e.g. code 207 *Fats and oils* had to be aggregated under 209 SIC code corresponding to *Miscellaneous food and kindred products*). The full correspondence table can be provided upon request.

[23] In Section 5.3, I also use data from 2008-2012 waves of the American Community Survey (ACS) to estimate long-term effects of trade intensification with Mexico.

Wages are adjusted for inflation and expressed in constant 1999 US dollars.[24] Mexican descendants on average earn about 24 per cent lower wages than other natives, see panel A. In 1980 and 1990, the share of Mexican descendants employed in a managerial occupation was about a third of the managerial employment share among other natives. Some of these differences can be attributed to the fact that Mexican descendants were much less likely to be high-skilled. Nevertheless, when I focus on high-skilled individuals in panel B, I find that this pattern still holds true. In 1980 and 1990, high-skilled Mexican descendants earned 21-25 per cent lower wages and were half as likely to be employed in a managerial occupation as other natives. Mexican descendants, however, do not seem to have been more exposed to trade with Mexico than other natives before NAFTA. That is, ex-post trade intensification with Mexico was the same for Mexican descendants and other natives, and this does not change if I focus on the high-skilled individuals only.[25] Finally, Mexican descendants in my sample were on average 38-39 years old, while other natives were on average 2 to 3 years older throughout the period. This is also true in the sample of high-skilled workers in panel B. All in all, compared to white male workers without Mexican ancestry, Mexican descendants on average are less skilled, younger, less likely to be employed in managerial occupations and earn lower wages.

The identification strategy in the main analysis exploits variations across industries in the exposure to trade with Mexico while comparing Mexican descendants to other natives, before and after NAFTA. Table 2 is a stepping stone towards this analysis. It provides us with the average wages and employment shares in managerial occupations by ancestry, time and trade intensification with Mexico. It also shows employment shares in the high-trade-intensification industries.[26] Panel A is based on the overall sample, while panel B focuses on individuals with at least some college education.

In the overall sample, there are no significant differences in the wage growth after NAFTA for individuals employed in the low- vs. high-trade intensification industries. This is true for both Mexican descendants and other natives. In fact, the overall wage growth in manufacturing seems is slow, not exceeding 1 per cent. In terms of occupational upgrading, the share of managers among non-Mexicans increased by 1.4 percentage points, from around 13.5 to 15, identical in low- and high-trade-intensification industries. The share of managerial

[24] Wages are winsorized at 1 per cent to avoid measurement errors and extreme values.

[25] This is partly due to the fact that trade exposure measure is constructed to be orthogonal to the share of Mexicans in the industry to avoid running into potential endogeneity problem.

[26] Notice that the statistics in Table 2 represent simple averages and raw differences, without accounting for the underlying differences in the population of Mexican descendants and other natives that are captured by the controls in the main analysis.

employment among Mexican descendants was far lower to start with, only around 5 per cent across all industries. After NAFTA, the share of managers in the low-trade-intensification industries increased by 1.7 percentage points and 2.7 percentage points in the high-trade-intensification industries. There were no important changes in the share of manufacturing employment in high-trade-intensification industries. When focusing on the sample of high-skilled individuals in panel B, which is a more relevant sample for the purposes of our analysis, some new patterns arise while other become more pronounced. First of all, consistent with the overall wage trends in the US, wages of high-skilled workers grow faster. The wage increase in the low-trade-intensification industries was of 5 per cent, same for Mexican and non-Mexican workers. Differences emerge in the high-trade-intensification industries: wages of non-Mexicans employed in these industries increased by 4.1 per cent compared to the pre-NAFTA period, among Mexican descendants the increase was of 5.3 per cent. High-skilled Mexican descendants also experience more occupational upgrading than non-Mexicans, even more so if they are employed in the high-trade-intensification industries. In terms of inter-industry sorting, both high-skilled Mexican descendants as well as other natives become slightly more likely to be employed in a high-trade-intensification industry. Although, this change is relatively small, it is more than two times larger among Mexican descendants. Statistics in Table 2 give us a good idea of what the raw data looks like before we account for a number of potential confounding factors in the main analysis.

V. The effect of US-Mexico trade on Mexicans in the US

In this section, I first present the baseline results, validate the main identifying assumption and test the sensitivity of the results to the inclusion of additional controls, such as state-specific shocks, shares of Mexican immigrants in the industry and state, allow for changes in returns to education. After that, I exploit the salience of some features of the country-specific skills, such as language, and explore heterogeneity of the trade effect across other potentially affected groups in order to pinpoint the features of Mexico-specific soft skills that appreciate as a result of trade with Mexico.

A. Wages, occupations and cross-industry sorting of Mexican descendants

The effects of trade with Mexico on the wages of Mexican descendants estimated using Equation 2 are shown in Table 3.[27] Columns 1-4 report the effects of trade intensification on

[27] To make tables easy to read, I only report coefficients on the main interactions, that is β_1 from Equation 2 as well as differential β_1 for individuals in managerial occupations. These represent the effect of trade intensification

Mexican descendants from all educational backgrounds, while the results in columns 5-8 are for workers with at least some college education. In columns 2, 4, 6, and 8, in addition to age and education, I include other socio-demographic characteristics –specifically, marital status and race– to control for compositional differences between Mexican descendants and other natives and state fixed effects to account for differential geographic sorting across the two groups.[28] Inclusion of these controls slightly reduces the standard errors with which coefficients are estimated and only slightly increases the estimates. Given the considerable differences in demographics of Mexican descendants and other natives (see Table 1), I choose the specification with the full set of controls as my preferred specification. Standard errors clustered by industry are reported in the parenthesis.[29]

The regression results are in line with the simple differences reported in Table 2. The overall effect of trade liberalization on Mexican descendants is zero and statistically insignificant (see columns 1-2). The estimates for the high-skilled Mexican descendants in columns 5-6 are not significant either, but the magnitude of the estimate suggests that one standard deviation increase in trade intensification with Mexico leads to nearly 1.7 per cent faster wage growth among these workers. Estimates from columns 3-4 and 7-8 show that these small overall effects mask strong heterogeneity by occupation. Specifically, the wage effects are highly concentrated among workers employed in managerial occupations. The estimates from column 4 imply that one standard deviation increase in the industry trade intensification with Mexico leads to about 4 per cent faster wage growth among managers with Mexican background relative to other natives. The estimates in column 8 imply that the effect among high-skilled Mexican managers is 6.2 per cent. Mexican descendants employed in non-managerial occupations, however, are unaffected by trade intensification with Mexico. The fact that the effect is stronger, even though not significantly so, among high-skilled individuals suggests complementarity between country-specific soft skills and generic human capital.

with Mexico on wages of Mexican descendants, overall and those employed in managerial occupations. Tables 3 and 4 follow the same structure and only report the coefficients of interest.

[28] The full set of socio-demographic controls includes individual education (and education squared), age (squared and cubic), an indicator for whether individual is married, an indicator for non-Caucasian race. The same set of characteristics and state fixed effects are controlled for when estimating the effect of trade intensification with Mexico on the occupational upgrading in columns 2, 4, and 6 of Table 4 or inter-industry sorting in columns 2, 4, 6 and 8 of Table 5.

[29] Notice that the variation in the treatment is determined by industry of employment, individual ancestry and time. By using industry-level clustering, a more flexible structure of standard errors is assumed, allowing for within industry correlation in error term. There are 64 industries, i.e. clusters, in the data. When analysing individual sorting across industries, I use heteroskedastisity-robust standard errors, given that in these regressions the treatment is determined by individual ancestry and time only.

The estimates of the effect of trade intensification with Mexico on the occupational upgrading of Mexican descendants are displayed in Table 4. Columns 1-2 present the estimates for the overall sample, and columns 3-4 contain estimates for the high-skilled workers. The estimates from columns 1-2 imply that one standard deviation increase in trade intensification rises the probability of a Mexican descendant to be employed in a managerial occupation by 0.5 percentage points, which represents about 10 per cent increase over the pre-NAFTA managerial employment share among Mexican descendants. The effect on occupational upgrading among high-skilled Mexican descendants is considerably larger. The estimates in columns 3 and 4 imply that one standard deviation increase in trade intensification increases the likelihood of managerial employment among Mexican descendants by 1.3 percentage points or nearly 11 per cent with respect to the pre-NAFTA managerial employment share among high-skilled Mexican descendants. The fact that trade with Mexico increased both wages and numbers of Mexicans employed in managerial occupations, provides strong support to the hypothesis that trade with Mexico increases the demand for managers with Mexico-specific soft skills. Higher number of Mexicans in managerial occupations also suggests that the estimated effect on wages of Mexican managers should be interpreted as a lower bound effect.

Results on the inter-industry sorting are reported in Table 5. The estimates follow the same general pattern as the results on the wages and occupational upgrading. Overall Mexican descendants do not become any more or less likely to be employed in high-trade-intensification industries in the post-NAFTA period. This is so when I look at all individuals in the sample in columns 1-2 or when I focus on the high-skilled workers in columns 5-6. However, estimates from columns 3-4 and 7-8 suggest that managers with Mexican background become considerably more likely to be employed in a high-trade-intensification industry after the implementation of NAFTA, which goes in line with the results on occupational upgrading. In particular, Mexican managers become about 4 to 5 percentage points more likely to be employed in a high-trade-intensification industry, see columns 4-5. The magnitude of the inflow among the high-skilled Mexican managers is up to 8 percentage points. The evidence on the inter-industry sorting of Mexican descendants complements the results on wages and occupations, generating consistent evidence on changes in the demand for workers with Mexican background.

To provide further evidence that these effects stem mainly from labor market dynamics among Mexican descendants, rather than other natives, the results in Appendix Table D1 display changes in wages, occupations and inter-industry sorting among Mexican descendants and other natives separately. Results in columns 1, 3 and 5 show that non-Mexicans did not

experience any faster or slower wage growth or occupational upgrading if employed in industries that traded more with Mexico. All the wage and occupational effects are driven by a faster wage growth and more occupational upgrading among Mexican descendants employed in industries that intensified their trade with Mexico. Results in columns 7-10 show that there was a small inflow of non-Mexican workers into the high-trade-intensification industries. This inflow was concentrated among workers employed in non-managerial occupations. There was no change in a probability of being employed in a high-trade-intensification industry for non-Mexican managers, whereas the inflow among Mexican managers into these industries was considerable (see columns 8 and 10).[30]

In sum, the baseline results show that Mexicans employed in managerial occupations experience faster wage growth the more their industry trades with Mexico, that trade intensification with Mexico also increases the incidence of occupational upgrading among Mexican descendants, as they become more likely to be employed in managerial occupations, and that Mexican managers also become more likely to be employed in industries that increased the most their trade with Mexico. All these effects are more pronounced among high-skilled individuals suggesting complementarity between generic human capital and Mexico-specific soft skills. In the remainder of this paper, I will focus on the subsample of high-skilled individuals.

Equality of the pre-trends test. — The identification of causal relationships using difference-in-difference techniques relies on the equality of trends assumption. In this particular context, it means that in absence of NAFTA and the subsequent trade intensification with Mexico, wage growth, occupational upgrading and cross-industry sorting of Mexican descendants would be orthogonal to the post-NAFTA trade intensification with Mexico. I provide two pieces of evidence that support the validity of this assumption.

First, Figure 4 displays the relationship between industry-level labor market outcomes (wages, shares of managerial employment and employment shares) of Mexican descendants in year 1990 and the post-NAFTA trade intensification.[31] In panel A, both the scatter plot and the fitted regression line imply that the average wage of Mexican descendants employed in an industry and the post-1994 trade intensification with Mexico were unrelated in 1990. Panels B and C further show that the share of managerial employment among Mexican descendants and

[30] The results in Table D1 should not be interpreted as causal effects of trade, but rather as a de-composition exercise. The identification strategy in this paper relies on a within industry comparison of Mexican descendants to other natives. This strategy controls for any shocks that affected similarly all workers in an industry and allows me to give causal interpretation to the main estimates.

[31] The size of each circle represents each industry's total employment in all panels of Figure 4.

the share of Mexican descendants employed in an industry in 1990 were also unrelated to the post-NAFTA trade with Mexico.

