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## Has Globalization Deepened Income Inequality in Mexico?

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# Has Globalization Deepened Income Inequality in Mexico?\*

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## Abstract

In this paper we use household survey data to study the evolution of income distribution in Mexico over the last decade, a period of rapid integration to the global and North American economies – “globalization” for short. We measure differences in income inequality, over time and across Mexican states, and relate them to regional differences in the degree of globalization, controlling for the potential endogenous relationship between the two. We use the percent of state employment in exporting firms or in firms with foreign capital participation, as well as data on state trade, as proxies for integration to the world economy. Our findings strongly indicate that globalization has not raised income inequality in Mexico. On the contrary, we present compelling evidence showing that income distribution is more equitable in states that are more closely linked to the world economy and that those states exhibit larger declines in inequality. We also find some statistical evidence suggesting that deepening globalization results in reduced inequality, although our results are sketchier on this point, perhaps because such effect is only observable in the long run. As a potential explanation of why globalization might improve the distribution of income among Mexican households, we show that states that are more integrated to the world economy offer better work opportunities for low-skilled women relative to more educated female workers.

**KEYWORDS:** Mexico, income inequality, globalization, trade, foreign direct investment, NAFTA

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## INTRODUCTION

Few words stir such strong passions in contemporary debates as “globalization”. The many diverging views surrounding this term share something in common: they are tentative answers to the question of how closer interaction among economies, nation states, and cultures affects human welfare. That is perhaps one of the most important questions of the times and a search for an answer, if one can be found, will undoubtedly consume the energies of researchers for years to come. In this paper we contribute to that search by exploring how economic integration into the world economy affects the distribution of income within a country. We focus on the case of Mexico during the 1990s.

Looking at income distribution is relevant to the aforementioned debate because changes in income shares across social groups have important welfare implications. An IDB (1998) publication argued that if income in Latin American countries were distributed as in Southeast Asia, poverty would affect only a fifth of the population that is currently poor. Thus, were globalization to aggravate poverty through adverse distributional impacts, for example, efforts by national governments and international organizations to ameliorate poverty would suffer. The costs in terms of malnutrition, poor health, lagging education and so forth would be difficult to assess but undoubtedly unacceptably large. However, income inequality and poverty are different. For example, Pareto improvements can increase inequality.

There is also recent work that suggests that an equitable distribution of income positively impacts upon economic growth.<sup>1</sup> This may occur if income inequality hinders physical and human capital accumulation, or if it restricts access to capital markets for some social groups, thereby preventing profitable investment opportunities from materializing. In addition, society (or more accurately, the median voter) may support distortionary redistribution policies when income concentration is high. Lastly, political or social instability resulting from inequality may reduce investment incentives.

Inequitable income distribution could have a deleterious impact on welfare to the extent that inequality breeds social instability and poor governance. As Figure 1 suggests, in 2000, Mexican states with a poor

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<sup>1</sup> See IDB (1998), Panizza (2002), and World Bank (2003).

distribution of income exhibit low human development indices, limited access to clean water and electricity, high perceived corruption levels, and acute levels of crime and violence.

We focus on the experience of Mexico during the 1990s as it may serve as a paradigmatic case of whether globalization affects distribution and welfare. Historically, income inequality in Mexico as in most other Latin America has been profound.<sup>2</sup> Against a backdrop of inequitable income distribution, in the mid-1980s Mexico adopted an aggressive liberalization strategy that has closely integrated its economy to the global market, and that of the United States in particular, especially after entering the North American Free Trade Agreement (NAFTA) in 1994. As a result, both trade and investment flows increased substantially throughout the 1990s and the share of employment linked to the world economy rose considerably.

Lessons from the Mexican experience are not only important for understanding the challenges that globalization brings with it. It is of immediate and direct relevance for the rest of Latin America in light of the ongoing negotiation of the *Free Trade Area of the Americas* (FTAA). If NAFTA were to be linked, say, to heightened levels of inequality, countries contemplating entering the FTAA would need to consider implementing policies that would compensate those social groups most affected by the agreement. Furthermore, the prospect of worsening inequality would likely result in reduced support for hemispheric economic integration.

Thus, as the title of the paper indicates, we ask whether economic integration to the global economy has negatively affected the distribution of income in Mexico. Our strategy for answering that question relies, on the one hand, on household data to measure changes in the distribution of income from 1992 to 2002. We measure income concentration at the national, regional and state levels. On the other hand, we look at changes in the degree of globalization across Mexican states during the last decade. We then relate changes in income distribution to changes in globalization across Mexican states.

Our findings indicate that globalization has not raised income inequality in Mexico. This result is robust across econometric

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<sup>2</sup> IDB (1998) states that Latin America as a whole has the most unequal distribution of income of all world regions.

specifications and alternative income concentration measures. On the contrary, we find evidence that income is less concentrated in states that are more closely linked to the global economy. Further, we find that the latter states have seen the greatest reductions in inequality. Lastly, in some specifications we find that states that have become more global have also reduced inequality the most, although our results are not always statistically significant, in this regard.

We postulate that one reason why globalization might have improved income distribution is that states with stronger links to the world economy might offer better work opportunities to low-skilled women. This might be the case because export-assembly operations tend to hire a disproportionately large number of women, typically with low schooling levels. In support of our conjecture, we show that women with low levels of education (up to six years of schooling) in the most globalized states have greater labor force participation and receive hourly wages that are between 7 and 16 percent higher than those received by their counterparts in the most inward-looking states, controlling for several observed individual and location-specific characteristics. Incidentally, we also find that women with more than 12 years of schooling earn less in globalized states. Put together, these results suggest that wage dispersion among women is lower in states with greater links to the world economy and offer an explanation of our findings regarding household income distribution.

Our approach has advantages over existing studies. First focusing on a single country is not sensitive to unobserved country characteristics (e.g., institutional differences) that may affect cross-country studies. Moreover, household data provide a finer look at the distribution of income than per-capita income differences across aggregate regions or social groups, and allows us to relate its evolution to household characteristics. Household data also allow us to gauge the impact of globalization on welfare better than studies that focus on wage inequality. Conceivably, an increase in the wage gap can coexist with improvements in the distribution of income among households if, as we conjecture, women with low-schooling, belonging to poor households, enter the labor force and thereby raise their families income. On the down side, working with household data presents some statistical challenges that might make our results less robust.

The rest of the paper is organized as follows. In the next section we briefly describe the process toward global economic integration of the Mexican economy. In section 3 we review the literature most relevant for our paper. Section 4 summarizes our findings regarding the evolution of income inequality since 1992, both for Mexico as a whole and across regions. In section 5 we describe the estimation strategy for studying the relationship between income distribution and globalization and present our findings. Section 6 presents our findings regarding the behavior of female wages across schooling levels and degrees of globalization. Section 7 concludes.

## THE GLOBALIZATION OF THE MEXICAN ECONOMY

Trade liberalization in Mexico began with the gradual elimination of import and export licenses and a simplification of tariffs between January 1983 and July 1985. During this period, the fraction of imports subject to licensing requirements fell from 100 percent to 36 percent. After joining the GATT in 1986, Mexico agreed to bind tariffs at a 50-percent level, to eliminate reference prices, and to continue eliminating import licenses. [López Córdova (2001), Ten Kate (1992)].

NAFTA consolidated the liberalization of the Mexican economy and opened up the Canadian and U.S. markets to Mexican producers. In the agreement, the three countries agree to liberalize trade on virtually all trade by 2008, at the latest. Since North American goods represent the bulk of all Mexican imports, the elimination of tariffs on Canadian and U.S. goods amounts to the opening up of the Mexican economy to world trade.

The immediate result of the rapid dismantling of trade barriers has been a remarkable increase in Mexico's world trade. From 1990 to 2000, total imports and exports increased more than fourfold, reaching US \$174 and US \$166 billion, respectively. While the share of imports coming from North America has remained constant at around 75 percent, Mexico's exports to the region went from 80 to 91 percent of all exports from 1990 to 2000. As a result, Mexican producers now face fiercer competition in their home market and send a greater fraction of their output overseas.

Just as Mexico became more open to trade flows, the country revamped its legal framework regulating foreign investment, substantially opening the Mexican economy as a whole to foreign investors. Whereas

FDI remained below one percent of GDP over the 1970-1985 period, it rose to between one and two percent from 1986 to 1993, and it has remained above two percent since 1994.

For the country as a whole, the share of employment from exporting firms increased from 21 percent in 1993 to 29 percent in 2000, although it fell to 23 percent in 2002 probably as a result of the US recession; the corresponding figures in foreign-owned firms are 19 percent in 1993, 23 percent in 2002 and 19 percent in 2002. However, the internationalization of the Mexican economy presents substantive regional variation; see Table 1. As illustrated in Figure 2, states closer to the U.S. border have a larger share of employment in firms that export or that are foreign owned. To take two extreme cases, whereas the border state of Baja California saw the share of employment in exporting firms rise from 34 to 41 percent from 1993 to 2002, the southern state of Chiapas saw the figure rise from 8 to 8.5 percent. The econometric exercise below exploits this regional variation to measure the distributional impact of globalization.

## GLOBALIZATION AND INEQUALITY: LITERATURE REVIEW

Most of the studies about trade and inequality are based on cross-country regressions. These studies are inconclusive. Behrman et al (2001) find no statistical impact of trade liberalization on inequality in Latin America. In any case, cross-country studies obtain fragile results that are affected by unobserved country factors, by the possibility of spurious correlation if relevant variables are omitted, and by methodological differences in collecting household data. Country case studies may ameliorate some of these concerns.

There are only a few country studies that look at this issue. Wei and Yi (2002) study the impact of globalization on income inequality in China. As in our paper they exploit the regional variation in the exposure to the global markets and look at the income gap between urban and rural residents in a region. They also use some information from household surveys to measure Gini coefficients and relate them to globalization. They use only export data for openness and geography as instrumental variable (high correlation with openness, but no correlation with GDP and other variables) for openness. They find that greater openness modestly reduces overall inequality. However, they don't explain the channel of

transmission from openness to inequality. They speculate that globalization affects the rural areas through development of industries in such areas.

Some of the papers in this literature focus only on distribution effects of price changes after the trade reforms, but there are some import effects on the factor markets. The majority of the studies focus on one or at maximum two of the channels. Porto (2003), looking at the case of Argentina, is the only exception that analyzes changes in prices of goods, factor prices and government transfers. He analyzes the distributional impact of Mercosur on Argentinean households. He looks at how tariff changes resulting from Mercosur affect domestic prices, including wages. He then looks at how those price changes affect household welfare. He finds that poor household welfare improved more than proportionately from the reduction of protection in Argentina, thanks especially to an increase in the wages received by unskilled workers.

Due to data availability, tractability of the estimation and empirical relevance, in the case of Mexico, this paper will focus on the two most important channels through which trade policy affects inequality: changes in goods and factor prices.

As in Porto's study, Ianchovichina, Nicita and Soloaga (2001) use a CGE model to forecast how trade liberalization with the world would affect good and factor prices in Mexico. In turn, they use the estimated price changes to assess how tariff elimination would affect poverty and inequality. They conclude that poverty and inequality would decline even when starting from low tariff levels.

There are several papers that analyze the relationship between openness and inequality using Mexican data (Airola and Juhn (2001), García (2000), Chiquiar (2004), and Hanson (2004) among others). There are three common factors in the existing literature. First, most of the research focuses only on wage inequality. Because the focus of the paper is on distributional effects, it is important to analyze household surveys and study total household income. Using microdata we can explore the entire distribution of income or consumption and not simply moments like the mean.

Second, the majority of the existing literature about the effects of globalization on inequality in Mexico use data only to the late nineties. If such effect exists it is only observable in the long run and because of the

consequences of the peso crisis of 1995 such studies offer an incomplete picture.

Third, there are few papers that use regional dispersion in globalization (Chiquiar 2004). Also, he divides the country in some regions (no more than six) according to some general criteria not considering variation across states.

Airola and Juhn (2001) states that one possible explanation of the increase in the wage inequality is an increasing return to ability. Supporting this explanation they find that the observed increase in wage inequality during 1984-1994 in Mexico was concentrated by an increase in the dispersion at the top of the wage distribution. Also, there is an increasing dispersion of wages for workers with post secondary education. They reject a skill-upgrading technological premium as explanation predicting changes in demand for industries. They conclude that domestic reforms (privatization, etc) created an environment that rewards ability. However, they didn't present any test that supports this statement.

García (2000) analyzes wage inequality in a different way. She studies the effect of trade on the gender gap. She concludes that the gender gap decreased more in export-oriented regions of Mexico (North and Center regions). Also, the wage gap decreased more in industries that had been non competitive before NAFTA. On shortcoming of this study is the focus only on urban areas. It is possible that not considering rural areas where the effect of globalization could be important explain the results.

One notable exception in the literature is Chiquiar (2004) that exploit some partial regional variation in the degree of exposure to international markets to identify the effect of trade on wages. He finds evidence that support the Stolper-Samuelson theorem. In particular, unskilled wages increase in regions more integrated to the US (northern states) relative to wages in other regions.

In related work, Hanson (2004) estimates wage regressions in 1990 and 2000 and concludes increasing wages for high skill workers living in regions with good access to foreign markets. He finds evidence of convergence between Mexico and U.S. wages only in Mexican border states.

## INEQUALITY IN MEXICO

We use household survey data to trace income distribution changes from 1992 to 2002. The surveys, collected by Mexico's Instituto Nacional de Estadística, Geografía e Informática (INEGI), include around 10,000 households.

We measure income concentration by calculating Gini coefficients for the country as a whole, for 9 different regions defined by INEGI, and for each of the 32 Mexican states. As explained in Appendix A, the latter requires us to use weights for each household in our sample so as to replicate the distribution of income in the population at large.

Table 2 presents alternative Gini coefficients for the country as a whole. These alternatives vary according to whether we use monetary income only or total income; whether we use aggregate or per-member household income; and whether we make any adjustments for price differences across states. Appendix A discusses these alternatives in more detail. In the rest of the paper, we will work with household monetary income per family member, assigning equal weights to adults and children.<sup>3</sup>

Table 3 presents Gini coefficients for nine different regions in Mexico defined by INEGI, for the Plan Puebla-Panamá region<sup>4</sup> and for the country as a whole from 1992-2002. The national Gini in 2002 stood at 0.504. The regional Gini figures show that the richer Northern regions of the country have a better distribution of income than the impoverished South.

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<sup>3</sup> The Gini coefficient ranges between zero and one. A coefficient of zero indicates perfect income equality while a one would imply that all wealth is concentrated in one person. The evolution of the Gini coefficient is particularly useful as it reveals trends. In practice, coefficient values range from around 0.2 for historically equalitarian countries like Bulgaria, Hungary, the Slovak and Czech republics and Poland to over 0.6 for Central and South American countries. In Latin America they range from a high of 0.67 in Brazil to a low of 0.43 in Uruguay. In other words, Brazil is the country with the greatest inequality in Latin America, Uruguay the least. In the U.S. the Gini coefficient is 0.43. We observe a rising in the Gini index in the U.S. in the last fifty years (from 0.38 in the 50's to 0.43 now). Most European countries and Canada rate around 0.30, Japan and some Asian countries get around 0.35, some reach 0.40 while most African countries exceed 0.45.

