

Grupo 5: Políticas sociales, laborales y de seguridad social

Globalización, instituciones locales y la inspección del trabajo: Evidencia en América Latina

Globalization, Domestic Institutions and Enforcement of Labor Law: Evidence from Latin America

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Resumen:

El trabajo presenta nuevas medidas de inspección laboral en América Latina y explora como ésta se ve afectada por factores externos y domésticos. Utilizando un panel de períodos presidenciales para 18 países de América Latina entre 1985 y el 2009, encuentro que la apertura comercial tiene un efecto negativo sobre la inspección laboral y que los partidos de izquierda son más propensos a incrementar la inspección laboral cuando están en el poder. También hay evidencia de que los países que reciben mayor inversión extranjera directa son más propensos a realizar inspecciones laborales, aunque este último resultado es más impreciso.

This paper provides new measures of government enforcement of labor regulations in Latin America and explores how it is affected by external and domestic factors. Using a panel of presidential terms in 18 Latin American countries between 1985 and 2009, I find that trade openness has a negative effect on inspection resources and activities, and that parties on the left of the political spectrum increase enforcement when they are in power. I also find that FDI penetration has a positive effect on inspection activities, but the relation is more imprecise.

1. Introduction

Most developing countries have extensive labor regulations, but there is widespread concern that these regulations are not fully enforced. How many resources and effort do developing countries devote to enforce their labor laws? Do we observe changes over time? Which factors explain enforcement? Does economic globalization produce a race to bottom, wherein governments reduce enforcement in order to compete and attract foreign capital? Does enforcement respond to the demands of local interest groups and their elected representatives? Despite the importance of these questions little empirical research is available.

This paper presents new measures of government enforcement of labor regulations for 18 Latin American countries from 1985 to 2009, and empirically explores how international and domestic factors shape enforcement in the region. Enforcement plays an important role according to several literatures as described below, but lack of data has so far prevented testing these theories. This paper attempts to contribute towards filling this gap.

There is debate whether economic globalization improves labor standards in developing countries. Neumayer and Soysa (2006) find that countries that are more open to trade have fewer collective labor rights violations, while Mosley and Uno (2007) find the contrary effect, although they also find that foreign direct investment (FDI) inflows are negatively associated with violations. The “racing to the bottom” or “climbing to the top” debate is in part about how governments in developing countries react to the competitive pressure and the dislocation effects of globalization. Do they turn a blind eye to labor regulations in order to reduce labor costs, and hence remain competitive and retain or attract FDI? Or do they increase enforcement in order to expand the coverage of the employment protection system, and hence compensate workers for the uncertainties and dislocations produced by globalization? Do multinational corporations induce governments to improve the rule of law? While it seems apparent that globalization has altered the margins of choice available to governments, we still know little about how it has affected a key policy instrument: labor inspections. I find that trade openness has a negative effect on government enforcement resources and activities and FDI has a positive impact on inspections, although the latter result is more imprecise. These results suggest that government enforcement is an important factor mediating the relationship between economic globalization and working conditions.

Enforcement is likely to be affected not only by external, but also internal factors. Furthermore, recent studies of labor regulation in developing countries stress the importance of domestic variables. Political scientists show that political legacies, local interest group and their elected representatives played a key role in shaping labor codes in the region (Botero et al. 2004; Cook 2007; Murillo 2005; Murillo and Schrank 2005). A principal finding is that parties on the left of the political spectrum are more likely to introduce pro-labor legislation when in power in order to keep labor supporters despite the external pressures towards deregulation. This literature has made an important headway in understanding labor law but it has not analyzed enforcement. This is a shortcoming given the low levels of compliance with labor regulations in the developing world. Partisanship and interest group theory is based on the effective treatment a group receives rather than in-form benefits. Clearly, employees would benefit little from a new law that increases severance pay if employers do not comply. Therefore, testing the relevance of partisanship politics and interest group theory requires analyzing both laws and enforcement. Do left-leaning governments effectively increase enforcement? Or do they only focus on introducing in-form benefits which are more visible to the electorate? I find that left-oriented governments are more likely to increase enforcement, and this finding is robust to different measures of government enforcement and the inclusion of alternative controls.

Other domestic factors could also affect enforcement. If the primary objective of enforcement agencies is deterrence (Garvie and Keeler, 1994), then we should expect more enforcement when there is lower compliance with regulations. But, if the goal is social welfare maximization (Polinsky and Shavell, 2000), and if enforcement produces some informal job destruction, then enforcers could reduce inspections when unemployment is high even if compliance is low. The degree of urbanization could also affect enforcement resources, since it takes more time to enforce regulations in economies with higher spatial decentralization. Several studies show the relevance of the “task environment” to explain enforcement behavior (Kagan 1989; Scholz and Gray 1997). But these studies focus on developed countries, which tend to have more professional and independent bureaucracies compared to developing countries. Whether these factors affect enforcement in developing countries is still an open question.