Next, using equations 2 and 3 and data from 1980 and 1990 census waves, I test whether the *changes* in the wage, occupations and inter-industry sorting of Mexican descendants before NAFTA were related to the post-NAFTA trade. Estimates from column 1 of Table 6 imply that wages of high-skilled Mexican descendants, in particular those employed in managerial occupations, did not grow any faster in industries that intensified more their trade with Mexico after NAFTA. Neither were Mexicans any more likely to upgrade to a managerial occupation if employed in one of these industries, as suggested by the estimates from column 2. The estimates in column 3 suggest that the employment share of Mexican descendants increased in the ex-post high trade intensification industries between 1980 and 1990, but statistically this increase was not different from zero.

Overall, the results reported in the Figure 4 and Table 6 show that the level and the changes in the wages, occupations and inter-industry sorting of Mexican descendants in the pre-NAFTA period were unrelated to the post-NAFTA trade intensification with Mexico, providing positive evidence of the validity of the results outlined in the previous section.

Robustness. — Main threats to the validity of the results come from the contemporaneous shocks that affect Mexican descendants differentially. In this section, I focus on two main potentially confounding factors: an increase in the immigrant inflow from Mexico and changes in the returns to education over the period.

There was a large increase in a share of Mexican employment in the US between 1980 and 2000 (see Figure 5). While the share of Mexican-Americans remained roughly at about 2 per cent of total employment throughout the period, the share of employment among Mexican immigrants went from about 1 to 4 per cent, with an especially pronounced increase after 1994 Peso Crisis (see Monras, 2015).[32] This inflow of Mexican immigrants to the US labor market may affect the results mainly in two ways. First, new immigrants tend to locate in places where previous immigrant cohorts went and therefore affect disproportionately regions where Mexican descendants are located. Second, the degree of substitutability between the first and the higher generations of Mexican immigrants is expected to be higher than between Mexican immigrant and other natives, therefore an inflow of first-generation Mexicans could potentially create more labor market competition for Mexican descendants than other natives. More labor market competition among Mexican descendants could generate a downward bias in the

[32] Similar pattern in observed for the economy overall (panel A) and manufacturing in particular (panel B).

estimates. To account for the increase in the immigrant inflows from Mexico, state-year fixed effects and controls for the shares of Mexican immigrants in a state and industry (state only when analyzing cross-industry sorting) are added to the baseline specification. State-year fixed effects account for any state-specific shocks, such as state-specific economic shocks or immigrant inflows. By controlling for the share of Mexican immigrants in a state and industry, I directly control for the magnitude of the relevant immigration shock.[33] Results reported in columns 1, 2, 4, 5, 7 and 8 of Table 7 imply little sensitivity of the magnitude and significance of the baseline results to these additional controls, suggesting that the immigrant inflows from Mexico and other state-specific economic shocks are unlikely to have produced bias in these results.

Another potentially confounding factor is a change in the returns to education over the period. Figure 6 plots the evolution of returns to college between 1980 and 2000 in manufacturing. Over the period the gap between college and high-school graduates increased from about 38 per cent in 1980 to 65 per cent in 2000. Although controls for individual education are included in the baseline specification, given the degree to which educational composition of Mexican descendants differs from that of other natives, to avoid potential biases, in columns 3, 6 and 9 of Table 7, I allow for changes in returns to education by interacting years of education with year indicators. The results imply no sensitivity to these additional controls.

B. Channels and Heterogeneity

Country-specific soft skills include networks, knowledge of local institutions and social rules and norms, as well as language skills. Some of these elements are specific to one particular immigrant group, while others can be shared. Some are easily identifiable, while others are unobservable. In this section, I explore different dimensions of Mexico-specific soft skills to pinpoint which of them increased in value after trade liberalization. I start by looking at the labor market returns to Spanish language skills. After that I analyze the effect of trade intensification with Mexico on other Hispanics, who might share some traits of country-specific soft skills with Mexican descendants, and first-generation Mexican immigrants who are more likely to be better endowed with Mexico-specific soft skills but may lack skills valued in the US labor market. Finally, exploiting the fact that there are considerable regional

[33] Immigrants' geographic location is a choice and so is their industry of employment, which means that these controls are in fact endogenous. Nevertheless, we are not interested in the effect of these factors per-se and their inclusion can tell us if the baseline estimates suffer from the omitted variable bias from these factors.

differences in the supply and demand of Mexican workers in the US, I estimate how the effect of trade intensification changes as a function of that variation.

Language. — Communication is key when trading with the overseas partners, and language is probably the most salient feature of the country-specific skills. To see how important the language is in accounting for the increase the labor market returns to Mexico-specific soft skills, in columns 1, 3, and 5 of Table 8, I explicitly control for individual Spanish and English proficiency.[34] Returns to Spanish are allowed to change after the implementation of NAFTA to reflect a potential increase in the demand for these skills. Furthermore, using the fact that Spanish is spoken in multiple countries around the world, in columns 2, 4, and 6 of the table, the effect of trade intensification on Mexican descendants is estimated relative to other Spanish-speakers.

Although including language controls does not change the main results, the analysis of the labor market returns to Spanish point to the appreciation of Spanish skills after NAFTA. Estimates in columns 1 imply that using Spanish as a household language is associated with a significant wage penalty – 6.7 per cent lower wages among individuals who speak Spanish at home –, which reduces by half after the implementation of NAFTA. Estimates in column 3 – albeit statistically insignificant – suggest that Mexican descendants who use Spanish at home were less likely to be employed in a managerial occupation before NAFTA, but the gap closes after the liberalization. Results in column 5 show that workers who speak Spanish at home became more likely to be employed in a high-trade-intensification industry after NAFTA (although this effect is also statistically insignificant).

When estimating the effect of trade intensification with Mexico relative to other Spanish-speakers, I find that the main results hold, although the magnitude of occupational upgrading relative to other Spanish-speakers is reduced and becomes insignificant. This suggests that occupational upgrading of Mexican descendants is at least partially driven by language skills. Nevertheless, appreciation of Spanish cannot account for wage growth or cross-industry sorting of Mexican descendants. All in all, these results suggest that appreciation of Spanish skills, although important, is not the only driver of the increased demand for workers with Mexican background in industries exposed to trade with Mexico.

Other potentially affected groups. — Mexican descendants are not necessarily the only group affected by trade intensification. First-generation Mexican immigrants might be better

[34] I use an indicator that an individual uses Spanish as a household language as a proxy for Spanish language skill.

endowed with Mexico-specific soft skills, while other immigrant groups might be endowed with soft skills related to those specific to Mexico. It is not clear how specific country-specific soft skills are. Geography, common colonial past, religion, or historical migration patterns frequently evolved into similar institutions, common legal principles, shared social norms, etc. If those are the traits that appreciate as a result of trade with Mexico, then a similar increase in the labor market demand should be observed for other non-Mexican groups with similar immigrant background. To test this, I estimate the effect of trade intensification on Mexican descendants along with other US-born non-Mexican Hispanics. High-skilled non-Mexican Hispanics amount to about 1 per cent of the sample or 5,039 workers and mostly consists of individuals of Central and South American ancestry. The results from this test are reported in Table 9.

The coefficients for Mexican descendants remain the same as in the baseline.[35] The pattern of the coefficient estimates among non-Mexican Hispanics resembles that observed among Mexicans. Nevertheless, the magnitude of the wage effect is smaller and non-Mexican Hispanic workers do not sort towards industries that trade the most with Mexico (if anything, those in non-managerial occupations seem to sort away from these industries). All the estimates for non-Mexican Hispanics are statistically insignificant. The fact that individuals of similar cultural background seem to be affected to a lesser extent by trade with Mexico suggests that at least part of the effect of trade with Mexico is specific to Mexican workers in particular.

This raises the question of whether first-generation Mexican immigrants might not be better endowed with the Mexico-specific soft skills. So far, the focus was on the higher-generation immigrants, mainly because US-born Mexican descendants arguably represent a better comparison group to other natives than first-generation immigrants, whose labor market outcomes are likely to be affected by their migration decision, lack of assimilation and contemporaneous immigrant inflows. Nevertheless, studying the effect of trade intensification on the first-generation Mexican immigrants versus US-born Mexican descendants can provide us with additional insights. One important distinction between the first- and higher-generation immigrants is that, while the first-generation immigrants are probably better endowed with Mexico-specific soft skills, US-born individuals are endowed with a combination of US- and Mexico-specific skills and knowledge. Comparing whether the effect of trade with Mexico is stronger among Mexico- or US-born individuals can tell us whether Mexico- and US-specific soft skills are complementary. For this purpose, first-generation Mexican immigrants are added

[35] This is expected, given that the control group remains the mainly same and the effect is estimated for one additional potentially treated group.

to the main sample (5,696 high-skilled workers) and the effects of trade intensification are estimated for the first- and higher-generation migrants in parallel. The number of years since migration and its interaction with a post-NAFTA indicator are added to the baseline specifications. They capture the returns to years lived in the US and changes in these returns after the implementation of the agreement. The results for this test are reported in Table 10.

Again, the estimated effects for Mexican descendants, by construction, are the same as in the baseline, so I focus on the estimates for Mexican immigrants. The pattern of estimates for the Mexico-born workers is similar to that observed for the US-born Mexican descendants, although statistically insignificant and smaller. One standard deviation increase in trade intensification with Mexico increases relative wages of the US- and Mexico-born managers by 6.1 and 3.4 per cent, respectively (see column 1), while results in column 2 imply that the probability of becoming a manager increases by 1.3 and 0.8 percentage points for US- and Mexico-born workers, respectively. There is one notable exception: first-generation Mexican do not sort into industries that intensified the most their trade with Mexico, the estimates in column 3 are small and statistically not different from zero. Sign and magnitude of the estimates from Table 10 suggest that first-generation Mexican descendants may benefit from trade with Mexico. Nevertheless, just as it was the case with non-Mexican Hispanics, the estimated effects are larger and significant only among US-born Mexican workers. This pattern of the results points towards complementarity between Mexico- and US-specific soft skills.

Distance to Mexico. — In this section, I analyze the heterogeneity of the effect of trade intensification with Mexico on Mexican descendants across US geography. Geography is relevant within this setting to the extent that industries that trade with Mexico and workers with Mexican background tend to cluster geographically, creating regional differenced in a demand and supply of Mexico-specific soft skills. On the one hand, Mexican descendants and first-generation Mexican immigrants tend to cluster close to the US border with Mexico (see Figure 7).[36] On the other hand, manufacturing and specifically industries that trade with Mexico are largely concentrated on the East of the US, in the non-border regions, and Texas (see Figure 8). The effect of trade on Mexican descendants in a given region is going to be determined by the combination of the relative demand of Mexico-specific soft skills – driven by the regional exposure to trade with Mexico, shaped by the pre-existing industrial structure (Autor, Dorn and Hanson, 2013) – and its supply of Mexico-specific soft skills. Hence, here I examine the effect of trade intensification with Mexico on Mexican descendants in states that share border

[36] States with highest shares of Mexican population are Texas, New Mexico, Arizona, and California.

with Mexico – New Mexico, Arizona and California –, those that don't, and Texas, separately.[37] More trade with Mexico is expected to generate higher demand and higher returns to Mexico-specific soft skills, while high supply of these skills should attenuate the returns by driving more Mexican descendants towards affected industries. Which of these effects prevails is an empirical question. The results from this test are reported in Table 11.

Results in columns 1-3 imply that the effect of trade intensification on wages of Mexican descendants is concentrated in the states with higher exposure to trade with Mexico, i.e. non-border states and Texas. One standard deviation increase in trade intensification leads to 15 and 9 per cent higher wages among managers with Mexican ancestry in non-border states and Texas, respectively. That is, the effect is stronger in the non-border states where the supply of Mexico-specific soft skills is also relatively scarce. The effect of trade on occupational upgrading is also concentrated among these states only, where one standard deviation increase in trade intensification leads to 2.5 percentage point increase in probability of becoming a manager among high-skilled Mexicans (see column 4). In Texas, the effect on occupational upgrading is about 0.9 percentage points and statistically insignificant. Inter-industry sorting towards industries most exposed to trade with Mexico, however, occurs in the states where Mexico-specific soft skills are relatively more abundant, that is in Arizona, California and New Mexico. Estimates in column 8 imply that Mexican managers become 8 percentage points more likely to be employed in a high-trade-intensification industry after NAFTA in these states. The effects in the non-border states and Texas are 5.7 and 0.9 percentage points, respectively, and statistically not significant.

All in all, these results suggest that relative scarcity of Mexico-specific soft skills and higher potential demand for these skills lead to larger wage effects. While in states where Mexico-specific soft skills are relatively more abundant the effects of trade intensification are mostly manifested through sorting of Mexican managers towards industries that intensified their trade with Mexico the most. This pattern of results can be interpreted as evidence of faster labor market adjustment through inter-industry relocation of qualified Mexican workers in states with high concentration of these workers.