<sup>4</sup> The Plan Puebla Panamá is a vast infrastructure construction project, designed to please big business, that covers nine states in south-southeast Mexico and the seven Central American republics.

Table 4 shows whether, from 1994 to 2002, Gini coefficients were statistically different from the 1992 observation. For the country as a whole, income distribution toward the end of our period of analysis improved relative to 1992. In 2002, seven out of nine regions in the country had seen income distribution improved over the ten-year period, while in only two regions, Central (states of Guanajuato, Hidalgo and Querétaro) and Southeast (states of Campeche, Quintana Roo and Yucatán), income inequality remained unchanged.

Income concentration among urban households appears to be lower than among rural households (Table 5). In both cases, however, income concentration improved throughout the decade when looking at the country as a whole; see Table 4.

Summarizing, comparing 2002 with 1992, income distribution improved for the country as a whole, both for urban and rural households. Most regions saw income inequality decline, except for some states in the central and southern part of the country. Since, as we saw before, Northern states have stronger international economic links, we hypothesize that globalization may be correlated with reductions in income concentration. This possibility is supported by Figure 3, which plots the 2000 Gini coefficients against the share of employment in exporting or foreign-owned firms at the state level. The next section looks at whether the implied negative correlation between globalization and inequality holds up under a more rigorous econometric analysis.

## GLOBALIZATION AND INEQUALITY IN MEXICO

This section describes our strategy for assessing the impact of globalization on income distribution and presents our econometric results.

### *The new approach*

In order to address the shortcomings of the existing literature this paper will use household survey data from 1992 to 2002, considering a greater period of time for the Stolper-Samuelson theorem to hold. Also, this is the first study to exploit differences in the degree of globalization and inequality at the state level. We will focus on globalization and

inequality at the state level. Finally, we will concentrate on a measure of total income inequality and not only wage inequality.

Most existing studies on the Mexican case focus on the impact that trade liberalization has had on wage inequality. From a theoretical perspective, the impact could go in either direction. In a Heckscher-Ohlin model<sup>5</sup>, workers should see wages increase relative to capital owners' rents (alternatively, unskilled wages should go up relative to skilled wages) in a developing country relatively well-endowed with labor (or unskilled labor). In that case, workers would benefit relative to capital owners (or more skilled workers) and income distribution would improve. Under a specific factors model, however, workers that are unable to relocate to labor-intensive industries would lose, and the distributional impact of trade liberalization is ambiguous. Moreover, empirical studies show that the wage gap between skilled and unskilled workers may increase after trade and investment reform. This could occur, for example, if foreign-owned firms that begin operating in a developing country bring with them technology that increases the demand for skilled workers. In that case, the distributional impact is adverse.

While assessing the impact that globalization has on wage patterns is important for understanding changes in income distribution, studies along those lines offer only a partial look at the issue. Globalization may affect income distribution across households if, for example, an increasing demand for unskilled workers raises the opportunity cost of home work for women and, thus, increases female labor participation. In this hypothetical case, total household income may increase as more women enter the labor force, especially among low-income households. Therefore, assessing the impact of globalization on income distribution across households is ultimately an empirical question.

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<sup>5</sup> See Deardorff and Stern (1994) for a review.

### ECONOMETRIC STRATEGY

The unit of observation in the estimation is the state level. We calculate Gini coefficients for each of the 32 Mexican states and relate them to measures of globalization across states from 1994 to 2002.

Since economic theory does not presents us with a clear cut model to analyze how globalization may affect income distribution, we experiment with different econometric specifications. We try to answer the following questions:

- i. Do *globalized* states have a better distribution of income?
- ii. Does inequality decline faster in states that are more globalized?
- iii. Do changes in the extent of globalization translate into reductions in inequality?

In order to answer the above questions we estimate variants of the following equations, corresponding respectively to each of the above question:

$$(1) \quad \ln Gini_{st} = \beta_o + \beta_1 \ln \left( \frac{GSP_{st}}{POP_{st}} \right) + \gamma Global_{st} + \varepsilon_{st};$$

$$(2) \quad \Delta \ln Gini_{st} = \beta_o + \beta_1 \ln Gini_{st-1} + \beta_2 \ln \left( \frac{GSP_{st-1}}{POP_{st-1}} \right) + \gamma Global_{st-1} + \varepsilon_{st};$$

$$(3) \quad \Delta \ln Gini_{st} = \beta_o + \beta_1 \ln Gini_{st-1} + \beta_2 \Delta \ln \left( \frac{GSP_{st}}{POP_{st}} \right) + \gamma \Delta Global_{st} + \varepsilon_{st}.$$

In the equations above, *GSP* is gross state product, *POP* is state population, and  $\varepsilon_{st}$  is an error term. Subscripts *s* and *t* refer to states and years, respectively. *Global*, our variable of interest, is measured in four alternative ways: as the percent of state employment in exporting firms; as the percent of state employment in firms that are foreign owned; as the ratio of state exports to GSP; or as the share of total state trade to GSP. We use natural logarithms in all four cases. Since the dependent variable, the Gini coefficient for state *s* in year *t* (in natural logarithms), increases as

income is more concentrated,  $\gamma > 0$  would indicate that globalization deepens inequality and vice versa.

#### *WITHIN-STATE INCOME INEQUALITY: RESULTS*

Tables 6 and 7 present our estimation results for equation 1. Regressions 1 to 4 in both tables show that the larger the degree of globalization, the lower income inequality. These regressions do not account for the possibility that unobserved state characteristics may be correlated with our measure of inequality. Thus, regressions 5 and 6 include state fixed effects and our estimates of interest are no longer statistically significant.

One potential problem is that there might be omitted variables correlated with both our globalization measures and inequality. For example, increased schooling is an important tool for reducing inequality. At the same time, foreign producers may find it more appealing to locate in states when school attainment is high. Thus, not including information on schooling could bias our estimates. There are reasons, however, why we would not want to include schooling in our regression. First, multicollinearity between schooling and GSP per capita would increase the standard error of our coefficient estimates. Second, and more importantly, globalization may be affecting income inequality precisely by providing incentives to households for investing in human capital formation. If we were to include schooling explicitly in our regressions we would not be capturing such possibility. This argument may apply to other variables.

A second problem is that foreign firms and exporters might locate in states where inequality is not too high. As we have seen, inequality may breed social instability and poor governance. These factors may in turn discourage foreign investors. Thus, there may be an endogenous relation between inequality and our measures of globalization. Endogeneity would bias our OLS estimates.

A third potential problem has to do with errors in measuring the extent of globalization at the state level using employment figures in exporting or foreign-owned firms. As explained in Appendix B, these data come from estimates produced by the Mexico's Ministry of the Economy (*Secretaría de Economía*) after combining different databases (customs, FDI

registry, social security), and thus are bound to be imperfect. More importantly, they refer only to the formal private sector; the informal sector and public-sector employment are not included. This fact may overestimate the degree of orientation in poorer states. Why? Because the informal sector may be bigger in those states than in richer states and thus, if we had adequate figures on total employment (i.e., formal plus informal) the fraction of employment in global firms would be smaller in poor states than our current figures reflect.

The solution to the omitted variable, endogeneity, and measurement error problems is to find appropriate instrumental variables that eliminate the correlation between the error term and our variables of interest. Given the geographic characteristics of Mexico and the preponderance of U.S. trade and investment, we use state distance to the U.S. border as our instrumental variable. The intuition for using the state distance to the U.S. border as the instrumental variable is this: globalization is clearly related to geography (proximity to the major trading country) but country geography is improbable to be influenced by its income distribution. Unfortunately, since our instrument remains constant over time, we cannot include state fixed effects in our 2SLS estimation.

Regressions 7 to 10 in Tables 6 and 7 present our two-stage least squares results. Once again, we find that globalization has a negative and statistically significant impact on inequality. Importantly, using instrumental variables increases the estimated impact, suggesting that regressions 1 to 6 might be affected by some of the problems described earlier. Putting all of these results together, the evidence in Tables 6 and 7 suggests that greater links to the world economy either have no impact on income distribution, when we include state fixed effects, or reduce inequality.

How important might be the impact of globalization on inequality reduction? To answer this question we focus on regressions 9 and 10, as they offer the best compromise between addressing measurement error, endogeneity and omitted-variable concerns through the use of instrumental variables and partially accounting for unobserved state exogeneity through the use of region dummies. A one percent increase in employment among foreign firms or exporters reduces the Gini coefficient by 0.07 or 0.08 percent, while a similar increase in exports or total trade reduces the Gini by 0.03 percent. To put this in context, we focus on the

state of Durango, which in 2000 lay near the median of the distributions of both the Gini coefficient and the percent of employment in exporting firms (ranking 15 and 16, respectively, out of 32 states). If the share of employment were to increase to that of Chihuahua, its immediate neighbor to the north and the most globalized state according to this measure, Durango's Gini coefficient would significantly decrease from 0.481 to 0.446 (a drop of 0.035 with a standard error of 0.012) and it would improve its ranking to the 10th best income distribution; incidentally, Chihuahua ranked 9th in 2000.

Tables 8 and 9 present our estimation results for equation 2. Overall, these results suggest that states that are more globalized in a given year experience the largest declines in inequality two years hence over the 1994-2002 period. As with equation 1, using state fixed effects yields statistically insignificant results; in contrast, 2SLS regressions yield precisely-estimated coefficient that are greater (in absolute terms) than OLS estimates.

Tables 10 and 11 present estimates of equation 3, considering changes over a two-year horizon (from 1994-96, 1996-98, 1998-2000 and 2000-2002). Most of the coefficients of interest are not statistically significant, although, under two specifications (Table 11, regressions 4 and 6), changes in the ratio of exports to GSP are correlated with declines in the Gini coefficient. One reason why equation 3 is not estimated precisely might be that income distribution patterns may not be easily changed over short periods of time.

In summary, the results from estimating equation 1 strongly indicate that globalization is not positively correlated with income inequality. On the contrary, our results offer compelling evidence showing that states that are more globalized are more egalitarian. Further, these states also appear to have experienced the steepest declines in inequality. Lastly, there is some indication that deepening globalization has reduced inequality, although the results are not statistically significant. None of our results suggests that globalization is correlated with, or that it may be worsening, inequality within Mexican states.

### *ROBUSTNESS*

Mexican household surveys are designed to be representative at the national and regional levels. As a result, our estimates of income concentration at the state level are likely measured with error. In the previous exercises, we applied regional household-sampling weights in calculating state-level Gini coefficients, under the assumption that income distribution in each state is the same as in the region to which it belongs. Such an assumption is clearly not warranted. To test whether our results are sensitive to this, we estimated the equations of interest using regional level data. Our qualitative conclusions hold to this modification (see Appendix C Tables C1 to C6). We also estimated equations (1) to (3) using Theil's entropy measure as the dependent variable and our results, once again, hold (Appendix C Tables C7-C12).

In a previous version of the paper (Borraz and López-Córdova 2003), using data up through the year 2000, we ran our basic regressions separating urban and rural households and re-estimating Gini coefficients. The results for urban households mimicked those found earlier, whereas rural households were unaffected by globalization.

Another important concern is potential internal migration that would change the population in each state and invalidate the results. If individual migrate across states, we observe changes in our inequality state level measure; however inequality at the national level remains. INEGI (2001) based on the 2000 Census reports information on municipality of residence in 1995 and 2000. The data show that only 3% of the total population is internal migrant. In addition, Woodruff and Zenteno (2001) claim that internal migration was not considerable in Mexico in the nineties.

### A TENTATIVE EXPLANATION

The previous section presented evidence showing that inequality among Mexican households has not risen as a result of closer integration to the world economy and that, on the contrary, it appears to have declined. This conclusion is in contrast to the observation by other authors that wage inequality in Mexico has risen as a result of trade liberalization. In this section we offer one potential explanation of why income distribution has

improved in Mexico. We posit, and present evidence, that globalization might have improved work opportunities for low-skilled women, thereby raising poor households' income more than other households'. This may be occurring because foreign-owned export-assembly operations, known as maquiladoras, hire a substantial number of women to work in activities that do not require high levels of education. Presumably, these women would otherwise be employed in lower wage activities or remain out of the labor force altogether.

There are several studies that analyze the wage gap in the maquiladora industry. Fleck (2001) finds that the female-male wage gap is wider the higher the proportion of women in an industry. She also finds that the wage gap in the maquiladora sector fluctuate deeply between industries. In a related study, Ghiara (1999) analyzes the skilled-unskilled female wage gap. She finds that skilled women in the non-traded sector have become better off; unskilled women in the maquiladora sector have become worse off. Therefore these studies are inconclusive.

To test our conjecture, we use data from Mexico's 2000 Census' extended questionnaire, applied to a 10-percent sample of all Mexican households, or approximately 2.2 million households. We selected all women between 16 and 55 years of age and studied the determinants of female labor force participation and of hourly wages among employed women. More specifically, we estimated wage regressions in which a woman's expected hourly wages (in logs) is a function of her schooling, other observed individual characteristics, attributes of the community in which she resides, and, importantly, dummies for the degree of globalization of the state of residence and their interaction with the schooling variables. We created three categories of schooling, primary (1-6 years of schooling), secondary (7-12 years) and higher (13 or more years); primary is the omitted category. We also classified states in terciles (low, medium and high) according to their level of globalization, using the same proxies as in our previous exercises; low globalization is the omitted category. Thus, we estimated equations of the form:

$$\begin{aligned}
 \ln(\text{wage}_{ij}) = & \beta_0 + \beta_1 \text{Secondary}_i + \beta_2 \text{Higher}_i + \beta_3 \mathbf{1}(\text{Medium Glob.}_j) \\
 & + \beta_4 \mathbf{1}(\text{High Glob.}_j) + \beta_5 \text{Secondary}_i \times \mathbf{1}(\text{Medium Glob.}_j) \\
 (4) \quad & + \beta_6 \text{Higher}_i \times \mathbf{1}(\text{Medium Glob.}_j) + \beta_7 \text{Secondary}_i \times \mathbf{1}(\text{High Glob.}_j) \\
 & + \beta_8 \text{Higher}_i \times \mathbf{1}(\text{High Glob.}_j) + \mathbf{X}_{ij} \Gamma + \varepsilon_{ij}
 \end{aligned}$$

In equation 4,  $\mathbf{X}_{ij}$  are appropriate individual and locality controls, including age, marital status, ethnicity (whether the individual speaks an indigenous language), locality size dummies, region dummies, average municipal income per capita, and industry dummies.

Table 12 presents OLS estimates of equation (4). Each regression uses an alternative globalization criterion, as in previous exercises (employment in exporting firms, employment in foreign firms, trade to GSP and exports to GSP).

Since we use state-level globalization measures, the reported standard errors are clustered by state. The coefficient estimates for our control variables are comparable to those found by other authors (e.g., Hanson (2004), Table 15.3b). We are interested in coefficients  $\beta_1$  through  $\beta_8$ . Naturally, we expect more educated workers to receive higher wages at any level of globalization. More importantly, we are concerned with how globalization affects wages within and across schooling groups. We focus on two questions: First, for a given schooling level, what happens to wages as globalization increases? In other words, is there a “globalization premium” to schooling? Second, does the wage gap between any two schooling levels increase with globalization? Table 13(a) presents the percent change in hourly wages for workers with a given schooling level as globalization rises, holding all else constant; whereas Table 13(b) shows the percent change in the wage gap between workers with different schooling levels as globalization rises.

