

U.S. Free Trade Agreements and Enforcement of Labor Law in Latin America*

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The paper provides difference-in-differences estimates suggesting that Latin American countries that signed a free trade agreement with the United States experienced an increase in the number of labor inspectors and inspections. We also find large heterogeneity across signers and no evidence that the North American Free Trade Agreement (NAFTA) had a positive impact on Mexico. We conclude by suggesting that the stringency of content of the accord and the resources devoted by the U.S. government to increase enforcement make a difference.

Introduction

Violations of labor law and noncompliance with employment and social security regulations are common in many developing countries.¹ Although government enforcement of labor laws and regulations is important for achieving compliance, until recently there have been few studies examining the factors that drive government enforcement in the developing world. Recent research (Almeida and Ronconi 2016; Amengual 2010; Anner 2008; Murillo, Ronconi, and Schrank 2011; Piore and Schrank 2008; Pires 2008; Ronconi 2012) is starting to reveal that factors such as a government's political ideology, the strength of a country's labor unions and business groups, and the economy's exposure to foreign trade, all affect government enforcement of labor laws, employment, and social security regulations.

This study adds to this growing field of inquiry by empirically exploring whether an external force, such as a trade agreement, alters the political economy equilibrium affecting the degree of public enforcement. Most scholars agree that the scrutiny and debates that come with negotiations of labor

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¹ Rani et al. (2013), among others, find very low levels of compliance with minimum wages in eleven African, Asian, and Latin American countries. Borat, Kanbur, and Mayet (2012); Kanbur, Ronconi, and Wedenoja (2013); and Ronconi (2010) compute measures of noncompliance with employment and social security regulations in South Africa, Chile, and Argentina, respectively.

chapters in trade agreements can encourage improvements in labor enforcement in developing countries. This becomes even truer when resources are allocated for trade capacity building. There is a wide body of literature, using case studies, that suggests that these measures can work (Rosado Marzán 2010; Schrank 2009; Vega Ruiz 2009; Weller 2011). Yet, other studies suggest that trade openness can lead to a race to the bottom, wherein governments reduce enforcement to compete (Ronconi 2012). The effect of a trade agreement on enforcement is therefore, *a priori*, ambiguous.

This paper empirically tests whether free trade agreements (FTAs) signed between the United States and Latin American and Caribbean countries (LAC) over the last decade resulted in higher public enforcement of labor laws and regulations in the signatory LAC nations. We examine how the results vary depending on the letter of the agreement, the resources devoted to capacity building, and trade openness.² Although the paper does not assess the impact on working conditions, some existing literature suggests that the intensity of inspections in some settings has been shown to influence compliance (for example, Levine, Toffel, and Johnson 2012; Ronconi 2010).³

Enforcing labor regulations requires a government in a given country to possess both the capacity and the political will to uphold the law. A deficiency in either adversely affects enforcement. Many developing countries lack adequate capacity such as financial resources, inspectors, and technical skills, to enforce their labor regulations. In addition, as more countries integrate into the global economy and trade competition intensifies, countries are tempted to exploit low production costs and cheap labor in pursuit of higher profits, greater investment, and growth. It therefore becomes difficult to acquire the political will necessary to enforce labor laws. Yet trade—the primary driver of global integration—can also be a powerful tool to build capacity and generate the political will needed to improve the enforcement of labor regulations.⁴

The last decade has seen a shift in U.S. policy toward including the enforcement of labor law as a provision in trade agreements. Did the FTAs signed between the United States and developing countries lead to greater public enforcement as intended by the agreements? Or did lobbies and the economic pressures associated

² The inclusion of labor provisions in bilateral and regional trade agreements has proliferated rapidly during the last two decades not only in the United States but also in the EU (Agusti-Panareda, Ebert, and LeClercq 2015). See Campling et al. (2016) for an analysis of labor provisions in EU trade agreements.

³ A complementary strand of literature looks at the response of labor conditions at the firm level to globalization. See for example the work by Bartley (2007); Locke, Qin, and Brause (2007); and Vogel (2010) on the private regulation of labor.

⁴ Following the theoretical model in Basu, Chau, and Kanbur (2010), it is also plausible to consider a trade agreement as a commitment device that can solve the consistency problems that are inherent to enforcement.

with a more open economy and higher competition push governments in the developing world to turn a blind eye to violations of labor regulations?

This paper first examines the labor provisions in the U.S. trade agreements signed with Latin American and Caribbean countries over the last decade, and traces the evolution of the debate on the inclusion of labor provisions in FTAs. Second, it empirically investigates whether these FTAs improved public enforcement of labor laws in the signing LAC nations. We exploit before–after variation in labor inspections (from 2000 to 2012) in countries that signed an FTA with the United States and use nonsigning countries in the region as a comparison group. The results suggest that, on average, FTAs had a positive effect on inspection resources and productivity.

A caveat is that this study does not estimate the impact of the North American Free Trade Agreement (NAFTA) on enforcement in Mexico. This is because NAFTA was signed in 1992 and the dataset does not extend that far behind. Back-of-the-envelope calculations suggest that NAFTA did not increase enforcement in Mexico. The reasons for this are addressed briefly in the final sections of the paper.

Evolution of Labor Provisions in U.S.–LAC Trade Agreements

The United States has twenty free trade agreements in force, eleven of which are with LAC nations. The Dominican Republic–Central America Free Trade Agreement (CAFTA–DR) was signed in 2004 and includes Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, and Nicaragua. Bilateral FTAs include one with Chile signed in 2003, with Peru and Colombia signed in 2006, and with Panama signed in 2007. Finally, Mexico and Canada are signatories of the NAFTA and its complementary labor accord, the North American Agreement on Labor Cooperation (NAALC).