[37] Texas is an interesting case study of its own. It has high concentration of industries that trade intensively with Mexico, due to growth of *maquiladora* plants along the border (Hanson, 1996). At the same time, it also has high concentration of individuals with Mexican background.

C. Long-run Effects

The analysis so far evaluated the effects of NAFTA 6 years after the implementation of the agreement. In this section, I analyze how persistent are the effects in a longer term. For this purpose, in addition to the 1980-2000 waves of the US Population Census, the data from the American Community Survey (ACS) is used. The ACS yearly samples 1 per cent of the US households. I pool data from 2008-2012 ACS waves and analyze the average effect of trade intensification with Mexico 14-18 years after NAFTA. Using equations 2 and 3, I estimate the effect of trade intensification with Mexico on the wages, occupations and industries of employment of Mexican descendants in years 2000 and 2010 – where 2010 designates the mid-point of the ACS sample and represents the long-term effect. The results from this test are reported in Table 12.

The results indicate an important degree of persistence of the NAFTA's effects on Mexican descendants. Estimates in column 1 suggest that, in a long term, the wage premium paid across managerial occupations fades away, but high-skilled Mexican descendants still earn higher wages in industries more exposed to trade with Mexico. These results suggest an existence of spill-overs of the wage effect across occupations, as the benefits of trade intensification with Mexico are no longer concentrated among managers alone. Furthermore, estimates in column 2 imply that 16 years after NAFTA, Mexican descendants employed in industries that increased its trade by one standard deviation between 1994 and 2000 are still 1.2 percentage points more likely to be employed in a managerial occupation, although this result is not statistically significant. Finally, the results in column 3 provide evidence that, in a long term, Mexican descendants are still more likely to be employed in industries that increased their trade intensification with Mexico the most. Some of this pattern is consistent with a degree of labor market adjustment: as more Mexicans become employed in managerial occupations and in industries that trade more with Mexico, the wage premium in these specific occupations dissipates. Some of the persistence may also be a result of a longer phase-in period of the agreement, which in some industries extended to 10 to 15 years.[38] All in all, the results from this test suggest that NAFTA permanently shifted Mexican workers towards occupations and industries that rewarded their specific set of skills, as high-skilled Mexican descendants reap the benefits from the trade increase with Mexico even 16 years later.

[38] Trade intensification is identified as an increase in trade with Mexico between 1994 and 2000. Therefore, phase-in period is unlikely to be a sole driver of the long-term effects, unless industries that intensified the most their trade with Mexico immediately after 1994 were also the ones that had a longer phase-in period.

VI. External Validity Test: China's accession to the WTO

The effect of trade on the value of country-specific soft skills is not limited to the specific context of NAFTA and Mexican descendants analyzed in this article. The mechanisms through which trade is expected to affect labor market returns to the country-specific soft skills are relevant whenever any two countries trade with each other and there exist informal barriers to trade. In this section, I turn to test the main hypothesis using an alternative setting: China's accession to the WTO and Chinese immigrants in the US. This is an interesting case study for several reasons: Chinese are a very distinct immigrant group – unlike Mexicans they outperform native workers in terms of wages and education; because of the institutional and cultural differences between the two countries, the transactional costs to US-China trade are expected to be high; and US trade with China has high policy relevance due to its effects on US workers. [39] In this section, first, I describe the context, the data and the sample. Then, I report and discuss the main findings.

China joined the WTO on December 11th 2001. Its trade with the United States had been on an increasing trend already before the accession, since late 1980s and early 1990s, due to China's internal reforms and its considerable effort to open up to the international trade. The acceleration after the accession, however, is remarkable. Between 1996 and 2001, US trade share with China increased from 4.5 to 7, over the next four years it nearly doubled (see Figure 9). China's joining the WTO was a major step for it becoming one of the most important trade partners of the US. I use intensification in US trade with China after the accession to estimate its effect on the labor market returns to China-specific soft skills in the US.

This part of the analysis is based on the data from the 5 per cent sample of the 2000 Census and 2005 wave of the ACS.[40] The main sample consists of US-born white men (control) and Chinese immigrants (treated). [41] Same sample restrictions as the ones used in the analysis of NAFTA are applied here. Men in the sample are aged 25 to 64, have positive salary income in the year prior to the interview, and are employed in manufacturing. Individuals residing in

[39] Imports from China generated competition in the importing industries in the US and had important effects on the labor markets in general, especially among low-skilled workers (Autor et al., 2013). In this article, however, the focus is on a differential effect of trade on Chinese workers over-and-above these general effects.

[40] The ACS program began producing data in year 2000, but in the first year the sample size was considerably smaller than in the subsequent surveys. For this reason, I substitute 2000 ACS sample by the comparable data from the census. In 2005 the survey was fully implemented, and the sample size reached 1 per cent of population.

[41] The number of individuals reporting Chinese ancestry over this period is small compared to the number of Mexican descendants or the number of Chinese immigrants, for this reason I focus on the first-generation immigrants in this part of the analysis.

group quarters and self-employed are excluded from the sample. 70 per cent of Chinese immigrants in 2000 and 80 per cent in 2005 had at least one year of college education, thus I directly focus on the high-skilled sample. The size of the sample is 239,487 workers, 1.6 per cent of these are Chinese immigrants. The summary statistics for the sample are reported in Table 13. Compared to the white native workers, Chinese immigrants are more likely to work in manufacturing and earn higher wages – 11 and 19 per cent in 2000 and 2005, respectively. They are, however, less likely to be employed in a managerial occupation.

Using the same identification approach as in the main analysis, I start by quantifying industry trade intensification with China after 2001. Taking the estimation results from the Equation 1, where I use industry-level trade share with China as an outcome, I plot the distribution across industries of trade intensification with China (TI^{China}) in Figure 10. On average, industry-level trade share with China increased by about 6 percentage points after China's accession to the WTO. The distribution is slightly skewed to the right, with median trade intensification of 4.8 percentage points and some industries increasing their trade share with China by as much as 18 percentage points.

The effects of the trade intensification with China on the high-skilled Chinese workers are reported in Table 14. I find no significant effect of the trade intensification with China on the wages of Chinese workers, either in managerial or other occupations (see column 1). While weekly wages of Chinese manufacturing workers increase by about 9 to 10 per cent between 2000 and 2005, there is no significant differential growth by degree of trade intensification with China (see Tables 13 and 15). Estimates in column 2, however, imply a large effect of trade intensification with China on occupational upgrading among Chinese workers. One standard deviation increase in trade intensification leads to about 4.2 percentage point increase in a probability of being employed in a managerial occupation among high-skilled Chinese workers. In 2000, the share of managers among Chinese workers was 18 per cent, and it was the same in the high- and low-trade-intensification industries. In 2005, share of managers among Chinese workers increased to 21 per cent in the high-trade-intensification industries, while dropping to 16 per cent in industries that increase their trade share with China by less than 4.8 percentage points (see Table 15). Results in column 3 of Table 14 suggest that while Chinese workers in non-managerial occupations sort away from industries that increased their trade with China, the opposite is true for Chinese managers who become considerably more likely to be employed in those industries. In fact, these results mask the following dynamics. Share of employment among Chinese workers in the high-trade-intensification industries was nearly 71 per cent – similar for managers and workers in other occupations before the accession (see Table 15). After 2001, the employment in these industries fell for Chinese and native

workers alike with one exception, Chinese managers, for whom the share of employment in high-trade-intensification industries remained at 70 per cent between 2000 and 2005.

In conclusion, I find a considerable increase in the managerial employment among Chinese workers that is directly related to trade intensification with China. At the same time, I observe an increase in wages among Chinese manufacturing workers – which is not there for natives workers – and a stable employment share in the high-trade-intensification industries among Chinese managers. These results suggest an increase in the demand for Chinese workers in managerial roles in industries that intensified their trade with China, consistent with an increase in the labor market value in China-specific soft skills, in line with the findings in the analysis of NAFTA.

VII. Conclusions

This article addresses the question of the labor market value of the country-specific soft skills that immigrants bring to the destination. Using trade liberalization between immigrant country of origin and destination as a shock to the demand of these skills, I show that as country of origin and destination engage in trade, the value of these skills in the destination country labor market goes up. Specifically, using NAFTA, I estimate the causal link between the intensification in the US-Mexico trade and the labor market returns to Mexico-specific soft skills in the US labor market. To the best of my knowledge, this is the first paper to address this question and shed light on this – yet understudied – aspect of migration, that of the value of country-of-origin-specific skills that immigrants bring to the destination country.

The key findings of the analysis are twofold: the demand for the country-specific soft skills goes up when trade relations intensify; this increase in the demand is concentrated among high-skilled workers, specifically managers. The effect of trade intensification with Mexico is reflected in wages and inter-industry sorting of Mexican descendants employed in managerial occupations, as well as occupational upgrading of high-skilled Mexican descendants. Further tests show that these effects of trade are not driven uniquely by the appreciation of Spanish language skills and that, to some degree, they are specific to Mexico, rather than Latin American countries in general. The fact that the effect of trade is stronger among high-skilled and US-born individuals suggest that country-specific soft skills are complementary to both, generic human capital and US-specific skills. Results from the external validity test imply that these effects are not an artefact of the particular context used in this article. Instead, similar effects are observed when I study the effect of trade intensification with China after China's accession to the WTO on the labor market returns to China-specific skills in the US.

In conclusion, this paper provides evidence that, as a result of the intensification of trade relations with immigrants' countries of origin, the labor market demand for the specific skills that immigrants from these countries bring to the destination increases. The fact that this increase is concentrated among high-skilled and US-born workers has some interesting implications for inequality and assimilation debates. For one thing, within group inequality increases as all the benefits of trade accrue to the high-skilled workers, while low-skilled individuals are not affected by it. In addition, assimilation and education seem to be crucial in order to benefit from trade relations with the country of origin.

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Appendix: Additional data description and fully interacted estimation equation

A. Mexican descendants

Individuals of Mexican descent are identified using ancestry questions in the US Population Census and the American Community Survey (ACS). Individuals are allowed to give up to two different ancestries, e.g. Italian and Mexican. Individual is defined as having Mexican ancestry if in at least one of the ancestry questions he claims being Mexican, Mexican American, *Chicano* or *Nuevo Mexicano*. Thus, individuals of a mixed descent, being one of the ancestries Mexican, will be defined as being Mexican descendants.

B. Managerial occupations

Definition of managerial occupations used in the article covers two major occupational groups from the Standard Occupational Classification (SOC, revision 1998): *Management occupation* (group 11) and *Business and Financial Operations Occupations* (group 13). In the

census, the variable OCC1990 contains information on individual occupation. To match OCC1990 to SOC, I create a crosswalk between the two classifications using 2000 wave of the census that provides both occupational classifications, OCC1990 and SOC. All major occupational codes classified as managerial are listed in the table below:

MANAGERIAL OCCUPATIONS CODES

SOC code	OCC1990	Description
111011	004	Chief executive
112020	013	Marketing and sales managers
113031	007	Financial managers
113040	008	Human resources managers
119199	022	Miscellaneous managers
131023	033	Purchasing agents
131070	027	Human resources, training, and labor relations specialists
131111	026	Management analysts
131190	037	Miscellaneous business operations specialists

Note: Correspondence between Census occupational classification (OCC1990) and Standard occupational classification (SOC) codes taken from 5% sample 2000 US Population Census provided by IPUMS-USA.

C. Fully interacted model

Throughout the analysis I focus on the differential effects of trade intensification with Mexico on Mexican descendants employed in managerial occupations. For this purpose, I use an interacted version of equations 2 and 3, equations A1 and A2, respectively. To estimate the differential effect of trade intensification on wages of Mexican managers I use the Equation A1:

$$\begin{aligned} y_{igjt} = \beta_0 + \boldsymbol{\beta_1}\left(D_{it} \times TI_j \times \boldsymbol{OCC_i}\right) + \boldsymbol{\beta_2}\left(D_{it} \times TI_j\right) \\ + \beta_3(D_{it} \times OCC_i) + \beta_4\left(I_i^{Mex} \times TI_j \times OCC_i\right) + \beta_5\left(I_t^{Post} \times TI_j \times OCC_i\right) \\ + \beta_6(I_i^{Mex} \times OCC_i) + \beta_7(I_i^{Post} \times OCC_i) + \beta_8\left(TI_j \times OCC_i\right) + \beta_9 OCC_i \\ + \lambda_{gt} + \lambda_{gj} + \lambda_{jt} + X_{it} + u_{igjt} \end{aligned} \quad \text{(A1)}$$

Where $D_{it} \equiv I_i^{Mex} \times I_t^{Post}$, OCC_i is a variable that equals 1 is individual is i is employed in a managerial occupation and 0 otherwise. β_2 reflects the effect of trade intensification on Mexican descendants employed in a non-managerial occupation, while β_1 reflects a differential

effect among Mexican managers. To get the total effect on Mexican managers, both effects must to be added up, $\beta_1 + \beta_2$.

