

Promoting sustainable compliance: Styles of labour inspection and compliance outcomes in Brazil

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Abstract. *Can workers' rights and social protections be reconciled with firms' competitiveness and productivity? In contrast to current development policy advice, which emphasizes the "flexibilization" of labour laws, this article contributes to an ongoing debate about styles of inspection by exploring the causal links between different regulatory practices and economic development and compliance outcomes. Findings from subnational comparisons in Brazil challenge established theories about the behaviours of firms and regulatory agencies, and indicate that labour inspectors have been able to promote sustainable compliance (legal and technical solutions linking up workers' rights with firms' performance) by combining punitive and pedagogical inspection practices.*

In the past two decades, government regulatory activity has been increasing in regions as diverse as southern Europe, North Africa and Latin America, in a movement that has been recently characterized as a "regulatory renaissance" over the receding waters of neoliberalism (Piore and Schrank, 2006 and 2007). Policy-makers in France, Spain, Morocco, Argentina, Brazil, Chile, the Dominican Republic and other Latin American countries have devoted new resources

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to the enforcement of their labour and employment laws, in some cases even doubling the size of their labour inspectorates (Piore and Schrank, 2008).

The increase in government regulatory activity has moved the debate between labour rights activists and business beyond considerations of the desirability of government regulation, and one can currently observe a revival of scholarly production about models and styles of inspection and enforcement of regulation. Scholarly attention to variations in the implementation of laws and regulations by street-level inspectorates has increased as researchers have been trying to explain how and why regulatory agencies adopt a more stringent, punitive or a more flexible, educative approach in the performance of their legal mandates.

However, we still know very little about the causal links between these different styles of regulatory practice and the outcomes observed. The exploration of these links is the focus of this article, which reports on the findings of sub-national comparative research carried out in Brazil – a country often referred to as a textbook example of the perverse effects of labour regulation on economic development. These findings challenge established theories about firms' compliance with regulation and the behaviour of regulatory agents. **Explanations based either on raising the costs of non-compliance (deterrence model) or on providing advice and guidance to firms on how to comply with the law (pedagogical approach) fail to account for the behaviour of inspectors when they bring up positive change in industries that have traditionally operated out of compliance.** Rather, I suggest that sustainable compliance solutions – those capable of reconciling workers' rights with firms' performance – **result from a combination of both coercive and pedagogical enforcement strategies** (e.g. fines and education/assistance). I argue that combined enforcement strategies allow labour inspectors to learn about the obstacles preventing firms from complying with the law and to develop innovative local solutions. These compliance solutions include technological improvements, adaptations of the regulation to local/industry circumstances, and the sorting out of unnecessary, costly and inapplicable bureaucratic requirements from relevant institutions protecting workers and organizing markets.

This article aims to contribute to the ongoing debate by improving our understanding of how different regulatory practices (or styles of inspection) affect economic development and compliance outcomes. First, I review the debate in the literature about variation in styles of inspection and point out the lack of understanding about how inspection styles are causally associated with compliance outcomes. Next, I present the research design and data collection strategies, and describe the variation in the outcomes of labour inspection in Brazil with emphasis on the cases involving forms of sustainable compliance. In the subsequent section, I develop a micro-level analysis of the potential causal links between inspection practices and compliance outcomes based on both cross-case and within-case comparisons (successful versus non-successful cases and process tracing within successful cases). Finally, I conclude by assessing the explanatory power of the argument proposed and present some of the study's policy implications.

Varieties of inspection style: The debate in the literature

Starting in the 1950s, a growing body of studies about regulatory bureaucracies revealed the important distinction between law-on-the-books and law-in-action. The finding of the inevitability of discretion (Davis, 1969; Silbey and Bittner, 1982; Lipsky, 1980; Hawkins, 1992) frustrated the expectations that legal mandates would automatically be translated into policy action and prompted a debate about the need to understand the regulatory process and potential variations in the way laws are implemented by regulatory agencies and their workers.¹ Following this lead, observational studies (such as Bittner, 1967; Van Maanen, 1973; Wilson, 1968) penetrated regulatory bureaucracies and revealed that: (a) more often than not, the day-to-day activities of regulatory agents diverged significantly from the narrowly defined set of conducts prescribed in the law; and (b) the behaviour of these regulatory bureaucracies varied significantly across different organizations as well as across enforcement agents within the same organization.

In a classic example of the pioneering studies to have documented variations in regulatory style, Wilson (1968) observed the behaviour of patrol officers during the performance of their daily duties in eight communities in the United States (in three different states: New York, Illinois, and California) and found substantial variation in regulatory style. In some police departments, patrol officers were tolerant toward minor violations and emphasized orientation and order maintenance by balancing the application of the law according to the particular characteristics of the offence and groups involved; in other departments, patrol officers exercised their coercion power (punishment) for each and every deviation from the law, guiding their behaviour by general and impersonal rules.

In the decades that followed, scholars in the fields of socio-legal studies, political science and economics extended the inquiry about variations in regulatory style to other organizations, e.g. occupational health and safety (Kelman, 1984), consumer protection (Silbey, 1980–81), environmental agencies (Bardach and Kagan, 1982; Gunningham, Kagan and Thornton, 2006). The variation in approaches to law enforcement observed in these studies was systematized by Reiss (1984) into two generic models of social control: deterrence and compliance.

According to the deterrence model, compliance with regulation is the result of a cost-benefit analysis in which firms give up violating the law when the probability of being caught (surveillance) and the cost of punishment (fines) are higher than the benefits of non-compliance. Thus, under this model, inspectors are expected to find all possible sorts of irregularity and impose the prescribed penalty for each of them when they inspect workplaces (Becker, 1968; Stigler, 1971; Ehrlich, 1972; Tullock, 1974; Reiss, 1984; Polinsky and Shavell, 2000; Weil, 2005).

¹ According to Hawkins (1992), discretion is heavily implicated in the use of rules: interpretive behaviour is involved in making sense of rules, and in making choices about the relevance of rules.

In turn, the compliance model emerged in the 1980s as a criticism of, and response to, the negative impacts of the first model. Proponents of the compliance model and its variations – Bardach and Kagan, 1982; Ayres and Braithwaite, 1992; Hawkins, 2002; Braithwaite, 2006; Gunningham, Kagan and Thornton, 2006 – **argue that stringent enforcement practices based on adversarial and punitive relationships between regulators and regulated (deterrence model) lead to “unreasonableness” and create disincentives for compliance.**² Instead of deploying sanctions, inspectors taking this approach are expected to understand the spirit of the law and seek to attain its objectives by adapting legal requirements to different types of firms, prioritizing persuasion and advice over adversarial and punitive means of law enforcement (Piore and Schrank, 2006). According to Ayres and Braithwaite (1992, p. 19), “the more sanctions can be kept in the background, the more regulation can be transacted through moral suasion, and the more effective regulation will be”.

The rediscovery³ of the compliance model prompted great enthusiasm among students of regulation and regulatory agencies and stimulated a relatively large body of scholarly work on the conditions under which regulatory agencies choose between deterrence or pedagogical enforcement approaches. However, both the deterrence and the compliance models are more normative than descriptive. They offer instruction on what ought to happen rather than describing what does happen on the ground. And, even though a lot of attention has been paid in the past decades to explaining when and why these models are adopted,⁴ we currently lack empirical knowledge about the causal links between

² According to this literature, stringent enforcement practices divert efforts away from addressing root causes and solving problems by privileging the set of requirements listed in the manual, which are not necessarily the most serious sources of harm in each particular situation (“regulatory unreasonableness”). **Moreover, stringent enforcement creates resentment and unwillingness to cooperate in regulated firms, failing to produce the incentive necessary for firms’ attitude to change.** Finally, it creates a vicious cycle by fostering a culture of resistance and defensiveness in firms, which are thus induced to avoid penalties by curing the “symptoms” (violations) instead of the “disease” (production process), or by adopting minimum compliance strategies, i.e. compliance with only the strictly required measures (Bardach and Kagan, 1982).

³ There is a body of research on British factory inspectors in the early nineteenth century that also highlights the use of persuasion and pedagogy as a strategy commonly employed to bring firms into compliance (see Marvel, 1977; Arthurs, 1980; Field, 1990; Peacock, 1984; Nardinelli, 1985; Bartrip, 1985).