Labor provisions in trade agreements are intended to hold the signatories responsible for upholding certain commitments with respect to labor rights. These commitments pertain to (1) the scope of national laws in protecting labor rights and the extent to which they are coherent with international standards, and (2) the enforcement of existing laws (Polaski 2004). The linking of international trade and labor in U.S. policy was first initiated in the Generalized System of Preferences Act and then in the Omnibus Trade and Competitiveness Act of 1988 authorizing U.S. participation in the Uruguay Round of multilateral trade talks, which included workers' rights as one of the principal trade negotiating objects. Beyond these, labor provisions in U.S. free trade agreements can arguably be seen as having “evolved” in four stages corresponding to the signing of a free trade agreement with a LAC country. The

first stage is NAFTA, the second stage begins with the U.S.–Jordan FTA that is developed further with the U.S.–Chile FTA, the third stage with the U.S.–Peru FTA, and the fourth stage with the U.S.–Colombia FTA.

The side agreement on labor. NAFTA, as negotiated under President George H.W. Bush, did not include a labor chapter, but incoming President William J. Clinton made the submission of NAFTA for Congressional approval contingent on the negotiation of side agreements on labor and environment. NAALC (i.e., the labor accord accompanying NAFTA) marked the beginning of the inclusion of labor provisions in free trade agreements in the United States. It was negotiated as a means of encouraging better labor standards and enforcement in Mexico, but also as a means of constraining the adverse impacts of Mexico's lower labor costs on the United States.

The NAALC does not establish common minimum standards that the Parties must uphold in their domestic laws. Rather, it states “each Party shall ensure that its labor laws and regulations provide for high labor standards.” It provides eleven “guiding principles” that the parties commit to promoting, subject to their domestic law.⁵

The NAALC creates a Commission for Labor Cooperation comprising a Ministerial Council and a Secretariat, assisted by a National Administrative Office at the federal level, to oversee the implementation of the agreement. It also sets up a complex procedure of consultations, dispute resolution, and arbitration—enforceable with sanctions only in cases in which there is a persistent pattern of failure by a Party to effectively enforce its occupational safety and health, child labor, or minimum wage technical labor standards (Bolle 2014). The violation must be trade-related and covered by mutually recognized labor laws.

The NAALC makes no reference to international labor standards, but subsequent trade agreements refer to the International Labor Organization (ILO)'s 1998 Declaration on Fundamental Principles and Rights at Work, which came to be internationally accepted as a minimum floor for labor standards.⁶

⁵ The eleven guiding principles are the following: (1) freedom of association and the protection of the right to organize, (2) the right to bargain collectively, (3) the right to strike, (4) prohibition of forced labor, (5) labor protections for children and young persons, (6) minimum employment standards, (7) elimination of employment discrimination, (8) equal pay for women and men, (9) prevention of occupational injuries and illnesses, (10) compensation in cases of occupational injuries and illnesses, and (11) protection of migrant workers.

⁶ Adopted in 1998, the Declaration commits ILO members to respect and promote principles and rights in four categories irrespective of whether the members have ratified the relevant ILO Conventions. The four categories of the Declaration are: (1) freedom of association and the effective recognition of the right to collective bargaining, (2) the elimination of forced or compulsory labor, (3) the abolition of child labor, and (4) the elimination of discrimination in respect of employment and occupation.

From side agreement to a labor chapter. The most notable difference between the NAALC and subsequent trade agreements was the inclusion of a labor chapter directly into the trade agreement itself. The U.S.–Jordan FTA was the first agreement to include labor provisions in the body of an FTA. But Article 6 of the U.S.–Jordan FTA provides but a skeleton for more detailed labor chapters in subsequent agreements beginning with the U.S.–Chile FTA. This is the second stage in the evolution of labor provisions in U.S. trade agreements.

The U.S.–Chile FTA, which entered into force in 2004, included a robust labor chapter that came to be widely recognized as the template for many future U.S. FTAs, particularly with Latin America (Samet 2011). In addition to including a chapter on labor, this agreement differs from the NAALC in several important ways. First, while Parties to the NAALC were obligated to “ensure that its labor laws and regulations provide for high labor standards,” the Chilean FTA states, “each Party shall *strive to ensure* that such labor principles [as those articulated in the 1998 ILO Declaration] and the internationally recognized labor rights set forth in Article 18.8 are recognized and protected by its domestic law.” The Chile FTA subscribes to the 1998 ILO Declaration, which narrows the scope of the areas of labor law to which the agreement applies relative to NAALC.⁷ Second, unlike NAALC, the U.S.–Chile FTA treats all five of the latter areas of labor law as equal for the purposes of dispute settlement. Should a country be found to be in violation of a labor obligation as per the agreement, it can be required to pay a fine into a fund dedicated to remedying the alleged violation. If the offending Party fails to pay the fine then the complaining Party can suspend benefits, but unlike with commercial disputes arising from other parts of the agreement, penalties for labor disputes are capped at \$15 million (adjusted for inflation) per year.

Labor provisions under CAFTA–DR are largely similar to those of the Chile FTA, with the exception of the greater emphasis on capacity building (Samet 2011). CAFTA–DR was the subject of intense debate in the United States over the lack of compliance with labor laws in the CAFTA–DR countries. While national laws were largely in conformity with the ILO’s principles, effective enforcement was lacking. This prompted the governments in the region to undertake a reform agenda outlined in a white paper supported by the Inter-American Development Bank (IDB). The agreement itself established a technical assistance and cooperation mechanism to strengthen compliance with labor

⁷ The Chile FTA diverges from the ILO Declaration on one provision: it includes “acceptable conditions of work with respect to minimum wages, hours of work and occupational safety and health.” This is more specific than the Declaration’s reference to “the elimination of discrimination in respect of employment and occupation.”

law and enhance capacity of labor ministries. Some of the actions taken include training labor inspectors, ending the political appointment process and reclassifying inspectors into the career civil service, and increasing the compliance budget. The “Cumple y Gana” (comply and win) Initiative—funded by the United States Department of Labor—provided computers, case management systems, and training to enhance the capacity of inspection agencies (although total funding between 2003–2008 was only \$13.4 million).