This paper explores how political and economic factors, both international and domestic, shape government enforcement of labor regulations in 18 Latin American countries: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay and Venezuela. The first challenge is to adequately measure enforcement. In the next section I present a number of new measures and discuss their strengths and limitations. I describe the research design, present results, and discuss the implication of the findings in the final section.

2. Measuring Inspection Resources and Activities

There is no single source of information to measure labor inspection agencies' resources and activities in Latin America. Therefore, I compiled data and statistics from ministries websites, newspapers, reports produced by the ILO, the US Department of Labor, the US State Department, and a survey of country experts in an effort to build the most comprehensive dataset possible.¹ This dataset is an updated version of the data in Murillo, Ronconi and Schrank (2009).

The collected information is mainly quantitative, but in some cases qualitative, and includes several measures of enforcement resources and activities. Data about resources usually refers to the number of inspectors who are responsible for enforcing any type of labor regulation in the country, i.e., general labor inspectors. In some cases, however, the available data refers to the number of inspectors enforcing a specific regulation, e.g., child labor, or covering a specific geographic area. There is very little information about the education and wages of inspectors, or about other inspection resources such as computers and vehicles. Data about activities usually refers to the total number of inspections conducted per year, but for some countries the available figures are for the number of fines imposed or the number of workers covered in the inspections. Little information is available about the amount of fines imposed or whether those fines are effectively collected.

To construct measures of enforcement I use the presidential term as the unit of analysis. I exclude dictators and presidents who were in power for twelve months or less. Based on these criteria there are a total of 102 presidential terms in the 18 Latin American countries between 1985 and 2009.

I begin with a variant of the ILO's standard enforcement indicator: the ratio of labor inspectors to the economically active population (EAP). *Inspectors_i* is defined as the ratio between the average number of general labor inspectors during presidential term *i* over the average EAP (in millions) during the same period. Second, I define *Inspections_i* as the ratio between the average number of inspections conducted per year during *i* over the average EAP (in thousands). In some cases the available data covers all years of the presidential term. When the data covers only a fraction of the term, I assume that the value of the unobserved years equals the average value of the observed years.

The advantages of these two measures are their usefulness to make comparisons both across and within countries over time, and the fact that they provide a quantitative measure of enforcement resources and activities. An important limitation, however, is their low coverage. The data covers 64 of the 102 presidential terms for *Inspectors* and 41 for *Inspections*. Furthermore, these two measures exclude a fraction of the quantitative data collected (for instance, data on provincial inspectors or on the number of fines imposed), and all the qualitative information obtained in the survey. Therefore, I construct a third measure – *Enforcement Index*– which is an ordinal variable that ranks the presidential terms in each country using all the collected information. It is constructed as follows: First, I use the available data on enforcement activity (whether it is inspections, fines imposed or workers covered in the inspections). The presidential term with the lowest level of activity receives a value equal to zero; the presidential term with the second lowest level of activity receives a value equal to one, and so on. Then, I fill the empty cells with data on enforcement resources and the qualitative information.ⁱⁱ The same procedure is applied to each country. After following this procedure, I obtain a measure of enforcement for 88 out of the 102 presidential terms.

The *Enforcement Index* is unbalanced over time. It is available for less than half of the presidential terms that took place in the late eighties (7 out of 16), for almost 90 percent of the terms in the nineties (37 out of 42), and for all the terms in the 2000-2009 period (44 out of 44). It is also unbalanced across countries. As shown in table 1, data is available for every presidential term in Argentina, Bolivia, Chile, Dominican Republic, Guatemala, Mexico, Panama, Paraguay, Peru and Uruguay. However, it only covers three out of six presidential terms in Colombia and four out of eight in Ecuador.

<Table 1>

Table 1 also presents the average value of *Inspectors* and *Inspections* for each country during 1985-2009. Panama with 67.3 inspectors per million EAP presents the highest value and Venezuela with 7.8 the lowest. Resources in most countries fall below the threshold recommended by the ILO Committee of Experts on the Application of Conventions and Recommendations (CEACR),ⁱⁱⁱ and are usually low compared to European countries but high relative to developing countries in Africa and Asia for which data is available.^{iv} Latin American countries with more inspectors tend to conduct more inspections, although the correlation is moderate (0.4 in the sample). Dominican Republic has the highest value of inspections per EAP, and Colombia and Paraguay the lowest.