⁴ By now, this line of inquiry has advanced considerably in terms of identifying a list of important variables (operating at various levels of analysis) that explain the variation in enforcement approaches, including: *the type/characteristics of the legal regime or legal system – civil law vs. customary law* (Hawkins, 1992 and 2002; Braithwaite, 2006); *political-cultural traditions and conceptions of society – liberal vs. corporatist* (Piore, 2004; Kelman, 1984); *political environment and characteristics of the conflict and capture of regulators by regulated industries* (Silbey, 1984; Marvel, 1977; Hawkins and Thomas, 1984); *characteristics of regulated industries (firm size, number of firms) and organization of the production chain* (Lee, 2005; Shover et al., 1984; Weil, 2005); *classification of firms in terms of underlying reasons for non-compliance – amoral calculation, civil disagreement or incompetence* (Kagan and Scholz, 1984); *firms’ internal management systems and the role of firms’ compliance professionals* (Gunningham, Kagan and Thornton, 2006; Shover et al., 1984); *the influence of professional ideologies, values and reputation* (Hawkins and Thomas, 1984; Schrank, 2005a; Dobbin and Sutton, 1998); *organizational cultures, incentives, and resources* (Hawkins and Thomas, 1984; Bardach and Kagan, 1982); *work circumstances faced by bureaucrats* (Wilson, 1989); and *types of relationships and networks with external partners – NGOs, trade unions, etc.* (Ayres and Braithwaite, 1992; Pires, 2006).

different regulatory styles and actual compliance outcomes. Previous empirical studies repeatedly described variations in regulatory styles and variations in outcomes without establishing consistent correlations or without identifying the causal links between these two variables.⁵ As a consequence, we still have a very limited understanding about what kinds of regulatory practice and behaviour are associated with the promotion of sustainable forms of compliance (i.e. lasting and economically viable).

The outcomes of labour inspection in Brazil: Research, data collection and cases

The aim of this research is to contribute to filling the gap identified in the previous section by drawing from cross-case and within-case comparisons in Brazil. Indeed, sub-national comparisons offer better conditions for the assessment of causal inferences through more controlled experiments (Snyder, 2001); and Brazil offers a favourable environment for investigating the association between different inspection styles and development outcomes for two main reasons. First, since the country's re-democratization in 1985, the Ministry of Labour's inspection service (*Secretaria de Inspeção do Trabalho – SIT*) and the career of labour inspectors have been subjected to significant reforms, leading to higher organizational capacity and professionalization.⁶ Second, more often than not Brazil is cited by mainstream development economists as one of the most heavily regulated labour markets in the world⁷ (Botero et al., 2004; World Bank/IFC, 2006; Almeida and Carneiro, 2007) and a textbook example of how extensive labour regulations damage the ability of firms to compete in increasingly globalized markets (Johnson, Kaufmann and Zoido-Lobaton, 1998; Schneider and Enste, 2000; Friedman et al., 2000; Batra, Kaufmann and Stone, 2003; Perry et al., 2007). These

⁵ There are a few exceptions to this claim (e.g. Lee, 2005; Schrank, 2005b; Coslovsky, 2007; Almeida, 2007).

⁶ Since the late 1980s, labour inspectors have been recruited through competitive exams and offered a rewarding career path (one of the best-paid jobs in the federal civil service – executive branch). The authority for enforcing labour regulation is established at the federal level but its implementation takes place through a decentralized system and a relatively flat organizational structure. The work of approximately 3,000 labour inspectors, distributed across 27 state-level offices, is monitored by a computerized system (SFIT), which evaluates individual inspectors' performance against planned compliance goals while also giving them a relatively high level of discretion in terms of the means by which they achieve compliance. These inspectors are supposed to cover more than 78 million employed workers (both formal and informal) and 2.7 million registered firms in all 5,564 Brazilian municipalities. **Given the magnitude of the task, the number of inspectors in Brazil is only half that recommended by the ILO and lower, per 100,000 workers, than in some of its Latin American neighbours such as Argentina, Chile and Uruguay** (Piore and Schrank, 2007). However, even constrained by these resource limitations, Brazil's labour inspection service has received international acknowledgement for its outstanding and innovative programmes to eliminate forced labour and child labour.

⁷ In Brazil, firms have to comply with 922 items of the labour code, in addition to 46 items written into the Constitution, 79 ratified ILO Conventions, 30 health and safety norms (which add up to more than 2,000 items), and many other administrative acts and labour court rulings.

two characteristics define Brazil as a critical case for the investigation of how variations in inspection style impact compliance and development outcomes.

The data for this project were collected through in-depth interviewing, observation of inspectors' work routine, as well as archival search. Between December 2006 and September 2007, I conducted a total of 93 interviews averaging two hours each. Approximately half (40) of the interviewees were labour inspectors in two states (Minas Gerais and Bahia)⁸ and at the central level in Brasilia. I complemented and cross-checked (triangulation) the stories and data collected from these labour inspectors by interviewing another 53 actors who were involved in specific cases, including firm owners, managers, workers and representatives of business associations, trade unions and government agencies (e.g. National Health and Safety Institute, Attorney General's Office, the armed forces, development banks). As a result of fieldwork, I identified 24 cases in which labour inspectors intervened more or less successfully, and also unsuccessfully, in promoting the reconciliation of labour standards and economic development (table 1). The analysis of these 24 cases indicated three distinct types of outcomes.

The first type of outcome refers to situations in which labour inspectors failed to fulfil their mission as law-enforcers – i.e. their intervention did not bring firms into compliance with the law. For example, two years after Ford started operating its new auto-assembly plant in Camaçari (Bahia) in 2001, labour inspectors observed an upsurge of repetitive stress injuries among local workers. But, even though inspectors have been working on this case for more than four years, they have promoted very little change either in the way the factory operates or in the incidence of injuries. Similarly, granite quarrying firms in Papagaio (Minas Gerais) have long been known for environmental damage and occupational diseases caused by dust. Inspectors have been unsuccessful, over the past five years, in promoting compliance with basic items of the labour code among the mainly small firms operating in this area.

The second type of outcome refers to situations in which labour inspectors do succeed in enforcing regulation, but at the expense of firms' productivity or competitiveness. This category of cases illustrates the trade-offs between workers' rights and firms' performance, because compliance typically increases

⁸ The selection of cases in these two states is intended: (a) to operate as a critical test for the plausibility of the claim that labour standards and economic growth can be reconciled at the local level (law implementation, rather than national law-making); and (b) to provide variation in terms of levels of social and economic development. On the one hand, both states are least-likely places for implementing labour-friendly development strategies. Both states have a long industrial policy tradition based on the attraction of investments through fiscal incentives (more aggressively in Bahia), a relatively strong bureaucracy, and low political contestability: centrist-to-right-wing parties have been in state office for the past two decades, except in Bahia in 2003 (DFID, 2007). On the other hand, there are important differences between the two. Minas Gerais performs significantly better than Bahia on most social indicators (e.g. Human Development Index, illiteracy rate, mortality rate, among others) as well as most economic indicators, such as income distribution, Gini Index, GNP (UNDP, 2001). Moreover, previous studies (Avritzer, 2007) have demonstrated that civil society (including trade unions) is significantly more organized and vibrant in Minas Gerais than in Bahia.

Table 1. Patterns of outcome and cases investigated

Patterns of outcome	Number of observations and industry/location
<p>1 – Non-compliance:</p> <p>The intervention of inspectors does not result in significant improvements in firms' compliance with the law.</p> <p>T_0: non-compliance \longrightarrow T_1: non-compliance</p>	<p>6 observations (25 per cent):</p> <ul style="list-style-type: none"> – Telemarketing, Belo Horizonte – Minas Gerais; – Repetitive stress injury in Ford plant, Camaçari Bahia; – Ornamental stone quarrying, S.T.Letras and Papagaio – Minas Gerais; – Ornamental stone quarrying – Espírito Santo; – Sisal, Valente and region – Bahia; – Fireworks, Santo Antônio de Jesus – Bahia.
<p>2 – Compliance:</p> <p>The intervention of labour inspectors is successful at immediately bringing firms into compliance with the law, but does not create favourable conditions for firms to remain in compliance. In many of these cases, compliance leads to loss of competitiveness and productivity.</p> <p>T_0: non-compliance \longrightarrow T_1: compliance</p>	<p>8 observations (33 per cent):</p> <ul style="list-style-type: none"> – Charcoal production and reforestation, Camaçari area – Bahia; – Ceramics production, Camaçari area – Bahia; – Rural inspection (formalization) – Western Bahia; – Software workers' cooperatives, Recife – Pernambuco; – Footwear manufacturing, Jequié – Bahia; – Civil construction, Belo Horizonte – Minas Gerais; – Gold mining (Morro Velho), Nova Lima – Minas Gerais – Footwear manufacturing, Nova Serrana – Minas Gerais.
<p>3 – Sustainable compliance:</p> <p>The intervention of labour inspectors not only brings firms into compliance but also creates legal and/or technical solutions which work as positive incentives for firms to remain in compliance with the law. Compliance does not harm – and in some cases even enhances – firms' competitiveness and productivity.</p> <p>T_0: non-compliance \longrightarrow T_1: sustainable compliance</p>	<p>10 observations (42 per cent):</p> <ul style="list-style-type: none"> – Carnival-cordeiros, Salvador – Bahia; – Grain and seed production (consortium of rural employers), Paracatu/Unaí – Minas Gerais; – Auto-parts, Belo Horizonte metro area – Minas Gerais; – Fireworks, Santo Antônio do Monte – Minas Gerais; – Galvanization, São Paulo metro area (ABC) – São Paulo; – Petrochemicals (benzene), Camaçari – Bahia; – Eradication of forced labour (special mobile group) – Pará; – Auto-parts, São Paulo metro area (ABC) – São Paulo; – Pulp and paper – Southern Bahia; – Iron-ore mining, Itabira/Brucutu – Minas Gerais.