In Table 13(a), we see that female workers with only primary education earn substantially higher wages in states that are the most globalized, between 7 and 16 percent higher relative to comparable women in the least globalized states; or between 5 and 7 percent higher relative to women in states with intermediate levels of globalization. Similarly, women with secondary schooling receive wages that are 5 to 6 percent higher as globalization rises, although this is only true when we

focus on states that trade heavily with the world and not when we focus on employment in exporting or foreign firms. In contrast, women with higher education would receive substantially lower wages, between 6 and 10 percent lower, if they move from the least to the most globalized states. The above estimates offer support to our conjecture that globalization might have improved low-skilled women's labor prospects, thereby helping improve income distribution. They also suggest that within-state wage dispersion declines with globalization, contrary to other authors' findings.

The previous claim is confirmed in Table 13(b), where we observe that the wage gap between women with different schooling levels decline as globalization progresses. This conclusion holds under most specifications, regardless of the globalization criterion being used. The wage gap between women with secondary and primary education declines by 6-9 percent as we move from the least to the most globalized states, whereas, in that scenario, the gap between women with higher and primary education falls between 15 and 20 percent. Although less impressive, we also see a decline in the wage gap between workers with higher education and those with secondary schooling, from 9 to 12 percent.

To see whether the previous results apply only to women or in general to all workers, we re-estimated regression (4) looking at male workers (Table 14). Again, we tested whether there is a globalization premium for men and whether the wage gap increased, decreased or remained the same (Table 15). Results for male workers are not robust to differences in which define globalization, as in the case of women. There are no unambiguous results regarding the existence of a globalization premium for male workers with primary or secondary schooling. In contrast, about half of our estimates for workers with higher education indicate that they earn higher wages as globalization proceeds, while all other results are statistically insignificant. Consequently, the wage gap between higher-education workers and other workers either remains unchanged or seems to increase with globalization under most specifications.

In addition, we test directly the effect of globalization on female labor participation. Table 16 presents probit estimation results of a labor participation equation. The results show that women's labor force participation is lower in the states with few economic links to the outside

world. Furthermore, as seen in Table 17(a), women with primary education have significantly (in a statistical sense) higher participation rates in the most globalized states, as much as 1.7 percent higher than comparable women in states at the opposite extreme of the globalization spectrum. In contrast, women with secondary and higher education do not seem to participate more actively in the work force as globalization proceeds. Not surprisingly, we also found that the difference in labor force participation between women with higher education and primary schooling is narrower in the most globalized states; see Table 17(b).

In sum, our results suggest that integration into the world economy significantly expands opportunities for women in the workplace and reduces gender inequality. One channel through which globalization improves income distribution is by improving the work prospects of the country's relatively abundant factor, low-skilled labor, which in Mexico includes a disproportionate number of women. We presented evidence showing that women with low schooling receive higher wages and participate more actively in the labor force in states with greater links to the world economy. In addition, we showed that wage differentials across schooling groups are also narrower in those states. These findings are in contrast to the evolution of hourly wages for male workers. For the latter, the wage gap between workers with different schooling levels is, if anything, higher in more global states.

## CONCLUSIONS

We do not find evidence that globalization might have deepened income inequality in Mexico. This is a robust result that holds using alternative definitions of income concentration and different proxies for globalization. On the contrary, we find strong evidence indicating that income distribution is more even, and has become more so, in states that have stronger links to the world economy. Strengthening those links seems to result in reductions in inequality, although the evidence on this regard is less persuasive, perhaps because income distribution patterns cannot be easily altered in the short run.

We also present evidence indicating that one channel through which globalization might be improving the distribution of income is by offering better labor-market opportunities to low-skilled women. The latter earn relatively higher wages and participate more actively in the

labor force in states with greater global links, suggesting that wage dispersion among women is lower in those states; indeed, we provide econometric confirmation of the latter assertion.

Our findings have important policy implications. We began our discussion arguing that income inequality has important negative consequences for the growth prospects of a nation, for reducing the incidence of poverty, and for achieving social peace and good governance. Concerns for how globalization might work through the distribution of income and affect a country's welfare should be directed more forcefully toward incorporating those regions left at the margin of world trade and capital flows into the global economy. Strengthening the rule of law, improving educational levels, building better infrastructure, important in and of themselves, could be a starting point for moving in that direction. The latter should not be interpreted as suggesting that there would not be disaffected groups in the globalized regions. But while globalization may impose costs on society, the opportunity cost of keeping globalization at bay are even higher.

#### APPENDIX A: METHODOLOGY FOR MEASURING INEQUALITY

The Gini index is a widely used measure of inequality. Because in the literature there is no common practice to report Gini standard errors and they are a requirement for statistical inference we explain in details how to calculate them.

The Gini index is giving by

$$Gini = \frac{1}{\mu(y)} \int_{y_{\min}}^{y_{\max}} \left[ \frac{F(y)}{1-F(y)} \right] dy$$

where  $y$  is a measure of income or expenditure.

Integrating by parts and arranging data in ascending order, Ogowang (2000) show that the Gini coefficient can be expressed as:

$$Gini = \left[ \frac{(n^2 - 1)}{6n} \right] \frac{\hat{\beta}}{y}$$

where  $\bar{y}$  is the sample mean of  $y$ , and  $\hat{\beta}$  is the OLS estimator of  $b$  in the model:

$$y_i = \alpha + \beta i + u_i,$$

in which households  $i=\{1,\dots,N\}$  are sorted in an ascending order in terms of their income.

Rearranging the Gini index:

$$Gini = \frac{2}{n} \hat{\alpha} - 1 - \frac{1}{n}$$

where  $\hat{\alpha}$  is the weighted least squared estimator of  $\alpha$  in the model:

$$i = \alpha + u_i$$

Therefore:

$$S.E.(Gini) = \frac{2}{n} S.E.(\hat{\alpha})$$

In order to calculate the Gini index we divide household total income or expenditure between the household sizes, so as to obtain a measure of well being per capita as the base for our calculations. One problem with the assumption of equal division across household members is that it does not take into account the fact that children do not have the same needs that adults have. Because the literature of "equivalence scales" is in the early stages we decide to give the same weights to children and adults and to utilize average income per capita.

Because of the volatility of income for farmers and consumption smoothing by consumers, we also estimated Gini coefficients based on expenditures (that fluctuate less than income) in order to have an alternative measure of inequality.

Comparing income across states at a given point in time requires deflating by a price index in order to obtain real measures. In the ENIGH there are data about price and quantities for food and beverages. We

utilize these data to calculate a Laspeyres price index by region-state, in order to obtain a measure of real income and adequately compare income across regions and obtain a national and regional measure of inequality.

A problem when using household surveys is that income may be under-reported. For example, the mean income for the ENIGH-2000 is significantly lower than the mean income for the 1% samples of the 2000 Census. This problem is partially corrected by using the households weights that are provide by ENIGH. As one would expect, using these weights yields higher measures of inequality. Our plan is also to correct these weights by using information for the 1% Census sample for the 1990 and 2000 census.

Another potential problem in the estimation is that Gini coefficients are estimates and therefore being measured with error. To address this difficulty we will use an instrumental variable.

## **APPENDIX B: DATA DESCRIPTION**

### *i. Household data*

The data about inequality is derived from the Households Incomes and Expenditures National Survey (ENIGH) collected by the Institute of Statistics, Geography and Informatics (INEGI). This survey is adequate to generate statistics about the amount, structure and distribution of the household's incomes and expenditures. There is information available for the years: 1983-1984, 1989, 1992, 1994, 1996, 1998 and 2000.

Since the late 80's, there was a tendency to widen the objectives and to homogenize the methodology, taking into account the suggestions from international recommendations and considering the historical comparability; therefore we are going to focus on the surveys after the 90's.

The average sample size for the survey during the 90's is approximate 10,000 households. In order to compute the Gini's we utilize the average income and expenditure of the last six months.

*ii. Globalization data*

We use data on employment at the state level in firms that export or that are foreign owned. The data were estimated by Mexico's Secretaría de Economía by combining different databases. Data on trade were taken from the customs administration; data on foreign ownership from the foreign direct investment registry; data on employment from the social security institute (IMSS). The data have some advantages and disadvantages. On the positive side, this is perhaps the only possible way to track state level exports over time in Mexico; also, it corrects official FDI flow figures by state of destination since those figures over state the share of FDI received by the Federal District (Mexico City), as firms tend to base their headquarters there. On the negative side, using IMSS data restricts the employment coverage to the formal sector and may over-estimate the share of employment in global firms in states with large informal sectors.

**APPENDIX C: STATISTICAL APPENDIX**

Appendix Tables C1-C12 present further robustness checks on the relationship between globalization and inequality.

TABLES AND FIGURES

**Table 1: Regional variation in globalization, 1993-2002**  
(Shares of total employment)

Region	Variable	1993	1995	1997	2000	2002
Central	Exporters' employment (%)	16.1 (0.048)	17.7 (0.049)	21.7 (0.050)	22.7 (0.045)	18.2 (0.041)
	MNCs' employment (%)	11.8 (0.042)	10.2 (0.039)	14.4 (0.043)	15.3 (0.039)	12.5 (0.035)
North Central	Exporters' employment (%)	19.4 (0.071)	23.0 (0.073)	27.9 (0.075)	26.3 (0.067)	21.7 (0.062)
	MNCs' employment (%)	13.9 (0.062)	11.1 (0.055)	17.3 (0.063)	18.6 (0.059)	15.7 (0.055)
South Central	Exporters' employment (%)	22.2 (0.023)	24.6 (0.024)	28.0 (0.025)	26.9 (0.023)	23.2 (0.022)
	MNCs' employment (%)	20.3 (0.023)	15.5 (0.021)	22.5 (0.023)	21.7 (0.021)	18.3 (0.020)
Gulf	Exporters' employment (%)	20.7 (0.050)	23.2 (0.051)	29.0 (0.051)	29.7 (0.046)	23.3 (0.043)
	MNCs' employment (%)	22.0 (0.051)	23.4 (0.051)	25.8 (0.049)	25.6 (0.044)	21.2 (0.042)
North	Exporters' employment (%)	27.5 (0.036)	32.7 (0.035)	37.1 (0.035)	39.1 (0.032)	29.5 (0.031)
	MNCs' employment (%)	24.6 (0.034)	26.0 (0.033)	30.3 (0.033)	31.5 (0.030)	26.3 (0.030)
Central Pacific	Exporters' employment (%)	12.8 (0.036)	13.8 (0.037)	17.4 (0.039)	18.6 (0.036)	14.1 (0.032)
	MNCs' employment (%)	11.0 (0.034)	9.2 (0.031)	12.8 (0.034)	13.6 (0.032)	10.4 (0.028)
North Pacific	Exporters' employment (%)	23.5 (0.045)	28.2 (0.044)	35.2 (0.045)	35.4 (0.041)	27.5 (0.039)
	MNCs' employment (%)	21.4 (0.044)	20.2 (0.040)	30.3 (0.043)	31.0 (0.039)	24.1 (0.038)
South Pacific	Exporters' employment (%)	9.0 (0.057)	9.3 (0.058)	11.3 (0.062)	11.2 (0.057)	9.9 (0.053)
	MNCs' employment (%)	10.8 (0.062)	7.8 (0.053)	10.3 (0.059)	10.6 (0.056)	9.6 (0.052)
Southeast	Exporters' employment (%)	12.2 (0.063)	11.9 (0.060)	14.4 (0.063)	18.9 (0.060)	15.8 (0.055)
	MNCs' employment (%)	10.4 (0.059)	8.4 (0.052)	13.7 (0.062)	16.8 (0.058)	13.8 (0.052)
All	Exporters' employment (%)	21.0 (0.014)	24.1 (0.014)	28.3 (0.014)	28.7 (0.013)	22.9 (0.012)
	MNCs' employment (%)	19.0 (0.013)	17.1 (0.013)	22.9 (0.013)	23.2 (0.012)	19.0 (0.012)

Source: Authors' calculations based on Mexico's *Secretaría de Economía* data.

Notes: Standard errors in parentheses

- Region definition:

- Central Guanajuato, Hidalgo, Querétaro.
- North Central Aguascalientes, San Luis Potosí, Zacatecas.
- South Central Distrito Federal, Mexico State, Morelos, Puebla, Tlaxcala.
- Gulf Tabasco, Tamaulipas, Veracruz.
- North Coahuila, Chihuahua, Durango, Nuevo León.
- Central Pacific Colima, Jalisco, Michoacán.
- North Pacific Baja California, Baja California Sur, Nayarit, Sinaloa, Sonora.
- South Pacific Chiapas, Guerrero, Oaxaca.
- Southeast Campeche, Quintana Roo, Yucatán.
- Northern Border Baja California, Chihuahua, Coahuila, Nuevo León, Sonora, Tamaulipas.
- PPP (Plan Puebla-Panam Campeche, Chiapas, Guerrero, Oaxaca, Puebla, Quintana Roo,

**Table 2(a): Gini Coefficients, 1992-2002**

	<i>Year</i>					
	1992	1994	1996	1998	2000	2002
<i>Using monetary income</i>						
- Per capita	0.546 (0.0021)	0.557 (0.0020)	0.545 (0.0020)	0.562 (0.0023)	0.531 (0.0023)	0.504 (0.0018)
-Household	0.527 (0.0047)	0.535 (0.0042)	0.514 (0.0043)	0.540 (0.0047)	0.505 (0.0049)	0.483 (0.0038)
<i>Using total income</i>						
- Per capita	0.584 (0.0022)	0.576 (0.0022)	0.556 (0.0021)	0.596 (0.0025)	0.605 (0.0023)	0.583 (0.0018)
-Household	0.534 (0.0049)	0.509 (0.0045)	0.494 (0.0046)	0.544 (0.0050)	0.542 (0.0050)	0.525 (0.0039)

*Note:* Standard errors in parentheses

*Source:* Authors' calculations based on INEGI data.

**Table 2(b): Gini Coefficients, 1992-2002**

Corrected by state prices.

	<i>Year</i>					
	1992	1994	1996	1998	2000	2002
<i>Using monetary income</i>						
- Per capita	0.543 (0.0022)	0.549 (0.0019)	0.535 (0.0020)	0.553 (0.0022)	0.526 (0.0023)	0.514 (0.0018)
-Household	0.525 (0.0047)	0.529 (0.0042)	0.506 (0.0043)	0.531 (0.0047)	0.502 (0.0049)	0.495 (0.0038)
<i>Using total income</i>						
- Per capita	0.580 (0.0022)	0.568 (0.0022)	0.542 (0.0021)	0.586 (0.0026)	0.600 (0.0023)	0.584 (0.0018)
-Household	0.529 (0.0049)	0.501 (0.0045)	0.481 (0.0046)	0.533 (0.0050)	0.538 (0.0050)	0.528 (0.0039)

*Note:* Standard errors in parentheses

*Source:* Authors' calculations based on INEGI data.

