

**Explaining non-compliance with  
labour legislation in Latin America:  
Adriana Marshall A cross-country analysis**



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International Institute for Labour Studies  
Geneva



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## Preface

In most Latin American countries non-compliance with labour and social security legislation regulating wage employment has been on the increase. The stringency of these regulations has often been blamed, particularly in the context of trade liberalization. This view, as well as the notion that non-compliance undermines the effectiveness of law more generally, underlies the oft-voiced argument that protective regulations should be relaxed. But in spite of growing concern about the causes and consequences of non-compliance, empirical research on its determinants is scanty. This paper aims to help fill this gap. The paper uses cross country analysis to examine the factors influencing compliance levels, in particular the possible explanatory role played by labour regulation, cultural norms, economic growth strategies, and enforcement levels.

The paper first examines trends in compliance in Latin America from the early 1990s onwards, and considers some of the key factors which may be at work. The author then discusses indicators which might serve to measure compliance with labour legislation in different areas, and the corresponding explanatory variables to be included in regression models. Results from exploratory multivariate regression analyses are then presented. The author underlines the tentative nature of these results, given the small number of countries for which information was available. Nevertheless, there are some interesting and indicative findings. For instance, the restrictiveness of labour legislation is found to play only a weak role in determining compliance levels; in fact, only dismissal costs appear to have some impact, and exclusively in medium and larger private firms and government activities. No significant impact is found of the degree of competition in the domestic and/or international markets. On the other hand, prevailing cultural norms with respect to "admissible" corruption levels are strongly related with non-compliance in the smallest, micro firms, precisely those where evasion is most widespread. The results suggest that relaxation of restrictive regulations will not have much impact on compliance, and help to identify future research priorities.

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Gerry Rodgers  
Director  
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August 2007



# 1 Introduction

Debates around the effects of labour protective regulations not only deal with their possible impacts on economic, productivity and employment performance, but also include competing views on how the very effectiveness of legislation might be affected. In the literature focussing on Latin America particular emphasis has been placed on the argument that high labour costs and constraints on employers, derived from labour protective regulations, promote non-compliance. Non-compliance with labour legislation is seen as a mechanism used by firms to adjust to the pressures of increasingly competitive markets, particularly following the generalised implementation of trade liberalisation policies throughout this region from the early 1990s. At the same time, it is argued that the efficacy of labour protection legislation is undermined by extensive non-compliance (as well as by the unduly lengthy processes before court decisions that discourage legal suits grounded in such legislation). Both views complement each other, and underlie the oft-voiced argument that protective regulations should be relaxed so as to improve economic and labour market performance, and expand the coverage of social protection in relation to the labour force as a whole. Still another issue is that non-compliance (i.e. the fact that the effective application of legal regulations is laxer than stipulated by written texts) has to be taken into account in the study of the labour market and economic effects of legal regulations. Research results showed that the allegedly negative labour market and economic impacts of protective laws were absent, or less significant, in those regions where transgressions to regulations were more common. Therefore, non-compliance has increasingly become an object of concern, yet empirical research on its determinants is scant.

In this context, the objective of this paper is to analyse the factors influencing the degree of compliance with labour and social security legislation, in particular the possible explanatory role played by labour regulations themselves, but also by cultural norms, economic strategies, and enforcement levels. The stringency of regulations and levels of non-wage labour costs, if they play a role at all, are but two of the factors that may affect compliance, and their influence may be contingent on other determinants.

In this paper the term ‘compliance’ refers to employer behaviour *vis-à-vis* labour and social security legislation (labour codes, collective labour laws, legally binding collective agreements, minimum wages, social security legislation, regulations on health and safety at the workplace), i.e. to whether employers conform with what is stipulated by national legislation in relation to wages, employment and working conditions, and collective labour rights. Although this concept obviously may overlap somewhat with the usual distinctions between formal and informal employment,<sup>1</sup> and some of the ideas to be developed here may be applied to those terms as well, in this article ‘compliance’ refers specifically and exclusively to regulations applicable to waged workers.

The article is organised as follows. The analytical background is presented first (section 2). Next, I describe the evolution of compliance levels in Latin American countries from the early 1990s, and then present some preliminary ideas on whether they might be linked to the nature of labour protective regulations or their changes (section 3), and to the pressure of external competition (section 4). The scope of the effective application of labour legislation in this region by the mid 2000s is examined in section 5. In sections 6 and 7 I discuss the indicators for

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<sup>1</sup> On the statistical definitions of ‘informal sector’ and ‘informal employment’ see Hussmanns (2004). Even though the current notion on ‘informal employment’ considers non-compliance in “formal sector enterprises”, it includes also non-wage earners.

compliance, and the explanatory variables to be included in the model. Results from exploratory multivariate regression analyses are presented in section 8.

## 2 Background and analytical model

Two issues linked with the level of compliance with labour protection legislation have been at stake in the literature. One refers to the consequences of non-compliance. There are “enforceable” and “non-enforceable” regulations, and their respective impacts differ.<sup>2</sup> In this case, the degree of compliance is seen as a factor qualifying the impact of labour regulations on economic and employment performance, non-compliance diminishing, in the “real world”, the possible effects of formally stringent labour regulations. The other issue that received some attention in the literature refers to the causes of non-compliance. Allegedly, non-compliance has expanded in the context of increasing international integration, the argument being that the costs derived from labour protective regulations are detrimental to competitiveness, and therefore that the intensification of external competition fosters evasion. This assumes an inverse association between levels of legal restrictiveness and degree of employer regulatory compliance. This inverse relationship between legal stringency and evasion is, in a sense, self evident: it is only obvious that the absence of legal restrictions will automatically imply no evasion, or that, less extremely, very lax rules, with few associated costs, would give little grounds for non-compliance. Nonetheless, in most countries there are at least some rules imposing constraints on employer behaviour *vis-à-vis* their workforce that might be perceived as obstacles to labour management or as curtailing expected profits and, starting from this threshold, it is worth investigating whether variations in legal stringency have an impact on compliance rates.

Still, in spite of the increasing interest in non-compliance, research on its determinants is scarce, and most of what has been done deals with the factors affecting the size of the underground (unofficial, shadow, informal) economy as a whole, which do not necessarily coincide with those shaping evasion of labour regulations, as the limitations, in terms of procedures and costs, to set up and close down a business are not necessarily correlated with the restrictiveness of labour protective regulations. Some of the studies on the unofficial economy assume that its growth has been stimulated by the myriad of bureaucratic barriers and high costs derived from the legal requisites to establish and conduct businesses, a notion that held public attention already in the late 1980s, especially after De Soto (1986) published his well known book.

Among those that analyse the effects of labour regulations on the informal economy, Botero et al. (2004) find some evidence of an inverse association between strength of collective labour rights (but not of individual employment protection)<sup>3</sup> and the size of the unofficial economy, while Chong & Gradstein (2004) conclude that the size of the informal economy (estimated, alternatively, on the basis of excess demand for currency and of discrepancies between the growth rate of electricity consumption - indicating the rate of growth of overall economic activity - and the growth rate of official GDP) is associated with the degree of inequality of income distribution (positively) and with institutional quality (negatively), this latter as expressed by several dimensions among which government stability, corruption, rule of law, democratic accountability and a corruption index;<sup>4</sup> no statistically significant influence of the

<sup>2</sup> See e.g. Calderón et al. (2006). Of course, many authors have emphasised the importance of enforcement and the relative costs of compliance and non-compliance as influential factors mediating between legal regulations and labour market behaviour (see e.g. Bensusán, 2006).

<sup>3</sup> The ‘employment laws index’ used by these authors combines regulations on dismissals, contracts, and working hours (Botero et al., 2004).

<sup>4</sup> For further details, see Ghong & Gradstein (2004).

index of “labour market rigidity” (based on Forteza & Rama, 2001) on the size of the informal sector was found.

In this paper, I argue that whatever the degree of labour protection and level of non-wage labour costs, their potential influence on compliance depends not only on enforcement but also on the culturally dominant norm on acceptable levels and forms of evasion. This, in turn, is determined by the historical degree of government enforcement in each country. In other words, the general “climate” *vis-à-vis* corruption is an influential factor, facilitating or hindering non-compliance, and affecting the extent of evasion. This cultural climate may prove to be more important than the formalised comparative costs of compliance (derived from regulations) and non-compliance (derived from sanctions). In addition, the degree of non-compliance with certain labour regulations might be influenced by trade union intervention. Unions, via their representatives at the workplace and/or their own inspectors, may contribute to the enforcement of regulations as well as the terms agreed through collective bargaining throughout their area of influence.