firms' production costs. Therefore, firms find little incentive to remain in compliance over time, except for the continuing threat of sanctions which is unlikely to hold up for very long given the regulators' resource constraints. For example, since the mid-1990s, labour inspectors have been repressing the contracting out by firms of their end-activities (as opposed to administrative activities) to

workers' cooperatives, which are considered as an illegal bypass of the labour code's requirements. In Recife, software firms have been arguing that directly hiring all workers – especially software designers who are paid by the products they develop – is not only inefficient but very costly. Accordingly, they resort to workers' cooperatives as a means of both reducing their costs and giving their designers more flexibility (e.g. working hours). By forbidding firms to resort to such cooperatives, labour inspectors have been successful at bringing firms into compliance with the law. However, as some firm-owners mentioned, they only need to wait until the inspector gets off their back in order to revert to the workers' cooperative arrangement. As firm-owners point out, it is cheaper to pay the fines if they are eventually caught by inspectors than to bear the costs of directly hiring all their workers.

Finally, some of the cases in the sample indicated the possibility of a third outcome, which I call *sustainable compliance*. In these cases, inspectors successfully promote the reconciliation of labour standards with economic development. In other words, inspectors bring firms into compliance with the law by finding legal and/or technical solutions that create positive incentives for firms to improve working conditions and remain in compliance. In the cases that resulted in sustainable compliance, inspectors devised new forms of employment contract and hiring arrangements, as well as technical solutions that made production processes simultaneously safer and more efficient.

In order to provide the empirical evidence supporting the identification of sustainable compliance outcomes, four such cases are described below in greater detail. These four cases capture important variations in terms of:

- areas of regulation (wage, working time and occupational health and safety standards);
- economic sectors (manufacturing, agriculture and services);
- firm size (small, medium and large);
- urban and rural areas; and
- states (Minas Gerais and Bahia).

These variations, in turn, suggest that inspectors have been able to promote sustainable compliance – i.e. reconcile social protection (workers' rights) and firms' performance – under varied social and economic settings.⁹

Devising new hiring arrangements

Brazil's wage and working time regulations, instituted by a 1943 law largely based on the typical characteristics of manufacturing jobs (e.g. long-term relationships), are supposed to be universally applicable to workers and employers

⁹ In contrast to other standard comparative methods, such as matched pairs, the methodology adopted in this article establishes controls through the variation between cases: if a process/mechanism (e.g. sequence of intervention, enforcement practices) observed within a case is consistent with that observed in other cases, which arise in very different contexts/situations (e.g. economic activity, state, etc.), we have a pattern with a relatively high explanatory power.

in all sectors of the economy. As a result, firms whose business is affected by seasonality, such as those in the service and agricultural sectors, face costly and bureaucratic hurdles to formalize their temporary labour force.¹⁰

The intervention of labour inspectors in the re-organization of the labour market in Salvador's Carnival indicates that formalization of workers is possible even in those industries that have traditionally grown by relying on informal labour.¹¹ The Carnival's origin dates back to colonial times,¹² but it took the shape of a commercial mega-event only in the past 20 years, when carnival groups (known as *blocos*) made the transition from cultural/recreational associations to business enterprises (known as *blocos de trio*). This transition involved the "privatization" of the *Trio Eletrico* – a truck equipped with a high-power sound system and a music group on top of it, playing for the crowd¹³ – through the use of ropes separating and protecting from the crowd those who have paid to play carnival inside *blocos*.¹⁴ Central to the creation of this new market are the men and women who hold these ropes and stand up as a human wall creating a "prime private street-party". *Blocos de trio* have been growing steadily in number and size as professionally-managed enterprises since the 1980s,¹⁵ and so has the demand for rope-holding labourers (known as *cordeiros*). In the past ten years, *blocos de trio* have hired on average 70,000 people every year to work as *cordeiros*, approximately half of all the temporary jobs created during the Carnival.

The employment relationship between *cordeiros* and *blocos de trio* has traditionally been informal and mediated by firms specialized in recruiting these workers in Salvador's poor neighbourhoods. Working conditions have always

¹⁰ In Brazil, a formal worker is a worker who possesses a work permit (known as *carteira de trabalho*) in which her/his employers must record all new employment contracts and any amendments to an existing contract, thereby building up the employee's employment history over time. The permit is the legal document that entitles workers to benefits paid for by the employer (e.g. wages, retirement benefits, unemployment insurance, etc.) while making firms liable to costs such as the taxes and contributions that finance social benefits.

¹¹ Salvador's Carnival is the world's largest carnival (according to the *Guinness Book of Records* 2005), in which a total of 1.2 million people crowd 26 km of streets during six uninterrupted days of celebrations, moving a total amount of US\$254 million and creating more than 130,000 temporary jobs, 75 per cent of which are informal (SECULT/SEPLAN-BA, 2007). According to Salvador's Bureau of Tourism (EMTURSA), in the past four years, the number of temporary jobs created during the Carnival has ranged between 130,000 to 185,000, including *cordeiros* (rope-holders), cooks, receptionists, tailors, street-vendors, musicians, stage assemblers and many others. Impressively, these numbers are more than enough to offset the city's unemployment rate (ranging between 10 and 16 per cent in the last four years, according to the Brazilian Institute of Geography and Statistics (IBGE)). In other words, the Carnival promotes temporary full employment in Salvador.

¹² See Miguez de Oliveira (1996) for an interesting retrospective of the origins of the celebration in Portugal and its evolution over the centuries up to its current structure in Salvador.

¹³ The truck is driven around the city with the crowd following, dancing and singing. It was originally staged by three Salvador musicians – Armandinho, Dodo and Osmar – in the early 1950s (Miguez de Oliveira, 1995).

¹⁴ The price of the *abadá*, the costume that differentiates those who have paid from those who have not, varies greatly across *blocos de trio*, ranging from US\$100 up to US\$900 per day for the most expensive ones.

¹⁵ In 2007, there were 43 *blocos de trio* (out of 207 carnival entities) servicing 194,000 party-goers.

been precarious, including non-payment or underpayment of wages¹⁶ and lack of basic health and safety conditions (e.g. gloves, ear protectors, adequate food and water). As a result of this unregulated pattern of employment relationship, mistreated workers never had any mechanism for redress while *blocos de trio* could never rely on this labour force – *cordeiros* would leave their *blocos* at will during work hours to perform any better-paid work on offer.

The existing labour code falls short of providing a specific set of regulations for this kind of short-term labour. Under current law, *blocos de trio* would have to register these workers formally, pay all fringe benefits, and fire them (paying the prescribed penalty) after a few days of work. From the *blocos*' perspective, this was not only costly but administratively challenging to process the bureaucratic requirements of hiring and firing 1,000 *cordeiros* (the annual average for large *blocos*). From the workers' perspective, it was undesirable to be stigmatized by having such low-status and short-term employment permanently registered in their *carteira de trabalho* (work permit).

Labour inspectors started to address this situation in 2003, when they targeted the industry as a whole (and not individual firms) and developed, in consultation with workers and firms, an alternative formal arrangement for temporary hiring – namely, a service provision contract specific to *cordeiros*, which is basically made up of clauses concerned with minimum daily rates, breaks, food, gloves, insurance against accidents, etc. This temporary employment contract established basic protections for workers while giving firms a viable way to formalize their labour force and provide better quality service for their patrons (i.e. *blocos*' organization and safety).¹⁷ In the past three years, some 25,000 of these contracts have been concluded per year between firms and *cordeiros*.

Seasonal demand for harvest-workers creates a situation for rural employers which is very similar to that faced by Salvador's carnival firms – a mismatch between existing employment regulation and the context in which firms carry on their business. In Brazil, agricultural activities account for 21 per cent of the occupied labour force, and 70 per cent of all agricultural wage-workers are informal on average – reaching up to 85 per cent in the Northeast (IBGE, 2005). To counteract this situation, the Ministry of Labour defined inspection in rural areas as a national priority, and labour inspectors in Minas Gerais intensified inspections in the state's new agricultural frontier (the Northwestern grain-producing municipalities of Paracatu and Unai) in the late 1990s. Inspectors found

¹⁶ Even when they are remunerated for their services, *cordeiros*' daily wages have traditionally been very low. For example, until 2004 *cordeiros* earned R\$14 for an 8–10 hours work day, the price of two slices of brie cheese sold in *camarotes* (VIP boxes for playing or watching carnival festivities).

