

# Does the Left Breed Economic Informality?

## Party Strategies and Selective Enforcement in Brazil

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Leftist governments with strong links to organized labor are expected to increase the number of people protected by job security rules. But do they? The long period of rule by left-leaning governments in Latin America since the early 2000s offers opportunities to test this supposition. As part of a broader project, I explore whether the left in power at the local level in Brazil uses its influence over labor inspectors to crack down on enterprises that employ non-contract, informal-sector workers. With a close-election regression-discontinuity design, I show that mayors from the Workers' Party (PT), far from encouraging a shift from unprotected (informal) to protected (formal) jobs, in fact increase the size of the informal sector. My analysis reveals that the PT pursues a strategy of keeping barriers-to-entry to the formal sector, slowing down labor enforcement within small firms, and at the same time improving working conditions for informal-sector workers by incorporating them into worker-run informal sector enterprises. The PT's labor-market policies reflect its need to build a broad lower-class electoral coalition, one that includes both informal and formal-sector workers, whose preferences are in some ways at odds.

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The left in Latin America came to office, in the early 2000s, at a time when state-led models of economic development were collapsing and when the working classes increasingly found themselves in informal-sector jobs, without contracts or access to social security or other regulations and protections. Leftist governments might be expected to try to reverse this trend and expand the size of the formal sector, extending contracts, regulations, and protection to larger numbers of workers. After all, these parties had historic ties to labor unions. Brazil's *Partido dos Trabalhadores* (PT, or Workers' Party), in particular, grew out of the labor movement; the first PT leader to become the country's president, Luiz Inácio Lula da Silva, had been president of the powerful Metalworkers' Union.

Yet, the strategies and impact of the left confound this prediction. The informal sector has often grown, not shrunk, under leftist governments. To understand why, it is important to consider a dilemma that the Latin American left has faced, particularly in the region's more industrialized and urbanized countries. Like parties elsewhere, the left has had to mobilize support among multiple constituencies, some of whose interests are in conflict with one another. Electoral pressures mean that the left has to appeal both to a core constituency of unions and formal workers, and to a more marginalized constituency of unemployed and informal-sector workers. These lower-class citizens have distinct and in some ways competing interests. Formal workers want higher wages and improved job security. They have few incentives to extend benefits to other groups.<sup>1</sup> Informal workers might want to cross these barriers and gain these protections but relatively few transition from informal to formal work. Policies meant to crack down on informal work may just drive up unemployment.<sup>2</sup>

How do left-leaning parties resolve this tension? If the left's only goal was to increase wages and improve conditions for an undifferentiated working class, we would expect it to use the monitoring power of the state to maximize the number of workers who gain labor protections. If its only goal was to minimize unemployment, it would weaken job-security laws, thus reducing firms' costs of hiring additional workers. But, in reality, the left has to work with a fragmented

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<sup>1</sup> See Lindbeck and Snower (1988, 2001).

<sup>2</sup> This is especially the case for low-skilled workers and during recession times. See Perry et al. (2007), p. 7.

working class. Its solution is to keep in place steep hiring and firing costs for protected workers, use its monitoring capacity selectively, and try to improve wages and work conditions for workers who remain in the informal sector. My analysis therefore provides a political explanation for the persistence of the informal sector – a major feature of contemporary developing countries.

To evaluate the left’s dilemma, I use data and insights from Brazil. This country provides an excellent setting to evaluate political incentives for enforcement: labor regulations are burdensome and the labor supply at low wages (i.e., below the cut of the proposed standards) is substantial. It is in such a setting that we can expect leftist parties to engage in selective enforcement. In the larger project of which this paper is a part, I test observable implications of my argument at the national level. My focus here is on the strategies of local governments. In Brazil, mayors control critical aspects of labor policy and enforcement. For instance, they are able to quicken, slow down, and redirect state efforts at monitoring the employment policies of firms, at a fine-grained level. A central element of my argument is that left-leaning parties rely heavily on local leaders to mediate enforcement, which allows them to adjust national laws to heterogeneous local circumstances. Among Brazil’s parties I focus on the PT – one of the largest leftist parties in the world, the party in Brazil with the strongest ties to organized labor, and the only Brazilian leftist party with massive presence at the local level.