Indicators to control for the strength of enforcement were introduced in previous studies, e.g. in the above mentioned Botero et al. (2004), that included in the model alternative control variables for quality of enforcement (years of schooling, and length of procedures involved in collecting a bounced check or in evicting a tenant),<sup>5</sup> and in Chong & Gradstein’s (2004), on the determinants of the size of the informal sector, whose ‘institutional quality’ variable is closer to the approach I follow in this paper. Almeida & Carneiro (2005) specifically address this issue comparing across firms within Brazil, and conclude that stricter enforcement (in terms of fines) reduces informal employment by firms (although this, in turn, is adverse for their economic performance).

In addition, compliance might be affected by the pressure of international competition, in both the external and domestic markets. High degrees of economic openness (low or no import duties) and/or the adoption of export strategies based on low labour costs (“low road” strategies) might be expected to make evasion more imperative, given the highly competitive context, than respectively more closed economies (high import duties) and “high-road” export models based on innovation and productivity growth. To my knowledge, the possible incidence of international competition on compliance has not been analysed empirically as yet.

Moreover, the labour market situation (excess labour supply) may also have an impact on the degree of compliance, as larger levels of surplus labour may be expected to induce workers to accept precarious jobs, i.e. those that, because employers are not complying with regulations, involve employment and working conditions deviating from what is legally mandatory.

Last, in specific areas, notably social security, evasion levels might be influenced also by the cost of compliance that falls upon the individual worker. In principle, all other conditions being equal, higher personal social security contributions could facilitate non-compliance, being potentially a motive for individual evasion and, concomitantly, consent to employer non-compliance.

Therefore, the multivariate explanatory model of the degree of compliance with labour protective regulations should include indicators for stringency of labour legislation, level of non-wage labour costs and personal contributory rates, “admissible”, culturally accepted evasion levels, degree of government and trade union enforcement, pressure of external competition (in turn, dependent on the prevailing growth strategy), and the labour market situation. The challenge is to find the appropriate indicators for all of these variables, starting with ‘compliance’ itself, for a sufficiently large number of countries.

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<sup>5</sup> These alternatives may be appropriate for the analysis of compliance with rules affecting the underground economy but not necessarily for the study of evasion of labour regulations.

### 3 Non-compliance in Latin America in the longer period

Enforcement institutions in Latin American countries developed alongside the corps of labour protective legislation, but their impact at different historical periods was not systematically assessed.<sup>6</sup> Even though possibly widespread much earlier, non-compliance with labour legislation became a matter of concern for academic research from the 1980s, mainly in the context of studies on precarious and non-standard employment forms.<sup>7</sup> Of course, the analysis of informality (at that time defined in terms of low income and low productivity self generating activities, associated with large levels of excess labour in highly heterogeneous economies) that, implicitly, also meant non-observance of labour regulations, had started earlier (e.g. Tokman & Souza, 1976). Precarious and non-standard or atypical forms of employment, whose use was on the increase, were regarded as mechanisms utilised by employers to evade costs derived from labour and social security regulations as well as the legal barriers to hire, deploy and dismiss workers at discretion (Marshall, 1992). Already before the 1980s, however, some of these barriers had often been circumvented *de facto*, without transgressing regulations too obviously (e.g. negotiating voluntary resignations in exchange for a lower sum than the due dismissal compensation; using overtime work without paying the amount legally due for working in excess of the normal statutory limit; etc.).

From the 1980s onwards, research focussed on registration of workers with the social security institutions and with effective receipt by workers of mandatory social benefits. Data on these issues, coming from household surveys, became increasingly available at national statistical offices.<sup>8</sup> Based upon them, in 1999 the ILO started to regularly publish data on compliance with social security contributions for an ever increasing number of Latin American countries in its *Panorama Laboral*, produced at the ILO Office in Lima.<sup>9</sup> By that time, studies conducted in several Latin American countries had already been showing that non-compliance was on the increase.

In the early 1990s non-compliance with social security taxation involved from a maximum of almost one half of waged workers (paid domestic service included) in Peru to a minimum of about 20 percent in Chile. If micro firms and paid domestic service, traditional strongholds of non-compliance with labour regulations, are excluded, evasion affected less than 30 percent of wage earners in seven out of the eight countries for which data are available for that period, and less than 15 percent in four of them. Evasion of social security taxes, nonetheless, was not necessarily always accompanied by the transgression of other regulations, such as paid holidays, 13<sup>th</sup> wage, or paid sick leave. But in Argentina, for instance, by 1992 some 23 percent of wage earners (including those employed in micro firms, but excluding domestic service) in major urban areas did not receive any of the mandatory benefits (Marshall, 2003).

Between 1990 and 2003/2004 compliance with social security contributions declined in five of eight Latin American countries for which these data are available, six out of nine if we include Venezuela for which data start in 1995.<sup>10</sup> The fall was less sharp in some countries than in others. Non-compliance increased in this period irrespective of the level of social security contributions and restrictiveness of labour protective regulations, and of whether the latter had been reformed or not in the context of economic liberalisation policies. For instance, the highest

<sup>6</sup> As early as 1935 the *International Labour Review* published a piece on enforcement institutions in Latin American countries (Poblete-Troncoso, 1935).

<sup>7</sup> e.g., some of the papers published in OIT-MTSS (1986).

<sup>8</sup> The specific form of identification of compliance with social security regulations varies among countries (employer deduction of personal social security contributions from wages, access to social security institutions, etc.).

<sup>9</sup> ILO data on social security contributions of wage earners are available for domestic service, micro firms (up to five workers) and the “formal” sector, composed of private firms with six or more employees plus the public sector. The overall compliance level is based on all of these components (ILO, *Panorama Laboral*).

<sup>10</sup> In 2004 compliance in Costa Rica was above its level of 1990, but previously it had fallen; if we include this country, it would be in seven out of ten.

increases took place in Argentina where, in the early 1990s, payroll taxes had been cut<sup>11</sup> and rules for hiring workers under flexible contracts had been relaxed, both considerably, and in Peru where, in the same period, “flexibilising” reforms (eliminating constraints on dismissals and temporary contracts) had been drastic, particularly if compared with the original level of labour protection in this country.<sup>12</sup> In Mexico, by contrast, compliance actually increased between the initial and end years of the series, 1990 and 2004 (although it had declined in 1995-2003),<sup>13</sup> in spite of the fact that its allegedly more stringent system of labour protection, as compared with the other Latin American countries,<sup>14</sup> had not been reformed after economic liberalisation, as it had in Argentina and Peru.

In the first half of the 2000s slight signs of a trend reversal in the level of non-compliance were apparent in several countries (Argentina, Costa Rica and Ecuador from 2004, Brazil and Chile from 2003), but a longer period of analysis is necessary to assess whether a new pattern towards increasing compliance is under way or not. At least in some of these countries, this reversal might be associated with the improvement of government enforcement levels (e.g. Argentina and Brazil).<sup>15</sup>

During 1990-2004, non-compliance with social security obligations in micro firms rose in eight out of nine countries, while in the rest of private firms plus government activities this occurred in six (table 1). Only in three did non-compliance in larger firms increase as much as (Ecuador and Venezuela), or more than (Argentina), it did in micro firms (table 1). In Costa Rica and Mexico the increase in evasion was concentrated exclusively in micro economic units (table 1). Differential trends in the employment share of the public sector, generally with a better compliance performance, might have influenced the evolution of compliance in the sector composed of larger firms and government activities. However, in two of the three countries where the employment share of the public sector increased, compliance fell, and compliance increased in Mexico where the share of government employment declined seven percentage points, and did not change much in Costa Rica, where public employment decreased by nine percentage points.

These comparative trends in compliance levels do not seem to be associated with comparative trends in protective regulations, and moreover are not associated with labour market trends (employment and unemployment levels) nor with the evolution of the economy (GDP growth rates). In some countries non-compliance increased along with unemployment while GDP growth was low (table 1), and in spite of the labour cost reductions and/or relaxation of protective regulations implemented during this period (e.g. Argentina and Ecuador), but in others this did not occur (e.g. Colombia). Still in other countries non-compliance rose in spite of relatively faster economic growth and smaller unemployment increases (e.g. Chile, and micro firms in Costa Rica), both countries having lax labour regulations, even after the slight improvement of labour protection in Chile during the 1990s. Similar economic and labour market trends in Mexico and Peru were accompanied, in the first case, by an increase in compliance in larger firms but, in the second, by declining compliance, in spite of the fact that in the former labour regulation continued to be restrictive, while in the latter several of the most severe regulatory restrictions had been removed during the 1990s.

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<sup>11</sup> Following this rebate, the incidence of non-wage labour costs decreased by almost 20 percentage points.

<sup>12</sup> On the labour reforms in these two countries and their employment effects see e.g. Marshall (1996, 2001).

<sup>13</sup> These data should be considered with reservations, as they show a drastic increase in compliance between 1990 and 1995.

<sup>14</sup> On the comparative restrictiveness of Mexico’s legislation, see Marshall (1994, 2004).