¹⁷ By researching Internet blogs of usual carnival participants, I have found many stories in recent years of partygoers complaining about *cordeiros* who beg for spare change, water and food. There is even one case in which a *cordeiro* tried to steal the cap of a girl inside the *bloco*. By guaranteeing minimum conditions, *blocos* prevented these situations from happening with their patrons.

that the problem of labour informality was embedded in widespread illicit hiring arrangements – i.e. fraudulent labour cooperatives and intermediaries (*gatos*) – all designed to bypass legal obligations and costs. Medium- and small-scale rural employers in this region adopted these arrangements because they considered prohibitive the financial and administrative costs of formally hiring, say, 2,000 workers to harvest beans for 15 days under the *carteira de trabalho* system.

Labour inspectors pioneered the implementation of a solution that respected the legal principle of extending formal employment, while offering an efficient way to allocate temporary labour in rural areas, namely, the consortium of rural employers. This is a formal association of individual rural producers whose sole purpose is the direct hiring of rural workers. Unlike a producers' cooperative, a consortium is an association in which members' liability is limited only to labour-related issues (i.e. excluding production, distribution, etc.). Consortia are also different from labour cooperatives, in which workers get together to sell their labour force as a service for contracting firms. They are “collective rural employers” that hire individual workers in the same way that any firm formally hires a worker.

Consortia are not only a legal solution, alternative to illicit arrangements: they also allow for the reduction of labour costs for each individual producer. Consortium members share the burden of administrative costs, mandatory payments for workers' benefits (e.g. retirement benefits, unemployment insurance), and compliance with health and safety standards. For workers, consortia offer opportunities for longer-term employment, as they move on from farm to farm, and the right to enjoy all statutory benefits (e.g. minimum wage, vacations, unemployment insurance, etc.). Moreover, consortia simplify relationships between producers and inspectors, since the latter can monitor the operation of consortia (through monthly reports), instead of inspecting every single rural property, thereby reducing the “pressure” on farmers.¹⁸

As a result of these advantages, the establishment of consortia contributed to the formalization of 22,000 workers in 2000 (Miguel, 2004). In the following year, the numbers increased to approximately 65,000 workers and 3,500 rural producers in 103 consortia (Zylberstajn, 2003). Today, there are more than 150 consortia, including 46 in Minas Gerais, especially in irrigated areas or regions with diversified crops that allow for the staggering of harvests, where consortia have worked best.

Bringing health and safety into the production process

In Brazil, approximately 410,000 occupational accidents happen every year – i.e. 1,100 accidents every day, eight of which cause death (Baumecker and Faria,

¹⁸ According to a labour inspector in Minas Gerais, inspectors generally receive fewer complaints from workers and unions in areas where consortia have been established. Consortia also contribute to the social responsibility certification of many farmers, as reported by a representative of the National Confederation of Agro-producers (CNA).

2006¹⁹). One of the reasons for these numbers is the disconnection between health and safety norms “on-the-book” (legal requirements) and the productivity and competitive requirements to which today’s firms are subject. In many cases, the adoption of health and safety measures, as prescribed in the legal norms, significantly reduces the ability of firms to attain higher productivity levels.

This situation is especially acute in the auto-parts industry, which has undergone significant restructuring worldwide in recent decades as a result of trade liberalization policies and the implementation by auto assemblers of non-inventory strategies (e.g. “just-in-time” production). In Brazil, firms in this industry segment, which employs 309,400 workers, have been struggling to survive foreign competition by keeping high levels of production in order to meet their supply contracts with auto assemblers (Tewari, 2006).²⁰ As a result, occupational accidents are very common: 48 per cent of all accidents involving machines in Brazil are caused by punch-presses, the equipment used to stamp auto-parts on sheet metal (Piancasteli, 2004).²¹

However, the intervention of labour inspectors in the auto-parts industry in Belo Horizonte metro area indicates possibilities for reconciling safer working conditions with firms’ productivity. In 1999, Minas Gerais labour inspectors decided to prioritize the reduction of the number and severity of accidents involving punch-presses and similar equipment, since the state hosts the second largest agglomeration of firms in the metal-mechanic sector in Brazil (approximately 15 per cent of domestic production and more than 35,000 local jobs). In order to comply with the existing norm (NR12, 1978), auto-parts firms would have to replace all obsolete but operating punch-presses by more modern and safer equipment. And that was clearly beyond most firms’ financial capacity. The alternative to machine replacement was to fit protective equipment on existing punch-presses. But firms were also reluctant to do that: although the fitting of protection was not too costly (approximately US\$300 per machine), productivity loss was considerable once protections were installed (ranging from 15 to 30 per cent).

¹⁹ The cost of these occupational accidents amounts to US\$16 billion every year, i.e. 3–4 per cent of Brazil’s GDP. According to ILO data, these figures match the world average of 4 per cent of global GDP, i.e. 20 times more than the total amount of official development aid (Agência Brasil, 2007). In other words, Brazil’s occupational safety record occupies an intermediate position between most African and Asian countries, on the one hand, and OECD countries, on the other (Baumecker, Faria and Barreto, 2003).

²⁰ In Brazil, Mexico and South Africa, for example, intensified competition between assemblers’ global supply sources and domestic component producers has pushed established domestic auto-industry players out of the top segments of the value chain altogether, into other sectors, or out of the market (Tewari, 2006).

²¹ These accidents – involving laceration and amputation of fingers, hands and arms – are due in part to the obsolescence and lack of safety of the punch-presses in operation in the Brazilian metal-mechanic sector. A 2001 study found that none of the punch-presses traded in São Paulo state (including used and new machines) had adequate protection to minimize workplace accidents (Mendes, 2001).

In response to this situation, labour inspectors have been emphasizing widespread adoption of protection kits (instead of enforcing the replacement of existing machines) and developing ways to minimize the loss of machinery productivity (ranging from the search for more efficient protective equipment and ergonomics to the offer of subsidized credit for machinery protection). As a result of such efforts, by the end of 2005, 70 per cent of the 350 firms inspected in the Belo Horizonte metro area had adopted adequate protection for their punch presses, including the auto-assembler FIAT, which replaced all its obsolete machines by newer ones. In 2003, the number of accidents officially recorded in the auto-parts industry was reduced by 66 per cent in comparison to 2001 figures.²²

Productivity loss is not the only obstacle to firms' compliance with health and safety standards. In many situations, uneven competition between firms that invest in the safety of their production processes and their non-compliant domestic and foreign competitors prevents the spread of health and safety measures. This is especially true of the traditional or non-modern manufacturing activities performed mostly by small and medium-sized firms in Brazil's countryside (e.g. shoes, garment, etc.), which have been facing fierce competition from cheaper Chinese products in the past decade.

However, labour inspectors' intervention in a cluster of fireworks firms in Santo Antônio do Monte (SAM), in Minas Gerais, demonstrates that linking health and safety standards with product upgrading is not only possible but also a viable competitive strategy in internationalized markets. Brazil is the world's second largest producer of fireworks, following China, with 5 per cent and 85 per cent market shares, respectively. The cluster of approximately 100 fireworks firms located in five municipalities (each with approximately 20,000 inhabitants) around SAM accounts for 90 per cent of Brazil's domestic production of fireworks and provides employment for more than 17,000 workers (direct and indirect).

The SAM fireworks cluster grew steadily during the 1990s in terms of both numbers of firms and tons of products. But by the early 2000s, SAM's mostly small but formal firms faced two challenges. First, they had acquired a bad reputation in Brazil because of the high number of accidents not only in their own factories (with an average rate of six deaths per year due to explosions), but also in the hands of end-users (crackers and pyrotechnic shows). Second, with the elimination of all trade barriers over the 1990s, they were struggling to compete in their domestic markets with low-priced Chinese imports, which had gradually been pushing fireworks producers out of the market all over Latin America.

The high number of deadly accidents attracted labour inspectors' attention in 1998, who found that the SAM firms were all out of compliance with

²² The perceptions of both the metal-mechanic trade union and the inspectors (who keep track of incoming complaints from workers) corroborate the significant reduction of accidents since 2001.