Table 2 presents the evolution of enforcement over time for each country. Panel A shows the average number of inspectors by decade and panel B the average number of inspections. No clear pattern emerges on the evolution of enforcement resources and activities over time in the region because there is large heterogeneity across countries. In Argentina and Uruguay –the only two countries for which data about resources in the late 1980s is available- the number of inspectors decreased during the 1990s and increased in the 2000s. There also was an increase in enforcement resources between the 1990s and 2000s in Colombia, Guatemala, Panama and Peru; and a reduction in Bolivia, Brazil, Costa Rica, Ecuador, Honduras, Mexico and Paraguay. Enforcement activities increased between the 1990s and 2000s in Argentina, Chile, Colombia, El Salvador, Nicaragua and Uruguay; and decreased in Brazil, Costa Rica and Mexico.

<Table 2>

Another salient feature of the data is the magnitude of the changes. The median increase in the number of inspectors per worker between the 1990s and 2000s is 61 percent and the median reduction is 34 percent. This variation is large compared to changes in public employment in the region. Between 1995 and 2005, the median increase in total public employment per worker is 11 percent and the median reduction is 14 percent. These figures suggest that enforcement is quite volatile. I discuss next which factors could explain these variations.

3. External and Domestic Determinants of Enforcement

A number of studies describe the institutional features of labor inspection in Latin America, how agencies are administratively organized, their powers, the duties of labor inspectors, and other legal issues.^v Labor inspection is usually organized as a ministerial department under the authority of the labor ministry. The executive power has large control over the resources. Contrary to what is observed in the United States, Congress has little influence over inspection agencies in Latin America.^{vi}

The executive power is likely to have more control over inspection resources relative to inspections activities since it is costly to monitor the behavior of labor inspectors. Moreover, Piore and Schrank (2008) argue that the model of inspection in the Latin world gives more discretion to inspectors relative to their counterparts in the United States. This suggests that the preferences of inspectors are likely to play a role in explaining enforcement activities. But the greater latitude of inspectors in Latin America could be more apparent than real because in many cases they do not have job security, and hence have incentives to follow the instructions of their bosses who are political appointees. Therefore, I expect that the executive power is the main domestic political institution determining both inspection resources and activities.

Whether the government enhances the labor inspectorate depends on a number of external and local factors. Exposure to international markets has increased significantly in Latin America during the analyzed period. Exports increased from 16 percent of GDP in 1985 to 23 percent in 2008, and imports increased from 12 percent to 24 percent during the same period. The penetration of FDI also experienced a significant increase in the region. In South America it grew from 10 percent of GDP in 1985 to 22 percent in 2008 and in Central America from 6 to 32 percent. Economic globalization can induce governments to engage in a “race to the bottom” in labor standards because low domestic labor costs are central to compete and increase export share. Governments can reduce the stringency of labor standards either by reforming labor codes or by turning a blind eye to noncompliance. I argue that the latter is a politically preferable option for the incumbent government because it is less visible to the electorate, and hence, expect that more exposure to trade reduces the stringency of labor standards via lower enforcement. Empirical studies in Latin America do not find any significant effect of trade openness on the likelihood of labor law deregulation (Murillo, 2005; Murillo and Schrank, 2005), but we still know little about the impact of trade on enforcement.

To test this hypothesis I use the ratio of the sum of exports and imports to GDP as the measure of *Trade Openness* using data from World Development Indicators.

Economic globalization can also affect enforcement via the penetration of FDI. Multinational corporations (MNCs) can press governments to improve the rule of law, but it is likely that they will do it in a selective manner. If their local competitors are noncompliers, MNCs will benefit if the government enforces labor regulations in those firms. But if MNCs' local suppliers are noncompliers, they have an economic incentive to press the government for turning a blind eye in order to keep the cost of their inputs low. I use the stock of FDI to GDP (*Stock FDI*) to test whether MNCs shape enforcement using data from UNCTAD.

The strategies adopted by the government also depend on the balance of power among domestic interest groups and party organization, and the means citizens have to hold the government accountable. Latin American political scientists have shown that parties on the left of the political spectrum are more likely to introduce pro-labor legislation when in power in order to keep labor supporters and reinforce partisan affinities. This evidence is consistent with the idea that regulation responds to the demands of the government's constituent base. Because workers care about rules-in-use rather than rules-in-form, and given the low levels of compliance in the region, it is necessary to also explore whether partisan links affects enforcement. To capture *Executive Ideology* of the government, the administrations are coded on an ordinal scale from "left" (-2) to "right" (2), with "center-left", "center" and "center-right" in between. The data is from Murillo, Oliveros and Vaishnav (2010), based on an updated version of Coppedge's coding.