<sup>15</sup> Bensusán (2006).

## 4 Non-compliance and external competition

If, as it often was argued, non-compliance (being a mechanism to cut down costs) has been on the increase as a result of the intensification of external competition, it should be localised, or at least concentrated, in sectors producing tradeables for either the international or the domestic markets. However, this does not appear to have occurred in two countries, Argentina and Mexico, where import competition in the domestic market was very strong as the effects of trade liberalisation (reduction of import duties), from 1983 in Mexico and 1991 in Argentina,<sup>16</sup> were exacerbated by domestic currency overvaluation (from 1991 to 2002 in Argentina; gradual appreciation up to 1994 in Mexico). In Argentina, with the economic crisis at the beginning on the 2000s, non-compliance in manufacturing had reached a considerable level (33 percent in 2000), but it was much higher in sectors whose output is non-tradeable: retail trade (45 percent), construction (63 percent) and personal services (69 percent).<sup>17</sup> Similarly, in Mexico, in 2005 non-compliance with mandatory social benefits reached some 26 percent in manufacturing, against 77 per cent in construction.<sup>18</sup>

Non-compliance performed differently in these two countries in terms of trends between 1990 and 2003/04. Non-compliance rose in Argentina (it had reached 30 percent in 1990, and increased 11 percentage points) but not in Mexico (see above), where it had been higher in 1990 (42 percent). Argentina's economy was the hardest hit by trade liberalisation and persistent domestic currency overvaluation, ending with a partly dismantled manufacturing sector; many plants closed down and there were severe employment reductions. Trade liberalisation also had adverse effects on manufacturing production and employment in Mexico (Moreno Brid, 1998). However, in this country the *maquiladoras* were growing rapidly (their manufacturing employment share reached over 30 percent in the early 2000s);<sup>19</sup> employment conditions in the *maquiladoras* might have been increasingly subject to international scrutiny, and this could have contributed to improved compliance by larger firms, a topic that needs investigation. In this sense, this type of export based growth - absent in Argentina - might have had less detrimental impacts in terms of compliance than import competition.<sup>20</sup>

It might be arguable that external competition intensifies the need to reduce costs, including labour costs, but non-compliance is a much more generalised problem, being highest in sectors that are neither competing with imports nor exporting. In any case, more research is required on the role played by external pressures, and on whether they might have fostered the spreading of non-compliance; one attempt in this direction is made in the cross-country analysis presented below, that includes trade variables in the explanatory model of compliance levels.

## 5 Non-compliance and law effectiveness

The correlate of extensive non-compliance is naturally that laws are less effective than had been intended.<sup>21</sup> But, even if the effectiveness of laws is limited by evasion, the role of labour

<sup>16</sup> In Argentina, the liberalisation process had started in 1988 but it was in 1991 that drastic changes were implemented, and the MERCOSUR treaty accelerated the opening up. In Mexico, a number of measures to liberalize international trade were taken starting in 1983, most of them in 1985-87; the NAFTA treaty ratified in 1993 deepened the process (further details in Marshall, 2001).

<sup>17</sup> Nonetheless, with the profound economic crisis of 2001-2002, non-compliance increased more in manufacturing than in retail trade and personal services, but the major jump was in construction (Marshall, 2003).

<sup>18</sup> It was only 33 percent in trade and services because government employment is included in this sector (own estimates with data for 2005, 2<sup>nd</sup> quarter, in [www.inegi.gob.mx](http://www.inegi.gob.mx)).

<sup>19</sup> More details and sources in Marshall (2004).

<sup>20</sup> The incidence of non-compliance in the public sector in the two countries might differ, and this could be another factor explaining diverging trends, but no information is available on this point.

<sup>21</sup> Bensusán (2006), based on in-depth research on four Latin American countries (Argentina, Brazil, Chile and

protective regulations in shaping labour market outcomes is substantial. In the 1980s, differences in employment-output elasticities, employment shares of temporary jobs, structures of job tenure and turn-over rates among Latin America countries tended to be consistent with how countries measured in terms of comparative strictness of employment protection, considering regulations on both job security and temporary contracts (Marshall, 1994). In the 1990s, the changes in employer recruitment and dismissal practices were consistent with what might have been expected in the light of legislative reforms, in both those countries that relaxed restrictive labour regulations and those that improved protection, as shown by pre-reform and post-reform employment-output elasticities (Marshall, 1996). If the effectiveness of law is reduced by non-compliance legislation nonetheless still affects employer practices.

Labour legislation was not designed for protecting the self-employed, whose working conditions are, or should be, regulated by other legal instruments. On the average for Latin America, the self-employed, not counting domestic services, account for less than one quarter of employment (2005), while wage earners represent more than 60 percent, and over one half of them are employed in private firms with six or more employees, the other half being distributed equally between the public sector and micro firms (data in Panorama Laboral, 2006). By the mid 2000s, over 80 percent of wage earners employed in firms with at least six workers and the public sector were effectively covered by labour legislation (as employers paid social security contributions) in Brazil, Chile, Colombia, Costa Rica, Mexico, Panama, and Uruguay. In Argentina, Ecuador, El Salvador and Venezuela the proportion was above 60, sometimes reaching 70 percent. Of the fifteen countries for which data are available, only in three, Bolivia, Nicaragua and Paraguay, was the proportion of workers covered one half, or less, of the workers employed in this sector.<sup>22</sup>

In the 2000s, evasion has been, as in the past, much more generalised in the smallest, micro business (between a maximum of over 90 per cent in Bolivia and a minimum of 50 per cent in Chile of the workers employed in micro units were not contributing to the social security system). In Argentina, for instance, evasion in micro firms increased from 65 per cent in 1996 to 72 percent in 2003, from 28 to 33 percent in medium sized establishments, and from 10 to 14 percent in larger firms.<sup>23</sup> In addition, as data for some countries suggest, the bulk of non-compliance tends to continue to be localised in micro firms. In Argentina, 51 percent of urban wage earners not registered at the social security system were employed in micro establishments (2000-2001), almost five times the proportion of registered workers that were employed in micro firms (12 percent).<sup>24</sup> In Mexico, 67 percent of urban wage earners not receiving mandatory benefits in 2006 were employed in micro establishments (reaching 88 per cent if small establishments are added), almost seven times the proportion of workers receiving benefits that were employed in micro units (11 percent).<sup>25</sup>

The widespread notion according to which labour legislation in Latin American countries is not effective because it does not achieve the intended coverage has to be considered with caution, particularly because this is the argument used to recommend that protection should be curtailed. In spite of extensive non-compliance, the scope of effective protection is by no means negligible, indeed quite relevant in several countries.

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Mexico), arrives at a measure of “law effectiveness” that takes into account indicators of actual social security coverage, enforcement levels, and how the judicial system operates in actual practice. According to this index, Brazil appears to be the best performer, while the worst is Mexico, and in Argentina the law is more effective than in Chile (Bensusán, 2006).

<sup>22</sup> See also observance rates of statutory limitations on working hours in table 2 below.

<sup>23</sup> Data in Marshall (2003), based on household surveys; urban wage employment exclusive of domestic service and employment programme beneficiaries.

<sup>24</sup> Ibid.

<sup>25</sup> Non-agricultural sector, on the basis of household survey data for 2006 in [www.inegi.gob.mx](http://www.inegi.gob.mx) (estimates exclude those for whom the establishment size is not known, or it is classified as “others”; 79 percent of the latter do not receive benefits). If those categories are not excluded, instead of 67 percent the figure is 55 percent, more similar to Argentina’s.

## 6 Compliance indicators

To adequately measure the degree of compliance with labour protective regulations it is, in principle, necessary to cover a heterogeneous range of areas, including individual worker rights, collective agreements and trade union rights, health and safety at the workplace, and social security. Degrees of compliance, and the relative cost of compliance, might differ across these areas (for instance, the cost of investing in safer and healthier workplace conditions might be much higher than the costs of complying with individual labour rights). Each form of compliance requires specific indicators and, while theoretically it is easy to think of adequate indicators for all of them, in practice it is difficult to find the appropriate information for a significant number of countries.

On the other hand, compliance levels might be affected by gradual or sudden institutional changes, such as labour code reforms, payroll tax rebates or increases in the minimum wage, and the comparative position of the countries that experienced such changes may shift from one year to the next. For example, when the minimum wage was substantially raised in Argentina in 2003, after a long period during which it had been maintained at an extremely low level, non-compliance increased, as shown by the rising proportion of workers with earnings below the minimum wage (Marshall, 2006). It is not always feasible to take into account these movements in cross-section analyses.