Table 2. Summary of cases: Initial conditions and sustainable compliance outcomes

Economic activity/sector	Initial conditions	Outcomes
Carnival (services/tourism), Salvador – Bahia	Informality, poor working conditions (health and safety, and non-payment of wages), and problems with safety and organization of <i>blocos de trio</i> .	Temporary employment contracts (formalizing 25,000 workers per year), improved working conditions (e.g. minimum daily wage) and better quality service offered by <i>blocos de trio</i> .
Grain and seed production (agriculture), Unaí and Paracatu – Minas Gerais	Informality, poor working conditions and illicit hiring arrangements (fraudulent labour cooperatives and <i>gatos</i>).	Development of alternative hiring arrangement (less costly to farmers) for temporary harvest workers: consortium of rural employers, which formalized 65,000 workers in 2001.
Auto-parts (manufacturing), Belo Horizonte metro area – Minas Gerais	Non-compliance with health and safety standards (e.g. machinery protection) due to productivity loss.	Widespread adoption of machinery protection (approx. 250 firms in 2005), management (reduction) of productivity loss, and reduction of occupational accidents by 66 per cent in 2003.
Fireworks production (manufacturing), Santo Antônio do Monte – Minas Gerais	Poor working conditions, high rate of occupational accidents (six deaths/year), and low-quality and low-safety products.	Compliance with health and safety standards, improved working conditions (with reduction of accidents to one death/year), and product upgrading (quality certification and technical trade barrier).

health and safety regulations. Starting in that year, the team of labour inspectors learned about the industry's prevailing conditions and technicalities so as to be able to propose concrete and specific changes in the production process (e.g. substitution of dangerous chemical inputs, changes in the lay-out of facilities). As a result, the number and severity of accidents were reduced significantly (to an average rate of one death per year by 2005) and the quality of final products was improved. But product upgrading measures increased production costs – albeit only slightly – and therefore made competition with cheap and lower quality Chinese products even more difficult. Nevertheless, with the support and incentive of labour inspectors, SAM's firms have set up since 2006 a quality certification scheme leading up to a technical barrier for international trade (requiring the same quality standards for imported products). This initiative has been a major step towards improving the firm's ability to compete with Chinese products without lowering the industry's standards.

In this section, I presented four cases in which labour inspectors devised technical and/or legal innovations that produced sustainable compliance outcomes in varied social and economic settings (table 2). However, more import-

ant than pointing out concrete policy alternatives or models,²³ this research aims to identify the inspector behaviour and practices that lead to the development of compliance solutions, such as those described above, capable of positively affecting business operation and working conditions. Accordingly, the next section considers whether there is a causal link between styles of inspection and sustainable compliance outcomes.

Inspection styles and sustainable compliance

In order to explore the potential causal links between styles of inspection and sustainable compliance outcomes, I adopted a two-pronged strategy for comparative analysis. First, I analysed the data through cross-case comparisons (across the 24 cases in the sample) in order to search for patterns running across different cases and to identify what it is that distinguishes the cases in which labour inspectors produced sustainable compliance solutions. Then, I engaged in process-tracing and in-depth within-case analysis of the cases resulting in sustainable compliance in order to assess the causal links between labour inspectors' enforcement practices (independent variable) and the compliance outcomes (dependent variable) observed in each experience.²⁴

These comparisons revealed variations not only in terms of compliance outcomes but also in terms of the strategies and practices employed by inspectors in each case. I identified three distinct patterns in terms of inspection style that aligned in most cases with the outcomes. The first two patterns confirm the observations in the current literature, that is, inspectors behave either as policemen/punishers, administering sanctions as prescribed by the deterrence model, or as advisers/consultants as described by compliance approaches. But I also observed, in approximately one-third of the cases, that inspectors used a combination of these two approaches. Surprisingly, both cross-case and within-case

²³ The technical and legal innovations developed by labour inspectors in each of the situations described in this article are concrete policy alternatives that could easily be extended to other sectors of economic activity. For example, the consortium of rural employers could be a potentially useful tool not only in rural areas, but also for dealing with informality in the urban construction industry, where demand for labour peaks during certain stages of the construction process. The type of employment contract developed in the *cordeiros'* case could also be applied to other kinds of day-labour work. And finally, the certification scheme and technical barrier developed in the fireworks case could be adapted to other sectors that face uneven competition with foreign firms abiding low standards (such as footwear, furniture, garments, etc.), promoting domestic investments in the quality of products and production processes without loss of market share.

²⁴ Process-tracing and within-case analysis involve the evaluation of evidence about the causal processes and mechanisms that link the independent variable to the dependent variable, searching for the specific ways through which the first (e.g. inspection practices) is connected to the second (e.g. compliance outcomes). In contrast to cross-case analysis, process-tracing uses tools for causal inference (evidence collected from interviews, documents, etc. that exposes the links between independent and dependent variables) which do not depend on examining relationships between variables across cases. Within-case process tracing allows researchers to go beyond making inferences about the extent to which the hypothesized cause was found across cases in order to explore how and to what extent that cause produced the outcome for each case. A more detailed discussion of these methodological techniques can be found in Brady and Collier (2004) and George and Bennet (2004).

Table 3. Enforcement strategies and examples of cases

		Sanctions	
		Yes	No
Legal and/or technical assistance	Yes	1 – Combined strategy: e.g. Fireworks – SAM (Minas Gerais), Carnival-cordeiros (Bahia), Consortium of rural employers (Minas Gerais), Auto-parts (Minas Gerais)	2 – Assistance only: e.g. Sisal (Bahia), Fireworks – SAJ (Bahia)
	No	3 – Sanctions only: e.g. Telemarketing (Minas Gerais), Repetitive stress injury in Ford (Bahia), Rural inspection (Bahia), Footwear manufacturing (Minas Gerais and Bahia)	4 – No intervention: Empty

evidence suggest that the combination of sanctions with some form of technical/legal assistance was crucial to the development of the sustainable compliance solutions described in the previous section (e.g. reduction of the costs of compliance or upgrading into higher-value-added market niches). The following sub-sections present the empirical evidence supporting these findings. And table 3 contrasts the cases involving sustainable compliance outcomes with other cases in which labour inspectors were not willing or able to combine sanctions with assistance.

Cross-case comparisons

Cross-case comparisons indicate that cases in which inspectors used only coercive practices (table 3, cell 3) or only pedagogical strategies (cell 2) did not evolve as successfully in terms of the development of sustainable compliance solutions as the cases in which inspectors mixed sanctions with assistance (cases in cell 1). Examples of cases in which inspectors were not able or willing to employ sanctions against non-compliant firms/producers include interventions in the sisal-producing region (northeastern Bahia) and in the fireworks-manufacturing cluster of Santo Antônio de Jesus (SAJ), in mid-western Bahia. The sisal-producing region has long been known for its high rate of mutilations among rural workers operating a primitive rotating grinding machine that extracts the pulp material from the sisal fibre. But inspectors have been reluctant to impose sanctions in this case, given the difficulty of clearly identifying who is the employer and who is the worker in this region inhabited by small-scale rural producers and poor rural workers. Similarly, fireworks production in SAJ is based on small and informal domestic units. This makes it difficult for inspectors to identify and impose sanctions on firms in which accidental explosions occur. As a result, in both cases, inspectors have limited their intervention to pedagogical strategies – typically workshops on preventive techniques, educative

materials, and training sessions for workers and firm-owners – and have achieved only very small reductions in accident rates, without promoting a climate of change or any significant improvements in business practices and production processes.

In turn, the cases in which inspectors employed only sanctions, without following through with the provision of technical and legal support (pedagogical/assistance strategies), also evolved toward insignificant changes in the way non-compliant firms traditionally operate. In some of these cases, inspectors failed to promote any improvement in firms' compliance with the law. For example, labour inspectors in Minas Gerais identified an upsurge in repetitive stress injuries and mental health problems among workers in the telemarketing sector in Belo Horizonte's metro area. Violations of the health and safety regulations included denial of breaks (workers not allowed to leave their station to use the restroom outside of a few predetermined breaks) and excessive pressure on workers to work faster (they were expected to end each call within 30 seconds, under the penalty of losing bonus on their salaries). Inspectors issued fines against the largest telemarketing firms based in Belo Horizonte, but the latter started to move their operations out of the state in order to avoid inspection. I observed similar results in inspectors' attempts to deal with repetitive stress injuries at the Ford plant in Camaçari (Bahia) and silicosis and occupational accidents in ornamental stone quarrying in the states of Minas Gerais and Espírito Santo. In all these situations, inspectors issued sanctions but did not follow through with any sort of assistance, guidance or support. Therefore, these firms usually preferred to pay the fines – or pay lawyers to contest them in courts – rather than to invest money and time in changing the way they operated.

In other cases in which inspectors also limited their intervention to the imposition of sanctions, levels of compliance did increase in the aftermath of the intervention, but these outcomes proved unsustainable over time as most firms tended to backslide into non-compliance in the absence of inspectors' attention.