To test my argument that leftist parties, when in government, *increase* the size of the informal sector, I gathered data, at the municipal level, that includes information on the relative size of the informal sector over time, the pace and incidence of labor inspections, and the extent of informal-sector organizations and cooperatives, among other variables.<sup>3</sup> The challenge for discerning the impact of partisanship on these outcomes is that which party is in government locally is likely to vary as a function of potentially confounding variables, such as poverty rates and the structure of the local industry. I overcome this difficulty, in part, by using a regression discontinuity (RD) design in “close” mayoral elections. This design rests on a simple assumption:

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<sup>3</sup> In other parts of my project, I analyze how the partisan identity of the government is a key factor influencing workplace fatality rates and responses to economic liberalization

in close elections, winners and losers are determined essentially by chance.<sup>4</sup> Hence, we expect them to be on average similar to each other on dimensions such as their ability to solicit support or the needs of the communities they represent.

These techniques render several confirming results. Comparing municipalities in which PT mayors barely won to those in which they barely lost the election, by the end of a PT mayor's term, the share of informal workers increases sharply. Payroll taxes collected in the district – a measure of the size of the formal sector – drop sharply. PT mayors also slow the pace of labor inspections, especially among small firms and those more likely to employ workers off the books. My study also offers evidence that, though local PT governments oversee an expansion of the informal sector, they also improve conditions for informal-sector workers. They increase the number of “solidarity enterprises” – mainly workers' cooperatives and worker-self-managed factories, enterprises in which work remains informal and less regulated but in which laborers enjoy a range of improved benefits and conditions. I complement these findings with a semi-automated text analysis of policy documents signed between local governments and the federal Ministry of Labor and extensive interviews with labor inspectors and local politicians.

My study provides new insights on electoral politics and the regulation of labor markets in developing democracies. Scholars have noted that parties often have to appeal to heterogeneous constituencies.<sup>5</sup> For instance, they may vary their campaign appeals or add impoverished groups to their electoral coalitions through vote-buying (Levitsky 2003; Luna 2014; Thachil 2014). I show that in addition to these strategies, once in office, ruling parties can use public policy and selective enforcement to reconcile the conflicting demands of heterogeneous constituencies. My construct of selective enforcement is closer to Holland's (2016; 2017) concept of “forbearance” – i.e., the intentional and revocable non-enforcement of law. But whereas her work focuses on the (re)distributive effects of forbearance, I argue that forbearance also allows parties to rectify the competing interests of multiple constituencies.

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<sup>4</sup> The assumption for causal identification is “continuity” in potential outcomes. See Imbens and Lemieux (2008).

<sup>5</sup> For a seminal treatment of this topic, see Przeworski and Sprague (1986).

In the next section I present the left's challenge in securing votes from both formal- and informal-sector workers. I then derive several hypotheses about the impact of the left on the informal sector. The following sections discuss the case selection and the ways in which local governments affect working conditions in Brazil. Next, I present the research design and the dependent variables used in the rest of the paper. I then present the main results: the effect of PT mayors on the size of informal sector, the operations of the labor inspection agency, and the number of informal-sector organization in the municipality. In the penultimate section I evaluate my argument using fieldwork interviews and the text analysis of policy agreements signed between local governments and the federal government, and test additional observable implications of my argument by examining PT's strategy under varying economic and political conditions. I end by exploring the implications and scope conditions of my argument.