Labor unions in Latin America are relatively weak, particularly in the private sector. They are usually organized by sector of economic activity or by firm, and they do not represent the large informal sector (Murillo, 2001). Therefore, they are more likely to lobby the inspection agency to focus on their own sectors than pressing for an overall increase in enforcement. Bensusán (2006) argues that labor unions have done very little to increase enforcement in the region, but this is an under researched area (Murrillo and Schrank, 2009). Labor union strength, however, could be negatively correlated with enforcement because the government may deem less necessary to devote resources to inspection activities when labor unions already ensure vigilance of labor standards at the workplace. Lack of disaggregated enforcement data prevents testing the impact of labor unions on the distribution of inspection

resources and activities across sectors or firms; and testing the impact of organized labor on the overall level of enforcement is complicated due to the lack of reliable indicators of labor union strength. I use a proxy of *Union Density*, which is obtained by combining a number of sources.^{vii}

To test whether the level of democracy is associated with government enforcement, I use the revised combined polity score from Marshall and Jaggers (2009) as a measure of *Democracy*. This variable ranges from 10 (full democracy) to -10 (full autocracy), and reflects the following traits: the competitiveness of political participation, the regulation on participation, the openness and competitiveness of executive recruitment, and constraints on the chief executive. I expect that workers are more effective in political systems where participation is unrestricted, open and fully competitive; where constraints on the chief executive are substantial; and where executive recruitment is elective.^{viii}

As controls, I include the *Unemployment Rate* obtained from ILO Laborsta, the share of the population living in urban areas (*Urbanization Rate*) and the Gross National Income per capita (*GNI per capita*) PPP international US\$ dollars, both obtained from World Development Indicators. Table 3 presents basic statistics.

<Table 3>

Figure 1 illustrates the relationship between *Executive Ideology* (on the horizontal axe) and the *Enforcement Index* (on the vertical axe). The figure is obtained using the 88 presidential terms for which quantitative and qualitative data about enforcement is available, and the size of the bubble represents the number of administrations in each category. There is a clear negative association. Presidential terms characterized as left-leaning have higher levels of enforcement.

<Figure 1>

Figure 2 is a scatter plot of *Trade Openness* (on the horizontal axe) and *Inspectors per million workers* (on the vertical axe). Using the entire sample suggest a positive correlation as the linear trendline shows; that is, the higher the level of trade openness, the higher the level of enforcement resources. There are a number of reasons why this correlation cannot be interpreted as a causal effect of trade openness on enforcement. One reason is omitted variable bias. Smaller countries, for example, are more likely to have a larger share of trade to

GDP and also more inspectors per worker due to economies of scale. This problem can be partially overcome by analyzing the evolution of trade and enforcement over time within countries. Actually, a different picture emerges when comparing the evolution within countries. In Brazil, Costa Rica, Honduras, Mexico and Paraguay the increase in trade is associated with a reduction in enforcement, although in Argentina and Peru the opposite occurs, and there is no clear pattern for the other countries.

<Figure 2>

4. The Model

The generic version of the model is:

$$Y_i = \beta \text{Ideology}_i + \gamma \text{Trade Openness}_i + \delta \text{FDI Stock}_i + \mathbf{X}_i\theta + \alpha D + \lambda T + \varepsilon_i \quad , \quad (1)$$

where Y_i is a measure of government enforcement of labor regulations during administration i , \mathbf{X} is a vector of controls, i.e., democracy, unemployment, GNI per capita, union density and urbanization, D is a set of country dummies or fixed effects, and T is a vector of decade effects. The coefficients β , γ and δ capture the effect of ideology, trade and FDI on enforcement.

Because enforcement can affect the economic variables on the right hand side of the equation, the model includes a lagged level of trade openness, FDI, unemployment, urbanization and union density. This lagged level is equal to the value adopted by the variable the year before the president began her/his term. For example, the corresponding value of *Trade Openness* for President Evo Morales, who took power in January 2006, is the ratio of exports plus imports over GDP in 2005. The coefficients are estimated using OLS when the dependent variable is either *Inspectors* or *Inspections* and using the ordered logit model for *Enforcement Index*.

5. Results

I begin estimating equation (1) without including country fixed effects. Column 1 in Table 4 presents the result for *Inspectors*, column 4 for *Inspections* and column 7 for the *Enforcement Index*. There is a negative association between the ideology of the government and

enforcement and a positive association between trade and enforcement resources as figures 1 and 2 above suggest.

Columns 2, 5 and 8, present the results including country fixed effects. While this method only uses variation within countries over time as the source of identification, it is more robust since it provides consistent estimates in the presence of unobserved heterogeneity.^{ix} The results do confirm that governments on the left are more likely to increase enforcement than governments on the right of the political spectrum.

Trade openness, on the other hand, becomes negatively and statistically significant correlated with both enforcement resources and activities. This suggests that when trade represents a larger share of total production, governments are more likely to turn a blind eye to noncompliance with labor standards.

Penetration of FDI is positively correlated with inspection activities, but only at the 0.10 level of significance. The remaining covariates usually have the expected sign. Enforcement tends to increase as countries become more democratic, richer, less urbanized and when organized labor is stronger.