To estimate the differential effect of trade intensification on inter-industry sorting among Mexican managers, I use the equation below:

$$HI_{ijt} = \alpha_0 + \boldsymbol{\alpha_1}(D_{it} \times \boldsymbol{OCC_i}) + \boldsymbol{\alpha_2} D_{it} + \alpha_3(I_i^{Mex} \times OCC_i) + \alpha_4(I_t^{Post} \times OCC_i) + \alpha_5 OCC_i + \lambda_g + \lambda_t + \xi_{ijt} \quad \text{(A2)}$$

α_2 reflects inter-industry sorting among all Mexican workers and α_1 reflects sorting among Mexican managers, $\alpha_1 + \alpha_2$ measure total degree of inter-industry sorting among Mexican descendants employed in managerial occupations.

D. Separate regressions for Mexican descendants and other natives

Table D1 shows how wages and occupational upgrading changed by trade intensification with Mexico as well as the pattern of sorting across industries for Mexican descendants and other natives, separately. The results in columns 1 to 6 are based on the following equation:

$$y_{ijt} = \beta_0 + \beta_1\left(I_t^{Post} \times TI_j\right) + \lambda_j + \lambda_t + \boldsymbol{X}_{it}\gamma + u_{ijt} \quad \text{(A3)}$$

Equation A3 is a simplification of Equation 2, as I take away the variation in individual ancestry and, instead, run it separately for Mexican descendants and non-Mexican workers. $\boldsymbol{\lambda_j}$ and $\boldsymbol{\lambda_t}$ represent year and industry fixed effects, and $\boldsymbol{X_{it}}$ captures the same set of controls used in Equations 2 and 3. Results in columns 7 to 10 of Table D1 are based on Equation A4 below:

$$HI_{ijt} = \alpha_0 + \alpha_1 I_t^{Post} + \boldsymbol{X}_{it}\eta + \xi_{ijt}. \quad \text{(A4)}$$

Equation A4 is, again, the simplification of Equation 3, where the variation in individual ancestry is taken away. Here, only the time variation is used as we analyze change in the probability of being employed in a high-trade-intensification industry for Mexicans and non-Mexicans in year 2000 relative to the pre-NAFTA period.[42]

[42] In this equation, α_1 gives us the probability of being employed in a high-trade-intensification industry in year 2000 relative to years 1990 and 1980. In an alternative specification, I also control for year 1990 fixed effect, in which case α_1 represents a change in 2000 with respect to year 1980. The conclusions from using either version of the equation do not change.

Tables and Figures

Table 1: DESCRIPTIVE STATISTICS

Census year	1980		1990		2000	
Group	Mexican desc.	Other ancestry	Mexican desc.	Other ancestry	Mexican desc.	Other ancestry
			Panel A: all individuals			
Share manufacturing	0.26	0.31	0.22	0.26	0.19	0.23
Log weekly wage	6.45	6.69	6.42	6.66	6.43	6.68
	[0.63]	[0.56]	[0.60]	[0.59]	[0.62]	[0.63]
Managerial occupation	0.04	0.13	0.06	0.14	0.07	0.15
High trade intensification (HI)	0.53	0.53	0.51	0.51	0.52	0.51
Trade intensification (TI)	0.06	0.06	0.06	0.06	0.06	0.06
	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]
High-skilled	0.20	0.36	0.33	0.49	0.31	0.47
Age	38.03	41.71	38.86	41.25	39.37	42.99
	[10.30]	[11.34]	[10.33]	[10.59]	[10.14]	[9.96]
Number of workers	9,912	442,289	10,616	432,717	11,331	345,534
			Panel B: Individuals with at least one year of college education (high-skilled)			
Share manufacturing	0.19	0.25	0.18	0.23	0.15	0.19
Log weekly wage	6.63	6.88	6.64	6.85	6.69	6.91
	[0.57]	[0.55]	[0.55]	[0.58]	[0.59]	[0.64]
Managerial occupation	0.11	0.27	0.12	0.24	0.15	0.26
High trade intensification (HI)	0.48	0.52	0.49	0.50	0.50	0.51
Trade intensification (TI)	0.06	0.06	0.06	0.06	0.06	0.06
	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]
Age	35.04	39.5	37.57	40.49	39.49	42.95
	[8.46]	[10.66]	[9.12]	[9.96]	[9.78]	[9.75]
Number of workers	1,960	158,328	3,481	211,564	3,501	161,670

Note: Standard deviations for averages are reported in brackets. Sample includes native white men (control) and men with Mexican ancestry (treated) aged 25 to 64 employed in manufacturing, with non-missing wage income. Individuals living in group quarters and self-employed are excluded.

Table 2: AVERAGE WAGES, MANAGERIAL EMPLOYMENT AND EMPLOYMENT IN HIGH-TRADE-INTENSIFICATION INDUSTRIES

Group	Mexican descendants			Other natives		
	Before	After	Difference	Before	After	Difference
Panel A: all individuals						
log weekly wage						
Low trade int.	6.430	6.430	0.000	6.657	6.666	0.009
	[0.616]	[0.627]	(0.010)	[0.587]	[0.636]	(0.002)
High trade int.	6.440	6.430	-0.010	6.694	6.701	0.007
	[0.613]	[0.616]	(0.010)	[0.569]	[0.615]	(0.002)
Managerial occupation						
Low trade int.	0.053	0.070	0.017	0.135	0.149	0.014
	[0.224]	[0.255]	(0.004)	[0.342]	[0.356]	(0.001)
High trade int.	0.047	0.074	0.027	0.134	0.148	0.014
	[0.211]	[0.262]	(0.004)	[0.341]	[0.355]	(0.001)
Employment share in high-trade-int. industries						
Overall	0.522	0.519	-0.003	0.517	0.511	-0.006
	[0.500]	[0.500]	(0.006)	[0.500]	[0.500]	(0.001)
Number of workers	20,528	11,331	31,859	875,006	345,534	1,220,540
Panel B: Individuals with at least one year of college education (high-skilled)						
log weekly wage						
Low trade int.	6.648	6.698	0.050	6.856	6.906	0.050
	[0.551]	[0.585]	(0.017)	[0.569]	[0.637]	(0.003)
High trade int.	6.619	6.672	0.053	6.874	6.915	0.041
	[0.562]	[0.586]	(0.018)	[0.568]	[0.635]	(0.002)
Managerial occupation						
Low trade int.	0.125	0.142	0.017	0.247	0.258	0.011
	[0.331]	[0.349]	(0.010)	[0.432]	[0.438]	(0.002)
High trade int.	0.112	0.163	0.051	0.258	0.260	0.002
	[0.316]	[0.370]	(0.010)	[0.438]	[0.439]	(0.002)
Employment share in high-trade-int. industries						
Overall	0.488	0.500	0.012	0.505	0.509	0.005
	[0.500]	[0.500]	(0.011)	[0.500]	[0.500]	(0.001)
Number of workers	5,441	3,501	8,942	369,892	161,670	531,562

Note: Standard deviations for averages are reported in brackets, while standard errors for the differenced are reported in parentheses. Sample includes native white men (control) and men with Mexican ancestry (treated) aged 25 to 64 employed in manufacturing, with non-missing wage income. Individuals living in group quarters and self-employed are excluded. In panel B, the only individuals with at least some college education are included.

Table 3: EFFECT OF TRADE INTENSIFICATION ON WAGES OF MEXICAN

Dep. var.:	log weekly wages							
	All				High-skilled workers			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Trade int. × Mex. × Post	-0.0009	-0.0018	-0.0050	-0.0061	0.0154	0.0167	0.0060	0.0065
	(0.0069)	(0.0065)	(0.0073)	(0.0067)	(0.0115)	(0.0124)	(0.0120)	(0.0125)
× Managerial occupation			0.0450**	0.0472**			0.0489*	0.0551**
			(0.0223)	(0.0221)			(0.0253)	(0.0221)
Average weekly wages before 1994	744.41	744.41	744.41	744.41	890.64	890.64	890.64	890.64
Number of workers	1,252,399	1,252,399	1,252,399	1,252,399	540,504	540,504	540,504	540,504
R-squared	0.2450	0.2760	0.2716	0.2994	0.2239	0.2567	0.2644	0.2920
Group and Year FE	yes	yes	yes	yes	yes	yes	yes	yes
Group and Industry FE	yes	yes	yes	yes	yes	yes	yes	yes
Industry and Year FE	yes	yes	yes	yes	yes	yes	yes	yes
Age and education	yes	yes	yes	yes	yes	yes	yes	yes
Demographic characteristics		yes		yes		yes		yes
State FE		yes		yes		yes		yes

Note: Regression results based on the 5% sample from the 1980, 1990 and 2000 US Population Census. Sample includes native white men and men with Mexican ancestry aged 25 to 64 employed in manufacturing, with non-missing wage income. We exclude individuals living in group quarters and self-employed individuals. Results in columns 5-8 are based on the sample of high-skilled workers, those with at least one year of college education. Demographic characteristics include cubic of age, squared of years of education, marital status (indicator of absent spouse and an indicator of never been married) and an indicator for non-caucasian race. Standard errors clustered on industry level in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 4: EFFECT OF TRADE INTENSIFICATION ON OCCUPATIONS OF MEXICAN DESCENDANTS

Dep. var.:	Employed in a managerial occupation			
	All		High-skilled workers	
	(1)	(2)	(3)	(4)
Trade int. × Mex. × Post	0.0052*	0.0054**	0.0131**	0.0134**
	(0.0026)	(0.0025)	(0.0060)	(0.0059)
Mean dep.var. before 1994	0.05	0.05	0.12	0.12
Number of workers	1,252,399	1,252,399	540,504	540,504
R-squared	0.1494	0.1543	0.1022	0.1096
Group and Year FE	yes	yes	yes	yes
Group and Industry FE	yes	yes	yes	yes
Industry and Year FE	yes	yes	yes	yes
Age and education	yes	yes	yes	yes
Demographic characteristics		yes		yes
State FE		yes		yes

Note: Regression results based on the 5% sample from the 1980, 1990 and 2000 US Population Census. Sample includes native white men and men with Mexican ancestry aged 25 to 64 employed in manufacturing, with non-missing wage income. We exclude individuals living in group quarters and self-employed individuals. Results in columns 3-4 are based on the sample of high-skilled workers, those with at least one year of college education. Demographic characteristics include cubic of age, squared of years of education, marital status (indicator of absent spouse and an indicator of never been married) and an indicator for non-caucasian race. Standard errors clustered on industry level in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 5: INTER-INDUSTRY MOBILITY TOWARDS HIGH-TRADE-INTENSIFICATION SECTORS

Dep. var.:	Above median (high) trade intensification							
	All				High-skilled workers			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Mex. × Post	0.0011	-0.0043	-0.0018	-0.0071	0.0072	0.0025	-0.0054	-0.0093
	(0.0059)	(0.0060)	(0.0061)	(0.0062)	(0.0109)	(0.0109)	(0.0118)	(0.0118)
× Managerial occupation			0.0513**	0.0486**			0.0821***	0.0775**
			(0.0243)	(0.0242)			(0.0316)	(0.0312)
Mean dep.var. before 1994	.52	.52	.52	.52	.49	.49	.49	.49
Number of workers	1,252,399	1,252,399	1,252,399	1,252,399	540,504	540,504	540,504	540,504
R-squared	0.0013	0.0357	0.0013	0.0358	0.0017	0.0358	0.0021	0.0362
Group FE	yes	yes	yes	yes	yes	yes	yes	yes
Year FE	yes	yes	yes	yes	yes	yes	yes	yes
Age and education	yes	yes	yes	yes	yes	yes	yes	yes
Demographic characteristics		yes		yes		yes		yes
State FE		yes		yes		yes		yes