## **The Informal Sector and the Left's Dilemma**

Left-leaning governments have been a driving force behind welfare state development in Latin America, investing in welfare programs, making social spending more redistributive, and passing laws that raise the costs of hiring and firing workers (Huber and Stephens 2012; Murillo, Ronconi and Schrank 2011; Pribble 2013). But strong labor and social security protections are rendered useless if employers ignore them by hiring workers informally. Therefore, we might expect left-leaning governments to use the power of the state to extend the reach of job security rules and to encourage a shift from informal- to formal-sector work.

This view, however, ignores that the target constituency of the left is not internally homogeneous. As in Europe, there are real tensions between the interests of formal- and informal-sector workers.<sup>6</sup> Governments heavily regulate the costs that employers face when they layoff workers (e.g., Heckman and Pagés 2000). This means that formal-sector workers are relatively insulated from the risk of unemployment. Furthermore, social security systems are largely based on contributory principles: the government delivers social insurance to current and

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<sup>6</sup> See Rueda (2005, 2007).

former formal workers who contributed to the system through payroll taxes. Thus, formal workers favor spending on programs that benefit them and oppose increases in payroll taxes that go to finance general spending. They are especially opposed to labor-market deregulation, which they see as a threat to their jobs.

Workers in the informal sector, in turn, are generally unskilled and employed in small and unproductive firms that stay afloat by failing to comply with taxes and regulations.<sup>7</sup> These include self-employed individuals, salaried workers employed “off the books,” and small employers of unregistered businesses.<sup>8</sup> Because unemployment insurance is nonexistent in most developing countries, informal and unemployed workers prefer policies that increase their chances of employment, either formal or informal. These workers do not benefit from Bismarckian social insurance programs. Thus, they favor spending on non-contributory programs, such as cash transfers and non-contributory health insurance programs.

It comes as little surprise, then, that formal and informal workers lack a coherent class identity and belong to different organizations (Haggard, Kaufman and Long 2013; Portes and Hoffman 2003; Roberts 2002; Weyland 1996). Existing labor-market institutions are presumed to allow formal workers to demand wage increases that keep unemployment above the “natural” rate.<sup>9</sup> Thus, formal-sector workers have fought hard to preserve existing labor regulations and social security arrangements (Carnes 2014; Murillo 2001). Unions sometimes support policies that benefit informal workers but only insofar as these policies do not entail a reduction of benefits for incumbent formal workers (e.g., Garay 2016, p. 334). Informal-sector workers might hope to transition from the informal to the formal sector. But for many of them the more realistic goal is to press governments to increase the supply of jobs and improve working conditions for low-skilled workers *in* the informal sector. Several studies indicate that informal workers do not

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<sup>7</sup> For a summary, see Tokman (1992), Perry et al. (2007) and Lederman et al. (2013).

<sup>8</sup> Conventional wisdom associates these workers with self-employed street vendors, self-appointed parking attendants, and waste pickers. Most informal workers, however, are salaried workers. They are typically employed in small shops and firms but a non-negligible share of them work in larger enterprises (Perry et al. 2007).

<sup>9</sup> See Lindbeck and Snower (1988) and Saint-Paul (1996). Economists working within multilateral organizations have advocated replacing job security rules with unemployment insurance programs. See, for instance, Holzmann, Vodopivec et al. (2011).

fight flexibility at work; instead of demanding the enforcement of job-security rules, they demand welfare benefits, access to social services, and infrastructure investments (Agarwala 2013; Collier and Handlin 2009; Dix 1989).

Some factors attenuate the formal-informal divide. Formal workers sometimes face real chances of becoming unemployed and support policies that benefit informal-sector and unemployed workers (Mares and Carnes 2010; Carnes and Mares 2014).<sup>10</sup> Also, the informal sector is internally heterogeneous: some workers and small-firm owners are excluded from the formal sector by burdensome entry regulations, but others make a cost-benefit analysis about whether to enter the formal sector, and decide against it. These workers may value the flexibility that comes with informal-sector jobs. Others receive social insurance from a family member who works in the formal sector and avoid double-paying for benefits. Still, a majority of workers in the informal sector are excluded, as indicated by the reduced flows from informal to formal employment compared to those in the opposite direction (for a summary, see Perry et al. 2007).