Table 3: Gini Coefficients by Region, 1992-2002

Region	Year					
	1992	1994	1996	1998	2000	2002
Central	0.498 (0.0079)	0.470 (0.0080)	0.493 (0.0051)	0.529 (0.0061)	0.583 (0.0084)	0.489 (0.0060)
North Central	0.524 (0.0079)	0.503 (0.0063)	0.508 (0.0081)	0.535 (0.0081)	0.470 (0.0089)	0.498 (0.0065)
South Central	0.544 (0.0040)	0.600 (0.0037)	0.549 (0.0055)	0.593 (0.0051)	0.551 (0.0061)	0.497 (0.0042)
Gulf	0.540 (0.0078)	0.542 (0.0060)	0.592 (0.0057)	0.578 (0.0077)	0.496 (0.0054)	0.526 (0.0059)
North	0.538 (0.0064)	0.527 (0.0054)	0.470 (0.0062)	0.505 (0.0076)	0.436 (0.0073)	0.463 (0.0054)
Central Pacific	0.490 (0.0079)	0.469 (0.0077)	0.499 (0.0064)	0.522 (0.0081)	0.494 (0.0080)	0.470 (0.0064)
North Pacific	0.502 (0.0068)	0.527 (0.0067)	0.530 (0.0069)	0.531 (0.0067)	0.467 (0.0075)	0.476 (0.0054)
South Pacific	0.602 (0.0069)	0.556 (0.0072)	0.556 (0.0059)	0.524 (0.0072)	0.583 (0.0067)	0.549 (0.0052)
Southeast	0.515 (0.0082)	0.539 (0.0082)	0.576 (0.0061)	0.560 (0.0083)	0.605 (0.0089)	0.510 (0.0068)
Northern border	0.508 (0.0071)	0.514 (0.0061)	0.494 (0.0071)	0.506 (0.0075)	0.429 (0.0079)	0.433 (0.0058)
PPP	0.502 (0.0075)	0.506 (0.0077)	0.491 (0.0060)	0.497 (0.0077)	0.431 (0.0078)	0.439 (0.0060)
All	0.546 (0.0021)	0.557 (0.0020)	0.545 (0.0020)	0.562 (0.0023)	0.531 (0.0023)	0.504 (0.0018)

Source: Authors' calculations based on Mexico's INEGI data.

Notes: Standard errors in parentheses

- Region definition:

Central	Guanajuato, Hidalgo, Querétaro.
North Central	Aguascalientes, San Luis Potosí, Zacatecas.
South Central	Distrito Federal, Mexico State, Morelos, Puebla, Tlaxcala.
Gulf	Tabasco, Tamaulipas, Veracruz.
North	Coahuila, Chihuahua, Durango, Nuevo León.
Central Pacific	Colima, Jalisco, Michoacán.
North Pacific	Baja California, Baja California Sur, Nayarit, Sinaloa, Sonora.
South Pacific	Chiapas, Guerrero, Oaxaca.
Southeast	Campeche, Quintana Roo, Yucatán.
Northern Border	Baja California, Chihuahua, Coahuila, Nuevo León, Sonora, Tamaulipas.
PPP (Plan Puebla-Panamá)	Campeche, Chiapas, Guerrero, Oaxaca, Puebla, Quintana Roo, Tabasco, Veracruz, Yucatán.

**Table 4(a): Statistically Significant Changes in Gini Coefficients, by Region**  
(With respect to 1992)

<i>Region</i>	<i>1994</i>	<i>1996</i>	<i>1998</i>	<i>2000</i>	<i>2002</i>
<i>Central</i>	-	0	+	+	0
<i>North Central</i>	-	0	0	-	-
<i>South Central</i>	+	0	+	0	-
<i>Gulf</i>	0	+	+	-	-
<i>North</i>	-	-	-	-	-
<i>Central Pacific</i>	-	0	+	0	-
<i>North Pacific</i>	+	+	+	-	-
<i>South Pacific</i>	-	-	-	-	-
<i>Southeast</i>	+	+	+	+	0
<i>All</i>	+	0	+	-	-

**Table 4(b): Statistically Significant Changes in Gini Coefficients, by Region, Urban Households**  
(With respect to 1992)

<i>Region</i>	<i>1994</i>	<i>1996</i>	<i>1998</i>	<i>2000</i>	<i>2002</i>
<i>Central</i>	0	+	+	+	0
<i>North Central</i>	0	0	+	-	-
<i>South Central</i>	+	0	0	0	-
<i>Gulf</i>	+	+	+	0	+
<i>North</i>	0	-	0	-	-
<i>Central Pacific</i>	-	0	0	0	-
<i>North Pacific</i>	+	+	+	-	-
<i>South Pacific</i>	-	+	+	+	+
<i>Southeast</i>	0	+	+	+	+
<i>All</i>	0	0	0	-	-

**Table 4(c): Statistically Significant Changes in Gini Coefficients, by Region, Rural Households**  
(With respect to 1992)

<i>Region</i>	<i>1994</i>	<i>1996</i>	<i>1998</i>	<i>2000</i>	<i>2002</i>
<i>Central</i>	-	0	+	-	-
<i>North Central</i>	-	-	-	-	0
<i>South Central</i>	+	+	+	+	0
<i>Gulf</i>	0	-	-	-	-
<i>North</i>	-	-	-	0	-
<i>Central Pacific</i>	+	+	+	+	+
<i>North Pacific</i>	0	0	+	-	0
<i>South Pacific</i>	-	-	-	-	-
<i>Southeast</i>	0	-	-	+	-
<i>All</i>	-	-	+	-	-

*Note:* Statistically significant changes at the 5% level. Increases in the Gini coefficient are indicated with "+"; declines with "-"; a zero denotes no change.

*Source:* Authors' calculations based on Mexico's INEGI data.

**Table 5(a): Gini Coefficients, Urban Households, 1992-2002**

	Year					
	1992	1994	1996	1998	2000	2002
<i>Using monetary income</i>						
- Per capita	0.522 (0.0028)	0.515 (0.0027)	0.528 (0.0026)	0.526 (0.0031)	0.490 (0.0031)	0.463 (0.0023)
-Household	0.501 (0.0061)	0.491 (0.0057)	0.501 (0.0055)	0.530 (0.0059)	0.488 (0.0060)	0.446 (0.0046)
<i>Using total income</i>						
- Per capita	0.595 (0.0025)	0.577 (0.0024)	0.560 (0.0024)	0.570 (0.0029)	0.559 (0.0028)	0.545 (0.0021)
-Household	0.501 (0.0061)	0.491 (0.0057)	0.501 (0.0055)	0.530 (0.0059)	0.488 (0.0060)	0.446 (0.0046)

**Table 5(b): Gini Coefficients, Urban Households, 1992-2002**

Corrected by state prices.

	Year					
	1992	1994	1996	1998	2000	2002
<i>Using monetary income</i>						
- Per capita	0.543 (0.0029)	0.552 (0.0028)	0.535 (0.0026)	0.555 (0.0032)	0.526 (0.0032)	0.514 (0.0025)
-Household	0.526 (0.0062)	0.531 (0.0059)	0.505 (0.0055)	0.533 (0.0059)	0.501 (0.0061)	0.495 (0.0049)
<i>Using total income</i>						
- Per capita	0.581 (0.0026)	0.570 (0.0024)	0.542 (0.0023)	0.587 (0.0029)	0.600 (0.0030)	0.584 (0.0023)
-Household	0.530 (0.0062)	0.503 (0.0057)	0.481 (0.0056)	0.535 (0.0059)	0.536 (0.0063)	0.528 (0.0049)

**Table 5(c): Gini Coefficients, Rural Households, 1992-2002**

	Year					
	1992	1994	1996	1998	2000	2002
<i>Using monetary income</i>						
- Per capita	0.513 (0.0031)	0.493 (0.0031)	0.495 (0.0032)	0.525 (0.0035)	0.502 (0.0037)	0.486 (0.0034)
-Household	0.527 (0.0068)	0.497 (0.0065)	0.471 (0.0072)	0.511 (0.0073)	0.469 (0.0082)	0.489 (0.0069)
<i>Using total income</i>						
- Per capita	0.493 (0.0032)	0.516 (0.0029)	0.480 (0.0032)	0.540 (0.0034)	0.608 (0.0032)	0.603 (0.0033)
-Household	0.468 (0.0073)	0.435 (0.0067)	0.433 (0.0073)	0.503 (0.0072)	0.531 (0.0076)	0.559 (0.0071)

**Table 5(d): Gini Coefficients, Rural Households, 1992-2002**

Corrected by state prices.

	Year					
	1992	1994	1996	1998	2000	2002
<i>Using monetary income</i>						
- Per capita	0.511 (0.0031)	0.481 (0.0031)	0.492 (0.0032)	0.520 (0.0035)	0.494 (0.0036)	0.480 (0.0033)
-Household	0.526 (0.0068)	0.489 (0.0064)	0.472 (0.0072)	0.500 (0.0073)	0.463 (0.0082)	0.485 (0.0069)
<i>Using total income</i>						
- Per capita	0.488 (0.0030)	0.515 (0.0029)	0.480 (0.0032)	0.533 (0.0032)	0.601 (0.0032)	0.595 (0.0033)
-Household	0.461 (0.0073)	0.435 (0.0067)	0.437 (0.0073)	0.493 (0.0071)	0.524 (0.0073)	0.552 (0.0071)

*Note:* Standard errors in parentheses

*Source:* Authors' calculations based on INEGI data.

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**Table 6: Income inequality and globalization, 1994-2002**  
**Dependent variable: State-level Gini coefficient**

	Reg. 1	Reg. 2	Reg. 3	Reg. 4	Reg. 5	Reg. 6	Reg. 7	Reg. 8	Reg. 9	Reg. 10
	OLS	OLS	OLS	OLS	OLS	OLS	2SLS	2SLS	2SLS	2SLS
Exporters' employment (% log)	-0.0594 (0.0190)***		-0.052 (0.0195)***		0.0313 (0.0427)		-0.1171 (0.0309)***		-0.0783 (0.0356)**	
MNCs' employment (% log)		-0.0487 (0.0169)***		-0.0475 (0.0174)***		0.0476 (0.0476)		-0.1083 (0.0301)***		-0.0694 (0.0329)**
Gross state product per Capita (log)	-0.0113 (0.0226)	-0.0114 (0.0227)	0.0094 (0.0238)	0.0151 (0.0236)	-0.3969 (0.2753)	-0.408 (0.2671)	0.0155 (0.0243)	0.0211 (0.0254)	0.0181 (0.0249)	0.0269 (0.0273)
Constant	-0.7862 (0.0858)***	-0.7821 (0.0846)***	-0.8057 (0.0881)***	-0.8314 (0.0899)***	0.3601 (0.7614)	0.4326 (0.7432)	-0.9661 (0.1107)***	-0.9962 (0.1212)***	-0.8775 (0.1185)***	-0.9102 (0.1351)***
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region dummies	No	No	Yes	Yes	No	No	No	No	Yes	Yes
State dummies	No	No	No	No	Yes	Yes	No	No	No	No
Observations	157	160	157	160	157	160	157	160	157	160
R-squared	0.17	0.153	0.285	0.29	0.492	0.495	0.111	0.083	0.277	0.283

Notes:

2SLS regressions use average distance to the US border as instrumental variable.

Robust standard errors in parentheses

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

**Table 7: Income inequality and globalization, 1994-2002**  
**Dependent variable: State-level Gini coefficient**

	Reg. 1	Reg. 2	Reg. 3	Reg. 4	Reg. 5	Reg. 6	Reg. 7	Reg. 8	Reg. 9	Reg. 10
	OLS	OLS	OLS	OLS	OLS	OLS	2SLS	2SLS	2SLS	2SLS
Total trade/State GDP (log)	-0.032 (0.0082)***		-0.0234 (0.0089)***		-0.0257 (0.0276)		-0.0443 (0.0118)***		-0.0331 (0.0157)**	
Exports/State GDP (log)		-0.0278 (0.0065)***		-0.0175 (0.0078)**		-0.0188 (0.0237)		-0.0368 (0.0099)***		-0.0304 (0.0147)**
Gross state product per Capita (log)	-0.0059 (0.0208)	-0.0127 (0.0196)	0.0048 (0.0234)	-0.0027 (0.0231)	-0.3597 (0.2673)	-0.3918 (0.2625)	0.0065 (0.0213)	-0.0046 (0.0201)	0.0111 (0.0245)	0.0029 (0.0236)
Constant	-0.7883 (0.0715)***	-0.7873 (0.0664)***	-0.7683 (0.0777)***	-0.7511 (0.0761)***	0.1531 (0.7407)	0.236 (0.7185)	-0.8582 (0.0827)***	-0.8451 (0.0801)***	-0.8131 (0.0979)***	-0.8171 (0.1010)***
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region dummies	No	No	Yes	Yes	No	No	No	No	Yes	Yes
State dummies	No	No	No	No	Yes	Yes	No	No	No	No
Observations	160	160	160	160	160	160	160	160	160	160
R-squared	0.203	0.213	0.29	0.282	0.494	0.494	0.189	0.202	0.284	0.269

Notes:

2SLS regressions use average distance to the US border as instrumental variable.

Robust standard errors in parentheses

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

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**Table 8: Change in income inequality and globalization, 1996-2002**  
**Dependent variable: Change in state-level Gini coefficient**

	Reg. 1	Reg. 2	Reg. 3	Reg. 4	Reg. 5	Reg. 6	Reg. 7	Reg. 8	Reg. 9	Reg. 10
	OLS	OLS	OLS	OLS	OLS	OLS	2SLS	2SLS	2SLS	2SLS
Lagged employment exporters	-0.0518 (0.0195)***		-0.0551 (0.0225)**		0.0324 (0.0507)		-0.1178 (0.0325)***		-0.093 (0.0343)***	
Lagged employment MNCs		-0.0469 (0.0184)**		-0.0504 (0.0212)**		0.026 (0.0759)		-0.1072 (0.0309)***		-0.0846 (0.0308)***
Lagged Gini	-0.7131 (0.0801)***	-0.6815 (0.0795)***	-0.8364 (0.0863)***	-0.8242 (0.0838)***	-1.1503 (0.1043)***	-1.1354 (0.1018)***	-0.7841 (0.0935)***	-0.7307 (0.0855)***	-0.8591 (0.0868)***	-0.8432 (0.0831)***
Lagged GSP per capita (log)	-0.0219 (0.0248)	-0.0161 (0.0235)	-0.0009 (0.0247)	0.0071 (0.0244)	-0.2283 (0.2807)	-0.1892 (0.2624)	0.0066 (0.0272)	0.0152 (0.0286)	0.0112 (0.0253)	0.0254 (0.0282)
Constant	-0.517 (0.1039)***	-0.512 (0.1038)***	-0.6212 (0.1030)***	-0.6416 (0.1048)***	-0.1945 (0.7658)	-0.2915 (0.7155)	-0.7674 (0.1480)***	-0.7596 (0.1553)***	-0.7388 (0.1266)***	-0.7766 (0.1427)***
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region dummies	No	No	Yes	Yes	No	No	No	No	Yes	Yes
State dummies	No	No	No	No	Yes	Yes	No	No	No	No
Observations	125	128	125	128	125	128	125	128	125	128
R-squared	0.44	0.428	0.503	0.501	0.661	0.655	0.383	0.376	0.491	0.489

Notes:

2SLS regressions use average distance to the US border as instrumental variable.