Note: Regression results based on the 5% sample from the 1980, 1990 and 2000 US Population Census. Sample includes native white men and men with Mexican ancestry aged 25 to 64 employed in manufacturing, with non-missing wage income. We exclude individuals living in group quarters and self-employed individuals. Results in columns 5-8 are based on the sample of high-skilled workers, those with at least one year of college education. Demographic characteristics include cubic of age, squared of years of education, marital status (indicator of absent spouse and an indicator of never been married) and an indicator for non-Caucasian race. Heteroskedasticity robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 6: CHANGES IN WAGES, OCCUPATIONS AND INDUSTRIES OF EMPLOYMENT OF MEXCIAN DESCENDANTS BETWEEN 1980 AND 1990

Dep. var.:	log weekly wage	Manager. occ.	High trade int.
	(1)	(2)	(3)
Trade int. × Mex. × I[1990]	-0.0057	-0.0018	
	(0.0137)	(0.0104)	
× Managerial occupation	0.0085		
	(0.0474)		
Mex. × I[1990]			0.0225
			(0.0160)
× Managerial occupation			0.0408
			(0.0433)
Number of workers	375,333	375,333	375,333
R-squared	0.298	0.1096	0.0376
Group and Year FE	yes	yes	
Group and Industry FE	yes	yes	
Industry and Year FE	yes	yes	
Group FE			yes
Year FE			yes
Demographic characteristics	yes	yes	yes
State FE	yes	yes	yes

Note: Regression results based on the 5% sample from the 1980 and 1990 US Population Census. Sample includes native white men and men with Mexican ancestry aged 25 to 64 employed in manufacturing with at least one year of college education. Demographic characteristics include cubic of age, squared of years of education, marital status and an indicator for non-caucasian race. Standard errors clustered on industry level in parentheses in columns 1-2. Heteroskedastisity robust standard errors in column 3. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 7: ROBUSTNESS TESTS

Dep. var.:	Log weekly wage			Managerial occupation			High trade int.		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Trade int. × Mex. × Post	0.0070	0.0072	0.0060	0.0136**	0.0131**	0.0133**			
	(0.0125)	(0.0125)	(0.0123)	(0.0059)	(0.0059)	(0.0058)			
× Managerial occupation	0.0539**	0.0547**	0.0556**						
	(0.0220)	(0.0221)	(0.0223)						
Mex. × Post							-0.0171	-0.0145	-0.0093
							(0.0120)	(0.0119)	(0.0118)
× Managerial occupation							0.0758**	0.0777**	0.0776**
							(0.0312)	(0.0312)	(0.0312)
Number of workers	540,504	540,504	540,504	540,504	540,504	540,504	540,504	540,504	540,504
R-squared	0.294	0.2924	0.2931	0.1101	0.1098	0.1099	0.0376	0.0362	0.0362
Group and Year FE	yes	yes	yes	yes	yes	yes			
Group and Industry FE	yes	yes	yes	yes	yes	yes			
Industry and Year FE	yes	yes	yes	yes	yes	yes			
Group FE							yes	yes	yes
Year FE							yes	yes	yes
Demographic characteristics	yes	yes	yes	yes	yes	yes	yes	yes	yes
State FE		yes	yes		yes	yes		yes	yes
State-year FE	yes			yes			yes		
Share Mexican immigrants		yes			yes			yes	
Years of education x Post			yes			yes			yes

Notes: Sample includes native white men and men with Mexican ancestry aged 25 to 64 with at least one year of college education employed in manufacturing. Demographic characteristics include cubic of age, squared of years of education, marital status and race. Standard errors clustered on industry level in parentheses in columns 1-6. Heteroskedastisity robust standard errors in columns 7-9. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 8: RETURNS TO LANGUAGE SKILLS

Dep. var.	Log weekly wage		Managerial occupation		High trade int.	
Sample	All	Spanish-speakers	All	Spanish-speakers	All	Spanish-speakers
	(1)	(2)	(3)	(4)	(5)	(6)
Trade int. × Mex. × Post	0.0064	-0.0071	0.0134**	0.0051		
	(0.0122)	(0.0146)	(0.0058)	(0.0160)		
× Managerial occupation	0.0544**	0.0830**				
	(0.0220)	(0.0367)				
Mex. × Post					-0.0163	-0.0262
					(0.0133)	(0.0192)
× Managerial occupation					0.0783**	0.0842*
					(0.0312)	(0.0439)
Spanish at home	-0.0670***		-0.0083		0.0040	
	(0.0080)		(0.0063)		(0.0074)	
Spanish at home × Post	0.0329**		0.0114		0.0146	
	(0.0143)		(0.0097)		(0.0113)	
Number of workers	540,504	14,630	540,504	14,630	540,504	14,630
R-squared	0.2921	0.2725	0.1096	0.1122	0.0362	0.0328
Group and Year FE	yes	yes	yes	yes		
Group and Industry FE	yes	yes	yes	yes		
Industry and Year FE	yes	yes	yes	yes		
Group FE					yes	yes
Year FE					yes	yes
Demographic characteristics	yes	yes	yes	yes	yes	yes
State FE	yes	yes	yes	yes	yes	yes
English proficiency	yes	yes	yes	yes	yes	yes

Notes: Regression results based on the 5% sample from the 1980, 1990 and 2000 US Population Census. Sample includes native white men and men with Mexican ancestry aged 25 to 64 with at least one year of college education employed in manufacturing. In columns 2, 4 and 6, the sample is restricted to Mexican descendants and individuals who use Spanish as a household language. Demographic characteristics include cubic of age, squared of years of education, marital status and race. Standard errors clustered on industry level in parentheses in columns 1-4. Heteroskeastisity robust standard errors in columns 5-6. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 9: THE EFFECT OF TRADE INTENSIFICATION ON MEXICAN DESCENDANTS AND OTHER HISPANICS

Dep. var.:	log weekly wage	Manager. occ.	High trade int.
	(1)	(2)	(3)
Trade int. × Mex. × Post	0.0066	0.0135**	
	(0.0124)	(0.0059)	
× Managerial occupation	0.0547**		
	(0.0220)		
Trade int. × Hispan × Post	-0.0121	0.0139	
	(0.0199)	(0.0138)	
× Managerial occupation	0.0390		
	(0.0416)		
Mex. × Post			-0.0075
			(0.0117)
× Managerial occupation			0.0774**
			(0.0312)
Hispan. × Post			-0.0232
			(0.0159)
× Managerial occupation			0.0068
			(0.0368)
Number of workers	542,000	542,000	542,000
R-squared	0.2924	0.1098	0.0362
Group and Year FE	yes	yes	
Group and Industry FE	yes	yes	
Industry and Year FE	yes	yes	
Group FE			yes
Year FE			yes
Demographic characteristics	yes	yes	yes
State FE	yes	yes	yes

Notes: Regression results based on the 5% sample from the 1980, 1990 and 2000 US Population Census. Sample includes native white men, men with Mexican ancestry and other Hispanics aged 25 to 64 with at least one year of college education, employed in manufacturing. Demographic characteristics include cubic of age, squared of years of education, marital status and race. Standard errors clustered on industry level in parentheses in columns 1-2. Heteroskeastisity robust standard errors in the column 3. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 10: THE EFFECT OF TRADE INTENSIFICATION WITH MEXICO ON MEXICAN DESCENDANTS VS FIRST-GENERATION MEXICAN IMMIGRANTS

Dep. var.:	log weekly wage	Manager. occ.	High trade int.
	(1)	(2)	(3)
Trade int. × Mex.Desc. × Post	0.0064	0.0134**	
	(0.0125)	(0.0059)	
× Managerial occupation	0.0552**		
	(0.0222)		
Trade int. × Mex.Immig. × Post	-0.0023	0.0083	
	(0.0170)	(0.0099)	
× Managerial occupation	0.0369		
	(0.0545)		
Mex.Desc. × Post			-0.0089
			(0.0117)
× Managerial occupation			0.0775**
			(0.0312)
Mex. Immig. × Post			0.0098
			(0.0240)
× Managerial occupation			-0.0012
			(0.0466)
Number of workers	546,200	546,200	546,200
R-squared	0.2957	0.1104	0.0358
Group and Year FE	yes	yes	
Group and Industry FE	yes	yes	
Industry and Year FE	yes	yes	
Group FE			yes
Year FE			yes
Demographic characteristics	yes	yes	yes
State FE	yes	yes	yes

Notes: Regression results based on the 5% sample from the 1980, 1990 and 2000 US Population Census. Sample includes native white men, men with Mexican ancestry and first-generation Mexican immigrants aged 25 to 64 with at least one year of college education, employed in manufacturing. Demographic characteristics include cubic of age, squared of years of education, marital status and race. I also control for years in the US interacted with post-NAFTA indicator. Standard errors clustered on industry level in parentheses in columns 1-2. Heteroskeastisity robust standard errors in the column 3. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 11: THE EFFECT OF TRADE INTENSIFICATION WITH MEXICO IN THE BORDER AND NON-BORDER STATES

Dep. var.:	Log weekly wage			Managerial occupation			High trade int.		
Sample	Non-border state	Border state, exc. Texas	Texas state	Non-border	Border state, excl. Texas	Texas state	Non-border	Border state, excl. Texas	Texas
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Trade int. × Mex. × Post	0.0021	0.0085	-0.0065	0.0253**	-0.0045	0.0094			
	(0.0171)	(0.0148)	(0.0238)	(0.0104)	(0.0122)	(0.0188)			
× Managerial occupation	0.1490***	-0.0386	0.0985*						
	(0.0549)	(0.0668)	(0.0516)						
Mex. × Post							-0.0207	0.0053	-0.0336
							(0.0220)	(0.0181)	(0.0240)
× Managerial occupation							0.0774	0.0748*	0.0422
							(0.0602)	(0.0449)	(0.0661)
Number of workers	438,902	68,227	33,375	438,902	68,227	33,375	438,902	68,227	33,375
R-squared	0.2904	0.2970	0.3064	0.1139	0.0967	0.1122	0.0377	0.0086	0.0046
Group and Year FE	yes	yes	yes	yes	yes	yes			
Group and Industry FE	yes	yes	yes	yes	yes	yes			
Industry and Year FE	yes	yes	yes	yes	yes	yes			
Group FE							yes	yes	yes
Year FE							yes	yes	yes
Demographic characteristics	yes	yes	yes	yes	yes	yes	yes	yes	yes
State FE	yes	yes	yes	yes	yes	yes	yes	yes	yes

Notes: In columns 1, 4 and 7, the sample includes workers from states that do not share borders with Mexico; in columns 2, 5 and 8, we focus on workers from Arizona, California and New Mexico, and columns 3, 6 and 9 we restrict the sample to workers from Texas. Demographic characteristics include cubic of age, squared of years of education, marital status and race. Standard errors clustered on industry level in parentheses in columns 1-8. Heteroskedastisity robust standard errors in columns 7-9. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 12: MEDIUM AND LONG-TERM EFFECTS OF TRADE INTENSIFICATION WITH MEXICO ON MEXICAN DESCENDANTS

Dep. var.:	log weekly wage	Manager. occ.	High trade int.
	(1)	(2)	(3)
Trade int. × Mex. × I[2000]	0.0056	0.0132**	
	(0.0126)	(0.0059)	
× Managerial occupation	0.0577**		
	(0.0225)		
Trade int. × Mex. × I[2010]	0.0265**	0.0122	
	(0.0123)	(0.0086)	
× Managerial occupation	-0.0131		
	(0.0391)		
Mex. × I[2000]			-0.0096
			(0.0118)
× Managerial occupation			0.0776**
			(0.0312)
Mex. × I[2010]			0.0112
			(0.0110)
× Managerial occupation			0.0496*
			(0.0287)
Number of workers	710,588	710,588	710,588
R-squared	0.307	0.1086	0.0349
Group and Year FE	yes	yes	
Group and Industry FE	yes	yes	
Industry and Year FE	yes	yes	
Group FE			yes
Year FE			yes
Demographic characteristics	yes	yes	yes
State FE	yes	yes	yes

Notes: Regression results based on the 5% sample from the 1980, 1990 and 2000 US Population Census and 2008-2012 waves of the American Community Survey (ACS). Sample includes native white men, men with Mexican ancestry aged 25 to 64 with at least one year of college education, employed in manufacturing. Demographic characteristics include cubic of age, squared of years of education, marital status and race. Standard errors clustered on industry level in parentheses in columns 1-2. Heteroskeastisity robust standard errors in the column 3. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 13: DESCRIPTIVE STATISTICS

Census year	2000		2005	
Group	Chinese	Native	Chinese	Native
Share high-skilled	0.69	0.43	0.80	0.48
Individuals with at least one year of college education (high-skilled)				
Share manufacturing	0.23	0.19	0.23	0.18
Log weekly wage	7.02 [0.7]	6.91 [0.65]	7.12 [0.62]	6.93 [0.66]
Managerial occupation	0.18	0.25	0.20	0.26
High trade intensification (HI)	0.71	0.58	0.65	0.56
Trade intensification (TI)	0.07 [0.05]	0.06 [0.04]	0.06 [0.04]	0.06 [0.04]
Age	40.99 [9.26]	42.71 [9.78]	42.9 [9.01]	44.65 [9.87]
Number of workers	2,980	195,380	779	40,318

Note: Standard deviations for averages are reported in brackets. Sample includes native white men (control) and men with Mexican ancestry (treated) aged 25 to 64 employed in manufacturing, with non-missing wage income. Individuals living in group quarters and self-employed are excluded.