Routine rural inspection in western Bahia is an example of forms of compliance enforcement that decrease firms' competitiveness or productivity and, therefore, tend to be short-lived.²⁵ Inspectors from the Bahia Regional Labour Office (DRT) designed a very sophisticated information system (by unifying relevant databases) through which they were able to predict rural labour demand peaks during harvest time and plan ad hoc enforcement actions to catch the greatest number of informal workers and farmers at once. After identifying the "hot spots", a group of inspectors is assigned to crack down on rural producers employing informal workers by issuing all possible sanctions. They require farmers to formalize (*carteira assinada*) their temporary workforce immediately, and by doing that Bahia's DRT has become the "national champion" for its number of "formalizations". However, as the inspector in charge herself confessed, "we only achieved that when we were closely monitoring

²⁵ Another example was an intervention in software workers' cooperatives in Recife.

farmers. Every year the same farmers are back again hiring informal workers for harvesting periods.”

Similarly, in interventions in the footwear industry, both in Jequié (Bahia) and Nova Serrana (Minas Gerais), inspectors adopted solely coercive tactics to force the formalization of all workers in the factories. But since this increased firms’ production costs without any apparent gain, firms started subcontracting pieces of their production process (the sewing of shoe parts) to former employees working informally from their homes. In another case, involving charcoal production and reforestation, inspectors understood that small steel mills in the Camaçari area were liable for labour code violations committed by their subcontractors because the latter operated under exclusive contracts. Accordingly, inspectors used sanctions to force steel mills to end subcontracting practices and verticalize production, thereby incurring the costs of producing charcoal and reforestation without reaping any benefit from compliance with regulation in terms of their business operation.

In sum, by resorting to sanctions, inspectors have been successful in these cases in driving firms’ behaviour temporarily away from informality, but the lack of any form of legal and/or technical assistance has prevented the development of more sustainable compliance solutions – such as those described in the previous section (e.g. consortium or rural employers, new forms of hiring, etc.) – in which firms find incentives to remain in compliance.

Within-case and process-tracing analysis

The cross-case differences analysed above indicate that the combination of coercive and pedagogical strategies might play a significant role in explaining sustainable compliance outcomes. In this subsection, I engage in process-tracing analysis within each of the four successful cases (table 3, cell 1) to confirm the causal links between the combined use of sanctions and technical/legal assistance, and the development of sustainable compliance solutions.

“Sanction as the first step of good advice”

The interventions in the SAM fireworks production clusters and in the Paracatu/Unaí grain-producing region (consortium of rural employers), both of them in Minas Gerais, are good illustrations of what a labour inspector once told me: “sanction is the first step of good advice”.

In both cases, the inspectors in charge told me they anticipated adverse conditions in the field and realized that they had to create a climate of change in these districts and find forceful ways to convey that the current ways of doing business would no longer be tolerated. Up to 1998, fireworks production in SAM was still very artisanal and unprofessional. The labour jurisdiction prosecutor (MPT),²⁶ who was brought in on the case by the labour inspector, also reported

²⁶ The *Ministério Público do Trabalho* (MPT) is a prosecutor’s office dedicated to the enforcement of the labour code, with the prerogative of bringing class-action suits in the labour courts.

that: “When we got there we noticed that in almost all factories they had little images of saints hanging on the wall at the most dangerous stages of the production process. These were their protection and safety measures.” The inspector in charge explained:

They were accustomed to the average of six deaths every year. That was part of the town’s culture. They believed that accidents were unfortunate, but natural. And the fireworks activity was necessarily risky; some time someone would die. They often compared the risks in their activity with deaths in transit and roads. They used to tell me that more people die in the roads than in the fireworks industry. We had to break with this complacency. ... We had to show them that such a risk ratio was unacceptable.

Up to the late 1990s, grain and seed producers in Minas Gerais’ north-western region had been spared from labour inspection for decades due to jurisdictional disputes within the inspection service (between Minas Gerais and Distrito Federal Regional Labour Offices). In the absence of law enforcement in this region of relatively recent agricultural expansion, labour relations have traditionally been precarious: in 1998, when labour inspectors came in, they even found forms of forced labour in grain- and seed-producing farms in the municipalities of Unaí and Paracatu. Medium-sized grain producers, who represented the economic and political powers in this region, were openly averse to the formalization of rural labour.

Again, in both the fireworks cluster and the grain-producing region, given the initial condition of widespread non-compliance and the weakness of local trade unions, inspectors: (a) adopted an encompassing strategy of targeting all firms/farmers within their respective municipality/region; and (b) came down heavily on firms/farmers, strictly applying the labour legislation. This resulted in the issuance of hundreds of fines upon firms/farmers, and in threats of criminal lawsuits against fireworks firms and of seizure of farmers’ estates for purposes of land reform. These “sector-wide” coercive shocks created an atmosphere of uncertainty and signalled the need for change, prompting discussions between regulated and regulators about the direction of such change. In the two cases, firms and farmers contested inspectors’ enforcement actions by arguing about how each specific item of regulation could or could not be adopted by firms/farmers if they wanted to remain in business (examples in the following paragraphs). This was the point at which the technical and/or legal assistance provided by inspectors played a decisive role in promoting compliance solutions in these two stories.

In the SAM fireworks episode, as a result of such contentious interactions, inspectors re-evaluated, flexibilized or even backtracked in the short-term from some of the legal requirements they were enforcing.²⁷ By doing

²⁷ Examples, mentioned by firm-owners, of requirements re-evaluated by regulators included: signs indicating evacuation routes in case of explosion (“when there is an explosion it is like a stampede, no one looks for signs”, narrated a firm-owner); specific anti-static boots not available in the domestic market; and washing of employees’ uniforms everyday “in-house” by the firm.

so, they got approximately 90 per cent of the firms (including lead-firms in the cluster) to sign a collective consent decree (*Termo de Ajustamento de Conduta*, hereafter referred to as TAC), which included a compliance schedule for a set of basic health and safety requirements varying by firm size²⁸ and instituted even more severe penalties (than those initially administered) in case of non-compliance. For some of the requirements included in the TAC, inspectors went beyond just offering a compliance schedule and provided direct technical assistance in partnership with a chemical engineer from *Fundacentro* – the Government's national research institute of occupational health and safety, linked to the Ministry of Labour. One example of such assistance is the advice and training provided to firms about the substitution of potassium perchlorate for the potassium chlorate traditionally used in the explosives manufactured by SAM firms but officially banned in many other countries. The inspector and the chemical engineer guided firms through the process of adjusting previous formulae and mixtures in order to make SAM fireworks safer without lowering product quality. The firm-owners interviewed unanimously agreed that the replacement of potassium chlorate by potassium perchlorate had been a key measure in reducing the number of accidents without substantially increasing production costs.

Similarly, in the consortium case, equally contentious interactions between regulated and regulators sensitized inspectors to the fact that alternative forms for formally hiring temporary rural workers were needed because the existing regulation imposed unduly heavy financial and bureaucratic burdens on producers. Minas Gerais inspectors had heard from their peers in the states of São Paulo and Paraná and from MPT attorneys about unsuccessful attempts to formalize rural employers' consortia. In 1999, they planned a technical site visit to Rolândia, Paraná, where a group of sugarcane producers were fighting in court for the validity of their hiring arrangement. The inspectors realized that they could adapt and improve upon that arrangement to remedy the situation they were facing in north-western Minas Gerais. With technical support and legal assistance from MPT attorneys and two labour attorneys from Paraná, they turned the consortium into a legal instrument (a formal agreement among producers) which: (a) respected the basic principles of the labour code and other laws regulating rural employment; (b) guaranteed mandated protections and benefits for workers (e.g. retirement benefits, unemployment insurance, etc.); and (c) reduced the burden of formalization on each individual producer, since consortium members could share the administrative and financial costs of formally hiring workers (as described above). According to one inspector, "we beat them up with fines, but we also offered the consortia as an alternative to the basic provisions of the labour code. We showed them that the adoption of the consortia

²⁸ In general, labour inspectors granted the smaller firms longer deadlines, and all firms benefited from extended deadlines for the more technically complex requirements (e.g. construction of new facilities, laboratory for tests, etc.).

would be a cheaper way to comply with the law.”²⁹ After dozens of consortia had been established in the Paracatu/Unaí area, inspectors organized workshops in ten state capitals and drew up a detailed step-by-step manual on how rural producers in other parts of the country could set up consortia of rural employers.

“Why should I care about your advice? This is how I’ve been doing business since...”

In contrast to the two experiences analysed above, the sequence of interventions was just the opposite in the cases of the carnival-*cordeiros* and the auto-parts industry (punch-press protection), respectively in Bahia and Minas Gerais. The interventions in these cases started out with pedagogical strategies, but they only produced meaningful results later, when inspectors combined their ongoing efforts with heavy sanctions.