<Table 4>

These estimates are obtained using an unbalanced panel. The variable *Inspectors* is available for 64 out of the 102 presidential terms, *Inspections* for 41, and the *Enforcement Index* for 88. If the missing observations are systematically related to the response variable, then the estimates would be biased. I test for selection bias following Wooldridge (2002:581), and find no evidence that the pattern of missing observations affects the results.^x

Finally, columns 3, 6 and 9 present additional estimates aimed at checking the robustness of the results to alternative specifications. The quality of the measures of enforcement is likely to vary across presidential terms due to unobserved years. For example, the collected data covering the second Menem administration in Argentina (1995-1999) only includes the number of labor inspectors in a single year, while there is data for every year of Kirchner's administration (2003-2007). Hence, the variable *Inspectors* is more reliable for the Kirchner compared to the Menem administration. To account for potential differences in the quality of the measures of enforcement, I weight the regression models by the number of observations used to calculate the average serving as the dependent variable.

Overall, the results change little. The effect of trade openness and right-oriented governments on enforcement resources and activities remains negative and statistically significant showing the robustness of the results to alternative statistical assumptions. The impact of FDI on the enforcement index becomes positive and significant. These results suggest that the observed variety of effects of globalization on working conditions found by Mosley and Uno (2007) – that is, FDI penetration improves and trade openness worsens labor rights– are in part due to how governments change enforcement in response to international competition.

6. Conclusion

This paper presents new measures of government enforcement of labor regulations in Latin America from 1985 to 2009. The data shows that most countries in the region fall below the inspector per worker threshold recommended by the ILO, and that there is no clear trend in enforcement in the region during the analyzed period due to large heterogeneity across countries. The paper then explores how external and domestic factors shape enforcement. I find that more trade openness and less FDI are associated with less enforcement, and that left-oriented governments and more democratic governments tend to increase enforcement. Because the results are obtained analyzing changes within countries over time, I am more confident that they capture a causal effect. These results are consistent with the idea that governments react to the competitive pressures produced by trade opening by turning a blind eye to noncompliance with labor regulations, but increase enforcement in response to pressures from foreign investors who seek to avoid competition from local non-compliers. The results also suggest that the government reacts to the demands of their constituent base to keep their support and reinforce partisan affinities, and that workers are more effective in more democratic systems.

The data in this paper measures the overall level of enforcement resources and activities by presidential term. Such a level of aggregation does not allow testing a number of hypotheses. First, MNCs are more likely to lobby over the distribution of inspection resources and activities rather than the overall level. Furthermore, because Latin American countries do not have encompassing labor unions and business associations, these domestic interest groups are also more likely to focus on the distribution of enforcement. Hence, analyzing the distribution of inspections by economic sector of activity or firm would allow a deeper comprehension

about the influence of these actors.^{xi} Second, the dataset contains no information regarding styles of inspection. Piore and Schrank (2008:4) argue that there is a Latin model of inspection, more pedagogical than adversarial compared to the United States; inspectors in Latin American “hope to coach, coax and, only occasionally, coerce firms into compliance with the letter and spirit of the law.” According to Bensusán (2007), until the nineties most countries in the region pursued a punitive strategy to increase compliance, while nowadays most countries put more emphasis on educational and prevention activities. An open question is whether this change in inspection style is a reaction to the pressures of economic globalization. Third, the available data tells little about the efficiency and equity of the enforcement service. Workers would gain little if inspectors are inoperative, corrupt, or if they only inspect firms that are already in compliance. Although there are accusations against corrupt labor inspector in most countries in the region, Piore and Schrank (2008) find that corruption among Latin American labor inspectors is less common than is generally believed. Finally, much could be gained by analyzing a longer period. This paper focuses on the last two decades, but government inspection agencies have been created at the beginning of the twenty century in most Latin American countries.^{xii} Exploring which factors influenced their creation, and how they have been affected by the large economic and political changes experienced in the region, would provide a better understanding of the determinants of enforcement of labor regulations.

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Tables and Figures

Table 1 – Measures of enforcement resources and activities in 18 Latin American countries between 1985 and 2009

Country	No. presidential terms	No. of presidential terms where <i>Enforcement Index</i> is observed	No. of Inspectors per million workers	No. of Annual Inspections per thousand workers
Argentina	7	7	15.4	3.8
Bolivia	6	6	10.3	-
Brazil	6	5	37.0	4.3
Chile	4	4	52.6	13.7
Colombia	6	3	14.4	0.3
Costa Rica	6	4	55.6	6.3
Dominican Rep.	6	6	54.8	17.7
Ecuador	8	4	10.8	-
El Salvador	6	5	37.2	5.1
Guatemala	6	6	53.9	1.7
Honduras	6	5	42.6	4.2
Mexico	5	5	8.3	1.1
Nicaragua	5	4	40.6	1.1
Panama	4	4	67.3	5.5
Paraguay	5	5	25.1	0.3
Peru	5	5	14.6	7.3
Uruguay	5	5	58.5	3.2
Venezuela	6	5	7.8	-
Observations	102	88	64	41