Table 14: THE EFFECT OF TRADE INTENSIFICATION WITH CHINA ON CHINESE WORKERS' LABOR MARKET OUTCOMES

Dep. var.:	log weekly wage	Manager. occ.	High trade int.
	(1)	(2)	(3)
Trade int. × Chinese × Post	-0.0028	0.0419***	
	(0.0141)	(0.0115)	
× Managerial occupation	-0.0025		
	(0.0294)		
Chinese × Post			-0.0477**
			(0.0205)
× Managerial occupation			0.0975**
			(0.0454)
Number of workers	239,487	239,487	239,487
R-squared	0.2829	0.1117	0.0419
Group and Year FE	yes	yes	
Group and Industry FE	yes	yes	
Industry and Year FE	yes	yes	
Group FE			yes
Year FE			yes
Demographic characteristics	yes	yes	yes
State FE	yes	yes	yes

Note: Regression results based on the 5% sample from the 2000 US Population Census and ACS wave 2005. Sample includes native white men and workers born in China aged 25 to 64 employed in manufacturing with at least one year of college education. Demographic characteristics include cubic of age, squared of years of education, years since migration and years since migration squared. Standard errors clustered on industry level in parentheses in columns 1 and 2. Heteroskedastisity robust standard errors in columns 3. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 15: RAW CHANGES IN WAGES, OCCUPATIONS AND EMPLOYMENT IN HIGH-TRADE-INTENSIFICATION INDUSTRIES BETWEEN 2000 AND 2005

Group	Chinese			Natives		
	2000	2005	Difference	2000	2005	Difference
log weekly wage						
Low trade int.	7.043	7.133	0.090	6.964	6.981	0.017
	[0.631]	[0.599]	(0.043)	[0.621]	[0.626]	(0.005)
High trade int.	7.008	7.111	0.103	6.877	6.882	0.005
	[0.730]	[0.630]	(0.035)	[0.669]	[0.677]	(0.005)
Managerial occupation						
Low trade int.	0.183	0.163	-0.020	0.239	0.257	0.018
	[0.387]	[0.370]	(0.027)	[0.427]	[0.437]	(0.004)
High trade int.	0.178	0.215	0.037	0.256	0.263	0.007
	[0.382]	[0.411]	(0.019)	[0.436]	[0.440]	(0.003)
Employment share in high-trade-int. industries						
Overall	0.714	0.646	-0.068	0.585	0.561	-0.024
	[0.452]	[0.479]	(0.018)	[0.493]	[0.496]	(0.003)
Managerial occ.	0.708	0.706	0.002	0.600	0.566	-0.034
	[0.455]	[0.457]	(0.042)	[0.500]	[0.496]	(0.005)
Number of workers	2,980	779	3,759	195,380	40,318	235,698

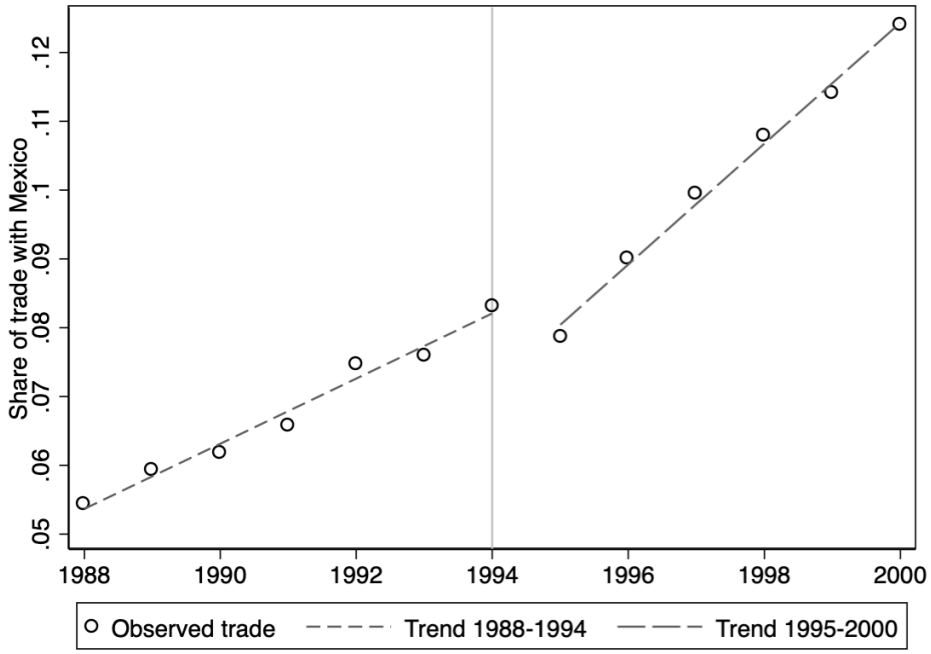
Note: Standard deviations for averages are reported in square brackets and standard errors for differences in parenthesis. Sample includes native white men (control) and Chinese immigrant men (treated) aged 25 to 64 employed in manufacturing, with non-missing wage income. I exclude individuals living in group quarters and self-employed individuals.

Table D1: THE EFFECT OF TRADE INTENSIFICATION WITH MEXICO IN THE BORDER AND NON-BORDER STATES

Dep. var.:	Log weekly wage				Managerial occupation		High trade int.			
Sample	Other	Mexican	Other	Mexican	Other	Mexican	Other	Mexican	Other	Mexican
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Trade int. × Post	0.0018	0.0193*	0.0012	0.0087	0.0001	0.0102				
	(0.0080)	(0.0110)	(0.0072)	(0.0113)	(0.0034)	(0.0068)				
× Managerial occupation			0.0012	0.0575**						
			(0.0054)	(0.0218)						
Post							0.0064***	0.0184*	0.0086***	0.0077
							(0.0015)	(0.0112)	(0.0017)	(0.0120)
× Managerial occupation									-0.0079**	0.0719**
									(0.0034)	(0.0311)
Number of workers	531,562	8,942	531,562	8,942	531,562	8,942	531,562	8,942	531,562	8,942
	0.2525	0.2275	0.2883	0.2414	0.1080	0.0980	0.0360	0.0333	0.0363	0.0344
Industry FE	yes	yes	yes	yes	yes	yes				
Year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Demographic characteristics	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
State FE	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes

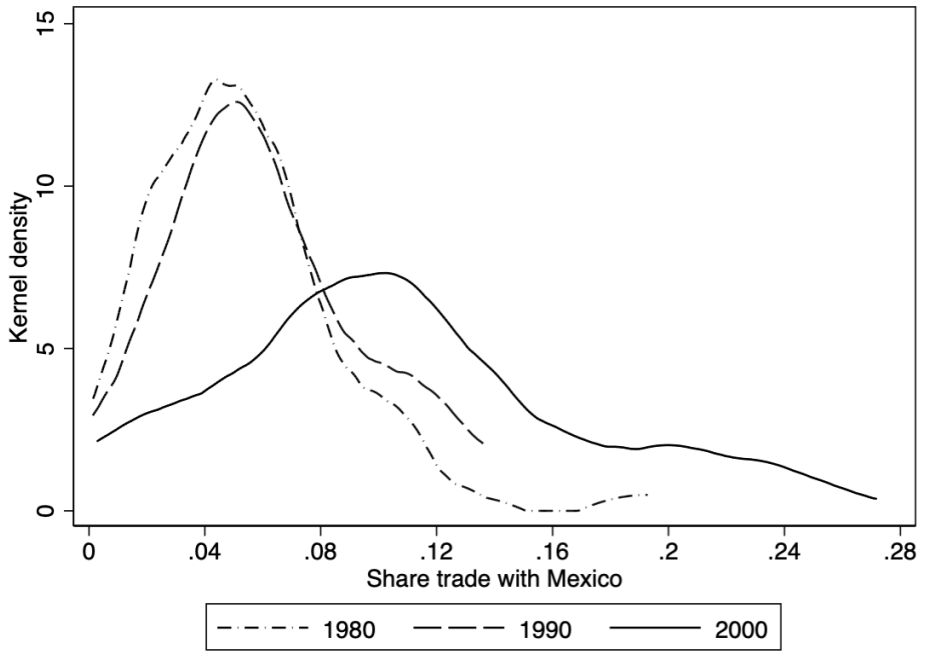
Notes: Results in odd-numbered columns refer to individuals without Mexican ancestry, while those with even numbering focus on Mexican descendats. Demographic characteristics include cubic of age, squared of years of education, marital status and race. Standard errors clustered on industry level in parentheses in columns 1-6. Heteroskedastisity robust standard errors in columns 7-10. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Figure 1: EVOLUTION OF TRADE SHARES WITH MEXICO, 1988-2000



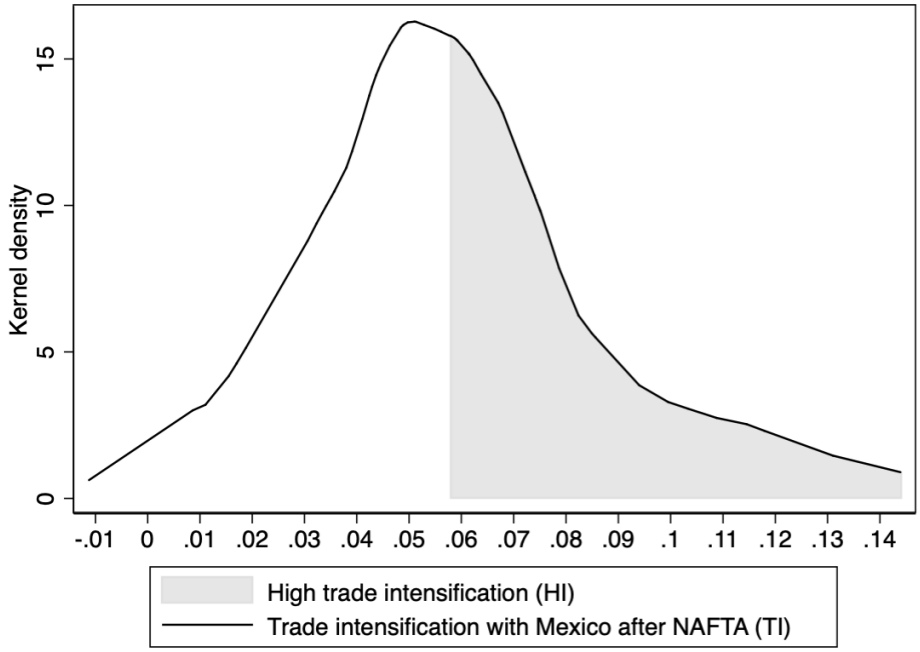
Note: Author's calculation using US Manufacturing Imports and Exports data provided by Peter Schott (2010). Share of trade with Mexico is total trade (imports and exports) with Mexico in a given year over the total volume of international trade in that year. Vertical line marks NAFTA's implementation in 1994.

Figure 2: DISTRIBUTION OF TRADE SHARES WITH MEXICO ACROSS US INDUSTRIES



Note: Author's calculation using US Manufacturing Imports and Exports data provided by Peter Schott (2010). "Paperboard Containers and Boxes" (265) industry is excluded from the figure as an outlier. It's trade share with Mexico was 0.20 in 1980 and 0.38 in 1990 and 2000.

Figure 3: INDUSTRY INTENSIFICATION IN TRADE WITH MEXICO AFTER NAFTA



Note: Author's calculation using US Manufacturing Imports and Exports data provided by Peter Schott (2010). Trade intensification is orthogonal to the share of Mexican workers in an industry prior to NAFTA.