As we have seen, in Latin America compliance with labour laws has customarily been gauged on the basis of one indicator only, namely contributions to social security schemes, which reflects effective employee registration in the social security system, ensuring employer compliance with payroll taxes (in a couple of countries - Chile and Peru - employers are not obliged to contribute to the financing of the retirement scheme, but they still have to pay other social security taxes).<sup>26</sup> For certain countries there is information on the proportion of workers with a written contract and on the proportion of workers receiving all the mandatory social benefits (e.g. Mexico), or on formal registration (Brazil, workers with *carteira de trabalho*), but this is not generalised throughout the Latin American region, and depends on the characteristics of national household surveys. Indeed, the picture described by indicators of compliance in other areas might differ from the one that emerges from compliance with social security taxes, the existence of a written contract or receipt of mandatory benefits. Consideration of a wider set of indicators should provide a much more complete description of compliance, and also show in which areas it is lowest.

The advantage of the estimates on compliance with social security contributions is that comparison across countries is straightforward. Other estimates are more ambiguous, and comparisons difficult. Assessment of compliance with regulations such as dismissal compensation or maternity leave would require in depth analysis or *ad hoc* surveys in each country, and this is not easy to achieve when a significant number of countries is considered. And compliance with the minimum wage varies with its relative level, i.e. compliance tends to be higher when the minimum wage has been set far below the median or the average wage than when it is closer to them.<sup>27</sup>

Comparison across three indicators, for the few countries for which data exist for all three (table 2), suggests that the rates of observance of working time limitations<sup>28</sup> and of social security taxes give fairly consistent country rankings (still, the ranking is not exactly the same, and data for a larger number of countries would be necessary to have more conclusive evidence), but that the proportion of workers with earnings below the minimum wage ranks countries differently.

<sup>26</sup> See descriptions of the schemes in Social Security Worldwide ([www.ilo.org](http://www.ilo.org)).

<sup>27</sup> See e.g. Kristensen & Cunningham (2006).

<sup>28</sup> The indicator is 'observance rates of statutory normal working week', taken from Lee & McCann (2006).

Scores assigned by these indicators do not necessarily coincide with those that the same countries would receive in terms of compliance with workplace health and safety regulations. Rates of injuries at the workplace might be regarded as a possible, albeit very indirect, indicator of compliance with those regulations, but only a fraction, which varies across countries, of such injuries is reported formally. In the reported figures those rates have been calculated against insured workers (i.e. those registered with the social security scheme or who are in compliance with health care regulations), but are available for only very few of the selected Latin American countries (table 2).<sup>29</sup> There is some consistency with the pattern given by payment of social security taxes and observance of working time limits, but only in that in El Salvador and Nicaragua the injury rate is higher than in Costa Rica and Mexico.

Last, compliance with trade union rights may be examined through reported formal complaints of violations of those rights,<sup>30</sup> but reporting rates (unknown) might differ across countries, affecting comparisons. Construction of a standardised indicator that may be compared across countries in any case is still pending (e.g. number of complaints per number of wage earners). A cursory look at the type of grievance reported shows some interesting differences across countries, e.g. in Chile, Colombia and Peru several complaints originate in coercion against workers to make them resign from union membership, while this issue is absent or has much less significance in most of the other countries selected.<sup>31</sup> The analysis of the structure of grievances by type may say a lot about the forms of non-compliance most common in each country and the applicability of its system of labour relations, but much more systematic research is needed.<sup>32</sup> If the evaluation of compliance with union rights were to be based on this information, it would suggest that the number of transgression of collective labour laws is generally low in Latin America, particularly in private firms, since between a minimum of 15 per cent of all complaints (Argentina), and a maximum of 53 percent (Uruguay), refer to the private sector.<sup>33</sup> Clearly, the fact that these complaints are submitted to the ILO leads to complaints against governments being over-represented, and a different picture might emerge from the analysis of complaints submitted to national courts.

To summarise: research on comparative compliance in diverse areas is pending. The oft-used estimates based on compliance with social security taxes provide a certainly incomplete description of the extent and diversity of non-compliance; this notwithstanding, they at least proved to be consistent with those based on observance of working time regulations. Besides, those are the only ones for which data, prepared for ILO's Panorama Laboral, are available for at least 15 Latin American countries for the 2000s, and this indicator is used to characterise the dependent variable (degree of compliance) in the regression analysis presented below (data refer to either 2004, 2003 or 2002, depending on the latest information given for each country).<sup>34</sup> This defines the set of countries to be analysed, as information for the dependent variable is limited to these 15 countries.<sup>35</sup> Estimates of the overall level of evasion of social security contributions

<sup>29</sup> Besides, for some countries figures refer to all reported cases, while for others to compensated cases only.

<sup>30</sup> Kucera (2005) discusses this indicator (reported violations of union rights) but with a different purpose, as a possible indicator of union rights.

<sup>31</sup> Source: ILO's QVILIS database on reported violations of trade union rights, cumulative complaints 1990-2007 ([www.ilo.org](http://www.ilo.org)).

<sup>32</sup> In this connection, the above cited ILO database as well as the ICFTU annual surveys on violations of trade union rights have very useful information that merits in-depth research.

<sup>33</sup> Own estimates on the basis of cumulative data for 1990-2007 in QVILIS ([www.ilo.org](http://www.ilo.org)).

<sup>34</sup> Figures for El Salvador are for 1990, as no information is available for later years. If, in some countries, certain worker groups are exempted from social security contributions, no information is provided in the data source about whether this fact was taken into account in estimating proportions paying contributions. In not one of these 15 countries are small firms exempted from social security contributions (source: Social Security Worldwide, in [www.ilo.org](http://www.ilo.org)).

<sup>35</sup> Even though there is a high correlation between these two indicators for the 15 country sample, it would not necessarily be safe to use, instead of figures on evasion of social security contributions, those on the employment share of the informal sector to expand the number of countries (this, in any case, would add only two countries), nor estimates of the underground economy (such estimates for a larger number of countries, based on either excess demand for currency or electrical consumption, were used by Chong & Gradstein, 2004; see above). The underground economy

reflect evasion in private firms, government and households (as paid household workers are considered to be wage earners in the data source). It is therefore convenient to exclude paid domestic services, and examine also compliance levels in micro firms and in the “rest” (larger private firms and the public sector, hereon, for the sake of simplicity, referred to as “larger firms”) separately; data are available for both of them. Further, the factors influencing compliance by larger private firms and the public sector on the one hand, and compliance by micro firms on the other, might differ.

## 7 Explanatory variables

According to the ideas presented above, the explanatory model should include economic, labour market and social-institutional variables.<sup>36</sup> Indicators for each one of these variables follow.

*Pressure of external competition.* The GDP share of exports and the share of manufacturing exports in total merchandise exports (2004) are selected to indicate the pressure of competition in the international market. GDP share of imports, degree of openness of the economy or GDP share of trade, and proportion of manufacturing imports in total imports (2004), as well as annual growth of imports (1993-2000), are the alternatives selected to examine the incidence of pressure of external competition in the domestic market. GDP shares of imports, exports and trade are highly correlated.<sup>37</sup>

*Economic strategy.* The GDP export share may show also the importance attached to the export strategy, and share of exports with a high tech content in total manufacturing exports (2004) might give some indication, albeit very partial, of the orientation of the export strategy.<sup>38</sup> In fact, not one of the Latin American countries included in this analysis may be considered to have followed a “high road” economic strategy, strictly speaking. Indicators of the importance, in terms of output, employment and export shares, of export processing zones (EPZ), including *maquilas*, should also be taken into consideration. In Mexico the manufacturing employment share of *maquilas*, as we have seen, was nearly one third in 2001. Among the 15 Latin American countries considered here, apart from Mexico, EPZ or *maquila* production is important, with substantial shares of total exports, in Costa Rica, El Salvador and Nicaragua.<sup>39</sup>

*Labour market situation.* The rate of open unemployment (2004) is used to describe the labour market situation (data are from Panorama Laboral). This is not the most appropriate indicator as in several Latin American countries open unemployment is very low even though the labour surplus is high,<sup>40</sup> but data for better indicators, such as the labour force share of the sum of

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refers to all transactions undertaken without complying with regulations, and both conceptually and in economic terms, the underground economy and non-compliance with social security and labour regulations applicable to waged workers are two distinct phenomena, that may be determined by different factors. Countries from Europe (in particular, Central and Eastern Europe, CEE) and/or countries from the Caribbean Basin could be added to increase the sample, but survey data for the compliance variable, comparable to those for Latin American countries, are available for none of them as yet (they might become available in the near future; Williams, 2007, mentions that the European Commission launched in the mid 2000s an Europe-wide feasibility survey on undeclared work; on other measures of non-compliance with social security regulations in CEE, see Stanovnik, 2004).

<sup>36</sup> Obviously, from a dynamic perspective there are interactions among the independent variables as, for instance, the labour market situation is shaped by economic strategies, labour regulations, etc. But the analysis that follows considers these variables at one point in time.

<sup>37</sup> Own estimates, based on World Bank Development Indicators.