Vega Ruiz (2009: 14–15) notes “The important role of labor administration has been brought to the fore by the free trade agreements. . . . In effect, these agreements paved the way for the famous ‘White Book,’ which contains a number of commitments on upgrading national inspections and affects Central American countries and the Dominican Republic. Andean countries which have entered into an FTA with the U.S. are currently implementing similar programs . . . for example the U.S. MIDAS project in Colombia.”⁸

From “strive to ensure” to “adopt, maintain, and enforce.” The U.S.–Peru FTA further improved upon the inclusion of labor provisions in trade agreements by changing “shall *strive to ensure*. . . [high labor standards] in its domestic law,” to “*shall adopt and maintain* in its statutes and regulations, and practices thereunder” high labor standards commensurate with the ILO Declaration. The important difference is that rather than striving to have high standards in the law, the Parties are required to have them.

The third-generation agreements cite the 1998 ILO Declaration but move the exact protections from the definitions section to Article X.1. They also change the fifth standard. Whereas the second-generation agreements called on the Parties to provide “acceptable conditions of work with respect to minimum wages, hours of work, and occupational health and safety,” the third-generation agreements call on the Parties to provide for “the elimination of discrimination in respect of employment and occupation.” Only later in the definitions section do the third-generation agreements also say that labor law also includes the health and safety provisions.

The third and final major change pertains to dispute settlement. The third-generation agreements contain the same language on domestic enforcement requirements as the second-generation agreements. That language is still actionable under the dispute settlement provisions. Unlike the second-generation agreements, however, the third-generation agreements make the dispute settlement provisions accessible for the entire labor chapter, including whether a Party is upholding its commitments under Article X.1 to have strong labor

⁸ Rosado Marzán (2010), Schrank (2009), and Velásquez Pinto (2011) also point out that FTAs had positive effects on labor enforcement in Chile, the Dominican Republic, and El Salvador, respectively.

protections in its laws. There are also no special restrictions for the labor chapter on penalties if an offending Party fails to come into compliance. The complaining Party can remove benefits or the offending Party can choose to pay a fine into a fund that will be used to bring the Party into compliance.⁹

U.S.–Colombia Labor Action Plan (LAP). The fourth stage in the evolution of labor provisions pertains to the U.S.–Colombia Free Trade Agreement that had a labor chapter in the agreement, but also included a side accord, the Labor Action Plan (LAP). Detailed labor provisions were articulated in an accord alongside the FTA. The LAP outlined approximately twenty distinct measures to be taken by the Colombian government before the Obama administration submitted the U.S.–Colombia Trade Promotion Agreement to Congress. The administration required that Colombia take measures to significantly improve its record on labor and to extend greater protection to unions, including target dates spanning from April to December 2011. This was the first time that U.S. Congressional approval of the agreement and its maintenance were contingent on achieving specific benchmarks.¹⁰

Table 1 lists the countries that have signed an FTA with the United States, categorizing each agreement by stage. The table includes the full list of twenty countries. However, this paper only provides quantitative estimates of the effects of FTAs on enforcement for the eleven LAC countries.

There are both practical and conceptual reasons to focus on this region. Labor inspection data pre- and postagreement is only available for countries in Latin America.¹¹ Labor standards were not central in agreements with Israel, Canada, Singapore, Australia, and South Korea because of their higher level of development. The agreements with Bahrain, Jordan, and Oman in the Middle East, and Morocco in North Africa, carried less economic heft than the agreements with LAC countries and were more geostrategic than economically motivated. On the other hand, beginning with NAFTA, each subsequent agreement the United States negotiated with LAC nations was accompanied by an intense debate in America over labor standards. These debates shaped the way labor provisions in U.S. trade agreements evolved.

⁹ Toyama Miyagusuku (2011) argues that labor inspections have recently improved both quantitatively and qualitatively in Peru because the FTA with the United States explicitly mentions the need to enforce labor laws.

¹⁰ Monroy Gallego (2012) points out that the Colombian government hired a substantial number of additional labor inspectors in 2011 because this was a prerequisite for signing an FTA with the United States.

¹¹ The ILOSTAT dataset only provides inspection figures for four out of the nine non-Latin American countries that signed a FTA with the United States (i.e., Bahrain, Israel, Morocco, and Singapore), and in all four cases there are no data before FTA.

TABLE 1
COUNTRIES THAT SIGNED AN FTA WITH THE U.S. AND TYPES OF LABOR PROVISIONS

Country	Bilateral or Regional	Date of Signing	Stage	Side Agreement or Labor Chapter	Strive to Ensure or Shall Adopt	Capacity Building	Labor Action Plan	Dispute Settlement on Whole/Part
Panel A: Latin American Countries								
Mexico	NAFTA	Dec-92	1	Side Agreement	—	No	—	Part
Chile	Bilateral	June-03	2	Labor Chapter	Strive to Ensure	No	No	Part
Costa Rica	CAFTA-DR	May-04	2	Labor Chapter	Strive to Ensure	Yes	No	Part
El Salvador	CAFTA-DR	May-04	2	Labor Chapter	Strive to Ensure	Yes	No	Part
Guatemala	CAFTA-DR	May-04	2	Labor Chapter	Strive to Ensure	Yes	No	Part
Honduras	CAFTA-DR	May-04	2	Labor Chapter	Strive to Ensure	Yes	No	Part
Nicaragua	CAFTA-DR	May-04	2	Labor Chapter	Strive to Ensure	Yes	No	Part
Dominican Rep.	CAFTA-DR	Aug-04	2	Labor Chapter	Strive to Ensure	Yes	No	Part
Peru	Bilateral	April-06	3	Labor Chapter	Shall Adopt	Yes	No	Whole
Panama	Bilateral	June-07	3	Labor Chapter	Shall Adopt	Yes	No	Whole
Colombia	Bilateral	Nov-06	4	Labor Chapter	Shall Adopt	Yes	Yes	Whole
Panel B: Countries Not Located in Latin America								
Israel	Bilateral	Apr-85	—	Neither	—	No	—	—
Canada	NAFTA	Dec-92	1	Side Agreement	—	No	—	Whole
Jordan	Bilateral	Oct-00	2	Labor Article in Main Agreement	Strive to Ensure	Yes—Better Work Program	No	None
Singapore	Bilateral	May-03	2	Labor Chapter	Strive to Ensure	No	No	Part
Australia	Bilateral	May-04	2	Labor Chapter	Strive to Ensure	No	No	Part
Morocco	Bilateral	Jun-04	2	Labor Chapter	Strive to Ensure	No	No	Part
Bahrain	Bilateral	Sep-04	2	Labor Chapter	Strive to Ensure	Yes—ILO Project on Inspections	No	Part
Oman	Bilateral	Jan-06	2	Labor Chapter	Strive to Ensure	Yes—ILO Project on Inspections	No	Part
Korea	Bilateral	Jun-07	3	Labor Chapter	Shall Adopt	No	No	Whole