Figure 4: LABOR MARKET OUTCOMES OF MEXICAN DESCENDANTS BY TRADE INTENSIFICATION BEFORE NAFTA

Panel A: Average wages
[slope of the fitted line is -0.18 (0.94)]

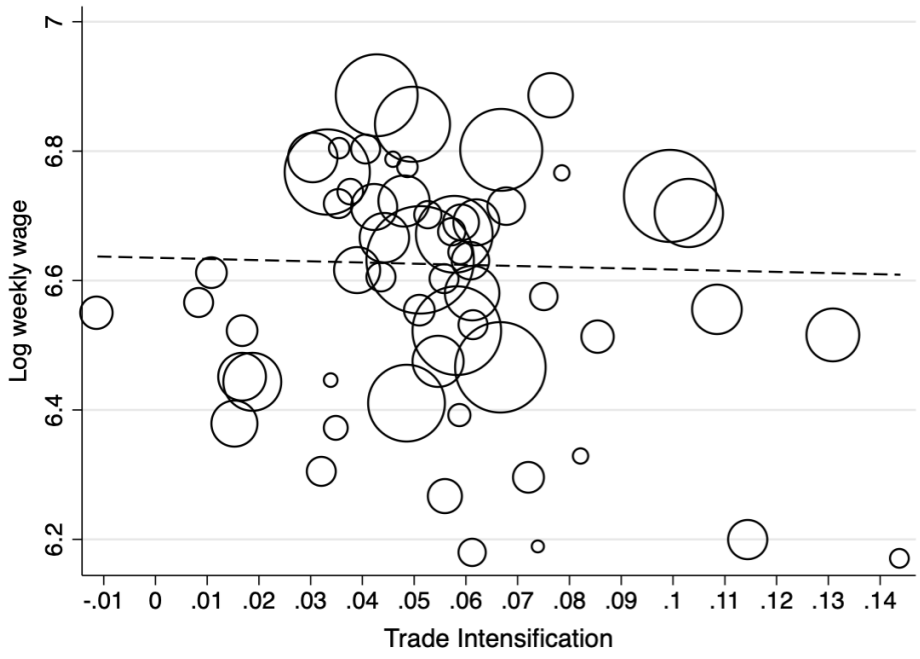
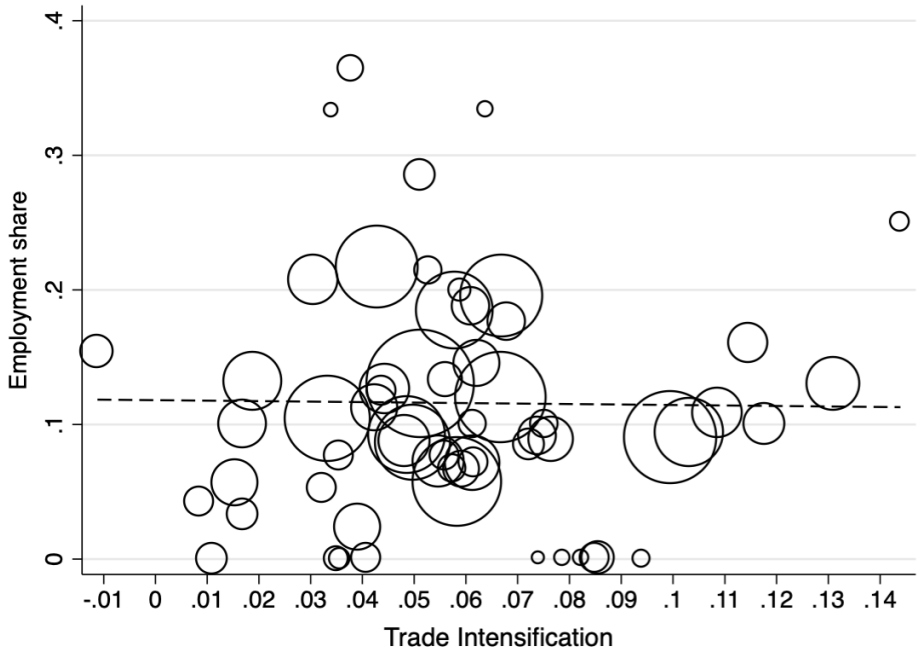
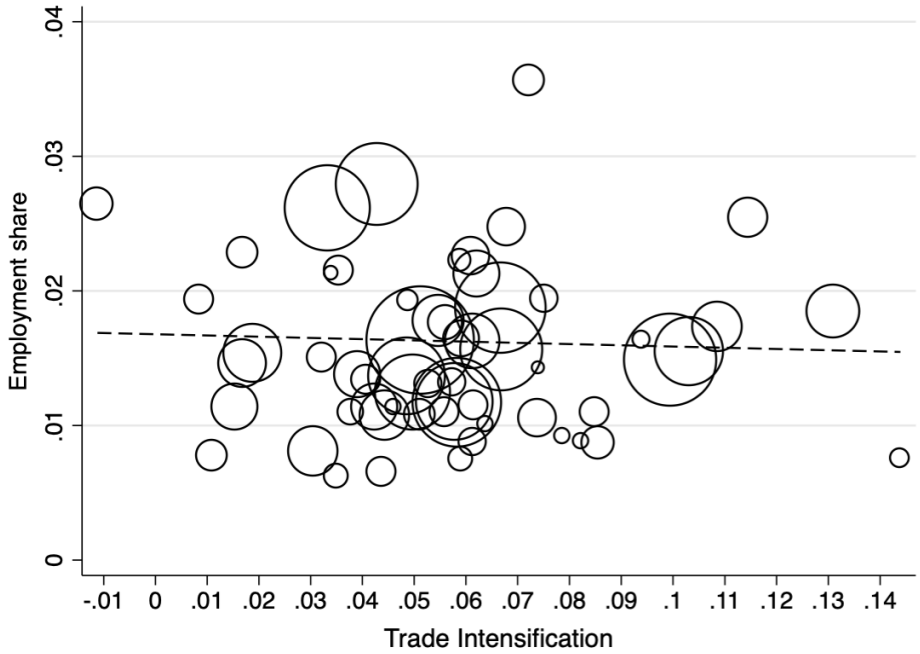


Figure 4: LABOR MARKET OUTCOMES OF MEXICAN DESCENDANTS BY TRADE INTENSIFICATION BEFORE NAFTA (continued)

Panel B: Share in managerial occupations
[slope of the fitted line is -0.04 (0.22)]



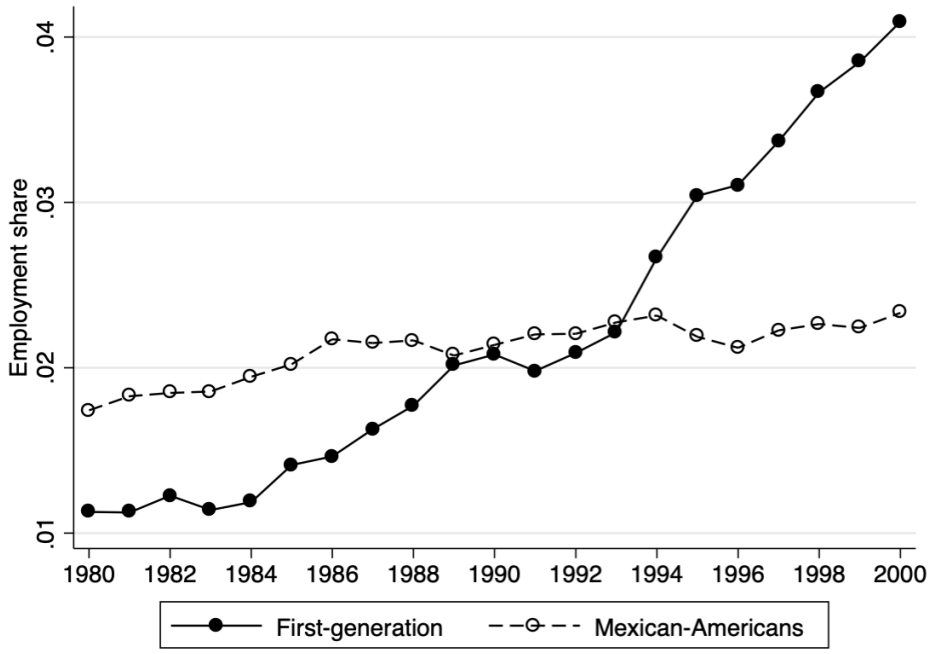
Panel C: Industry employment share
[slope of the fitted line is -0.01 (0.03)]



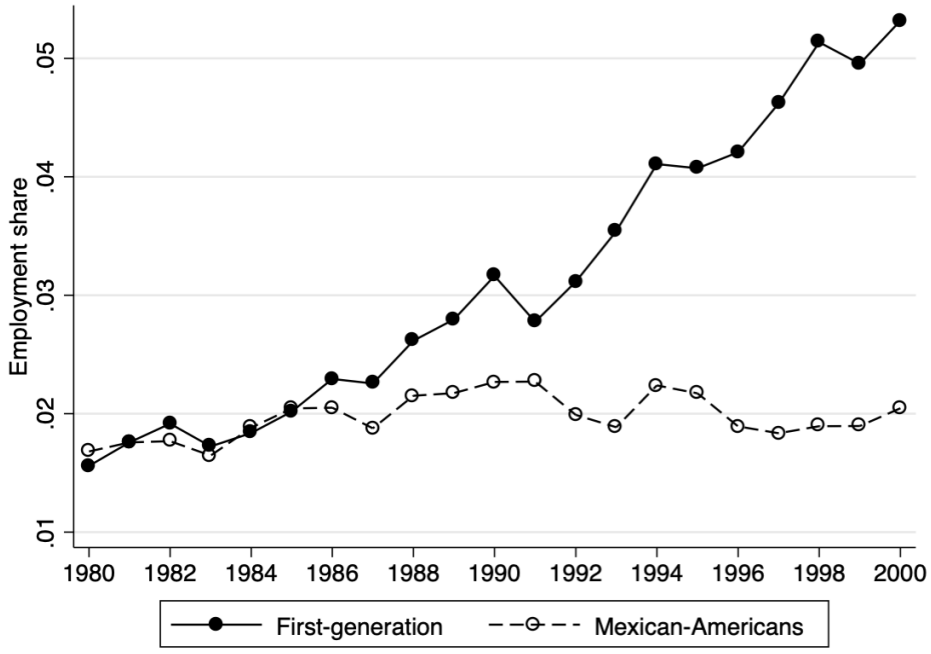
Note: The figure displays industry-level averages and shares. The size if the circle reflects industry employment level.