In the carnival case, the inspectors initially attempted to discuss the issue of formalizing *cordeiros*’ work with the three existing associations of *blocos de trio* in Salvador. They sent out a notification inviting the *blocos* and their subcontractors to a meeting and requesting from them the lists of workers to be hired for the upcoming 2003 festivities. As the *blocos de trio* in Salvador had always hired *cordeiros* informally, their associations were neither willing to nor interested in changing the status quo, and they never responded to the inspectors’ notification. Bahia’s DRT therefore sent out 40 inspectors to verify working conditions during the street celebrations. They issued fines for every irregularity they found (amounting to US\$100,000 in the case of the largest *bloco* in Salvador, for a total of 400 fines due to lack of formal registration on *cordeiros*’ work permits).

Only then did the *blocos* respond through their associations, still resisting and contesting inspectors’ enforcement actions.³⁰ They argued that formalizing hundreds of *cordeiros* for a few days under the system *carteira de trabalho* was administratively impossible and financially too costly. The *cordeiros* themselves also resisted the formalization of their work. According to the vice-president of the recently formed *cordeiros*’ trade union,³¹

Many of us don’t want to have a formal contract registered in our work permit [*carteira de trabalho*]. Many *cordeiros* don’t even have a work permit or any of the other documents needed to go through the bureaucratic process of having our contracts formally registered in our work permits. Most people don’t want to be stigmatized by having the word “*cordeiro*” written in their work permit and by having been hired and fired within a few days.

²⁹ Since the late 1990s, Minas Gerais has been the state with the highest number of established rural consortia in Brazil. It is also the state with the highest number of fines issued during inspection in rural areas. For example, in 2005, its inspectors issued nearly three times as many fines as their peers in São Paulo, Mato Grosso, Maranhão, Pará, Goiás and Tocantins, and six times as many as inspectors in Bahia, which are all states with large agricultural sectors.

³⁰ Many firms contested the fines in court. But early in 2007, Bahia’s labour court decided to uphold the fines, which has enhanced the credibility of inspectors’ threats upon firms.

³¹ The *cordeiros*’ trade union was established in 2003, after inspectors intervened in carnival labour relations.

In response, the DRT created a study group composed of inspectors to consider and analyse the options for resolving this conflict, because as one inspector commented, “[we] didn’t know how to use the law in this specific case, involving such an atypical form of labour”. After a three-month series of meetings with the associations of *blocos de trio* and workers’ representatives, the inspectors decided to give up the *carteira de trabalho* requirement provided that all *blocos* signed a collective agreement establishing a new hiring arrangement. As an alternative to the *carteira* requirement, the agreement recognized the possibility of classifying *cordeiros* as “individual service providers” (instead of directly employed workers), thereby allowing them to conclude service contracts with *blocos* or their subcontractors.³² The collective agreement was signed by 178 for-profit and non-profit *blocos*, with distinct provisions for each type of organization.³³ It included a template service contract made up of clauses related to terms of employment and working conditions, such as minimum daily wages, health and safety conditions (gloves, ear plugs, sunscreen, etc.), and insurance covering any accidents and health care needs.³⁴ After the signing of the agreement, inspectors in collaboration with Salvador’s health department distributed a flyer on the streets describing *cordeiros*’ labour rights and the content of the collective agreement.

The auto-parts case reflects a similar experience, as inspectors invested first in providing technical assistance to firms in order to improve compliance rates. They insisted on doing so even after a failed attempt to mediate a collective agreement over the protection of punch-presses between the metal-mechanic trade union and the Minas Gerais State Federation of Industries (FIEMG) in 1999–2000.³⁵ In 2001, they set up a task team composed of nine inspectors, an MPT public attorney and *Fundacentro* researchers, with the aim of overcoming their lack of technical knowledge on how these machines work and at standardizing their enforcement procedures so as to avoid any inconsis-

³² The current interpretation of the labour courts in Brazil forbids the subcontracting of end-activities (as opposed to auxiliary/administrative activities, in which subcontracting is allowed). But labour inspectors took the view in this case that, since there is no personal relationship between the *blocos*’ managers and *cordeiros*, the latter can be considered as service providers, as opposed to regular workers.

³³ The collective agreement is signed every year, to allow for new negotiations (on matters such as raising the minimum daily wage), and inspectors monitor compliance with its terms. In 2007, inspectors drew MPT attorneys into the operation, increasing their sanctioning power (amount of fines) by transforming the collective agreement into a “consent decree” (TAC).

³⁴ The insurance was included in the contract as a way to compensate for the administrative difficulties of paying the required social security contribution for each worker (many *cordeiros* did not have a social security registration number). So, whenever it was not possible to pay social security contributions, *blocos* or their subcontractors had to purchase insurance for each *cordeiro* in order to cover individual accidents or health care needs.

³⁵ According to some interviewees, the collective bargaining failed because the trade union wanted to include demands other than machinery protection, such as job stability and steward committees. According to others, the agreement never materialized because the FIEMG did all it could to delay its conclusion and demanded a very long period for full compliance (protection of all machines).

encies (which could be used against them in court). According to one of the inspectors on the team,

We used to hold regular meetings during this operation to discuss inspection practices and accumulate technical knowledge from each other's experience; our team also worked as a study group and we studied the functioning of these machines, the catalogues of protective equipment producers, all in order to know the best alternatives to manage productivity loss, and all materials written on fellow inspectors' experiences in other states, such as São Paulo and Rio Grande do Sul.

As a result, they invited 120 auto-parts firms (the target group) to a workshop at *Fundacentro*, in which firms received collective notification of non-compliance and detailed technical instructions on what they must do to bring their machines into compliance with safety standards (actually describing what specific equipment was required and how to install it).

But even though inspectors provided technical instructions and assistance to firms, they found out a few months later that 98 per cent of the firms in the target group still had unprotected machines, and the accident rate was still very high (averaging 2 accidents per month involving mutilation, in the Belo Horizonte metro area). The inspectors responded by shutting down the operation of all unprotected punch-presses and similar equipment. By 2005, approximately 400 punch-presses or similar equipment had been suspended from use in 59 firms – i.e. 50 per cent of the target group – with some firms having 100 per cent of their machines suspended.³⁶ While forbidding the operation of these machines, inspectors also collected more evidence and documentation to be used by the MPT attorneys and relatives of accident victims in the filing of criminal lawsuits against firms. As a result of such “heavy-handed” enforcement, firms fixed their machines and got clearance from inspectors for approximately 70 per cent of all the suspended punch-presses: in some cases, machines were fixed in less than a week. The labour inspector in charge of the intervention commented:

It was necessary to put a lot of pressure on firms to get them to change their practices ... forbidding the operation of their machines, which represented a major problem for suppliers to fulfil their contracts with FIAT, finally made firms realize that change was necessary; previous notification letters and fines did not “touch” them.

Inspectors are still working to improve the firms' productivity while continuing to monitor them.³⁷ As a result of this ongoing process, a market for

³⁶ An Italian director of production of an auto-parts firm complained: “In Italy there is not one punch-press with a light sensor [protection required by labour inspectors] ... this place [Brazil] is not in the third world, this is the Germany of South America”. At the same time, however, he noted that: “enforcement has been very intense upon us but inspectors have been very supportive in the process of adapting our production processes to meet regulations”.

³⁷ Since 2003, when labour inspectors participated in a public hearing in the state legislature's labour committee to discuss the problem and raise awareness about the need to improve working conditions in the auto-parts sector, they have been promoting workshops and seminars about protection of punch-press and similar equipment.

consulting and technical assistance has emerged in the past five years, and commercial consultancies have been assisting auto-parts producers in dealing with the challenge of improving both machinery safety and productivity (through training, protection project design, ergonomics, more modern protection equipment, maintenance, etc.).

Back to the debate on inspection styles: A new approach?

The findings presented in this article suggest that both the deterrence and the compliance models are limited or, at best, incomplete in explaining the promotion of compliance with regulation and the reconciliation of labour standards and firms' performance. In contrast to these models, the previous section demonstrated that the achievement of sustainable compliance outcomes requires a well-engineered combination of sanctions and advice/assistance, for the following reasons. *First*, my findings corroborate the pedagogical critique of the deterrence model and indicate that coercion alone is not enough to change business practices. In many instances, firms are ill-prepared and lack the capacity to change and upgrade their products and production processes even under the heaviest sanctions. Yet firms themselves are usually unaware of measures they could easily implement to facilitate compliance or to transform compliance into good business. *Second*, in contrast to the arguments of the proponents of the "pedagogical turn" implied by the compliance approach, my findings suggest that inspectors are ill-equipped and often unprepared at the beginning of their interventions to teach, convince or advise firms on what they should do to comply with the law and modernize their business practices. Inspectors have a broad mandate and typically do not know all industries well enough to intervene and solve critical compliance problems. For these reasons, firms are not always open to inspectors' advice, nor are they willing to change the way they are used to doing business at the inspectors' request.