Table 2 –Inspection resources and activities, by country and decade

Country	Panel A			Panel B		
	Inspectors per million workers			Inspections per thousand workers		
	Late 1980s	1990s	2000s	Late 1980s	1990s	2000s
Argentina	17.3	7.7	22.3	-	1.3	5.0
Bolivia	-	22.3	4.3	-	-	-
Brazil	-	42.0	33.7	-	5.2	3.7
Chile	-	-	52.6	-	10.0	17.4
Colombia	-	13.9	14.7	-	0.3	0.4
Costa Rica	-	64.5	46.7	-	8.1	5.4
Dominican Rep.	-	55.0	54.8	-	-	17.7
Ecuador	-	17.5	8.6	-	-	-
El Salvador	-	-	37.2	-	1.8	6.2
Guatemala	-	31.0	61.5	-	-	1.7
Honduras	-	48.7	36.6	-	-	4.2
Mexico	-	10.4	6.2	-	1.3	0.7
Nicaragua	-	-	40.6	-	0.7	1.3
Panama	-	64.6	68.7	-	-	5.5
Paraguay	-	32.3	17.9	-	0.3	-
Peru	-	8.8	20.4	-	-	7.3
Uruguay	56.2	52.8	65.5	-	2.7	3.6
Venezuela	-	-	7.8	-	-	-

Table 3 – Basic statistics

Variable	Mean	Overall Std. Dev.	Within country Std. Dev.	No. of observations
Inspectors per million workers	34.4	21.2	7.8	64
Inspections per 1,000 workers	5.0	5.0	1.9	41
Enforcement Index	1.4	1.2	1.1	88
Executive Ideology	0.2	1.3	1.1	102
Trade/GDP	58.3	30.9	13.7	102
FDI Stock	19.4	15.3	10.2	102
Democracy	7.4	2.2	1.7	102
Union Density	17.5	9.9	4.8	102
Unemployment Rate	8.6	4.4	2.7	102
Urbanization Rate	65.3	15.4	3.9	102
GNI per capita	5,701	2,399	776	102

Table 4 – Determinants of Government Enforcement of Labor Regulations in 18 Latin American countries, 1985-2009

	Inspectors per million workers			Inspections per thousand workers			Enforcement Index		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Executive ideology	-3.73** (1.85)	-3.92*** (1.04)	-3.26*** (0.98)	-0.81 (0.52)	-0.92** (0.44)	-0.67* (0.39)	-0.49** (0.22)	-0.79*** (0.27)	-0.87*** (0.30)
Trade/GPD	0.18* (0.11)	-0.19** (0.09)	-0.20** (0.09)	0.01 (0.04)	-0.12** (0.05)	-0.10* (0.06)	-0.001 (0.01)	-0.01 (0.02)	-0.02 (0.02)
FDI stock	-0.21 (0.19)	0.10 (0.13)	0.08 (0.12)	0.09 (0.07)	0.11* (0.06)	0.12 (0.07)	-0.01 (0.02)	0.04 (0.04)	0.09* (0.05)
Democracy	5.28*** (1.40)	2.87** (1.34)	2.34* (1.40)	0.40 (0.33)	0.92 (0.55)	1.02 (0.62)	-0.01 (0.08)	0.12 (0.18)	0.29 (0.19)
Union Density	0.12 (0.29)	0.43 (0.48)	0.32 (0.47)	0.01 (0.10)	0.30* (0.17)	0.36* (0.20)	0.04 (0.02)	0.04 (0.08)	0.14 (0.12)
Unemployment	0.56 (0.64)	0.49 (0.38)	0.45 (0.42)	0.22 (0.33)	0.14 (0.14)	0.25 (0.22)	-0.013 (0.054)	-0.08 (0.14)	-0.02 (0.16)
Urbanization	-0.47 (0.45)	-1.84*** (0.66)	-1.88*** (0.64)	-0.11 (0.10)	-0.17 (0.33)	-0.01 (0.34)	0.02 (0.06)	-0.13 (0.15)	-0.35* (0.18)
GNI per capita	0.001 (0.002)	0.003 (0.002)	0.003 (0.002)	0.001 (0.001)	0.002** (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001* (0.001)
Decade fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	No	Yes	Yes	No	Yes	No	No	Yes	Yes
Observations	64	64	64	41	41	41	88	88	88

Notes: Robust standard errors in parentheses. Coefficients in columns 1 to 6 are estimated using OLS, and in columns 7 to 9 using the ordered logit model. Columns 3, 6, and 9 are weighted by the number of observations used to construct the dependent variable.