Estimating the Effect of FTAs on Enforcement

A number of country studies, some of which were cited above, provide qualitative evidence of the effects of U.S. FTAs on enforcement of labor law in several of the signing LAC countries (Monroy Gallego 2012; Rosado Marzán 2010; Schrank 2009; Toyama Miyagusuku 2011; Vega Ruiz 2009; Velásquez Pinto 2011; Weller 2011).¹² They all suggest a positive effect through a number of different channels, including an increase in the inspection agency budget, hiring of additional labor inspectors, training of labor inspectors, providing new vehicles and computers, implementing a new case management system, and ending the political appointment process and reclassifying inspectors into the career civil service. That is, the qualitative evidence highlights that positive changes occurred in both the resources devoted to inspection and their productivity.

This qualitative evidence has some shortcomings in providing an overall assessment of the effects of U.S. FTAs on enforcement because it only covers some of the signing countries, it ignores changes in enforcement in neighboring nonsigning countries, it does not control for other factors that affect enforcement, and it does not provide a magnitude of the change. Nonetheless, the findings from the aforementioned studies complement the quantitative evidence we present below.

We confront two challenges in providing a quantitative estimate of the effects of U.S. FTAs on labor enforcement in the signing LAC countries. First, measuring enforcement is complicated due to lack of data. Second, estimating a causal effect is difficult due to the unique characteristics of each country, and the fact that the signature of a trade agreement is not an exogenous event. Signing an FTA involves a selection process. Political institutions in the United States, as well as in Latin America, decide whether to engage in trade negotiations and the subsequent agreement. This would bias the estimates if the political and economic factors that affect the decision to sign an agreement also have a direct effect on enforcement itself.

Our empirical strategy is to compare the before–after implementation change in enforcement in LAC countries signing an FTA with the United States to the temporally corresponding pre–post change in the group of comparison countries that do not sign a trade agreement with the United States. Our strategy benefits from the fact that there are both signers and nonsigners in each of the three geographic subregions (i.e., Central America, the Caribbean, and South

¹² See also the “White Paper,” a report produced in 2005 by the working group of the Vice Ministers responsible for trade and labor in the countries of Central America and the Dominican Republic following the signing of CAFTA–DR, and the related verification reports. It is available at www.ustr.gov.

America) allowing for the construction of a better comparison group. To control for selection bias we include a number of economic and political variables that could affect both the likelihood of an FTA and the level of enforcement, such as gross domestic product (GDP), unemployment, democracy, and the ideology of the executive power in each LAC country.¹³

Data. We use the dataset in Ronconi (2012), which provides measures of labor inspection resources and activities in 18 Latin American and Caribbean countries up to the year 2009. We expand the dataset in two directions. First, we add data for the years 2010–2012. This is necessary because several countries signed FTAs in the late 2000s.¹⁴ Second, we include seven additional countries in the sample, mainly small countries in Central America and the Caribbean that did not sign an FTA. Adding these countries aims at improving the quality of the comparison group; all the countries located in this region in the original dataset have signed FTAs.¹⁵

We use measures of labor enforcement resources and activities: *Inspector_{it}*, which is defined as the number of labor inspectors per million workers in country *i* and year *t*, and *Inspections_{it}*, which is defined as the number of labor inspections per thousand workers. These two measures should capture the changes in resources and productivity suggested by the qualitative evidence. An important limitation is their low coverage. Out of 325 country-year cells (i.e., annual data for twenty-five countries from 2000 to 2012), we only observe *Inspector* in 222 cases and *Inspections* in 188. There is particularly little data (i.e., covering less than half of the analyzed period) for Barbados, Bolivia, Cuba, Ecuador, Trinidad and Tobago, and Venezuela. Complete information for both variables is available only for Brazil and Costa Rica. This is

¹³ Although we consider that nonsigning countries in the region are a reasonable comparison group, they are certainly different from signing countries. For example, in the year 2000 (that is, before signature) the average level of GDP per capita in the group of countries that later on signed an agreement with the United States was US\$5275 compared to an average of US\$6422 among nonsigners. Countries that did not sign a U.S. FTA were also larger (e.g., an average economically active population of 9.5 million workers in 2000 compared to 5.4 million in signing countries). Excluding the richest and most populated countries from the comparison group (i.e., Barbados and Brazil) does not substantially affect the results. If all nonsigners are excluded, then, the before–after estimates are 5.01 (s.e. 2.64) for inspectors and 3.09 (s.e. 0.53) for inspections.

¹⁴ These additional data are collected from the same data sources as in Ronconi (2012); that is, official websites, newspapers, reports produced by the ILO, the U.S. Department of Labor, and the U.S. State Department.

¹⁵ The countries we added are: Barbados, Belize, Cuba, Guyana, Jamaica, Suriname, and Trinidad and Tobago. The countries in the original dataset are: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, and Venezuela.

the unbalanced panel that we use in all regression models presented in the paper.