<sup>38</sup> World Bank data on proportion of manufacturing exports with a high tech content. Data on the structure of exports (primary resources and manufactures, in turn disaggregated according to intensity of technology) are also available in [www.cepal.org](http://www.cepal.org).

<sup>39</sup> On EPZ and *maquila* shares of total exports see ILO’s EPZ database, Buitelaar (1999), and [www.inegi.gob.mx](http://www.inegi.gob.mx).

<sup>40</sup> This, characteristically, is the case with Mexico. Unemployment rates tended to be relatively stable during 1990-2005 in some of the Latin American countries considered, whereas in others (in particular Argentina) unemployment increased sharply (data in Panorama Laboral).

the unemployed and informal non-waged workers (DeFreitas & Marshall, 1998), are not readily available for all the countries included in this study.

*Labour regulations.* Among labour protective regulations, the analysis is confined to employment protection legislation (regulations on contracts and dismissal), and non-wage labour costs (below).<sup>41</sup> In certain countries (Brazil, Peru, Colombia, and Ecuador among them) regulations on dismissal were changed (sometimes drastically, as in Peru) at different times during the 1990s. I consider the situation prevailing in the mid 2000s. The literature and databases of international organizations provide fairly adequate instruments to score countries in terms of restrictiveness of employment protective regulations. However, relative scores assigned using different sources and criteria do not always match. Three relevant indicators are available: 'firing costs', 'firing regulations' and the 'index of employment regulations', all in the World Bank Doing Business database.<sup>42</sup> The firing cost indicator measures the cost of advance notice, compensation and other penalties due at employment termination, expressed in terms of weekly wages (2004; www.doingbusiness.org). It is not correlated with the other two indicators (table A, Appendix).

*Non-wage labour costs.* Variations over time in the incidence of non-wage labour costs have been significant in certain countries, where regulations on payroll taxes were modified during the 1990s, e.g. Argentina. Two estimates of relative levels of non-wage labour costs for the mid 2000s are included in the World Bank Doing Business database, non-wage labour costs as a proportion of wages and employer payroll taxes as a percentage of profits (2006). The first measures all social security payments (including retirement, sick pay, maternity and health insurance, workplace injury, family allowances and other obligatory contributions) and payroll taxes associated with hiring. The cost is expressed as a percentage of the worker's salary. The second, is the same but as a proportion of commercial profits (www.doingbusiness.org). They are highly correlated (.99, significant at 0.001), and may be used indifferently.<sup>43</sup>

*Personal social security contributions.* Given that compliance with social security contributions is the indicator for the dependent variable, estimates of personal contribution rates are included among the explanatory variables. Two alternative estimates are used - all personal contributions, and contributions to the retirement/disability schemes - based on legal stipulation. Data are from Social Security Worldwide, for 2003 (comparative tables; www.ilo.org).<sup>44</sup>

*Cultural norm.* Among World Bank indicators for "labour market governance", two seem appropriate to approximate perceptions of the application and effectiveness of the law: 'control of corruption' - an estimate of "perceptions of corruption, conventionally defined as the exercise of public power for private gain" -,<sup>45</sup> and 'rule of law' - that measures "the extent to which agents have confidence in and abide by the rules of society" - (Kaufman et al., 2003: 4).<sup>46</sup> In both cases,

<sup>41</sup> Several obstacles hinder the inclusion of other regulations, such as trade union rights, and institutional determinants of wages (minimum wages, collectively agreed wage rates).

<sup>42</sup> According to the World Bank's description, the "rigidity of employment index" is the average of three subindices (a difficulty of hiring index, a rigidity of hours index and a difficulty of firing index). All the subindices have several components (more details in "Employing workers", www.doingbusiness.org, Methodology and Surveys).

<sup>43</sup> These data are available from 2005.

<sup>44</sup> These estimates are approximations. For details on the estimates for each country, see Social Security Worldwide (www.ilo.org).

<sup>45</sup> More details in Kaufman et. al. (2003), who note that "... the particular aspect of corruption measured by the various sources differs somewhat ...":(4). "The presence of corruption is often a manifestation of a lack of respect of both the corrupter (typically a private citizen or firm) and the corrupted (typically a public official or politician) for the rules which govern their interactions, and hence represents a failure of governance according to our definition" (Kaufman et al., 2003: 4).

<sup>46</sup> By contrast, "regulatory quality", another indicator of labour market governance, seems to be biased in that its characterisation prejudices that market-unfriendly policies are of worse quality (this indicator "includes measures of the incidence of market-unfriendly policies ... as well as perceptions of the burdens imposed by excessive regulation ...", Kaufmann et al., 2003: 3), whereas "government effectiveness" is based on "responses on the quality of public service provision, the quality of the bureaucracy, the competence of civil servants, the independence of the civil service from

higher values mean better performances in terms of corruption and law application. They are highly correlated with each other (table B, Appendix), and also may be used indistinctly (data are from [www.worldbank.org/wbi/governance/govdata](http://www.worldbank.org/wbi/governance/govdata)).

*Enforcement.* There is also a high and significant correlation between the ratio ‘number of labour inspectors/number of workers’ and ‘control of corruption’ or ‘rule of law’ (0.812 and 0.855, respectively, both significant at 0.01), restricting the analysis to the 13 Latin American countries for which information on the ratio ‘number of inspectors/number of workers’ was collected by Piore & Schrank (2007).<sup>47</sup> This means that ‘control of corruption’ is a good indicator not only for the general perception of how easy it is to evade regulations but also, up to some degree, for the effective extent of government enforcement.<sup>48</sup>

*Trade union control capabilities.* Two indicators (neither fully adequate) might be used to proxy trade union effective enforcement capabilities: coverage rates of collective agreements, and/or unionisation rates. Coverage of collective agreements would be the better of the two, to at least give an indication of the scope of trade union influence. However, comparable estimates of coverage of collective agreements are not available for all 15 countries, and the union membership rate (in Vega-Ruiz, 2004), in most cases calculated as a proportion of the labour force or the employed labour force (instead of employed wage earners exclusively), for different years in the 1990s and early 2000s, is the only one available.

Control variables included in the regression models are *GDP per capita* (2004) and, because compliance tends to be highest in the public sector and lowest in micro firms, *public sector employment* (proportion of non-agricultural employees working in the public sector) and *employment share of micro firms* (2003 or 2004, depending on the country, data from Panorama Laboral).

## 8 Discussion

The cross-country analysis that follows is based on 15 Latin American countries (as we have seen, information for the dependent variable, degree of compliance, is available only for these countries). Cross-country studies, although presenting a static view of the comparative incidence of possible determinants, have often been used to draw also at least tentative conclusions about dynamic processes. The relatively small number of observations weakens the robustness of regression results.<sup>49</sup> Nonetheless, with reservations, results suggest that some of the factors expected to influence compliance do indeed play some role in explaining its comparative level across countries.

Differences in overall compliance levels (relative to all employed wage earners) seem to be associated with the perception of the extent to which corruption is controlled (table 3, model III) and, alternatively, with perceptions of ‘rule of law’, not shown in table 3. This may be

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political pressures, and the credibility of the government’s commitment to policies” (ibid.: 3).

<sup>47</sup> See Piore and Schrank (2007) for details, data sources and years covered. This rate may not be totally appropriate for cross-country analysis, as the number of inspectors is set against the number in the labour force, instead of employed wage earners, which might imply some distortion considering the substantial differences across countries in employment structures and unemployment rates. Alternatively, other rates may be analysed, such as rates of inspections, firms inspected and firms regularised. Data on these rates are available for certain countries. Costs of sanctions and number of cases taken to court were analysed also in the literature for a few countries (Bensusán, 2006).

<sup>48</sup> “Enforcing contracts” (in [www.doingbusiness.org](http://www.doingbusiness.org)) offers estimates of procedures, costs and time involved in the period between filing a lawsuit and actual payment, with reference to disputes about sales of goods, but *prima facie* this does not seem to be an adequate indicator for enforcement of labour and social security regulations.

<sup>49</sup> Except for the model including only ‘firing costs’, adjusted R squares are high (tables 3 to 5). Given the number of observations, I examine only whether coefficients are significant or not, rather than the size of the each variable’s impact. The possible influence of outliers was taken into account.

interpreted to express the prevailing “cultural norm” and effective degree of enforcement. Compliance levels also appear to be influenced - in this case negatively, as might be expected - by the strictness of labour regulations but only as indicated by ‘firing costs’ (model I).<sup>50</sup> However, the R square is very low. Coefficients corresponding to ‘control of corruption’ and ‘firing costs’ continue to be statistically significant after the log of GDP per capita is introduced (models II, IV and V), GDP per capita also always being significant. Indeed, the positive association between perceptions on corruption/enforcement (based on surveys on perceptions) and compliance levels (estimated through the objective identification of payment of social security taxes) may result from mutual influences between the two variables, the actual level of compliance feeding perceptions of how lax control of corruption is, which in turn affects evasion levels. Incorporation of additional variables (employment incidence of micro firms; degree of economic openness) does not alter the results (models VI and VII; shown for control of corruption, but the same happens if, instead, the variable in the model is firing costs). The incidence of micro firms (which could have shown compositional effects), and the degree of openness (exposure to external competition), do not influence compliance levels.<sup>51</sup> Neither does the unionisation rate (introduced in the analysis given the absence of a better indicator for trade union enforcement capabilities; see table C.1., models I-III, Appendix).