Given these cross-pressures and the challenge of increasing net employment for low-income workers, left-leaning and populist parties face a dilemma, particularly in countries where a strong union movement coexists with a large informal sector. These parties could use the enforcement power of the state to crack down on firms that flaunt regulations. But in highly regulated labor markets, enforcing taxes and regulations on small firms would hurt many unskilled workers.<sup>11</sup> Another option, in theory, would be to weaken job-security laws and lower firms' costs of hiring additional workers – especially low-skilled individuals. But such labor-market liberalization would alienate the left's core working-class supporters. Conservative parties, not those of the left, are more likely to promote labor reforms to make formal employment less expensive and more flexible.

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<sup>10</sup> But as long as they remain formally employed, these workers should not favor policies to lower firing and hiring costs.

<sup>11</sup> To cite a few examples, Almeida and Carneiro (2012) find in Brazil that an increase in the rate of inspections reduces the number of workers informally employed and increases unemployment. For South Africa, Magruder (2012) finds that well-enforced collective bargaining agreements increase formal wages, lowers industry-level employment (by 8–13 percent) and reduces informal employment. For a review, see Betcherman (2012) and Freeman (2009).

What can the left do in light of formal-informal sector conflicts? Scholars who have examined how parties appeal to socially fragmented constituencies primarily focus on the selective allocation of welfare benefits to capture the support of non-core impoverished groups (Levitsky 2003; Luna 2014; Thachil 2014). But the response to the left's dilemma goes deeper, influencing the very structure of labor markets. Here I consider two measures that governments use to appeal to informal workers: the strategic allocation of labor inspections and the implementation of policies that increase the attractiveness of informal-sector jobs, without turning them into formal-sector ones.

In most countries, labor inspectors oversee the whole of the labor code, including worker's formal registration with tax and social security agencies and the benefits attached to individual contracts.<sup>12</sup> For formal workers, lax enforcement of labor contracts increases competition from informal workers in industries where formal and informal laborers are substitutable, reducing the marginal product of labor and depressing formal-sector wages. Thus, formal-sector workers generally favor strict enforcement of labor contracts and benefits.<sup>13</sup> Informal workers, in turn, are easily replaceable. They may fear that the enforcement of formal contracts will reduce their chances of employment, particularly in industries and firms that compete on low wages.<sup>14</sup>

How can inspections be used as a strategy of the left? Governments can tailor enforcement to local circumstances and firm-level exigencies. They can slow enforcement of the requirement that workers and employers sign contracts. They can do so in places where the trade-off between compliance and employment is greatest, and increase enforcement in places where unions mobilize in favor of more state action or where forbearance is more likely to be regressive, benefiting large employers over workers.

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<sup>12</sup> The exception are Anglo-Saxon countries, which divide labor enforcement into various agencies. See Piore and Schrank (2008).

<sup>13</sup> Yet some formal workers may profit from firms having access to cheap and flexible labor: access to cheaper employment may increase firm productivity, which can potentially allow formal workers to extract higher wages.

<sup>14</sup> The elasticity of labor demand is greater in industries that rely mostly on unskilled workers because of scale effects (labor is a large share of the total cost of production) and substitution effects (unskilled workers are more easily replaceable with capital). See the Hicks-Marshall laws of derived demand.



In addition to lowering the cost of non-compliance, governments can increase incomes in the informal sector and ameliorate the effects of unemployment. They can promote non-contributory social policies targeted at informal-sector workers, subsidize the wages paid by informal enterprises, and create legal frameworks that allow informal-worker associations and cooperatives to gain access to public subsidies and credit lines. One example of these policies is the financial and legal support that governments give to informal-sector cooperatives and associations under the umbrella of what are termed *social and solidarity economy* (SSE) initiatives. These programs seek to organize workers marginalized from formal employment and to strengthen labor standards *within* the informal economy. Solidarity organizations include small production units self-managed by workers and financed by small loans and credits.