Another limitation is that metrics on the numbers of inspectors and inspections are noisy proxies of enforcement. First, there is no information about fines that are a key component of deterrence. Second, they do not capture qualitative aspects such as the thoroughness of an inspection and how capable the inspector is. But, these are objective proxies and lack of data prevents the constructing of better measures.

Before presenting the econometric results, we illustrate the evolution of labor enforcement in countries that signed an FTA with the United States and compare them with changes in enforcement in countries that did not sign an FTA. Because the unbalanced panel is of limited use to graphically illustrate changes, we impute the missing values assuming that the number of labor inspectors and inspections in country i and year t is equal to the average between $t - 1$ and $t + 1$ in country i . The imputation is only used for the purposes of Figures 1 and 2 and Table 2.

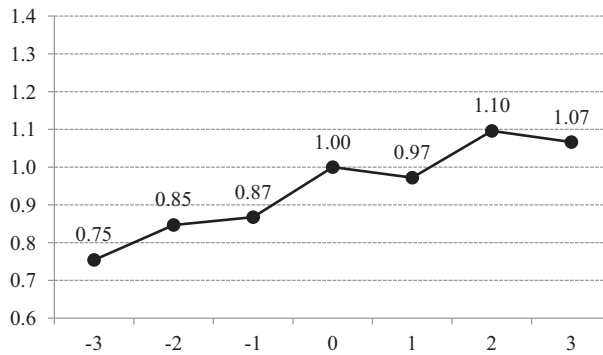
Table 2 shows the pre–post change in the number of labor inspectors (per million workers) in countries that signed an FTA computed as the difference between the average number of inspectors during 2000–2003 and the average during 2009–2012 (that is, before and after the signature of FTAs). Taking the group of signing countries as a whole, there was a small positive increase of 9.2 additional inspectors per million workers (from an average of 41.3 inspectors during 2000–2003 to 50.5 inspectors during 2009–2012).¹⁶ That is, inspection resources increased after the signature of the FTA. But, there is large heterogeneity across countries. In El Salvador and Panama the figure increased by more than fifty additional inspectors per million workers while in Guatemala the number of inspectors declined by approximately sixteen inspectors per million workers. There was also a reduction in Costa Rica, Dominican Republic, Honduras, and Nicaragua, which is due to an increase in the number of inspectors that was lower than the increase in the labor force.

This substantial heterogeneity within signers, and particularly within CAFTA–DR, appears to be driven by the amount of trade capacity building funding allocated by the U.S. government to improve enforcement. El Salvador, which experienced one of the largest increases in inspections after signing the agreement, also received the largest amount of funding from the U.S. government for trade-related labor activities (i.e., almost US\$24 per worker compared to an average of US\$3 in the other CAFTA–DR countries). Panama,

¹⁶ The values are computed as the simple average across countries and time.

FIGURE 1

EVOLUTION OF RATIO OF LABOR INSPECTORS IN LAC COUNTRIES THAT SIGNED AN FTA RELATIVE TO NONSIGNERS



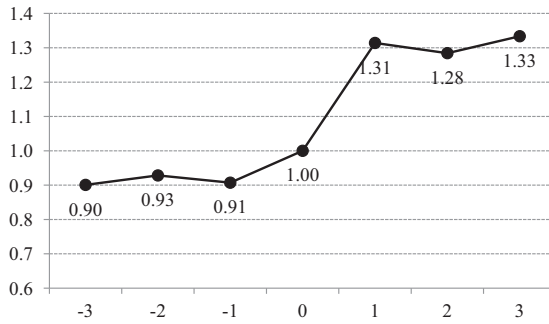
NOTES: The figure shows the ratio between the number of labor inspectors per million workers in LAC countries that signed an FTA with the United States between 2000 and 2012 (i.e., Chile, Colombia, Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Nicaragua, Panama, and Peru) and the number of inspectors in LAC countries that did not sign an FTA with the United States (i.e., Argentina, Barbados, Belize, Bolivia, Brazil, Cuba, Ecuador, Guyana, Jamaica, Mexico, Paraguay, Suriname, Trinidad and Tobago, Uruguay, and Venezuela). The ratio is indexed to one as of the date of signature of the FTA ($t = 0$). The evaluation window consists of changes in the 3 years prior to signature and changes in the 3 years after signature.

the other outlier in terms of a large positive change in the number of inspectors, was the second country that received a higher level of funding from the United States with US\$6.5 per worker.¹⁷

Table 2 also shows the corresponding pre–post change for inspection activities. Overall, there was a positive change from 4.8 inspections per thousand workers in 2000–2003 to 8.4 in 2009–2012. This improvement was larger than the increase in the number of labor inspectors, implying that the productivity of inspectors (defined as the number of inspections per inspector) was augmented by almost 50 percent. These findings are consistent with the qualitative evidence presented earlier: Some countries that signed an FTA with the United

¹⁷ Using the sample of countries that signed a FTA with the United States, we find a positive and statistically significant correlation between changes in inspectors (or inspections) and funding allocated by the U.S. government to trade-related labor activities. The U.S. government tended to allocate more funds to countries with a pre-FTA lower level of enforcement, although the correlation is statistically insignificant.

FIGURE 2
EVOLUTION OF LABOR INSPECTIONS IN LAC COUNTRIES THAT SIGNED AN FTA RELATIVE TO
NONSIGNERS



NOTES: The figure shows the ratio between the number of labor inspections per 1,000 workers in LAC countries that signed an FTA with the United States and those that did not. See notes to Figure 3.

States improved enforcement through more manpower, but the majority of countries did it via higher productivity.

Figure 1 presents the evolution over time of the ratio of inspectors per million workers in the treatment group (i.e., countries that signed an FTA with the United States) relative to the comparison group (i.e., nonsigning countries). The ratio is indexed to one as of the date of signature. We use a 7-year evaluation window consisting of the 3 years prior to the signature of the FTA and the 3 years following signature. That is, the figure compares the pre-post change in LAC countries that signed an FTA to the temporally corresponding pre-post change in countries that did not sign an FTA.