An exercise to expand the number of observations was made by pooling data from two years, adding those countries for which data on compliance were available also for 1990; the regression model in this case included “control of corruption” (in 1996) and the log of GDP per capita (for 1995). Results confirm those above with improved statistical significance.

Perceptions of corruption do seem to influence compliance in micro firms, but firing costs do not (table 4, models I and II). By contrast, although both factors separately seem to play a role in affecting compliance in the sector composed of private firms employing at least six workers and government, only the cost of dismissal maintains some influence when both variables (and the log of GDP per capita) are together in the model (table 5, models I, II and III), i.e. this aspect of regulation would be affecting employer behaviour in larger firms regardless of the degree of enforcement (or perceptions about enforcement).<sup>52</sup> In micro firms, the log of GDP per capita, associated with compliance levels at both the general level and the larger firms even if ‘control of corruption’ is present in the model, now has no such influence (table 4, models I and III-V). Consideration of control variables in the model for larger firms/government activities, such as share of public employment (which might have compositional impacts) or, alternatively, degree of openness, does not change the results (table 5, models IV and V). The same is true for micro-enterprises when degree of openness or the unemployment rate are considered in the regression model together with control of corruption (table 4, models IV and V). Surprisingly, unemployment shows a positive, instead of the expected negative, influence on compliance (table 4, V), for which there seems to be no apparent explanation.<sup>53</sup>

Tentatively, we may conclude that whereas decisions in micro firms are likely to be moulded by perceptions on how easy it is to evade social security obligations, and how lax is enforcement, this is not the case with employer behaviour in the sector dominated by medium sized and larger private firms. This is somewhat surprising as, given that government inspections usually are concentrated in the larger firms, one would expect that their behaviour would be the

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<sup>50</sup> The other two indicators, firing regulations and the employment regulations index – see above – are not associated with compliance (see table C.2., models XIII and XIV, Appendix).

<sup>51</sup> None of the other trade variables, including share of exports with a high tech content, show statistically significant coefficients. A dummy for the importance of EPZs (assessment based on shares of EPZs in manufacturing employment and in total exports) was also tested, with similar results.

<sup>52</sup> However, in this sector, slight changes in the firing cost variable (i.e. using data corresponding for another year) affect the coefficient’s significance, except in model I.

<sup>53</sup> The coefficient for ‘unemployment’ is statistically significant only in the regression for micro-enterprises, and only if ‘control of corruption’ and ‘log of per capita GDP’ are included in the model (see table C.2., models X-XII, Appendix, for the lack of influence of this variable on the overall compliance level).

most affected by perceptions on how effective is government enforcement. In larger firms, costs associated with dismissal appear to play some role in the determination of compliance levels, but, although the coefficient corresponding to this variable always has the expected negative sign, and is significant in all models presented in table 5, the results seem to be less robust in that the coefficient ceases to be significant with slight changes in models or indicators. In any case, if firing costs were to have an impact on compliance levels, it would be only in this sector, not in micro firms. The fact that in micro firms the propensity to evade regulations is much higher than in larger firms would be consistent with their disregard for dismissal costs; the less effective is government control, the greater the inclination of micro-unit employers to disobey, whatever the costs.

Among the labour regulations examined, only lay-off costs seem to play some part, if they do at all, in determining compliance. In particular, the incidence of non-wage labour costs, expressed either as a proportion of wages or as a proportion of profits, which might have been expected to have some impact on decisions as to whether comply or not with payroll taxes (payment of social security contributions being the indicator for compliance), is not associated with compliance levels in the expected, negative, way (table C.1., models IV-VI, Appendix).<sup>54</sup> Further, the coefficients of 'size of personal social security contributions' are not statistically significant, and the inclusion of this variable generally does not alter the results (table C.2., models VII-IX, Appendix).<sup>55</sup>

In synthesis, of the several potentially influential factors examined above, only two, apart from the degree of economic development captured by GDP per capita, do possibly play some role in explaining comparative compliance levels: costs of dismissal (inversely associated with compliance) and control of corruption/enforcement (positively associated), and there are some indications suggesting that the first would be more important in the larger firms while the second would affect micro firms more. Further research, including a larger number of countries and alternative estimates of compliance, is needed to obtain more conclusive evidence.

The labour market situation, at least if gauged via unemployment rates, does not have the expected incidence on compliance; employers do not seem to be more inclined to evade regulations in contexts of higher unemployment, even if workers would be more prepared to accept unprotected jobs in situations of stronger labour market competition. Neither does the intensity of the exposure to external competition in the international and/or domestic markets. This undermines the argument that the increased pressure derived from international trade liberalisation has been one of the main factors fostering non-compliance.

However, comparative analysis of levels of external competition across countries at one point in time might not be the most appropriate to draw conclusions about the impacts of changes over time in the exposure to external pressure. Although in one regression model the variable 'annual rate of change of imports' was included, still the dependent variable continues to be 'degree of compliance' instead of 'evolution of compliance', but once again lack of information for the dependent variable precludes carrying out a more adequate, longitudinal analysis. Still, a

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<sup>54</sup> In fact, the coefficient of 'non-wage labour costs' is statistically significant but with a sign (positive) opposite to what one would have expected, and only if 'control of corruption' is in the regression model (this is not affected by including the log of GDP per capita too; table C.1., models V and VI, Appendix). As with the positive impact of unemployment, this positive association between non-wage labour costs and compliance does not fall in line with the usual notions on how regulatory costs affect compliance. Once again, a larger number of observations is required to examine further these relationships.

<sup>55</sup> Except that the coefficient for 'firing costs' ceases to be significant when 'personal contributions' is added to the model that includes firing costs, log of GDP per capita and control of corruption, in the analyses of overall compliance (see table C.2., model IX, Appendix) and compliance in larger-firms. Interestingly, the coefficient for 'personal contributions' is negative – as expected – only if 'control of corruption' is in the model, suggesting that compliance levels might vary inversely with personal contribution rates once the influence of corruption/enforcement is controlled.

cursory glance at the comparative evolution of imports and compliance for a smaller group of countries (data on compliance trends are available for only nine of the 15 countries examined in this paper) suggests that these two variables are not associated. In any case, a larger set of countries needs to be analysed before arriving at more definitive conclusions.

Given the number of countries analysed, and the caveats affecting the information used to characterise some of the variables, multiple regression analysis might be considered to be too demanding. Simply scoring countries in terms of values 1, 2 and 3 for each variable, Pearson coefficients for correlations between overall compliance levels and, alternatively, control of corruption (cultural norm, enforcement), dismissal costs (labour regulations), and GDP per capita (economic development) are statistically significant (table 6).

## 9 Final comments

This research set out to analyse the determinants of non-compliance with labour protective regulations, in particular to establish the role played by the stringency of protection itself, and whether it is true or not that non-compliance with labour regulations has been fostered by increasing exposure to external competition via trade liberalisation. In this context, I argued that prevailing cultural norms relative to corruption and enforcement should be taken also into account to explain compliance levels, and that they might be more influential than the permissiveness of labour regulations or external pressures, more even than the formal costs of non-compliance.

Is the relative permissiveness of labour protection reflected in comparative levels of non-compliance? Descriptive examination suggests that compliance trends did not follow the pattern often associated in the literature with changes in labour regulation: countries where protection and payroll taxes were reduced nonetheless show increasing non-compliance, for instance. Cross-country regression analysis reveals that, of those considered, only one dimension of labour protection, namely costs of dismissal, might have some influence, possibly weak, on compliance levels, the association being negative as usually expected, but that this would be confined to the sector composed of larger private firms and government activities where, actually, non-compliance is much less widespread. It would seem that it is the cost of laying off, rather than the restrictions via procedures, what matters. By contrast, higher non-wage labour costs do not reduce compliance.