Figure 5: SHARE MEXICANS IN US EMPLOYMENT

Panel A: Share of Mexicans over total full-time employment in the US

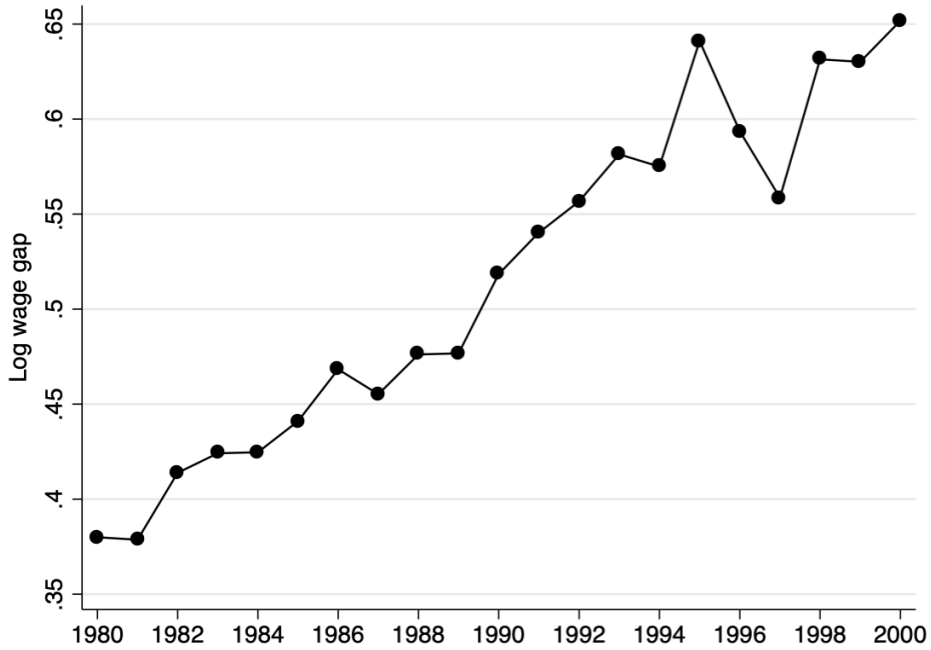


Panel B: Share of Mexicans in the full-time manufacturing employment



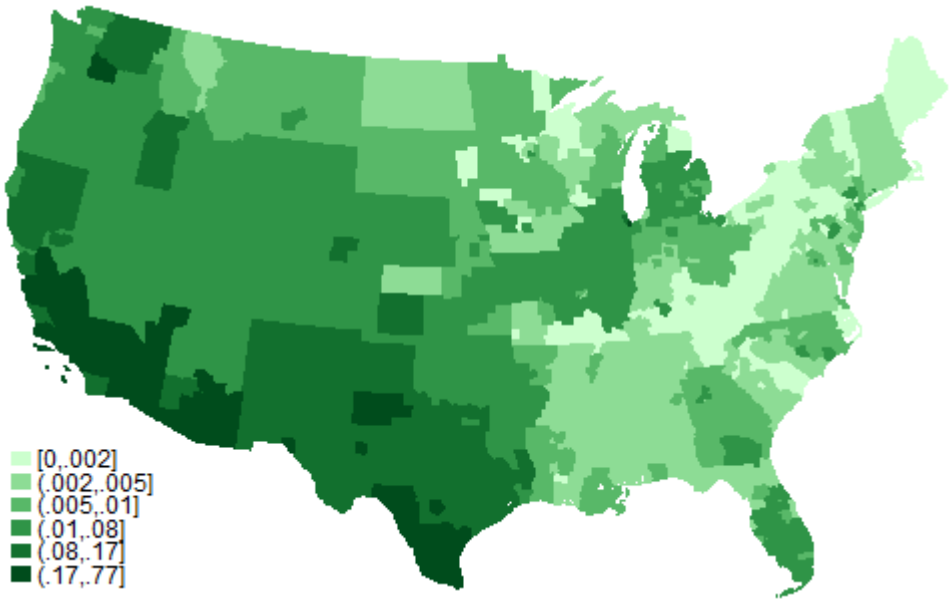
Note: Panel a plots the share of the first-generation Mexican and Mexican-American workers over the total full-time employment (aged 25-64) in the US between 1980 and 2000. Panel b plots the share of the first-generation Mexican and Mexican-American manufacturing workers over the total full-time manufacturing employment. Based on March CPS data for years 1980-2000. Population shares are calculated using ASEC weights provided by the IPUMS.

Figure 6: LOG WEEKLY WAGE DIFFERENTIAL OF COLLEGE GRADUATES TO HIGH-SCHOOL GRADUATES IN MANUFACTURING, 1980-2000



Note: Author's calculation using March CPS data for earnings years 1980-2000. The figure plots log average weekly wages of workers with at least 4 years of college education minus log average weekly wage of high-school graduates. The sample consists of full-time, full-year male manufacturing workers aged 25-64.

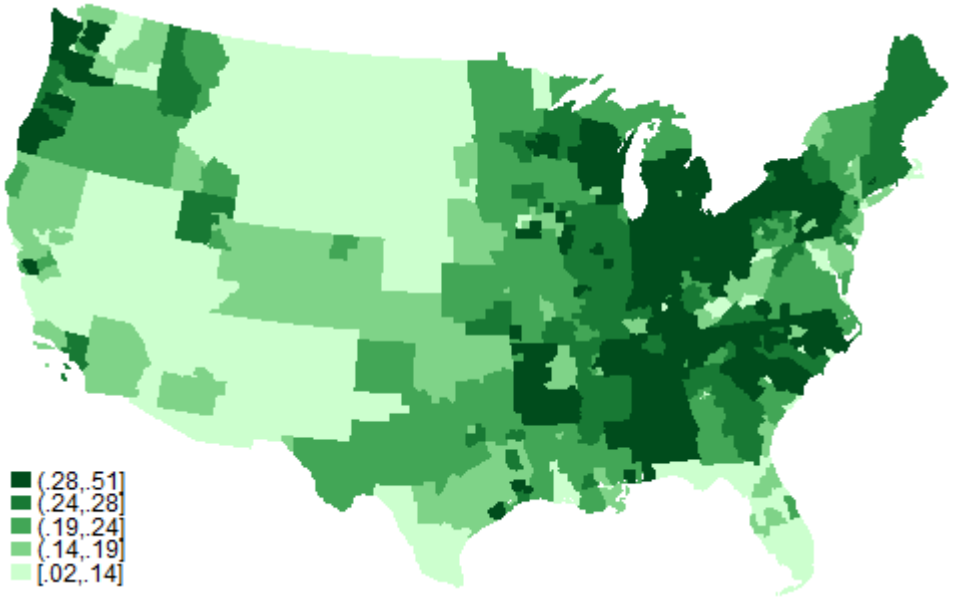
Figure 7: GEOGRAPHIC LOCATION OF MEXICANS ACROSS THE US IN 1990



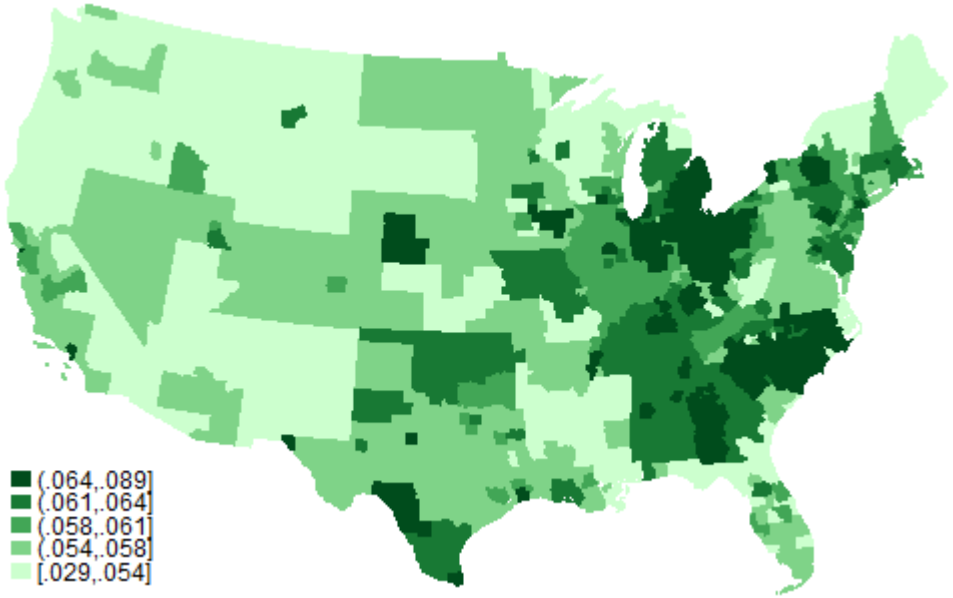
Note: share of first-generation Mexicans and Mexican descendants across the US. Share are calculated at CONSPUMA level (consistently delineated Public Use Microdata Areas). Breaks correspond to 20th, 40th, 60, 80th, 90th and 100th percentiles of the distribution. Based on 5% sample from 1990 US Population Census.

Figure 8: GEOGRAPHIC DISTRIBUTION OF MANUFACTURING EMPLOYMENT AND AVERAGE TRADE INTENSIFICATION IN CONSPUMA, 1990

Panel A: Share of manufacturing employment

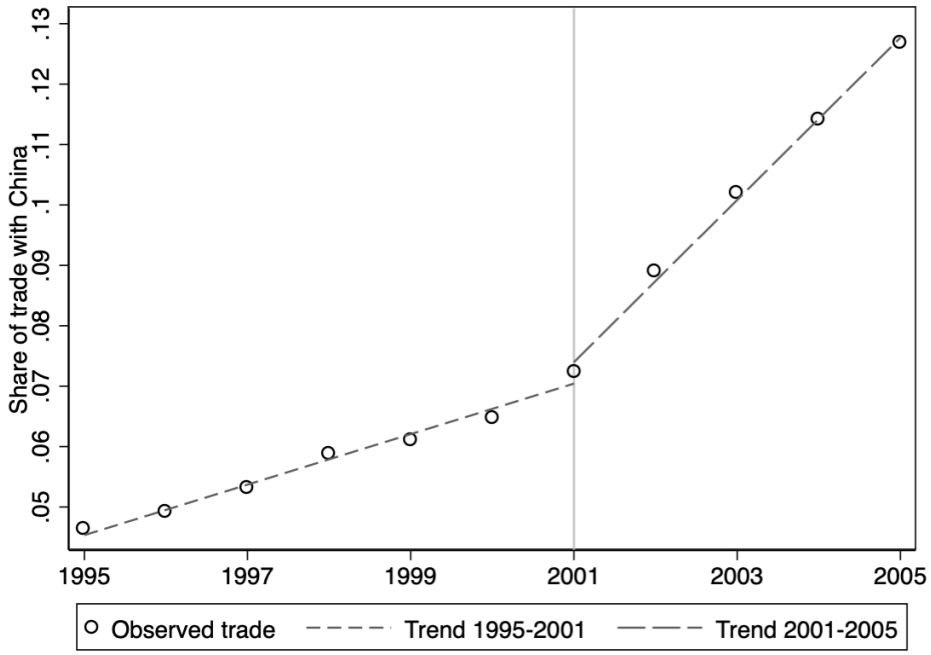


Panel B: Average trade intensification with Mexico



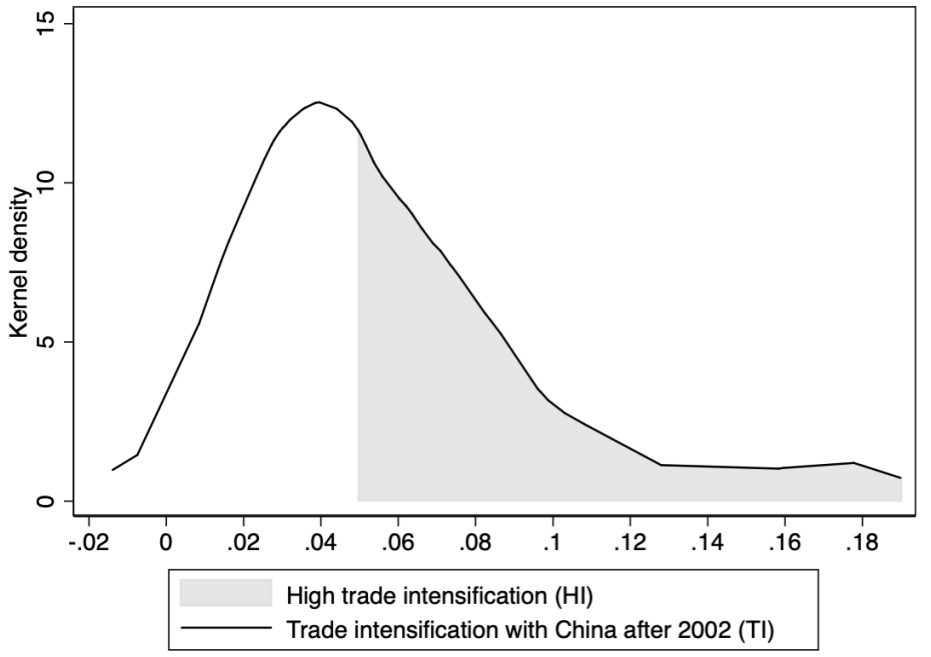
Note: CONSPUMA-level (consistently delineated Public Use Microdata Areas) share of manufacturing employment and average trade intensification with Mexico weighted by employment in the area. Breaks correspond to quintiles of the distribution. Based on 5% sample from 1990 US Population Census.

Figure 9: EVOLUTION OF TRADE SHARES WITH CHINA, 1995-2005



Note: Author's calculation using US Manufacturing Imports and Exports data provided by Peter Schott (2010). Share of trade with China is total trade (imports and exports) with China in a given year over the total volume of international trade in that year. Vertical line marks China's accession to the WTO in 2001.

Figure 10: INDUSTRY INTENSIFICATION IN TRADE WITH CHINA AFTER THE ACCESSION TO THE WTO



Note: Author's calculation using US Manufacturing Imports and Exports data provided by Peter Schott (2010). Trade intensification is orthogonal to the share of Chinese workers in an industry in 2000.