Figure 1 shows an increase in the number of inspectors in signing countries relative to nonsigners of almost 15 percent during the year of signature ($t = 0$) and an additional increase of 7 percent during the next 3 years. There is also a 10-percent increase during the 2 years before signature, suggesting that Latin American countries hired additional inspectors during the negotiation process.¹⁸ Figure 2, on the other hand, shows a much larger increase in

¹⁸ Beginning with NAFTA, the concerns about the potential negative impact for American workers of agreements with countries that have lower standards and weaker enforcement of workers' rights prompted intense debate in the United States. At the same time, the governments of the LAC countries were eager to move the agreements forward. Anecdotal evidence suggests that these LAC governments hired labor inspectors during the negotiation process to demonstrate their willingness to improve labor standards in an attempt to reduce U.S. opposition to the agreement.

TABLE 2

PRE-POST CHANGE IN THE NUMBER OF LABOR INSPECTORS AND INSPECTIONS PER WORKER IN LAC COUNTRIES THAT SIGNED AN FTA WITH THE UNITED STATES, AND U.S. FUNDING

Country	U.S. Funding Trade- Related Labor Activities	Inspectors Pre-Post FTA Change	Inspections Pre-Post FTA Change
El Salvador	23.97	52.7	9.0
Panama	6.46	53.6	6.0
Nicaragua	6.08	-2.7	3.3
Dominican Republic	5.43	-10.3	6.5
Peru	2.18	12.2	7.2
Guatemala	1.79	-16.8	1.5
Honduras	1.67	-2.6	0.7
Costa Rica	1.62	-9.5	-0.4
Colombia	0.82	4.0	0.2
Chile	0.21	11.2	1.7
Average	5.02	9.2	3.6

NOTES: The pre-post FTA change is computed as the difference between the average number of labor inspectors (or inspections) per worker from 2009 to 2012 and the average from 2000 to 2003. U.S. funding is the amount of dollars per worker allocated by different U.S. government agencies for trade-related labor activities from 2000 to 2012

Source: TCB Investment Dashboard, USAID.

inspections (i.e., 10 percent during the year of signature and an additional 30 percent afterward) and almost no change during the negotiation process.

Econometric evidence. The basic econometric model we use is:

$$Y_{it} = \delta_i + \tau_t + \beta FTA_{it} + \varepsilon_{it}, \quad (1)$$

where Y is a placeholder for one of the two outcome variables (*Inspector* and *Inspections*); FTA_{it} is an indicator variable equal to 1 if country i has signed an FTA with the United States in year t ; δ and τ are country and year fixed effects; and ε is a mean-zero disturbance term. The coefficient of interest is β . This parameter provides an estimate of the pre-post change in labor enforcement in signing countries relative to the corresponding change in nonsigning countries. The inclusion of country-specific fixed effects indicates that we have swept out all time-invariant differences across countries that contribute to cross-country variation in enforcement, and the inclusion of year-specific fixed effects controls for common shocks that affect the whole region. In all regression models we compute standard errors clustering by country to control for serial correlation. Appendix II presents alternative estimates of the standard errors.¹⁹

¹⁹ Ignoring potential serial correlation within countries produces smaller standard errors. Therefore, we follow Bertrand, Duflo, and Mullainathan (2004) and cluster at the country level. As discussed in Cameron and Miller (2015), however, when there are few clusters and when the panel is unbalanced, the use of fitted residuals leads to over-rejection.

Table 3 presents the results. In columns 1 and 5 we only include country and year fixed effects. Columns 2 and 6 control for the number of trade agreements signed with countries other than the United States,²⁰ and a set of political and economic variables that could be correlated with both FTA and enforcement.²¹ In columns (3) and (7) we include a complete set of interaction terms between year dummies and indicator variables denoting the three major geographic sub-regions (Central America, the Caribbean, and South America) to allow for differential regional trends. Finally, in columns (4) and (8) we include three potential variables that could mediate the relationship between an

TABLE 3
ESTIMATES OF THE EFFECTS OF U.S. FTAs ON LABOR INSPECTION IN LAC COUNTRIES

	DV = Labor Inspectors				DV = Labor Inspections			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
FTA with U.S.	11.49*	9.48*	11.86**	9.34	3.43***	3.02**	2.80**	2.62*
	(5.79)	(5.31)	(5.74)	(5.74)	(1.16)	(1.18)	(1.34)	(1.27)
U.S. funding	—	—	—	2.31***	—	—	—	0.39***
				(0.54)				(0.05)
Trade openness	—	—	—	-0.19	—	—	—	-0.04*
				(0.12)				(0.02)
FDI	—	—	—	-0.01	—	—	—	-0.01
				(0.01)				(0.01)
Country FE (25)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Economic & political controls	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Other FTA	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Year x Region	No	No	Yes	No	No	No	Yes	No
Observations	222	222	222	222	188	188	188	188

NOTES: The dependent variable is the number of inspectors per million workers in columns 1 to 4, and the number of inspections per 1000 workers in columns 5 to 8. Each cell is a country-year, and the sample covers annual data for twenty-five LAC countries between 2000 and 2012. Robust standard errors clustered by country are in parentheses. The list of economic and political controls is in footnote 21. Columns 3 and 7 include the interaction between year dummies and indicator variables for Central America, the Caribbean, and South America. *Statistically significant at the 10-percent, **5-percent, and ***1-percent levels.

²⁰ Data is from the Organization of American States Foreign trade information system.

²¹ The variables we include are GDP per capita purchasing power parity (PPP), Unemployment rate, Democracy (using the revised combined political score in Marshall and Jagers 2009), and Ideology of the President (using a ordinal scale from “left” [-2] to “right” [2] in Murillo, Oliveros, and Vaishnav 2010). The reasons for including these variables are twofold. First, there is evidence that shows that they are correlated with enforcement of labor law (Ronconi 2012). Second, they could also be correlated with FTA because both signing countries select to enter into the agreement, and that decision is likely to be affected by political and economic conditions in each country.