I therefore argue that the interpretations underlying both the deterrence and the compliance models fail to understand how sustainable compliance outcomes are achieved. Indeed, only the combination of these inspection styles can explain the processes through which: (a) firms open themselves up for change; (b) inspectors learn about the obstacles inhibiting firms' compliance (the specific characteristics of each industry and their markets); and (c) inspectors identify – or support the development of – such legal and/or technological solutions as may be needed to reconcile compliance with economic efficiency.

A key point neglected by both the deterrence and pedagogical approaches is that sanctions (e.g. fines, debarments, etc.) can also serve as symbolic and expressive devices (Hawkins, 2002), especially when labour inspectors administer them through sector-wide strategies (i.e. not against individual/isolated firms). Beyond their strict cost-imposing character, sanctions work as a moral statement on an undesirable and offensive practice, thereby also constituting an organizational strategy for focusing public attention and shame on a specific

situation, as demonstrated by some of the cases above. As symbolic and expressive devices, sanctions also elicit firms' arguments for resisting the unfairness of punishment and thus work as a strategy for concentrating their concern on the specific aspects of the regulation which are unreasonable and do not lead to the mitigation of the problem or harmful working condition at issue.

As a result, sanctions and the resistance they provoke generate a productive (though often contentious) dialogue and a learning process through which many of the obstacles and/or disincentives for compliance are brought up. These various obstacles, in turn, become the central focus for the provision, by inspectors collaborating with other government agencies, of the technical and/or legal assistance necessary to bring firms into compliance with existing regulations. Such conflictual interaction between regulated and regulators, involving both coercion and advice/assistance, is the very process through which inspectors promote a climate of change and learn about the particulars of each industry and how they should adapt the law (through its implementation) to match them.

The comparative analysis developed in this article aimed at explaining the variation in compliance outcomes in Brazil by identifying the causal links between observed outcomes and labour inspection styles.³⁸ Looking at the entire sample of cases investigated for this research, table 4 shows the high correspondence between patterns of compliance outcomes (described in table 1) and inspection styles (described above). The high correspondence between the observed outcomes and the explanatory conditions provides a relatively strong explanation for the impact of inspection styles on the variation of compliance outcomes.

The sample of 24 cases is not meant to be representative of all the cases Brazilian labour inspectors deal with. Rather, the purpose of this sample is to capture as much variation as possible in order to test the claims about causal links between inspection styles and compliance outcomes under the most diverse conditions. Out of the sample, I chose four cases of sustainable compliance for in-depth analysis. However, these were not the only cases illustrating the association between combined inspection strategies (sanction and pedagogy) and sustainable compliance outcomes. During the course of my fieldwork, I also identified sustainable compliance outcomes in industries as diverse as petrochemicals (Camaçari, Bahia) and galvanization (ABC, São Paulo), and in the eradication of contemporary forms of forced labour in rural areas in northern Brazil (mainly in Pará state). In the petrochemicals and galvanization industries, very low levels of compliance with health and safety regulations coexisted with relatively high rates of occupational disease (including cancer) due to workers' exposure to benzene and zinc-based chemicals. In these two cases, labour inspectors used their coercive power – by issuing sanctions and summoning other regulatory agencies, such as the State Attorney General's Office, to do the

³⁸ It was not the goal of this research – or of the underlying research design and data analysis – to provide insights into the conditions that lead labour inspectors to choose a particular style or practice rather than another in each case. This will be the focus of a forthcoming study.

Table 4. Correspondence between case outcomes, inspection styles, and explanatory conditions

Inspection style	Type of outcome			Number of cases (for each inspection style)	Associations (between practices and outcomes) corresponding with explanatory conditions
	Sustainable compliance	Compliance	Non-compliance		
Combined (coercive + pedagogical practices)	1. Carnival- <i>cordeiros</i> , Salvador – Bahia; 2. Grain and seed production, Paracatu/Unaí – Minas Gerais; 3. Auto-parts, Belo Horizonte metro area – Minas Gerais; 4. Fireworks, Santo Antônio do Monte – Minas Gerais; 5. Galvanization, São Paulo metro area (ABC) – São Paulo; 6. Petrochemicals (benzene), Camaçari – Bahia; 7. Special mobile group on forced labour – Pará;	8. Construction, Belo Horizonte – Minas Gerais;		8	7
Punishment/sanctions only	9. Iron-ore mining, Itabira/Brucutu – Minas Gerais;	10. Charcoal production and reforestation, Camaçari area – Bahia; 11. Ceramics production, Camaçari area – Bahia; 12. Rural inspection – Western Bahia; 13. Software workers' cooperatives, Recife – Pernambuco; 14. Gold mining (Morro Velho), Nova Lima – Minas Gerais; 15. Footwear manufacturing, Jequié– Bahia; 16. Footwear manufacturing, Serra Serrana – Minas Gerais.	17. Telemarketing, Belo Horizonte – Minas Gerais; 18. Repetitive stress injury in Ford assembly line, Camaçari – Bahia; 19. Ornamental stone quarrying, S.T. das Letras and Papagaio – Minas Gerais; 20. Ornamental stone quarrying – Espírito Santo;	12	11
Guidance/pedagogy only	21. Auto-parts, São Paulo metro area (ABC) – São Paulo; 22. Pulp and paper – Southern Bahia.		23. Sisal, Valente and region – Bahia; 24. Fireworks, Santo Antônio de Jesus – Bahia.	4	2

same – and worked together with the largest firms in these industries to build a tripartite system for monitoring the handling of dangerous chemicals by these firms' suppliers and subcontractors. The case of forced labour in the rural areas of Pará state is another example in which labour inspectors combined heavy sanctions on farmers with other strategies such as the creation of a “dirty list” – a list of the employers involved in cases of forced labour – which is used by banks and credit institutions to deny agricultural loans for non-compliant producers.

In another of the cases in the sample, inspectors also employed a combination of sanction and assistance, but failed to achieve the expected sustainable compliance outcomes. Even though their intervention – aimed at improving safety conditions in the construction industry in Belo Horizonte – involved fines, negotiation and training, firms still had incentives to evade compliance in order to reduce production costs. Conversely, there are also cases in which inspectors employed only sanctions or only pedagogical strategies, but still ended up producing sustainable compliance outcomes. These include the collective agreements mediated by inspectors in the auto-parts industry (ABC, São Paulo) and the pulp and paper industry (Southern Bahia); and the termination of subcontracting practices in Vale's iron ore mining in Itabira, Minas Gerais, once the firm realized the cost-saving advantages of directly hiring miners.

The fact that these cases do not confirm the association between combined enforcement practices (sanctions and assistance) and sustainable compliance suggests that the argument developed in this article is not “deterministic”, but rather “probabilistic” – i.e. combined enforcement practices are more likely to lead to sustainable compliance than non-combined strategies (see table 4). The margin of error implied by the above cases is a reminder that many other variables not examined in this article – e.g. the level of organization of business associations and unions, market upturns and downturns, pressures from domestic and foreign buyers, among others – might interfere by creating new opportunities and constraints for both firms and inspectors to agree on the promotion of sustainable compliance. However, the strength of the present argument – which suggests a strong (albeit non-deterministic) association between the combination of practices and sustainable outcomes – lies in its ability to challenge existing models of regulation and provide a grounded understanding of the process through which different inspection practices affect firm behaviour.

Conclusion

This article shares with previous studies the idea that “labor inspection might constitute the vehicle for a much broader approach to economic development – one that brings firms up to the standards imposed by their regulatory obligations rather than bringing regulatory obligations down to the productivity levels characteristic of firms” (Piore and Schrank, 2006). However, this research sought to go beyond recognition of this potential for labour inspection. The extensive fieldwork conducted under this project provided a grounded understanding of the labour inspection practices associated with sustainable compliance outcomes,

those in which the improvement of working conditions is reconciled with firms' search for competitiveness and productivity.

This article aimed to contribute to filling the gap in the debate about styles of regulation (deterrence vs. compliance) by focusing on the impact of inspection practices on firm behaviour. By doing so, it has offered concrete policy suggestions to labour inspectors and inspection service managers aimed at enhancing the effectiveness of their efforts to promote firms' compliance with regulation. Nevertheless, more research on the topic is still needed in order to improve our understanding of why inspectors adopt different enforcement practices in particular situations. I hope the analysis developed here encourages researchers in different countries to explore the connections between styles of inspection and compliance outcomes.

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