Robust standard errors in parentheses

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

**Table 9: Change in income inequality and globalization, 1996-2002**  
**Dependent variable: Change in state-level Gini coefficient**

	Reg. 1	Reg. 2	Reg. 3	Reg. 4	Reg. 5	Reg. 6	Reg. 7	Reg. 8	Reg. 9	Reg. 10
	OLS	OLS	OLS	OLS	OLS	OLS	2SLS	2SLS	2SLS	2SLS
Lagged Total trade/GSP (log)	-0.0296 (0.0090)***		-0.0264 (0.0103)**		-0.0329 (0.0381)		-0.0467 (0.0126)***		-0.0406 (0.0147)***	
Lagged Exports/GSP (log)		-0.0244 (0.0075)***		-0.0179 (0.0092)*		0.0126 (0.0372)		-0.039 (0.0104)***		-0.0369 (0.0138)***
Lagged Gini	-0.7266 (0.0819)***	-0.7347 (0.0827)***	-0.8278 (0.0868)***	-0.8174 (0.0878)***	-1.1341 (0.1031)***	-1.1314 (0.1020)***	-0.7749 (0.0922)***	-0.7894 (0.0963)***	-0.8448 (0.0866)***	-0.8399 (0.0910)***
Lagged GSP per capita (log)	-0.0148 (0.0230)	-0.0221 (0.0225)	-0.0044 (0.0244)	-0.0131 (0.0246)	-0.1284 (0.2721)	-0.1968 (0.2609)	0 (0.0237)	-0.0112 (0.0230)	0.0039 (0.0251)	-0.0059 (0.0245)
Constant	-0.536 (0.0971)***	-0.5324 (0.0947)***	-0.5811 (0.0946)***	-0.5462 (0.0954)***	-0.5756 (0.7652)	-0.2851 (0.7133)	-0.6614 (0.1214)***	-0.6598 (0.1190)***	-0.6558 (0.1048)***	-0.6564 (0.1063)***
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region dummies	No	No	Yes	Yes	No	No	No	No	Yes	Yes
State dummies	No	No	No	No	Yes	Yes	No	No	No	No
Observations	128	128	128	128	128	128	128	128	128	128
R-squared	0.451	0.452	0.502	0.492	0.657	0.655	0.433	0.432	0.494	0.472

Notes:

2SLS regressions use average distance to the US border as instrumental variable.

Robust standard errors in parentheses

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

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**Table 10: Change in income inequality and change in globalization, 1996-2002**  
**Dependent variable: Change in state-level Gini coefficient**

	Reg. 1	Reg. 2	Reg. 3	Reg. 4	Reg. 5	Reg. 6	Reg. 7	Reg. 8	Reg. 9	Reg. 10
	OLS	OLS	OLS	OLS	2SLS	2SLS	2SLS	2SLS	2SLS	2SLS
Change in exporters' employment	0.0218 (0.0323)		0.0133 (0.0287)		0.0171 (0.0438)		1.6581 (1.2063)		1.55 (2.1455)	
Change in MNCs' employment		-0.0021 (0.0594)		-0.0253 (0.0679)		-0.0102 (0.0711)		1.6349 (1.1409)		4.1153 (8.8806)
Lagged Gini	-0.6618 (0.0845)***	-0.6514 (0.0841)***	-0.8092 (0.0888)***	-0.8089 (0.0906)***	-1.1377 (0.1057)***	-1.1264 (0.1046)***	-0.715 (0.2088)***	-0.497 (0.2360)**	-0.7561 (0.2775)***	-0.0407 (1.5867)
Change in GSP per capita (log)	-0.5069 (0.3136)	-0.4956 (0.2870)*	-0.2826 (0.3110)	-0.3028 (0.2755)	-0.1213 (0.3237)	-0.1469 (0.3060)	-3.4533 (2.0681)*	-1.3948 (0.9510)	-3.2236 (3.2466)	-2.7838 (5.6430)
Constant	-0.4615 (0.0676)***	-0.4459 (0.0660)***	-0.5136 (0.0737)***	-0.501 (0.0701)***	-0.8658 (0.0939)***	-0.8512 (0.0924)***	-1.254 (0.5100)**	-1.0106 (0.4817)**	-1.1879 (0.8221)	-1.5919 (2.4940)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region dummies	No	No	Yes	Yes	No	No	No	No	Yes	Yes
State dummies	No	No	No	No	Yes	Yes	No	No	No	No
Observations	125	128	125	128	125	128	125	128	125	128
R-squared	0.398	0.394	0.479	0.478	0.658	0.654	n.a.	n.a.	n.a.	n.a.

Notes:

2SLS regressions use average distance to the US border as instrumental variable.

Robust standard errors in parentheses

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

**Table 11: Change in income inequality and change in globalization, 1996-2002**  
**Dependent variable: Change in state-level Gini coefficient**

	Reg. 1	Reg. 2	Reg. 3	Reg. 4	Reg. 5	Reg. 6	Reg. 7	Reg. 8	Reg. 9	Reg. 10
	OLS	OLS	OLS	OLS	OLS	OLS	2SLS	2SLS	2SLS	2SLS
Change in Total trade/GSP (log)	-0.0255 (0.0350)		-0.0297 (0.0313)		0.01 (0.0319)		-2.0455 (1.8582)		-0.7169 (0.4355)	
Change in Exports/GSP (log)		-0.0423 (0.0300)		-0.0592 (0.0280)**		-0.0517 (0.0295)*		4.5558 (11.0678)		-1.341 (1.5208)
Change in GSP per capita (log)	-0.4667 (0.2953)	-0.4641 (0.2760)*	-0.2796 (0.2879)	-0.259 (0.2630)	-0.1643 (0.3070)	-0.0906 (0.2913)	1.9134 (2.3892)	-4.0118 (9.0084)	0.6068 (0.7028)	1.0169 (1.7452)
Constant	-0.4393 (0.0657)***	-0.4217 (0.0648)***	-0.4987 (0.0719)***	-0.4747 (0.0699)***	-0.8592 (0.0925)***	-0.8236 (0.0850)***	0.136 (0.5617)	-3.1252 (6.5101)	-0.2897 (0.1600)*	0.2404 (0.8357)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region dummies	No	No	Yes	Yes	--	--	No	No	Yes	Yes
State dummies	No	No	No	No	Yes	Yes	No	No	No	No
Observations	128	128	128	128	128	128	128	128	128	128
R-squared	0.396	0.403	0.48	0.494	0.654	0.664	n.a.	n.a.	n.a.	n.a.

Notes:

2SLS regressions use average distance to the US border as instrumental variable.

Robust standard errors in parentheses

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

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**Table 12: OLS wage regressions, female workers, 2000**

Dependent variable: Hourly-wages (log)

	Reg. 1	Reg. 2	Reg. 3	Reg. 4
<i>Globalization criterion:</i>	<i>Employment in exporting firms</i>	<i>Employment in foreign firms</i>	<i>Trade to state GSP</i>	<i>Exports to state GSP</i>
<i>Education:</i>				
$\beta 1$ : Secondary education	0.2775 (0.0235)***	0.2830 (0.0267)***	0.2918 (0.0219)***	0.3111 (0.0223)***
$\beta 2$ : Higher education	0.8717 (0.0461)***	0.8970 (0.0493)***	0.8930 (0.0327)***	0.9320 (0.0328)***
<i>Globalization degree:</i>				
$\beta 3$ : Medium	0.0017 (0.0384)	0.0548 (0.0389)	0.0556 (0.0338)	0.0998 (0.0376)***
$\beta 4$ : High	0.0704 (0.0343)**	0.0777 (0.0358)**	0.1234 (0.0276)***	0.1514 (0.0319)***
$\beta 5$ : Medium x Secondary education	-0.0356 (0.0255)	-0.0523 (0.0295)*	-0.0657 (0.0259)**	-0.0924 (0.0278)***
$\beta 6$ : Medium x Higher education	-0.0635 (0.0500)	-0.1130 (0.0542)**	-0.1079 (0.0453)**	-0.1747 (0.0542)***
$\beta 7$ : High x Secondary education	-0.0762 (0.0292)***	-0.0626 (0.0289)**	-0.0778 (0.0272)***	-0.0958 (0.0278)***
$\beta 8$ : High x Higher education	-0.1743 (0.0574)***	-0.1608 (0.0565)***	-0.1830 (0.0490)***	-0.2212 (0.0523)***
<i>Other controls:</i>				
Age	0.0416 (0.0014)***	0.0414 (0.0014)***	0.0418 (0.0014)***	0.0418 (0.0014)***
Age squared/100	-0.0461 (0.0018)***	-0.0459 (0.0018)***	-0.0463 (0.0018)***	-0.0463 (0.0018)***
Married	0.1638 (0.0072)***	0.1636 (0.0072)***	0.1642 (0.0071)***	0.1643 (0.0070)***
Indigenous language	-0.1332 (0.0221)***	-0.1388 (0.0237)***	-0.1326 (0.0226)***	-0.1316 (0.0225)***
Locality size = 2,500-14,999	0.0149 (0.0077)*	0.0130 (0.0075)*	0.0150 (0.0075)**	0.0137 (0.0074)*
Locality size = 15,000-99,999	0.0176 (0.0140)	0.0176 (0.0135)	0.0212 (0.0133)	0.0215 (0.0129)*
Locality size = 100,000-499,999	0.0631 (0.0186)***	0.0579 (0.0175)***	0.0687 (0.0179)***	0.0694 (0.0173)***
Locality size = 500,000 or more	0.0937 (0.0279)***	0.0874 (0.0272)***	0.0934 (0.0263)***	0.0941 (0.0259)***
Border state dummy	0.1095 (0.0542)**	0.1147 (0.0443)***	0.0887 (0.0455)*	0.0934 (0.0463)**
PPP region dummy	-0.2016 (0.0280)***	-0.1851 (0.0282)***	-0.1890 (0.0236)***	-0.1751 (0.0287)***
Mexico City dummy	-0.0534 (0.0266)**	-0.0640 (0.0358)*	-0.0549 (0.0307)*	-0.0410 (0.0385)
Municipal per capita GSP (log)	0.1624 (0.0175)***	0.1631 (0.0161)***	0.1552 (0.0175)***	0.1536 (0.0175)***
Constant	-0.1055 (0.1484)	-0.1332 (0.1427)	-0.0863 (0.1461)	-0.1069 (0.1464)
Observations	720492	720492	720492	720492
R-squared	0.4494	0.4493	0.4500	0.4506

Industry dummies included.

Robust standard errors, clustered by state, in parentheses

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

**Table 13(a): Wage premium from globalization, female workers**

Percent change in hourly wages of female workers as globalization rises, by schooling level  
(Relevant hypotheses tests and corresponding p-values appear in parenthesis)

Schooling level	Change in globalization from:	Globalization criterion:			
		Employment in exporting firms	Employment in foreign firms	Trade to state GSP	Exports to state GSP
Primary education	Low to Medium	0.166	5.638	5.719	10.491
	(Ho: $\beta_3=0$ )	(0.9656)	(0.1588)	(0.1004)	(0.0080)
	Low to High	7.294	8.077	13.134	16.352
	(Ho: $\beta_4=0$ )	(0.0402)	(0.0302)	(0.0000)	(0.0000)
Secondary education	Medium to High	7.117	2.309	7.014	5.304
	(Ho: $\beta_4-\beta_3=0$ )	(0.0491)	(0.5000)	(0.0094)	(0.0513)
	Low to Medium	-3.338	0.252	-1.008	0.740
	(Ho: $\beta_3+\beta_5=0$ )	(0.2617)	(0.9449)	(0.7517)	(0.8490)
Higher education	Low to High	-0.579	1.515	4.662	5.719
	(Ho: $\beta_4+\beta_7=0$ )	(0.8785)	(0.6012)	(0.0665)	(0.0872)
	Medium to High	2.854	1.259	5.727	4.942
	(Ho: $\beta_4+\beta_7-\beta_3-\beta_5=0$ )	(0.4790)	(0.7144)	(0.0148)	(0.0269)
Secondary - Primary	Low to Medium	-5.994	-5.647	-5.092	-7.216
	(Ho: $\beta_3+\beta_6=0$ )	(0.0653)	(0.1729)	(0.1532)	(0.1214)
	Low to High	-9.866	-7.975	-5.786	-6.739
	(Ho: $\beta_4+\beta_8=0$ )	(0.0339)	(0.0428)	(0.0837)	(0.1025)
Higher - Primary	Medium to High	-4.119	-2.467	-0.731	0.514
	(Ho: $\beta_4+\beta_8-\beta_3-\beta_6=0$ )	(0.3363)	(0.5181)	(0.7762)	(0.8623)

Note: Based on regression results in Table 12.

**Table 13(b): Globalization and the wage gap, female workers**

Percent change in the hourly wage gap of female workers with different schooling levels as globalization rises  
(Relevant hypotheses tests and corresponding p-values appear in parenthesis)

Schooling difference	Change in globalization from:	Globalization criterion:			
		Employment in exporting firms	Employment in foreign firms	Trade to state GSP	Exports to state GSP
Secondary - Primary	Low to Medium	-3.498	-5.098	-6.363	-8.825
	(Ho: $\beta_5=0$ )	(0.1619)	(0.0763)	(0.0111)	(0.0009)
	Low to High	-7.338	-6.072	-7.489	-9.139
	(Ho: $\beta_7=0$ )	(0.0091)	(0.0301)	(0.0043)	(0.0006)
Higher - Primary	Medium to High	-3.979	-1.026	-1.203	-0.344
	(Ho: $\beta_7-\beta_5=0$ )	(0.0260)	(0.5589)	(0.4893)	(0.8580)
	Low to Medium	-6.150	-10.683	-10.226	-16.025
	(Ho: $\beta_6=0$ )	(0.2044)	(0.0370)	(0.0171)	(0.0013)
Higher - Secondary	Low to High	-15.994	-14.853	-16.724	-19.846
	(Ho: $\beta_8=0$ )	(0.0024)	(0.0044)	(0.0002)	(0.0000)
	Medium to High	-10.489	-4.669	-7.238	-4.549
	(Ho: $\beta_8-\beta_6=0$ )	(0.0004)	(0.2501)	(0.0033)	(0.0805)
Higher - Primary	Low to Medium	-2.748	-5.884	-4.126	-7.897
	(Ho: $\beta_6-\beta_5=0$ )	(0.3678)	(0.0575)	(0.1100)	(0.0139)
	Low to High	-9.341	-9.348	-9.983	-11.784
	(Ho: $\beta_8-\beta_7=0$ )	(0.0044)	(0.0051)	(0.0001)	(0.0001)
Higher - Secondary	Medium to High	-6.780	-3.680	-6.109	-4.220
	(Ho: $\beta_8-\beta_7-\beta_6+\beta_5=0$ )	(0.0001)	(0.1208)	(0.0001)	(0.0350)

Note: Based on regression results in Table 12.