These two policy strategies are not the monopoly of the left. Diaz-Cayeros, Estévez and Magaloni (2016), and Garay (2016), argue that center-right parties played a crucial role in the expansion of non-contributory benefits to the informal poor. But the policy choices of left- and right-leaning governments are shaped by the electoral coalitions that support them. Conservative parties can respond to the challenge posed by a growing base of informal workers by promoting labor reforms to make employment less expensive and more flexible; they can also carry out a battery of measures to moderate unions' power. Were the left to take such measures, it would be punished by labor unions, an important voting bloc and an organizational pillar of the left. The left and the right also face distinct incentives regarding enforcement. In countries with relatively autonomous and capable labor inspectors, like Brazil, or powerful unions, like Argentina and Mexico, that pressure big firms to comply with labor law, conservative governments may actually prefer an equal exposure to regulations over unevenly enforced regulations.<sup>15</sup>

What is the expected impact of the left's strategy on the size of the informal sector? If governments reduce the expected cost of employing workers informally by reducing the enforcement of labor contracts or improving the quality of informal-sector jobs, we would expect

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<sup>15</sup> Take, for instance, the case of the citrus industry in Argentina. Amengual (2016) writes that "the largest members [of the industry] were the ones that were most likely to comply...creating a competitive advantage for smaller firms that could dodge regulatory requirements" (p. 99).

the informal sector to grow. Lax enforcement reduces the expected penalty of employing workers “off the books” and blurs the difference between formal and informal sector jobs, encouraging some workers to remain informal (e.g., Almeida and Carneiro 2012; Magruder 2012). Similarly, policies supporting the informal sector, such as cash transfers and micro-credits for informal organizations, associations, and workers’ cooperatives can make informal jobs more attractive, especially for workers whose prospects of being formally employed are small – thereby fomenting the informal sector (e.g., Frölich et al. 2014; Garganta and Gasparini 2015; Levy 2010).

## **Hypotheses**

Hence workers are a heterogeneous target constituency for the left, which therefore deploys a mix of non-enforcement and public policies to ameliorate the conditions of informal-sector workers. I test the following hypotheses:

**Hypothesis 1:** In localities in which the left accedes to public office, the informal sector grows.

**Hypothesis 2:** In localities in which the left accedes to public office, labor inspections aimed at detecting the presence of non-contract workers will be halted or slowed down.

**Hypothesis 3:** In localities in which the left accedes to public office, investments aimed at improving the conditions of informal-sector workers will grow.

The size of the informal sector depends on a broader range of factors and policies beyond the pace of labor inspections and the implementation of social and solidarity initiatives. But these two policies are important because they indicate whether governments seek to incorporate more workers into the formal sector or rely, instead, on a strategy that contributes to the growth of the informal sector.

## Case Selection: Brazil

To study the left's dilemma, I focus on the case of Brazil. This country has one of the most rigid labor codes in the world, dating to the 1940s. All employees must have a work permit (the *carteira de trabalho*), which entitles the worker to a number of benefits paid by the employer. Employers must pay eight percent of the worker's salary to a severance indemnity fund (the *Fundo de Garantia por Tempo de Serviço* or FGTS).<sup>16</sup> Workers cannot work more than 44 hours per week, overtime pay must be at least 1.5 times the normal hourly wage, paid leave is three fourths of a normal wage, and women are due 120 days of paid maternity leave. Employers must give prior notice of dismissal at least one month in advance; once the worker receives this notice she is granted two hours a day to look for a job. Workers with non-justified dismissals receive monetary compensation from the employer, on top of that accumulated in the worker's job security fund.<sup>17</sup>

Yet only a segment of the labor force enjoys these generous benefits. Half of all workers in the country are either self-employed in the informal sector or employed in informal jobs – i.e., they work without a work permit or *carteira*. The mean share of informal workers across municipalities in 2010 was about 60%. These workers earn low wages and are not covered by social insurance – although they have gained access to a range of transfers and programs, particularly after the PT won the presidency in 2002 (Garay 2016; Pribble 2013). The focus on Brazil also allows for a clear measurement of the informal sector, as the possession of a working card clearly determines whether an employment relationship is subject to standard labor legislation, taxation, and social protection.