FTA and inspections: funding allocated by the U.S. for trade capacity building, foreign direct investment and trade openness.²²

Overall, the results indicate that signing an FTA with the United States appears to improve enforcement of labor law both through more inspection resources and a rise in inspection activities. The point estimates are usually statistically significant and they indicate that the increase in the number of inspectors (per million workers) ranges between 9 and 12, and that the effect on inspections (per thousand workers) is roughly 2.5. The magnitude of the effects is substantial. Compared to the average number of inspectors and inspections in the region in the early 2000s (that is, before the signature of FTA), the coefficients imply an approximately 20 percent increase in the number of labor inspectors and a 60 percent increase in the number of inspections.

A potential concern with these results is the unbalanced characteristic of the data. If the reason we have missing data for some countries is not correlated with the idiosyncratic errors (ε_{it}), then the unbalanced panel causes no problem. However, if lack of balance in the panel is not exogenous, then there is a selection bias. We test for selection bias following Wooldridge (2002: 581) and find no evidence that the pattern of missing observations affects the results.²³

The coefficients in columns 1–3 and 5–7 capture the total effect of the FTA on enforcement. But these models do not allow for an analysis of the mechanisms and factors mediating the relationship between these two variables. We attempt to do this in columns 4 and 8. First, the signature of a trade agreement is likely to produce an increase in the amount of funding allocated by the U.S. government for enforcement capacity building in the signing LAC country. This is because labor cooperation and capacity-building activities are explicitly established in the letter of the trade agreements, such as, for example, Article 16.5 and Annex 16.5 of the CAFTA–DR. Moreover, the U.S. government effectively allocated substantially more funds to LAC countries that did sign a trade agreement with the United States compared to those that did not (i.e., an average of US\$5 per worker during 2000–2012 among signers compared to US\$1 among nonsigners), suggesting that funding is endogenous to trade agreements. Second, signing a trade agreement could produce a rise in trade openness, and higher exposure to international competition might induce

²² U.S. funding is the amount of US\$ per worker allocated by different U.S. government agencies for trade-related labor activities from 2000 to 2012 (source: TCB Investment Dashboard, USAID); Trade openness is the share of exports plus imports over GDP; and FDI is the stock of FDI.

²³ Define $s_{it} = 1$ if the number of labor inspectors in country i and year t is observed, and 0 otherwise. The test consists of adding a lagged selection indicator, $s_{i,t-1}$, to the equation, estimating the model by fixed effects, and testing for the significance of $s_{i,t-1}$.

governments to turn a blind eye to labor law violations (Ronconi 2012). But, the trade agreement could also generate an increase in foreign direct investment (FDI), which could lead to higher enforcement if multinational companies pressure the government to hold all companies to the minimum standard so as to even the competitive playing field. Finally, depending on the letter of the agreement, there could be more legal and political pressure to improve enforcement.

Columns 4 and 8 show that the coefficients for the FTA dummies decrease, but not that much after including trade openness, FDI, and funding allocated by the United States for trade capacity building into the regressions. This is consistent with the idea that the letter of the labor provisions in the trade agreement, and the political and legal pressure associated with it, matters (more on this issue below). Second, Latin American countries that receive more U.S. funding for capacity building tend to see an increase in their number of inspectors and inspection activities, as expected. Third, trade openness is negatively associated with inspections, and there is no clear correlation for FDI. Interestingly, however, we find that trade openness rose only slightly in Latin American countries that signed an agreement with the United States compared with those that did not.²⁴ Therefore, the large positive total effect of the FTA on inspection appears to be partially explained by the fact that the trade agreements did not produce a large increase in trade openness in the signing Latin American countries.

There are two additional issues, however, that deserve further discussion. First, as described above, labor provisions have “evolved” over time presenting substantial variation across free trade agreements. Therefore, it is interesting to explore whether FTAs with stronger emphasis on labor enforcement do have a larger impact on inspection. Second, this brings to the discussion the case of Mexico–NAFTA (a “first generation” type of agreement), that was not included in the econometric analysis because it came into effect in 1994 and very little inspection data are available for LAC countries in the early 1990s.

We run the same regression model as before, but including different dummies to distinguish among second, third, and fourth stage agreements, allowing β to vary across stages. Results suggest that in all cases signature of an FTA with the United States had a positive impact on enforcement and that third-stage agreements (i.e., those that state that each party “shall adopt, maintain

²⁴ The average level of trade openness among signers increased from 74 percent of GDP between 2000 and 2003 (before FTA) to 78 percent between 2009 and 2012 (after FTA). For nonsigners, there was a smaller increase from 71 percent to 73 percent. That is, the level of trade openness increased over time only 2 percentage points more in countries that signed a FTA with the United States compared to those that did not.

and enforce” high labor standards) tend to have a stronger impact, although the results are imprecise.²⁵

For Mexico, we were only able to gather data about labor inspections and fines imposed by the federal government in the 1990s, but did not obtain information about inspections by state governments. A simple analysis of the data does not suggest any clear change in Mexico pre–post NAFTA, either when looking only at changes in Mexico over time or when comparing Mexico with Brazil and Chile (the two countries with information about inspections and fines during the 1990s). See Appendix I for more on this. This result is consistent with previous qualitative studies, usually conducted by legal scholars, who argue that NAFTA “has failed to facilitate” enforcement in Mexico (LaSala 2001: 320), although lack of information does not allow reaching strong conclusions (McGuinness 2000).

The NAALC’s more meager effect on enforcement may be attributed to a number of factors. First, this side agreement was crafted to compel members of Congress to pass the FTA and it marked the beginning of the inclusion of labor provisions in U.S. FTAs. As such, there was little precedent or experience with the inclusion of such provisions in trade agreements. Second, the NAALC focused on the signing Party’s domestic law under the purview of its own government, rather than subscribing to international standards.²⁶ Finally, disputes covered only trade-related failures of enforcement, and the complaining country had to demonstrate a “persistent pattern of failure by the Party complained against to effectively enforce its occupational safety and health, child labor or minimum wage technical labor standards.”²⁷ The procedure for convening dispute settlement panels for violation of labor provisions was more complex and laborious than those for other parts of the agreement (Gresser 2010).