* Significant at the 0.1 level, ** at the 0.05 level, *** at the 0.01 level.

Figures

Figure 1 – Relationship between Ideology of the Government and Enforcement, 18 Latin American countries, 1985-2009

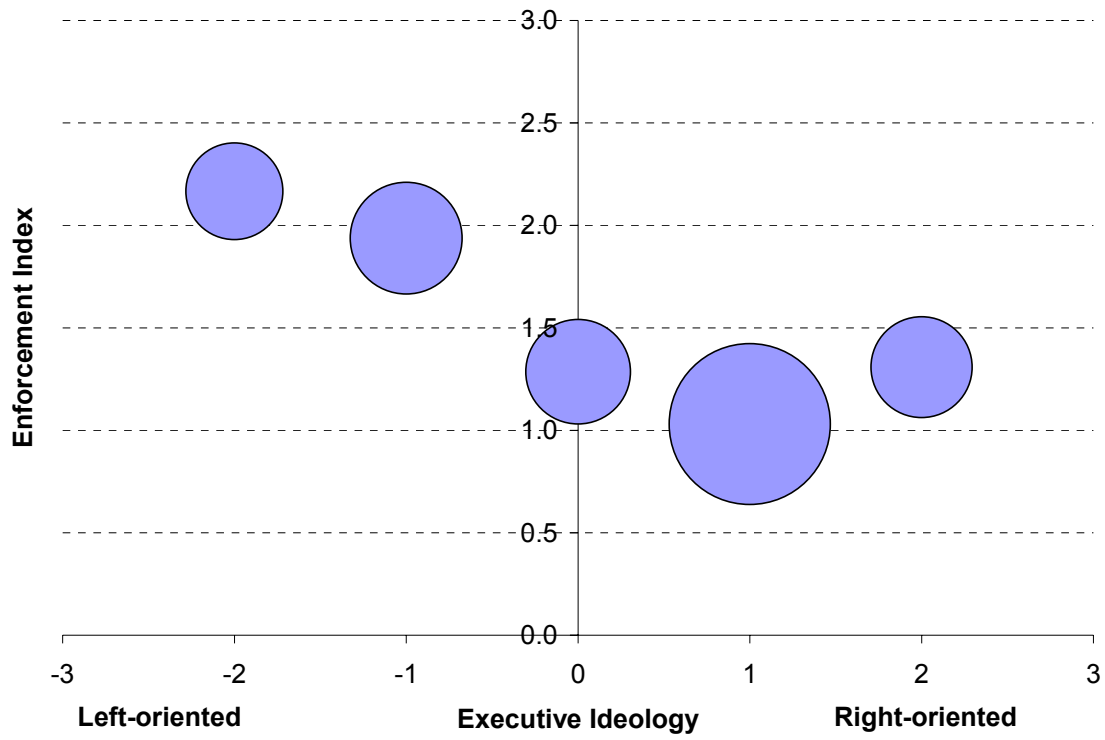
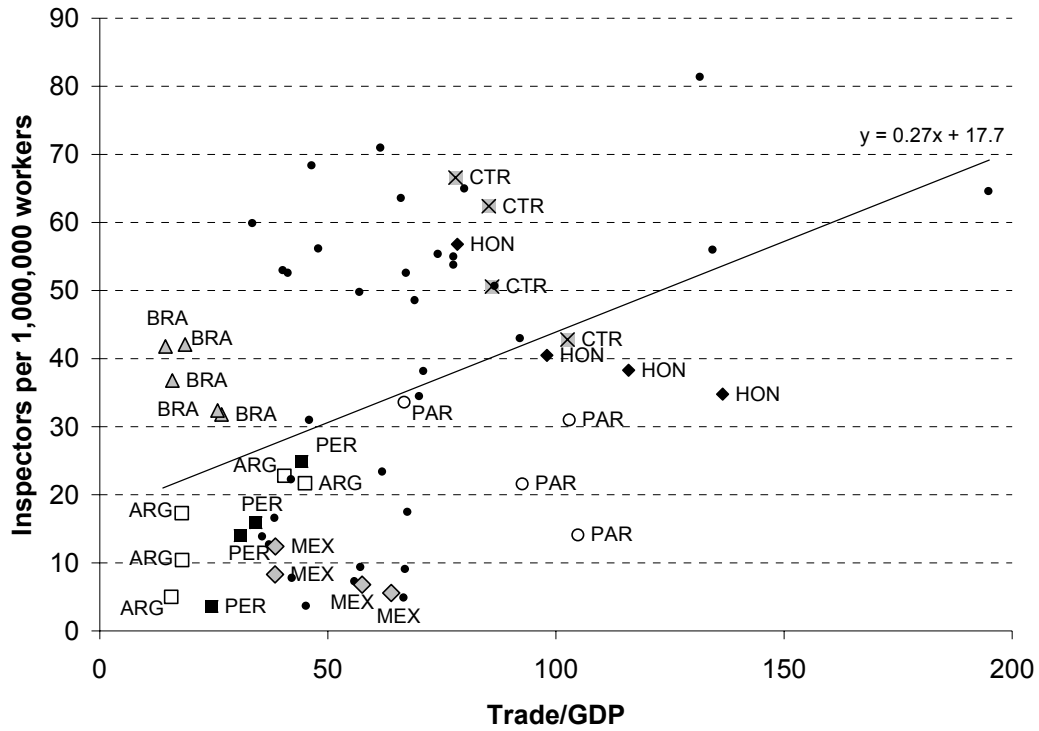