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**Table 14: OLS wage regressions, male workers, 2000**

Dependent variable: Hourly-wages (log)

	Reg. 1	Reg. 2	Reg. 3	Reg. 4
<i>Globalization criterion:</i>	<i>Employment in exporting firms</i>	<i>Employment in foreign firms</i>	<i>Trade to state GSP</i>	<i>Exports to state GSP</i>
<i>Education:</i>				
β1: Secondary education	0.1627 (0.0152)***	0.1636 (0.0148)***	0.1597 (0.0159)***	0.1793 (0.0150)***
β2: Higher education	0.6503 (0.0384)***	0.6583 (0.0373)***	0.7586 (0.0908)***	0.8051 (0.0907)***
<i>Globalization degree:</i>				
β3: Medium	-0.0931 (0.0497)*	0.0249 (0.0522)	-0.0712 (0.0407)*	0.0115 (0.0534)
β4: High	-0.0103 (0.05)	-0.0479 (0.0384)	0.076 (0.0374)**	0.1085 (0.0420)***
β5: Medium x Secondary education	0.0025 (0.0263)	-0.0199 (0.0262)	0.0061 (0.0186)	-0.0401 (0.0255)
β6: Medium x Higher education	0.1879 (0.0680)***	0.1441 (0.0807)*	0.0204 (0.0878)	-0.0885 (0.1004)
β7: High x Secondary education	-0.0074 (0.0213)	0.0093 (0.0185)	-0.0028 (0.0188)	-0.0199 (0.0158)
β8: High x Higher education	0.0784 (0.054)	0.1137 (0.0467)**	-0.0296 (0.0873)	-0.073 (0.0855)
<i>Other controls:</i>				
Age	0.0303 (0.0017)***	0.0304 (0.0018)***	0.0305 (0.0018)***	0.0304 (0.0018)***
Age squared/100	-0.0341 (0.0027)***	-0.0343 (0.0028)***	-0.0344 (0.0028)***	-0.0343 (0.0028)***
Married	0.1058 (0.0066)***	0.1066 (0.0068)***	0.1062 (0.0071)***	0.1064 (0.0072)***
Indigenous language	-0.1689 (0.0183)***	-0.1786 (0.0183)***	-0.1711 (0.0177)***	-0.1774 (0.0187)***
Locality size = 2,500-14,999	0.0361 (0.0084)***	0.0375 (0.0097)***	0.0364 (0.0094)***	0.035 (0.0091)***
Locality size = 15,000-99,999	0.0343 (0.0118)***	0.0396 (0.0129)***	0.0376 (0.0147)**	0.0382 (0.0138)***
Locality size = 100,000-499,999	0.0639 (0.0175)***	0.0661 (0.0156)***	0.0745 (0.0172)***	0.0722 (0.0161)***
Locality size = 500,000 or more	0.1022 (0.0282)***	0.1006 (0.0284)***	0.1011 (0.0274)***	0.0982 (0.0269)***
Border state dummy	0.0634 (0.0669)	0.1179 (0.0580)**	0.0209 (0.0525)	0.0281 (0.0546)
PPP region dummy	-0.2539 (0.0270)***	-0.2284 (0.0348)***	-0.248 (0.0306)***	-0.229 (0.0363)***
Mexico City dummy	-0.1023 (0.0435)**	-0.144 (0.0462)***	-0.1186 (0.0366)***	-0.0983 (0.0471)**
Municipal per capita GSP (log)	0.1575 (0.0193)***	0.1483 (0.0164)***	0.1422 (0.0184)***	0.1419 (0.0180)***
Household Size	-0.0126 (0.0013)***	-0.0127 (0.0013)***	-0.0129 (0.0013)***	-0.0131 (0.0013)***
Constant	0.3599 (0.1577)**	0.3927 (0.1332)***	0.4486 (0.1497)***	0.4163 (0.1528)***
Observations	1665550	1665550	1665550	1665550
R-squared	0.341	0.34	0.341	0.341

Industry dummies included.

Robust standard errors, clustered by state, in parentheses

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

**Table 15(a): Wage premium from globalization, male workers**

Percent change in hourly wages of male workers as globalization rises, by schooling level  
(Relevant hypotheses tests and corresponding p-values appear in parenthesis)

Schooling level	Change in globalization from:	Globalization criterion:			
		Employment in exporting firms	Employment in foreign firms	Trade to state GSP	Exports to state GSP
Primary education	Low to Medium	-8.894	2.520	-6.870	1.157
	(Ho: $\beta_3=0$ )	(0.0609)	(0.6338)	(0.0807)	(0.8294)
	Low to High	-1.024	-4.677	7.902	11.460
	(Ho: $\beta_4=0$ )	(0.8370)	(0.2124)	(0.0418)	(0.0097)
	Medium to High	8.638	-7.020	15.861	10.186
	(Ho: $\beta_4-\beta_3=0$ )	(0.2129)	(0.1946)	(0.0000)	(0.0388)
Secondary education	Low to Medium	-8.662	0.503	-6.300	-2.821
	(Ho: $\beta_3+\beta_5=0$ )	(0.0047)	(0.9067)	(0.0408)	(0.4858)
	Low to High	-1.752	-3.783	7.605	9.267
	(Ho: $\beta_4+\beta_7=0$ )	(0.7174)	(0.2600)	(0.0076)	(0.0114)
	Medium to High	7.565	-4.265	14.840	12.438
	(Ho: $\beta_4+\beta_7-\beta_3-\beta_5=0$ )	(0.2115)	(0.3948)	(0.0000)	(0.0001)
Higher education	Low to Medium	9.943	18.409	-4.947	-7.410
	(Ho: $\beta_3+\beta_6=0$ )	(0.0686)	(0.0066)	(0.4921)	(0.3563)
	Low to High	7.044	6.802	4.752	3.608
	(Ho: $\beta_4+\beta_8=0$ )	(0.2387)	(0.0865)	(0.5440)	(0.6652)
	Medium to High	-2.637	-9.803	10.204	11.900
	(Ho: $\beta_4+\beta_8-\beta_3-\beta_6=0$ )	(0.6992)	(0.1073)	(0.0190)	(0.0224)

Note: Based on regression results in Table 14.

**Table 15(b): Globalization and the wage gap, male workers**

Percent change in the hourly wage gap of male workers with different schooling levels as globalization rises  
(Relevant hypotheses tests and corresponding p-values appear in parenthesis)

Schooling difference	Change in globalization from:	Globalization criterion:			
		Employment in exporting firms	Employment in foreign firms	Trade to state GSP	Exports to state GSP
Secondary - Primary	Low to Medium	0.255	-1.968	0.612	-3.932
	(Ho: $\beta_5=0$ )	(0.9229)	(0.4484)	(0.7432)	(0.1158)
	Low to High	-0.736	0.937	-0.275	-1.968
	(Ho: $\beta_7=0$ )	(0.7282)	(0.6137)	(0.8834)	(0.2084)
	Medium to High	-0.988	2.963	-0.881	2.044
	(Ho: $\beta_7-\beta_5=0$ )	(0.6632)	(0.1801)	(0.5403)	(0.4109)
Higher - Primary	Low to Medium	20.675	15.498	2.065	-8.469
	(Ho: $\beta_6=0$ )	(0.0057)	(0.0740)	(0.8159)	(0.3782)
	Low to High	8.151	12.042	-2.919	-7.044
	(Ho: $\beta_8=0$ )	(0.1464)	(0.0149)	(0.7345)	(0.3931)
	Medium to High	-10.378	-2.993	-4.882	1.556
	(Ho: $\beta_8-\beta_6=0$ )	(0.1014)	(0.7307)	(0.0063)	(0.4572)
Higher - Secondary	Low to Medium	20.369	17.816	1.444	-4.723
	(Ho: $\beta_6-\beta_5=0$ )	(0.0002)	(0.0095)	(0.8568)	(0.5736)
	Low to High	8.953	11.001	-2.651	-5.179
	(Ho: $\beta_8-\beta_7=0$ )	(0.0781)	(0.0111)	(0.7434)	(0.5165)
	Medium to High	-9.484	-5.785	-4.037	-0.479
	(Ho: $\beta_8-\beta_7-\beta_6+\beta_5=0$ )	(0.0867)	(0.3655)	(0.3322)	(0.9297)

Note: Based on regression results in Table 14.

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**Table 16: Probit labor force participation regressions, female workers, 2000**

Dependent variable: Labor force participation

	Reg. 1	Reg. 2	Reg. 3	Reg. 4
<i>Globalization criterion:</i>	<i>Employment in exporting firms</i>	<i>Employment in foreign firms</i>	<i>Trade to state GSP</i>	<i>Exports to state GSP</i>
<i>Education:</i>				
$\beta 1$ : Secondary education	0.2895 (0.0302)***	0.2999 (0.0293)***	0.2942 (0.0289)***	0.2495 (0.0392)***
$\beta 2$ : Higher education	0.8289 (0.0463)***	0.8111 (0.0424)***	0.8210 (0.0414)***	0.6461 (0.1283)***
<i>Globalization degree:</i>				
$\beta 3$ : Medium	0.1035 (0.0466)**	0.0976 (0.0438)**	0.1096 (0.0472)**	0.0189 (0.0623)
$\beta 4$ : High	0.0740 (0.0351)**	0.1128 (0.0358)***	0.0588 (0.0401)	0.0210 (0.0483)
$\beta 5$ : Medium x Secondary education	-0.0514 (0.0542)	-0.0683 (0.0589)	-0.1049 (0.0524)**	-0.0035 (0.1398)
$\beta 6$ : Medium x Higher education	-0.2698 (0.0885)***	-0.2723 (0.0947)***	-0.3278 (0.0879)***	-0.0152 (0.1398)
$\beta 7$ : High x Secondary education	-0.0216 (0.0579)***	-0.0526 (0.0478)	0.0051 (0.0432)	0.0476 (0.0557)
$\beta 8$ : High x Higher education	-0.2737 (0.0235)***	-0.2372 (0.0489)***	-0.2181 (0.0591)***	-0.0464 (0.1351)***
<i>Other controls:</i>				
Age	0.1520 (0.0074)***	0.1521 (0.0074)***	0.1522 (0.0075)***	0.1520 (0.0074)***
Age squared/100	-0.2001 (0.0093)***	-0.2002 (0.0093)***	-0.2003 (0.0094)***	-0.2001 (0.0092)***
Married	-0.8392 (0.0239)***	-0.8396 (0.0239)***	-0.8391 (0.0238)***	-0.8388 (0.0239)***
Indigenous language	0.1308 (0.0399)***	0.1291 (0.0397)***	0.1336 (0.0397)***	0.1317 (0.0385)***
Locality size = 2,500-14,999	0.2666 (0.0253)***	0.2625 (0.0250)***	0.2647 (0.0256)***	0.2697 (0.0250)***
Locality size = 15,000-99,999	0.3707 (0.0313)***	0.3678 (0.0314)***	0.3680 (0.0318)***	0.3752 (0.0313)***
Locality size = 100,000-499,999	0.3470 (0.0329)***	0.3422 (0.0331)***	0.3461 (0.0329)***	0.3537 (0.0330)***
Locality size = 500,000 or more	0.3388 (0.0323)***	0.3309 (0.0319)***	0.3347 (0.0308)***	0.3392 (0.0302)
Border state dummy	-0.0017 (0.0432)	-0.0300 (0.0382)	-0.0263 (0.0430)	-0.0300 (0.0437)
PPP region dummy	0.0023 (0.0331)	-0.0078 (0.0228)	-0.0137 (0.0327)	-0.0176 (0.0406)
Mexico City dummy	-0.1024 (0.0281)***	-0.0946 (0.0348)***	-0.0853 (0.0223)***	-0.0881 (0.0457)*
Municipal per capita GSP (log)	0.1989 (0.0164)***	0.2036 (0.0157)***	0.2000 (0.0165)***	0.2036 (0.0174)***
Constant	-4.8292 (0.1617)***	-4.8624 (0.1618)***	-4.8227 (0.1638)***	-4.8146 (0.1710)***
Observations	2654127	2654127	2654127	2654127
Pseudo R-squared	0.1405	0.1405	0.1406	0.1399

Robust standard errors, clustered by state, in parentheses

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

**Table 17(a): Change in the labor participation rate of female workers as globalization rises, by schooling level**  
(Relevant hypotheses tests and corresponding p-values appear in parenthesis)

		Globalization criterion:			
Schooling level	Change in globalization from:	Employment in exporting firms	Employment in foreign firms	Trade to state GSP	Exports to state GSP
Primary education	Low to Medium	0.033 (0.0265)	0.031 (0.0260)	0.035 (0.0202)	0.006 (0.7619)
	Low to High	0.017 (0.0348)	0.010 (0.0017)	0.003 (0.1424)	0.005 (0.6636)
	Medium to High	-0.045 (0.4454)	-0.047 (0.7134)	-0.057 (0.2512)	0.001 (0.9641)
		(H <sub>0</sub> : β <sub>3</sub> =0)			
Secondary education	Low to Medium	0.024 (0.1569)	0.036 (0.4437)	0.019 (0.8949)	0.007 (0.7368)
	Low to High	0.017 (0.1271)	0.020 (0.1711)	0.020 (0.0832)	0.022 (0.0994)
	Medium to High	-0.055 (0.9942)	-0.033 (0.5199)	-0.045 (0.1375)	-0.008 (0.1746)
		(H <sub>0</sub> : β <sub>3</sub> +β <sub>5</sub> =0)			
Higher education	Low to Medium	-0.009 (0.0080)	0.005 (0.0097)	-0.016 (0.0005)	0.001 (0.9735)
	Low to High	0.000 (0.0000)	0.010 (0.0008)	0.018 (0.0001)	0.017 (0.8166)
	Medium to High	-0.010 (0.6112)	0.015 (0.4554)	0.012 (0.3456)	-0.009 (0.5074)
		(H <sub>0</sub> : β <sub>3</sub> +β <sub>6</sub> =0)			

Note: Based on regression results in Table 16.

**Table 17(b): Change in the difference in labor participation rate among female workers with different schooling levels as globalization rises**  
(Relevant hypotheses tests and corresponding p-values appear in parenthesis)

		Globalization criterion:			
Schooling difference	Change in globalization from:	Employment in exporting firms	Employment in foreign firms	Trade to state GSP	Exports to state GSP
Secondary - Primary	Low to Medium	-0.016 (0.3434)	-0.021 (0.2463)	-0.032 (0.0454)	-0.001 (0.9517)
	Low to High	-0.078 (0.6514)	-0.079 (0.2710)	-0.093 (0.9059)	-0.005 (0.3934)
	Medium to High	-0.062 (0.6070)	-0.057 (0.7996)	-0.060 (0.0434)	-0.004 (0.3122)
		(H <sub>0</sub> : β <sub>5</sub> =0)			
Higher - Primary	Low to Medium	-0.007 (0.0023)	-0.016 (0.0040)	0.002 (0.0002)	0.015 (0.9133)
	Low to High	-0.079 (0.0000)	-0.069 (0.0000)	-0.064 (0.0002)	-0.015 (0.7320)
	Medium to High	-0.072 (0.8219)	-0.053 (0.8703)	-0.066 (0.2003)	-0.030 (0.7639)
		(H <sub>0</sub> : β <sub>6</sub> =0)			
Higher - Secondary	Low to Medium	0.009 (0.0000)	0.005 (0.0001)	0.034 (0.0000)	0.016 (0.8980)
	Low to High	-0.001 (0.0000)	0.009 (0.0000)	0.029 (0.0000)	-0.010 (0.3159)
	Medium to High	-0.010 (0.4967)	0.005 (0.6897)	-0.006 (0.9950)	-0.026 (0.0160)
		(H <sub>0</sub> : β <sub>6</sub> -β <sub>5</sub> =0)			

Note: Based on regression results in Table 16.