Has the increasing pressure of external competition in the domestic and/or international markets intensified non-compliance with labour legislation? The above analysis appears to indicate that, even if that could have happened, non-compliance is a much more generalised problem, present in economic sectors producing non-tradeables as well as in those whose output is tradeable. Not only this: non-compliance is much more important in the former, which is not or little affected by international competition, than in the latter. In addition, indicators of external pressure included in the regression models are not associated with degrees of compliance (cross-country analysis), neither do they affect the impact of other explanatory variables – perceived corruption and enforcement levels, and costs of dismissal. These tentative results on the comparative incidence of international trade and compliance across countries at one point are not irrelevant to assess possible dynamic effects. Besides, examining a smaller set of countries, changes over time in the volume of imports, indicating changes in the degree of competition in the domestic market, do not seem to be correlated with the evolution of compliance.

The perception that regulations are easy to evade, i.e. prevailing cultural norms with respect to corruption, which indirectly indicates perceived (and real) enforcement levels, seems to play an important role in stimulating non-compliance mainly in the smallest firms – precisely those where evasion is localised. This association obviously also reflect how important actual

evasion is in determining perceptions of corruption, but the influences act both ways, one reinforcing the other. Surprisingly, this same situation does not seem to affect, or affects less, compliance behaviour in larger firms/government activities, even after acknowledging the possible impact of differences in the share of government employment within this sector.

Last, how effective is labour protection legislation in Latin America? The effective coverage of labour protective legislation is not as large as would be desirable. Indeed, non-compliance undoubtedly undermines the intended level of protection of waged workers. Nonetheless, this does not suffice to claim that labour protection should be dismantled. As the descriptive analysis above reveals, effective coverage is by no means negligible. Moreover, non-compliance is disproportionately localised in businesses with not more than five employees, and we have seen that in this micro business sector, evasion is fostered by lax enforcement and widespread views of easy corruption, and not by the stringency of labour protective regulations. Therefore, the relaxation of restrictive regulations would have little, if any, impact. To expand coverage, reinforcement of government and trade union control appears to be a realistic alternative, particularly in the smallest establishments, which have the highest non-compliance levels and are seldom reached by regular inspections of government and trade unions.

More research is needed. First, it is necessary to replicate the analysis but using a larger country set, for instance including countries from Europe, particularly Central and Eastern Europe, and/or the Caribbean basin. Second, alternative indicators of non-compliance - as we have seen, observance of statutory working time, compliance with union rights, compliance with regulations on health and safety at the workplace - should be used to characterise the dependent variable, as compliance levels as well as their main determinants may vary according to the field in which non-compliance occurs. Third, it is necessary to include among the explanatory variables a wider range of labour protective regulations, and better indicators of trade union coverage and enforcement capabilities, as well as improved estimates of actual government enforcement. In the meantime, the tentative results presented here are suggestive of some of the influences that are at work, and of some which are not, in determining non-compliance with labour regulations in Latin America.

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**Table 1**  
**Evolution of compliance, GDP, and urban employment and unemployment rates, 1990-2003/04, selected Latin American countries**

	compliance rate, difference 1990-2003/04*		GDP, average % change, 1995-2004	Employment rate, diff. 1990-2004*	Unemployment rate, diff. 1990-2004*
	private firms 6+ & public sector	micro firms			
Argentina	-19.4	-14.4	1.7	1.8	6.1
Brazil	- 2.3	- 7.9	2.6	-10.5	7.2
Chile	- 3.0	-13.1	5.3	- 0.6	1.4
Colombia	6.7	1.3	1.7	0.9	4.9
Costa Rica	0.8	- 9.3	4.8	2.2	1.4
Ecuador	- 8.7	- 9.4	1.1	0.6	4.9
Mexico	8.3	- 3.4	3.5	4.0	1.0
Peru	- 2.7	- 9.5	3.5	6.9	1.1
Venezuela	- 8.8	- 8.1	1.4	5.4	4.7

\* difference between 1990 and 2004: percent points increase or decrease

Sources: ILO, Panorama Laboral; CEPAL ([www.cepal.org](http://www.cepal.org))

**Table 2**  
**Comparative indicators of compliance**

	Statutory working time <sup>1</sup> observance rate %	workers with social security contributions <sup>2</sup> %	below minimum wage <sup>3</sup> %	work injury rates non-fatal <sup>4</sup> %
Argentina	--	51.5	3.1 (2)	--
Bolivia	62.1	31.1	1.1 (2)	--
Brazil	--	69.2	5.8 (2)	--
Chile	--	74.4	7.3 (3)	7318 (9) R
Colombia	--	65.2	26.9 (3)	--
Costa Rica	--	79.9	15.7 (3)	1302 (6.1) C
Ecuador	--	47.1	--	--
El Salvador	--	47.4	3.6 (3)	3607 (35.1) C
Mexico	75.8	63.4	0.5 (1)	2922 (11) R
Nicaragua	--	40.3	--	3483 (6)C
Panama	85.4	72.7	14.8 (4)	--
Paraguay	--	26.5	--	--
Peru	50.8	48.3	23.5 (2)	--
Uruguay	79.5	73.1	0.5 (1)	--
Venezuela	--	57.0	17.9 (3)	--

<sup>1</sup> Working time: observance rate (employees working no more than legal normal hours) in 2005, from Lee & McCann (2006).

<sup>2</sup> Compliance with social security contributions, 2003 or 2004 (Bolivia: 2002; El Salvador: 1990), from Panorama Laboral (proportion of workers with contributions).

<sup>3</sup> Proportion of wage earners (25-40 years old, and working more than 30 hours a week) earning below the minimum wage (from Heckman & Pages, 2003), late 1990s (source: IADB, Economic and Social Progress Report, 2003, based on national surveys); in parentheses, scores according to a 1 to 5 scale on the basis of the distance between minimum wage and average wage for low skilled workers (based on the graph in Kristensen & Cunnigham, 2006: 38; see *ibid.* for sources and dates of estimates). Lower values mean higher distances.

<sup>4</sup> Rates of injuries at work (non-fatal) per 100000 insured employees in 2003-2004, either reported (R) or compensated (C); in parentheses, fatal injuries. Data are from ILO LABORSTA ([www.ilo.org](http://www.ilo.org)); there are some difference across countries in coverage and definition.

Sources: Lee & McCann (2006); OIT, Panorama Laboral (2005); Heckman & Pages (2003); Kristensen & Cunnigham (2006); LABORSTA ([www.ilo.org](http://www.ilo.org))

**Table 3**  
**Determinants of compliance: Regression results**  
**Dependent variable: compliance rate**

	I	II	III	IV	V	VI	VII
CONSTANT	70.011 (9.424)	-69.475 (-2.678)	61.233 (20.953)	-29.062 (-0.946)	-38.494 (-1.445)	-33.397 (-0.998)	-13.148 (-0.327)
FIRING COSTS	-0.188 (-2.106)***	-0.177 (-3.555)*	--	--	-0.118 (-2.307)**	--	--
CONTROL CORRUP	--	--	19.33 (4.584)*	13.426 (3.446)*	8.634 (2.195)***	13.154 (3.217)*	12.146 (2.717)* *
LOG GDPCAP	--	17.417 (5.447)*	--	11.159 (2.949)* *	13.256 (3.934)*	11.383 (2.876)**	10.201 (2.452)* *
MICRO	--	--	--	--	--	--	-0.512 (-0.639)
OPENNESS	--	--	--	--	--	3.736E-02 (0.418)	--
N=15							
Adj R <sup>2</sup>	0.20	0.75	0.59	0.74	0.81	0.72	0.73

\* sign. 0.01    \*\* sign. 0.05    \*\*\* sign. 0.10

COMPLIANCE RATE: proportion of waged workers with social security contributions (%)

FIRING COSTS: index (see text for full description)

CONTROL CORRUP: control of corruption index (see text for full description)

LOG GDPCAP: log of GDP per capita

MICRO: employment share of micro-enterprises (%)

OPENNESS: GDP share of trade (%)

Source: own estimates based on OIT, Panorama Laboral, 2005 (compliance, 2003/04; employment); World Bank Labour Market Governance database (control of corruption, 2004); World Bank Doing Business database (firing costs, 2004); World Bank Development Indicators (GDP per capita, 2004; % trade in GDP, 2004)

**Table 4**  
**Determinants of compliance: Regression results**  
**Dependent variable: compliance rate in micro firms (up to five waged workers)**

	I	II	III	IV	V
CONSTANT	-17.074 (-0.587)	-74.383 (-2.066)	-18.152 (-0.592)	-15.010 (-0.4709)	-16.150 (-0.658)
CONTROL CORRUP	16.218 (4.392)*	--	15.670 (3.459)*	16.347 (4.193)*	18.393 (5.676)*
FIRING COSTS	--	-0.121 (-1.749)	-1.347E-02 (-0.229)	--	--
LOG GDPCAP	5.436 (1.516)	13.228 (2.981)**	5.675 (1.462)	5.329 (1.412)	3.594 (1.152)
UNEMPLOYM	--	--	--	--	1.360 (2.423)* *
OPENNESS	--	--	--	-1.779E-02 (-0.209)	--
N=15			--		
Adj R <sup>2</sup>	0.72	0.43	0.70	0.70	0.80