Figure 2 – Relationship between Trade Openness and Enforcement Resources, 18 Latin American countries, 1985-2009



ⁱ The survey was conducted between March and June 2009. Country experts from the 18 countries were asked to rank administrations based on the resources devoted to enforce labor regulations. Responses were received from 11 countries (Argentina, Bolivia, Brazil, Colombia, Guatemala, Nicaragua, Mexico, Paraguay, Peru, Uruguay and Venezuela).

ⁱⁱ There are a few cases of conflicting information. I rank the Morales administration in Bolivia above the Sánchez de Lozada administration because there was a 30 percent increase in the number of inspectors per worker, although the country expert from Bolivia suggests that there was no change between them. I rank the Colom administration in Guatemala above the Berger administration because the number of inspections per worker almost doubled, although there was a reduction in the number of inspectors per worker as mentioned by the country expert. I rank the Kirchner administration in Argentina above the Fernandez because the annual number of firms inspected decreased, although the country expert suggests an increase in the number of inspectors. Finally, I rank the Lugo and the Frutos administrations in Paraguay in the same position because the reduction in the number of inspectors occurred due to firing corrupt inspectors.

ⁱⁱⁱ The number of labor inspectors in relation to workers should approach the following: 100 inspectors per million workers for industrial market economies, 67 for rapidly industrializing economies and 25 for least developed countries (ILO, 2006).

^{iv} Based on the figures in ILO (2006), the number of labor inspectors per million EAP is 104 in Bulgaria, 207 in Greece, 250 in Denmark, 12 in Cameroon and 6 in Philippines.

^v For a comparison across-countries see Jatobá (2002), Bensusán (2007), and Vega Ruiz (2009). For country-specific studies see Bensusán (2006) and Romero Gudiño (2008) for Mexico, Cardoso and Lage (2006) for Brazil, Godinez Vargas (2008) for Costa Rica, Marin Boscan (2008) for Venezuela, Molina (2008) for Colombia, Ortega Castillo (2008) for Nicaragua, Topet (2008) for Argentina and Ugarte Cataldo (2008) for Chile.

^{vi} See Scholz (1991) for an analysis of the role of Congress on OSHA.

^{vii} *Union density* is constructed as follows: First, I use the data from the ILO Laborsta. Then, I fill the empty cells using Forteza and Rama (2006), Saavedra and Torero (2002), Cortazar (1997), Feldman (1991), Cassoni,

Labadie and Fachola (2002). Finally, I assume that the missing value in year t is equal to the average value between $t-1$ and $t+1$.

^{viii} Bensusán (2007) argues that military regimes produced a deterioration of government inspection in Latin America during the eighties, although she does not provide any quantitative evidence. Jatobá (2002) points out that the return to democracy in Chile in 1990 produced a large increase in labor inspection resources. The sample in this paper excludes dictators, and hence, the analysis is restricted to a comparison between elected governments with different levels of democracy.

^{ix} This is particularly important for several reasons: First, the cross-country variation in the *Enforcement Index* (an ordinal ranking) makes little sense. Second, larger countries –due to economies of scale– are likely to have less open economies and fewer inspectors per worker. Third, each country could use a different methodology to count inspections.

^x Define $s_{j,i} = 1$ if the dependent variable in country j during presidential term i is observed, and zero otherwise. The test consists of adding a lagged selection indicator, $s_{j,i-1}$, to the equation, estimating the model by fixed effects, and testing for the significance of $s_{j,i-1}$.

^{xi} Mosley (2008) highlights the importance of analyzing not only the levels, but also the composition of FDI and trade.

^{xii} Argentina in 1912, Uruguay in 1913, Chile in 1919, Peru in 1920, Brazil in 1921, Colombia and Panama in 1923, Bolivia in 1924, Ecuador and Guatemala in 1926, Dominican Republic and Mexico in 1930, Venezuela in 1936, Nicaragua in 1945, El Salvador in 1946, Costa Rica in 1949 and Honduras in 1959 (Romero Gudiño, 2008; Ortega Castillo, 2008; Godinez Vargas, 2008).