**Appendix Table C1: Income inequality and globalization, 1994-2002**

Dependent variable: region-level Gini coefficient

	Reg. 1 OLS	Reg. 2 OLS	Reg. 3 OLS	Reg. 4 OLS	Reg. 5 2SLS	Reg. 6 2SLS
Exporters' employment (% log)	-0.0568 (0.0306)*		0.1303 (0.0907)		-0.1604 (0.0478)***	
MNCs' employment (% log)		-0.0275 (0.0353)		0.1623 (0.1268)		-0.1824 (0.0536)***
Gross state product per Capita (log)	0.0041 (0.0385)	-0.016 (0.0434)	-0.4929 (0.5077)	-0.4186 (0.5146)	0.0738 (0.0511)	0.0869 (0.0514)*
Constant	-0.7636 (0.1337)***	-0.6625 (0.1559)***	0.8257 (1.2715)	0.7279 (1.2738)	-1.1334 (0.1899)***	-1.2369 (0.2200)***
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Region dummies	No	No	Yes	Yes	No	No
Observations	45	45	45	45	45	45
R-squared	0.198	0.157	0.311	0.302	0.025	n.a.

Notes:

2SLS regressions use average distance to the US border as instrumental variable.

Robust standard errors in parentheses

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

**Appendix Table C2: Income inequality and globalization, 1994-2002**

Dependent variable: Region-level Gini coefficient

	Reg. 1 OLS	Reg. 2 OLS	Reg. 3 OLS	Reg. 4 OLS	Reg. 5 2SLS	Reg. 6 2SLS
Total trade/State GDP (log)	-0.042 (0.0112)***		0.0447 (0.0520)		-0.0636 (0.0163)***	
Exports/State GDP (log)		-0.0362 (0.0098)***		0.0471 (0.0402)		-0.054 (0.0142)***
Gross state product per Capita (log)	0.0298 (0.0368)	0.0226 (0.0356)	-0.6205 (0.5385)	-0.6067 (0.5220)	0.0627 (0.0388)	0.0506 (0.0375)
Constant	-0.8436 (0.1138)***	-0.8425 (0.1125)***	1.0267 (1.3863)	1.044 (1.3334)	-0.989 (0.1272)***	-0.9817 (0.1285)***
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Region dummies	No	No	Yes	Yes	No	No
Observations	45	45	45	45	45	45
R-squared	0.329	0.327	0.282	0.296	0.281	0.283

Notes:

2SLS regressions use average distance to the US border as instrumental variable.

Robust standard errors in parentheses

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

**Appendix Table C3: Change in Income inequality and globalization, 1996-2002**  
**Dependent variable: Changes in Region-level Gini coefficient**

	Reg. 1	Reg. 2	Reg. 3	Reg. 4	Reg. 5	Reg. 6
	OLS	OLS	OLS	OLS	2SLS	2SLS
Lagged employment exporters	-0.0567 (0.0363)		0.0763 (0.1100)		-0.1194 (0.0452)**	
Lagged employment MNCs		-0.0405 (0.0447)		0.1148 (0.1463)		-0.127 (0.0497)**
Lagged Gini	-0.6272 (0.1030)***	-0.5864 (0.1014)***	-1.2417 (0.2029)***	-1.2328 (0.1962)***	-0.6957 (0.1249)***	-0.6317 (0.1307)***
Lagged GSP per capita (log)	-0.0096 (0.0426)	-0.0202 (0.0497)	-0.4136 (0.5827)	-0.3296 (0.5797)	0.0317 (0.0467)	0.0369 (0.0491)
Constant	-0.4803 (0.1874)**	-0.4032 (0.2249)*	0.3787 (1.4569)	0.2674 (1.4240)	-0.7461 (0.2256)***	-0.7525 (0.2509)***
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Region dummies	No	No	Yes	Yes	No	No
Observations	36	36	36	36	36	36
R-squared	0.475	0.448	0.701	0.703	0.416	0.349

Notes:

2SLS regressions use average distance to the US border as instrumental variable.

Robust standard errors in parentheses

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

**Appendix Table C4: Change in Income inequality and globalization, 1996-2002**  
**Dependent variable: Region-level Gini coefficient**

	Reg. 1	Reg. 2	Reg. 3	Reg. 4	Reg. 5	Reg. 6
	OLS	OLS	OLS	OLS	2SLS	2SLS
Lagged Total trade/State GDP (log)	-0.0316 (0.0166)*		0.0107 (0.0646)		-0.0607 (0.0222)**	
Lagged Exports/State GDP (log)		-0.029 (0.0137)**		-0.0018 (0.0488)		-0.0505 (0.0180)***
Lagged Gini	-0.7091 (0.1207)***	-0.7194 (0.1199)***	-1.1964 (0.1939)***	-1.19 (0.1961)***	-0.8413 (0.1522)***	-0.8335 (0.1438)***
Lagged GSP per capita (log)	-0.0022 (0.0432)	-0.0042 (0.0410)	-0.3943 (0.6041)	-0.365 (0.5982)	0.0388 (0.0465)	0.0275 (0.0428)
Constant	-0.5371 (0.1985)**	-0.5586 (0.1974)***	0.2465 (1.5355)	0.1393 (1.5109)	-0.8103 (0.2429)***	-0.7945 (0.2319)***
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Region dummies	No	No	Yes	Yes	No	No
Observations	36	36	36	36	36	36
R-squared	0.5	0.511	0.695	0.694	0.438	0.465

Notes:

2SLS regressions use average distance to the US border as instrumental variable.

Robust standard errors in parentheses

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

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**Appendix Table C5: Change in income inequality and change in globalization, 1996-2002**  
**Dependent variable: Change in region-level Gini coefficient**

	Reg. 1 OLS	Reg. 2 OLS	Reg. 3 OLS	Reg. 4 OLS	Reg. 5 2SLS	Reg. 6 2SLS
Change in exporters' employment	0.0946 (0.0999)		0 (0.1208)		1.4138 (1.1494)	
Change in MNCs' employment		0.0614 (0.2292)		-0.0553 (0.1740)		1.8003 (1.1660)
Lagged Gini	-0.604 (0.1012)***	-0.5996 (0.1016)***	-1.1688 (0.1919)***	-1.1779 (0.1923)***	-0.6255 (0.2679)**	-0.5191 (0.2585)*
Change in GSP per capita (log)	-1 (0.7931)	-0.9154 (0.7614)	-0.1113 (0.6443)	-0.1521 (0.6542)	-1.6099 (1.3284)	0.243 (1.7151)
Constant	-0.4577 (0.1058)***	-0.4409 (0.1350)***	-0.751 (0.1296)***	-0.7407 (0.1308)***	-0.9218 (0.4188)**	-0.9062 (0.3701)**
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Region dummies	No	No	Yes	Yes	No	No
Observations	36	36	36	36	36	36
R-squared	0.443	0.433	0.689	0.69	n.a.	n.a.

Notes:

2SLS regressions use average distance to the US border as instrumental variable.

Robust standard errors in parentheses

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

**Appendix Table C6: Change in income inequality and globalization, 1996-2002**  
**Dependent variable: Change in region-level Gini coefficient**

	Reg. 1 OLS	Reg. 2 OLS	Reg. 3 OLS	Reg. 4 OLS	Reg. 5 OLS	Reg. 6 OLS
Change in Total trade/GSP (log)	-0.1151 (0.0731)		-0.011 (0.0974)		7.3006 (53.1514)	
Change in Exports/GSP (log)		-0.021 (0.0662)		0.0236 (0.0658)		0.6913 (0.6503)
Change in GSP per capita (log)	-0.9241 (0.7685)	-0.9429 (0.7970)	-0.1223 (0.6501)	-0.1123 (0.6411)	-3.0019 (21.2060)	-1.3964 (1.8369)
Constant	-0.3987 (0.0877)***	-0.4122 (0.0971)***	-0.742 (0.1502)***	-0.7756 (0.1439)***	-2.0576 (12.8076)	-0.8273 (0.5339)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Region dummies	No	No	Yes	Yes	No	No
Observations	36	36	36	36	36	36
R-squared	0.474	0.433	0.689	0.691	n.a.	n.a.

Notes:

2SLS regressions use average distance to the US border as instrumental variable.

Robust standard errors in parentheses

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

**Appendix C7: Income inequality and globalization, 1994-2002**

**Dependent variable: State-level Theil coefficient**

	Reg. 1	Reg. 2	Reg. 3	Reg. 4	Reg. 5	Reg. 6	Reg. 7	Reg. 8	Reg. 9	Reg. 10
	OLS	OLS	OLS	OLS	OLS	OLS	2SLS	2SLS	2SLS	2SLS
Exporters' employment (% log)	-0.1564 (0.0500)***		-0.1363 (0.0547)**		0.0026 (0.1316)		-0.2752 (0.0849)***		-0.1884 (0.1050)*	
MNCs' employment (% log)		-0.1211 (0.0441)***		-0.1236 (0.0468)***		0.0953 (0.1611)		-0.2478 (0.0825)***		-0.1651 (0.0973)*
Gross state product per Capita (log)	0.0027 (0.0578)	-0.0068 (0.0582)	0.0486 (0.0628)	0.0599 (0.0619)	-0.9046 (0.7648)	-0.9645 (0.7353)	0.0577 (0.0633)	0.0623 (0.0671)	0.0658 (0.0671)	0.0821 (0.0762)
Constant	-0.9975 (0.2236)***	-0.9526 (0.2195)***	-1.0636 (0.2360)***	-1.1252 (0.2351)***	1.5578 (1.9260)	1.9045 (1.8671)	-1.368 (0.3031)***	-1.4081 (0.3319)***	-1.206 (0.3396)***	-1.2739 (0.3929)***
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region dummies	No	No	Yes	Yes	No	No	No	No	Yes	Yes
State dummies	No	No	No	No	Yes	Yes	No	No	No	No
Observations	157	160	157	160	157	160	157	160	157	160
R-squared	0.167	0.145	0.259	0.259	0.145	0.147	0.13	0.099	0.255	0.255

Notes:

2SLS regressions use average distance to the US border as instrumental variable.

Robust standard errors in parentheses

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

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Appendix Table C8: Income inequality and globalization, 1994-2002

Dependent variable: State-level Theil coefficient

	Reg. 1	Reg. 2	Reg. 3	Reg. 4	Reg. 5	Reg. 6	Reg. 7	Reg. 8	Reg. 9	Reg. 10
	OLS	OLS	OLS	OLS	OLS	OLS	2SLS	2SLS	2SLS	2SLS
Total trade/State GDP (log)	-0.0749 (0.0217)***		-0.0514 (0.0248)**		-0.0246 (0.0946)		-0.1013 (0.0331)***		-0.0788 (0.0464)*	
Exports/State GDP (log)		-0.0641 (0.0178)***		-0.0377 (0.0218)*		-0.0312 (0.0751)		-0.0841 (0.0277)***		-0.0723 (0.0432)*
Gross state product per Capita (log)	0.0025 (0.0557)	-0.0146 (0.0528)	0.0269 (0.0630)	0.0101 (0.0623)	-0.9116 (0.7519)	-0.9353 (0.7366)	0.0289 (0.0578)	0.0036 (0.0539)	0.0447 (0.0664)	0.0252 (0.0634)
Constant	-0.9429 (0.1937)***	-0.9326 (0.1853)***	-0.9173 (0.2116)***	-0.8751 (0.2097)***	1.481 (1.9471)	1.4861 (1.8684)	-1.0923 (0.2317)***	-1.0624 (0.2248)***	-1.0431 (0.2780)***	-1.0524 (0.2860)***
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region dummies	No	No	Yes	Yes	No	No	No	No	Yes	Yes
State dummies	No	No	No	No	Yes	Yes	No	No	No	No
Observations	160	160	160	160	160	160	160	160	160	160
R-squared	0.181	0.185	0.25	0.244	0.145	0.146	0.171	0.177	0.243	0.23

Notes:

2SLS regressions use average distance to the US border as instrumental variable.

Robust standard errors in parentheses

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

**Appendix Table C9: Change in income inequality and globalization, 1996-2002**

**Dependent variable: Change in state-level Theil coefficient**

	Reg. 1	Reg. 2	Reg. 3	Reg. 4	Reg. 5	Reg. 6	Reg. 7	Reg. 8	Reg. 9	Reg. 10
	OLS	OLS	OLS	OLS	OLS	OLS	2SLS	2SLS	2SLS	2SLS
Lagged employment exporters	-0.1539 (0.0546)***		-0.1528 (0.0627)**		0.0296 (0.1420)		-0.3311 (0.0871)***		-0.2611 (0.0996)**	
Lagged employment MNCs		-0.1192 (0.0543)**		-0.1288 (0.0627)**		0.1049 (0.1896)		-0.2973 (0.0839)***		-0.2358 (0.0914)**
Lagged Theil	-0.8802 (0.0857)***	-0.8412 (0.0850)***	-0.9874 (0.0894)***	-0.9729 (0.0875)***	-1.2074 (0.0973)***	-1.194 (0.0956)***	-0.9552 (0.0945)***	-0.8969 (0.0898)***	-1.0121 (0.0870)***	-0.9968 (0.0835)***
Lagged GSP per capita (log)	-0.0248 (0.0660)	-0.0228 (0.0660)	0.0388 (0.0666)	0.0514 (0.0683)	-0.4248 (0.8556)	-0.3315 (0.8162)	0.0536 (0.0724)	0.0707 (0.0784)	0.0736 (0.0694)	0.109 (0.0809)
Constant	-0.7844 (0.2480)***	-0.7297 (0.2508)***	-0.9376 (0.2388)***	-0.9635 (0.2587)***	0.3493 (2.1606)	0.2918 (2.0714)	-1.3793 (0.3387)***	-1.4002 (0.3690)***	-1.2472 (0.3188)***	-1.3629 (0.3767)***
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region dummies	No	No	Yes	Yes	No	No	No	No	Yes	Yes
State dummies	No	No	No	No	Yes	Yes	No	No	No	No
Observations	125	128	125	128	125	128	125	128	125	128
R-squared	0.509	0.489	0.565	0.558	0.663	0.66	0.46	0.434	0.553	0.544

Notes:

2SLS regressions use average distance to the US border as instrumental variable.