\* sign. 0.01    \*\* sign. 0.05    \*\*\* sign. 0.10

COMPLIANCE RATE: proportion of waged workers with social security contributions, micro firms (%)

FIRING COSTS: index (see text for full description)

CONTROL CORRUP: control of corruption index (see text for full description)

LOG GDPCAP: log of GDP per capita

OPENNESS: GDP share of trade (%)

UNEMPLOYM: unemployment rate (%)

Source: *ibid.* table 3 and OIT, Panorama Laboral, 2005 (unemployment rate in 2004)

**Table 5**  
**Determinants of compliance: Regression results**  
**Dependent variable: compliance rate in firms with 6 and over employees + public sector**

	I	II	III	IV	V
CONSTANT	-48.681 (-1.924)	-22.740 -0.705	-31.396 (-1.062)	-36.035 (-1.385)	-47.799 (-1.725)
CONTROL CORRUP	--	9.215 (2.250)**	4.817 (1.103)	--	--
FIRING COSTS	-0.141 (-2.907)**	--	-0.108 (-1.908)***	-0.123 (-2.542)**	-0.142 (-2.750)**
LOG GDPCAP	16.334 (5.237)*	12.088 (3.040)*	14.012 (3.748)*	16.335 (5.436)*	16.310 (4.997)*
PUBLIC EMPLOYM	--	--	--	-0.512 (-1.388)	--
OPENNESS	--	--	--	--	-9.182E-03 (-0.105)
N=15					
Adj R <sup>2</sup>	0.72	0.66	0.72	0.74	0.69

\* sign. 0.01    \*\* sign. 0.05    \*\*\* sign. 0.10

COMPLIANCE RATE: proportion of waged workers with social security contributions, larger firms/government activities (%)

FIRING COSTS: index (see text for full description)

CONTROL CORRUP: control of corruption index (see text for full description)

LOG GDPCAP: log of GDP per capita

PUBLICEMPLOYM: employment share of the public sector (%)

OPENNESS: GDP share of trade (%)

Source: *ibid.* table 3

**Table 6**  
**Cost of dismissal, control of corruption, GDP per capita and compliance**  
**Correlations (Pearson coefficients)**  
**Variable values: scale 1 to 3**

	compliance	firing costs	control of corruption	GDP per capita
compliance	1	-0.522*	0.661**	0.795**
firing costs	-0.522*	1	-0.706**	-0.307
control of corruption	0.661**	-0.706**	1	0.43
GDP per capita	0.795**	-0.307	0.430	1

N = 15

\* Correlation is significant at the 0.05 level (2-tailed).

\*\* Correlation is significant at the 0.01 level (2-tailed).

Source: own estimates based on *ibid.* table 3

## APPENDIX

**Table A**  
**Correlations, selected variables**

**Pearson coefficients**

	FIRING REGS	FIRING COSTS	EMPLOY- MENT INDEX
FIRING REGS	1	0.071	0.886**
FIRING COSTS	0.071	1	0.154
EMPLOYMENT INDEX	0.886**	0.154	1
N = 15			

\*\* Correlation is significant at the 0.01 level (2-tailed).

FIRING COSTS: index (see text for full description)

FIRING REGS: regulations on dismissal index (see text for description)

EMPLOYMENT INDEX: "rigidity of employment" index (see text for full description)

Source: own estimates based on data from World Bank Doing Business database for 2004

**Table B**  
**Correlations, selected variables**

**Pearson coefficients**

	FIRING COSTS	CONTR. CORRUP	LOG GDPCAP	RULE LAW	COMPL. MICRO	COMPL. REST	COMPL. TOTAL
FIRING COSTS	1.000	-0.473	-0.039	-0.394	-0.378	-0.444	-0.504
CONTROL CORRUP.	-0.473	1.000	0.514	0.958**	0.847**	0.694**	0.786**
LOG GDPCAP	-0.039	0.514	1.000	0.481	0.618*	0.764**	0.748**
RULE LAW	-0.394	0.958**	0.481	1.000	0.806**	0.632*	0.733**
COMPL. MICRO	-0.378	0.847**	0.618*	0.806**	1.000	0.792**	0.869**
COMPL. REST	-0.444	0.694**	0.764**	0.632**	0.792**	1.000	0.977**
COMPL. TOTAL	-0.504	0.786**	0.748**	0.733**	0.869**	0.977**	1.000

N = 15

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

FIRING COSTS: index (see text for full description)

CONTROL CORRUP: control of corruption index (see text for full description)

RULE LAW: rule of law index (see text for full description)

LOG GDPCAP: log of GDP per capita

COMPL. TOTAL: compliance rate (% workers with social security contributions)

COMPL. MICRO: compliance rate in micro-enterprises (%)

COMPL. REST: compliance rate in larger enterprises & public sector (%)

Source: own estimates based on *ibid.* table 3

**Table C**  
**Determinants of compliance: Regression results**

**Dependent variable: compliance rate**

**C.1.**

	I	II	III	IV	V	VI
CONSTANT	-72.626 (-2.745)	-27.378 (-0.822)	-40.725 (-1.391)	-70.514 (-2.669)	-22.315 (-0.831)	-31.368 (-1.315)
FIRING COSTS	-0.178 (-3.532)*	--	-0.121 (-2.210)***	-0.176 (-3.467)*	--	-9.741E-02 (-2.099)***
CONTROL CORRUPT	--	13.650 (3.216)*	8.252 (1.879)***	--	15.591 (4.425)*	11.227 (3.022)**
LOG GDPCAP	18.267 (5.414)*	10.851 (2.529)* *	13.673 (3.504)*	17.113 (5.223) *	9.284 (2.735)* *	11.367 (3.634)*
UNION	-0.243 (-0.872)	5.588E-01 (0.183)	-6.661E-02 (-0.248)	--	--	--
NONWAGE	--	--	--	0.194 (0.774)	0.501 (2.213)* *	0.407 (2.008)***
PERSONAL	--	--	--			
UNEMPL	--	--	--	--	--	--
EMPLOYM INDEX	--	--	--	--	--	--
FIRING REGS	--	--	--	--	--	--
N=15						
Adj R <sup>2</sup>	0.744	0.719	0.792	0.741	0.805	0.851

Table C (cont.)

## C.2.

	VII	VIII	IX	X	XI	XII	XIII	XIV
CONSTANT	-67.767 (-2.620)	-14.635 (-0.497)	-30.921 (-1.009)	-70.603 (-2.587)	-28.520 (-0.941)	-37.522 (-1.414)	-22.325 (-0.659)	-23.483 (-0.705)
FIRING COSTS	-0.187 (-3.709)*	--	-9.399E-02 (-1.384)	-0.178 (-3.425)*	--	-0.111 (-2.167)***	--	--
CONTROL CORRUP	--	17.178 (4.119)*	11.078 (1.860)***	--	14.703 (3.675)*	9.921 (2.417)**	14.968 (3.068)**	15.665 (2.710)**
LOG GDPCAP	16.668 (5.113)*	10.583 (3.022) **	12.605 (3.436)*	17.307 (5.165)*	10.078 (2.618)**	12.279 (3.526)*	10.181 (2.381)**	9.959 (2.217)**
UNION	--	--	--	--	--	--	--	--
NONWAGE	--	--	--	--	--	--	--	--
PERSONAL	0.542 (1.059)	-0.972 (-1.769)	-0.381 (-0.561)	--	--	--	--	--
UNEMPL	--	--	--	0.196 (0.283)	0.798 (1.152)	0.633 (1.048)	--	--
EMPLOYM INDEX	--	--	--	--	--	--	--	0.109 (0.539)
FIRING REGS	--	--	--	--	--	--	4.640E-02 (0.556)	--
N=15								
Adj R <sup>2</sup>	0.752	0.780	0.797	0.729	0.748	0.812	0.726	0.725

\* sign. 0.01    \*\* sign. 0.05    \*\*\* sign. 0.10

FIRING COSTS: index (see text for full description)

CONTROL CORRUP: control of corruption index (see text for full description)

LOG GDPCAP: log of GDP per capita

UNEMPL: unemployment rate (%)

UNION: rate of unionisation (%), see text for description

NONWAGE: non-wage labour costs (%), see text for description

PERSONAL: proportion of personal social security contributions in wage (%), see text for description

FIRING REGS: regulations on dismissal (index, see text for description)

EMPLOYM INDEX: "rigidity of employment index", see text for full description

Source: own estimates based on *ibid.* tables 3 and 4; Vega-Ruiz, 2004 (unionisation rate); Social Security Worldwide, [www.ilo.org](http://www.ilo.org) (personal social security contributions in 2003); World Bank Doing Business Database (non-wage labour costs in 2006, firing regulations in 2004, and "rigidity of employment" index in 2004)