Conclusion

This paper analyzes changes in the number of labor inspectors and inspections between 2000 and 2012 in Latin American and Caribbean countries that signed an FTA with the United States compared to those in the region that did not. The results indicate that trade agreements, particularly those with strong

²⁵ The coefficients for labor inspectors are 6.47 (s.e. 6.86) for second-stage, 23.82 (s.e. 11.57) for third-stage, and 9.55 (s.e. 5.20) for fourth-stage agreements; and for inspections: 2.98 (1.46) for second-stage, 5.61 (1.31) for third-stage, and 0.51 (0.95) for fourth-stage agreements.

²⁶ The ILO’s Declaration on Fundamental Principles and Rights at Work did not come about until 1998.

²⁷ NAALC: http://tcc.export.gov/Trade_Agreements/All_Trade_Agreements/exp_005872.asp

labor provisions and resources devoted to trade capacity building, can promote better enforcement of existing labor laws in developing countries. The number of labor inspectors increased, on average, by approximately 20 percent and the number of inspections by 60 percent in countries with a U.S. FTA as compared to the corresponding change in enforcement in nonsigning countries in the region. These results are based on inspection metrics, which admittedly are a noisy proxy of enforcement. The qualitative evidence based on case studies of the region, however, also suggests that signing an FTA with the United States produced more enforcement, and that the improvement can be attributed to increases in the budget allocated to inspection agencies, training of labor inspectors, new computers, vehicles and case management systems, and the reclassification of labor inspectors into the career service.

These results do not cover the changes in enforcement that occurred in Mexico at the time of NAFTA. Yet, as discussed above, previous studies as well as our own back-of-the-envelope calculations suggest that NAFTA did not have a visibly positive effect on labor enforcement in Mexico. Which factors, then, could explain the heterogeneous effects of U.S. trade agreements on labor inspection in Latin America? We hypothesize that differences in the letter of the agreements itself partially account for them. While in NAFTA the labor side agreement states that each party “shall ensure that its labor laws and regulations provide for high labor standards,” subsequent agreements (such as the U.S.–Peru or U.S.–Panama FTA) state in the trade agreement itself that each party “shall adopt, maintain and enforce” high labor standards. Presumably more important, however, was that after NAFTA, the U.S. government and U.S. Congress put more pressure and devoted more resources toward improving labor inspections in the signing LAC countries.

Overall, the evidence we find suggest that labor provisions in free trade agreements and resources devoted to trade capacity building matter. Although robust provisions in FTA are by no means a one shot explanation for variation in labor inspection across Latin American countries, they can go some way toward providing the appropriate incentives, oversight, and capacity building assistance to garner the necessary political will and bolster a country’s ability to effectively enforce its labor laws.

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APPENDIX I

The figures below show, first, that the number of federal inspections per worker in Mexico experienced a small reduction after 1994 of similar magnitude (in percentage terms) as the reduction that occurred in Brazil during the same period, but very different from the substantial increase in inspections observed in Chile. Second, the number of labor fines imposed by the federal government in Mexico increased after signing NAFTA in 1994 (although from a very low starting point of only two fines per one million workers), while in Brazil fines fluctuated around sixteen fines per million workers. Overall, these results suggest that, contrary to the trade agreements signed during the last decade, NAFTA did not have a noticeable positive effect on enforcement in the signing Latin American country.

FIGURE A1

EVOLUTION OF LABOR INSPECTIONS PER 100,000 WORKERS IN MEXICO (FEDERAL GOVERNMENT ONLY), BRAZIL AND CHILE, FROM 1990 TO 1999

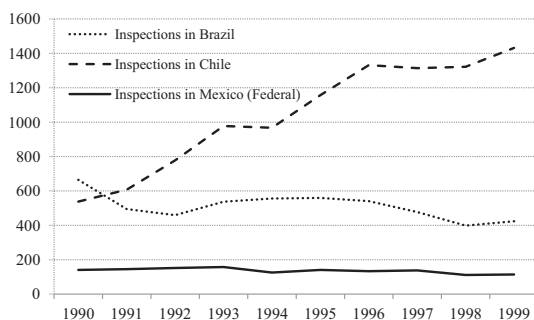
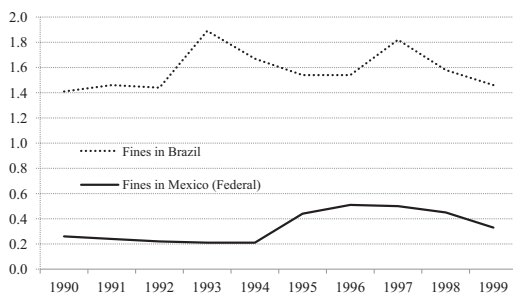


FIGURE A2

EVOLUTION OF LABOR FINES PER 100,000 WORKERS IN MEXICO (FEDERAL GOVERNMENT ONLY) AND BRAZIL, FROM 1990 TO 1999



APPENDIX II

ALTERNATIVE ESTIMATES OF THE STANDARD ERRORS

	DV = Labor Inspectors				DV = Labor Inspections			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
FTA with U.S.	11.49	9.48	11.86	9.34	3.43	3.02	2.80	2.62
Standard errors								
Default	5.50	5.47	5.91	5.54	0.70	0.71	0.73	0.73
Cluster robust	5.79	5.31	5.74	5.74	1.16	1.18	1.34	1.27
Bootstrap	5.83	5.70	6.54	6.48	1.27	1.19	1.39	1.37
Jackknife	6.12	6.29	7.24	7.06	1.27	1.38	1.75	1.50
Fixed effects (25)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	222	222	222	222	188	188	188	188

NOTES: The table presents the same specifications as in Table 3. The bootstraps use 400 replications.