Robust standard errors in parentheses

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

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**Appendix Table C10: Change in income inequality and globalization, 1996-2002**

Dependent variable: Change in state-level Theil coefficient

	Reg. 1	Reg. 2	Reg. 3	Reg. 4	Reg. 5	Reg. 6	Reg. 7	Reg. 8	Reg. 9	Reg. 10
	OLS	OLS	OLS	OLS	OLS	OLS	2SLS	2SLS	2SLS	2SLS
Lagged Total trade/State GDP (log)	-0.0816 (0.0257)***		-0.0661 (0.0286)**		-0.0682 (0.1239)		-0.1273 (0.0334)***		-0.1124 (0.0435)**	
Lagged Exports/State GDP (log)		-0.0657 (0.0208)***		-0.0426 (0.0248)*		0.0548 (0.0979)		-0.1055 (0.0277)***		-0.1022 (0.0411)**
Lagged Theil	-0.8839 (0.0868)***	-0.8867 (0.0866)***	-0.9693 (0.0882)***	-0.9597 (0.0892)***	-1.1909 (0.0955)***	-1.1905 (0.0955)***	-0.9288 (0.0920)***	-0.9368 (0.0932)***	-0.9868 (0.0869)***	-0.9814 (0.0903)***
Lagged GSP per capita (log)	-0.0128 (0.0626)	-0.0338 (0.0607)	0.0211 (0.0680)	-0.0015 (0.0683)	-0.1987 (0.8442)	-0.3693 (0.8209)	0.0279 (0.0637)	-0.0026 (0.0615)	0.0484 (0.0704)	0.0213 (0.0691)
Constant	-0.7772 (0.2212)***	-0.7446 (0.2155)***	-0.7946 (0.2190)***	-0.7066 (0.2230)***	-0.4882 (2.2198)	0.3841 (2.1142)	-1.0555 (0.2540)***	-1.0255 (0.2463)***	-1.0123 (0.2598)***	-1.0192 (0.2676)***
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region dummies	No	No	Yes	Yes	No	No	No	No	Yes	Yes
State dummies	No	No	No	No	Yes	Yes	No	No	No	No
Observations	128	128	128	128	128	128	128	128	128	128
R-squared	0.514	0.513	0.559	0.55	0.66	0.66	0.499	0.495	0.548	0.526

Notes:

2SLS regressions use average distance to the US border as instrumental variable.

Robust standard errors in parentheses

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

**Appendix Table C11: Change in income inequality and change in globalization, 1996-2002**  
**Dependent variable: Change in state-level Theil coefficient**

	Reg. 1	Reg. 2	Reg. 3	Reg. 4	Reg. 5	Reg. 6	Reg. 7	Reg. 8	Reg. 9	Reg. 10
	OLS	OLS	OLS	OLS	2SLS	2SLS	2SLS	2SLS	2SLS	2SLS
Change in exporters' employment	0.100 (0.1063)		0.091 (0.1097)		0.090 (0.1325)		5.282 (4.2229)		4.647 (6.7998)	
Change in MNCs' employment		-0.046 (0.1920)		-0.102 (0.2211)		-0.011 (0.1713)		4.737 (3.3994)		13.104 (33.0992)
Lagged Theil	-0.828 (0.0867)***	-0.815 (0.0857)***	-0.960 (0.0906)***	-0.956 (0.0893)***	-1.204 (0.0967)***	-1.189 (0.0951)***	-1.098 (0.3228)***	-0.711 (0.2557)***	-1.103 (0.2846)***	-0.275 (1.6492)
Change in GSP per capita (log)	-1.407 (0.8786)	-1.314 (0.8183)	-0.806 (0.8779)	-0.743 (0.8060)	-0.401 (0.8842)	-0.446 (0.8120)	-10.959 (7.6890)	-4.057 (2.7979)	-9.643 (10.8003)	-8.923 (21.2731)
Constant	-0.601 (0.1085)***	-0.539 (0.1037)***	-0.597 (0.1195)***	-0.526 (0.1193)***	-0.809 (0.1113)***	-0.776 (0.1142)***	-3.186 (1.8690)*	-2.437 (1.3858)*	-2.803 (2.9786)	-5.213 (11.8348)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region dummies	No	No	Yes	Yes	No	No	No	No	Yes	Yes
State dummies	No	No	No	No	Yes	Yes	No	No	No	No
Observations	125	128	125	128	125	128	125	128	125	128
R-squared	0.474	0.468	0.546	0.543	0.664	0.660	n.a.	n.a.	n.a.	n.a.

Notes:

2SLS regressions use average distance to the US border as instrumental variable.

Robust standard errors in parentheses

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

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**Appendix Table C12: Change in income inequality and change in globalization, 1996-2002**  
**Dependent variable: Change in state-level Theil coefficient**

	Reg. 1	Reg. 2	Reg. 3	Reg. 4	Reg. 5	Reg. 6	Reg. 7	Reg. 8	Reg. 9	Reg. 10
	OLS	OLS	OLS	OLS	OLS	OLS	2SLS	2SLS	2SLS	2SLS
Change in Total trade/GSP (log)	-0.0543 (0.0963)		-0.0416 (0.0851)		0.0649 (0.1151)		-5.4408 (5.1005)		-1.8503 (1.1775)	
Appendix Table C12: Change in Exports/GSP (log)		-0.1273 (0.0821)		-0.162 (0.0776)**		-0.1356 (0.0883)		10.5875 (22.8359)		-3.4344 (3.7691)
Change in GSP per capita (log)	-1.276 (0.8576)	-1.2441 (0.7918)	-0.752 (0.8549)	-0.6431 (0.7772)	-0.5198 (0.8094)	-0.2868 (0.7996)	5.09 (6.4373)	-9.3339 (18.6318)	1.6041 (1.8600)	2.6518 (4.2330)
Change in Theil	-0.0543 (0.0963)		-0.0416 (0.0851)		0.0649 (0.1151)		-5.4408 (5.1005)		-1.8503 (1.1775)	
Constant	-0.5397 (0.1027)***	-0.4826 (0.1027)***	-0.5475 (0.1197)***	-0.4618 (0.1190)***	-0.8032 (0.0977)***	-0.695 (0.1040)***	1.1689 (1.6386)	-6.7377 (13.2189)	0.0747 (0.4339)	1.5584 (2.3016)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region dummies	No	No	Yes	Yes	--	--	No	No	Yes	Yes
State dummies	No	No	No	No	Yes	Yes	No	No	No	No
Observations	128	128	128	128	128	128	128	128	128	128
R-squared	0.469	0.478	0.542	0.557	0.661	0.668	n.a.	n.a.	n.a.	n.a.

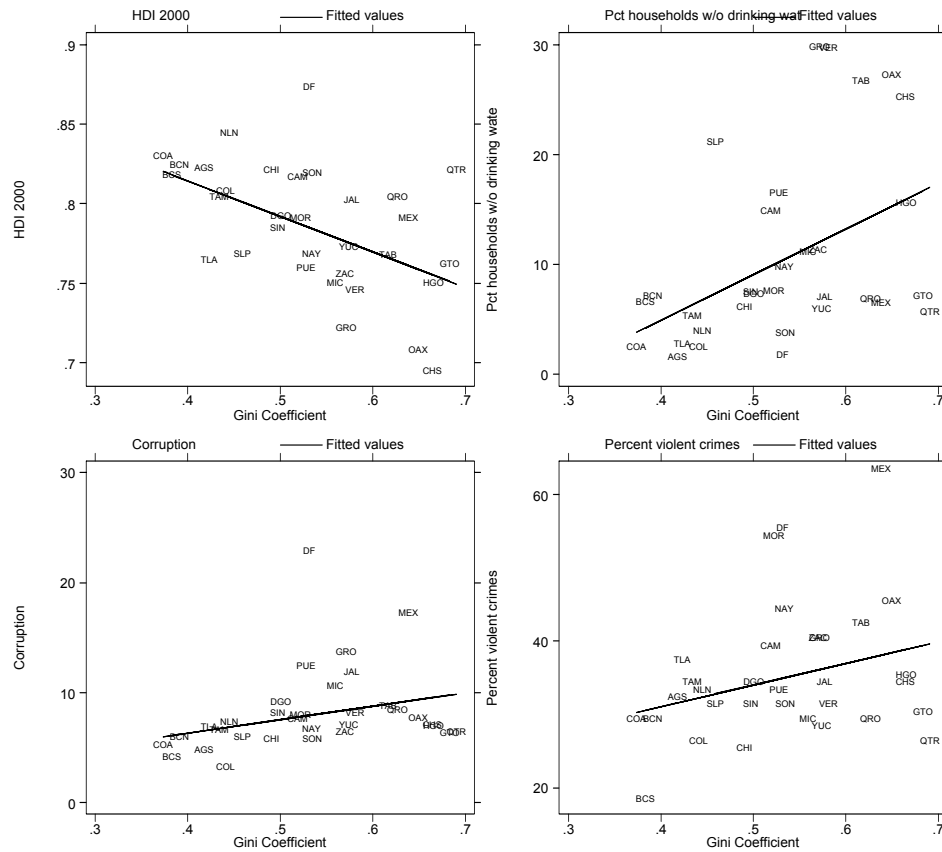
Notes:

2SLS regressions use average distance to the US border as instrumental variable.

Robust standard errors in parentheses

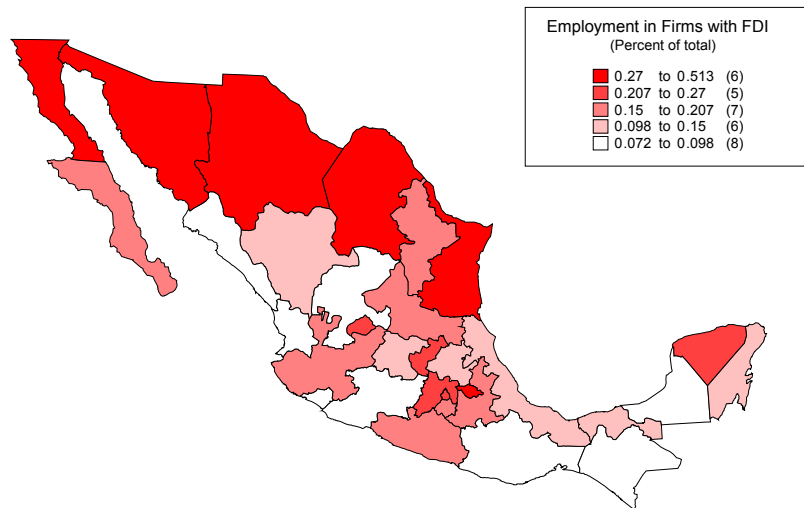
\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

Figure 1: Inequality, Welfare, and Governance in Mexico, 20000



**Figure 2: Globalization Indicators across Mexican States, 2000**

**(a) Employment in Firms with Foreign Capital**



**(b) Employment in Exporting Firms**

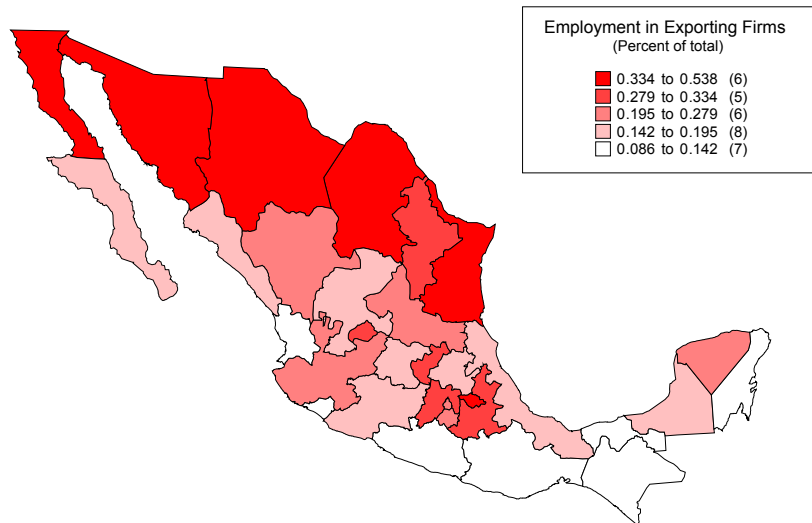
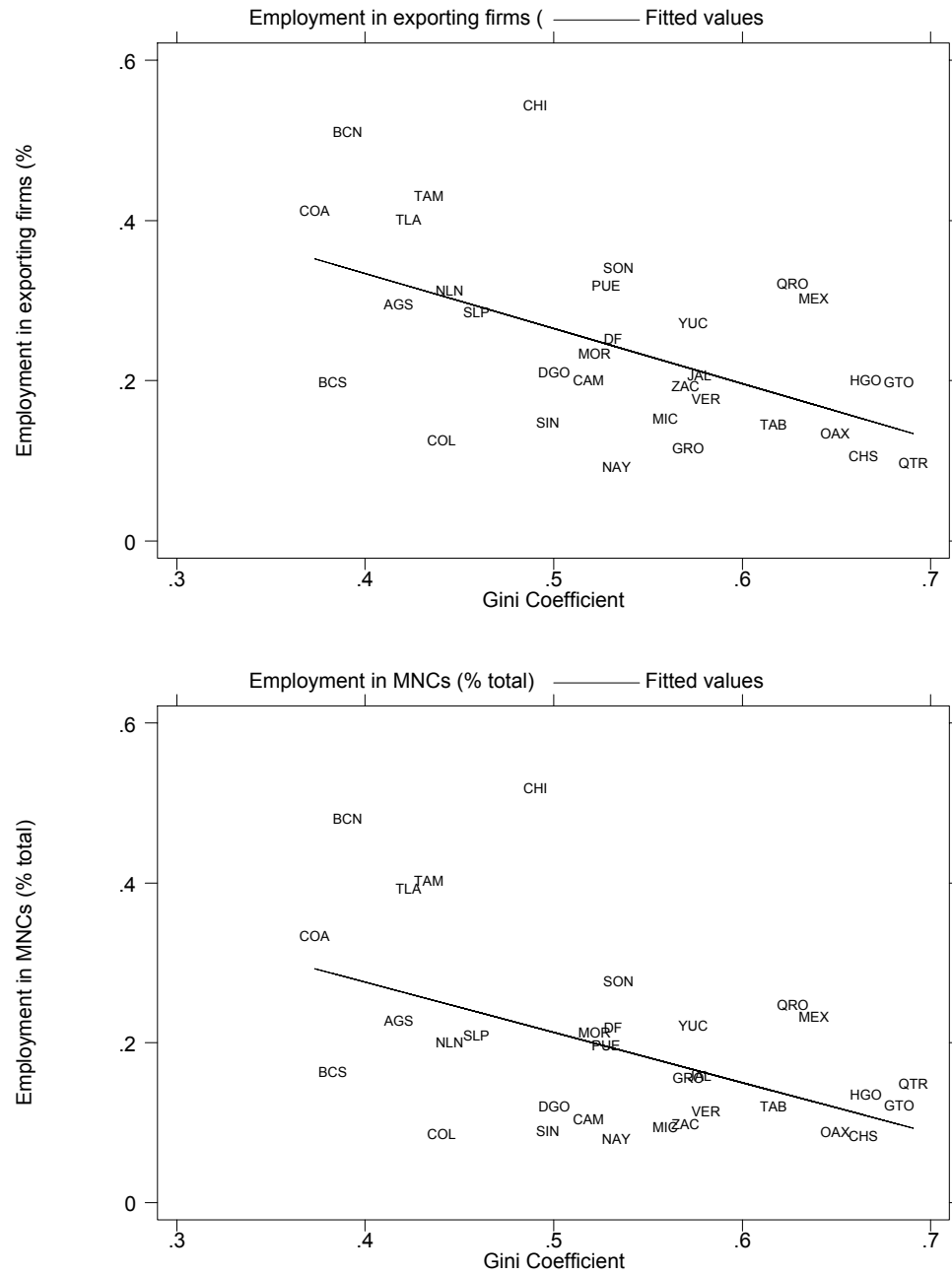


Figure 3: Globalization and Inequality across Mexican states, 2000



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