Among Brazil's political parties, I focus on PT mayors. The PT stands out as a strong leftist party with links to both formal and informal workers. I focus on the impact of the PT at the local level of government. Municipal governments have important policy tools that influence the work conditions of both formal and informal employees.

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<sup>16</sup> The employer deposits the funds in a government-owned bank in the name of each worker. The sum of all these accounts is held in a single account and used by the government to finance infrastructure projects.

<sup>17</sup> In July, 2017, the Brazilian Congress passed an overhaul of Brazil's labor laws easing employment protections.

## **The Workers' Party: Between the Unions and the *Economia Solidária***

Brazil has a highly fragmented party system composed of weak and personalistic parties (Mainwaring 1999; Samuels 1999). The PT is, however, considered the strongest party in Brazil and an exception to the rule of highly personalistic and patronage-oriented parties (Samuels and Zucco 2013).<sup>18</sup> The party's strong organization and clear programmatic goals provide some level of uniformity in PT-held governments, despite the heterogeneity of Brazil's municipalities.

The tensions between different segments of the workforce have deeply shaped the trajectory of the PT. The party grew out of the industrial labor movement in the periphery of metropolitan São Paulo and the struggles against the military dictatorship in the late 1970s and 1980s. After civilian rule resumed in 1985, extensive poverty and inequality did not translate into massive electoral support for the PT or other leftist parties. Instead, the vote of the poor remained with conservative and populist parties, which attracted the poor using traditional clientelistic networks (Przeworski, Bresser-Pereira and Maravall 1993; Weyland 1996). In 1999, PT's president José Dirceu argued that "the main problem [that the party faces] is to consolidate its alliances in society, because other parties do not represent some sectors, but also because we do not represent them," including "informal-sector workers and small businesses" (Barreto, Magalhães and Trevas 1999, p. 18).

Several victories at the local level led the PT to a period of ideological transformation that allowed it to enlarge its coalition – but not without conflict, especially between the party and its allied unions. PT mayors in cities such as Porto Alegre and São Paulo faced cross-cutting pressures "between pleasing the party's traditional base (unions and social movements) and meeting the needs of those with less obvious means of voicing their demands" (Hunter 2010, p. 96).<sup>19</sup> For much of the 1980s, unions linked to the PT were more sympathetic to the interests of unorganized workers, building cross-cutting alliances with social movements and neighborhood associations (Keck 1989; Seidman 1994). However, during the market reforms of the 1990s, these unions became more pragmatic, inward looking, and institutionalized (Antunes and Santana

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<sup>18</sup> The other left-wing parties are either organizationally weak or have little presence at the municipal level.

<sup>19</sup> See also Baiocchi (2003), pp. 4 and 23.

2014; Sluyter-Beltrão 2010). At the same time that the PT started to prioritize electoral victories, its allied unions became more focused on preserving jobs and wages for their members.

## **Brazilian Mayors and Local Labor Markets**

Municipal governments have important policy tools that influence the work conditions of both formal and informal employees. All businesses and firms must register with the local tax agency and obtain an operating permit from the local government. Local officials monitor workplaces, issue permits to operate machinery, and ensure that construction projects conform to municipal legislation, zoning laws, and municipal building codes. Local governments also provide basic public goods and services: they oversee hospitals and public health facilities; design and implement employment programs; put in place cash transfers and other social welfare policies; fund credit lines and subsidies to small firms and solidarity enterprises; collect and share information on work-related accidents; and establish municipal councils where civil society organizations and public sector actors discuss these and other public policies.

Brazilian mayors also exert influence over labor markets through the Federal System of Labor Inspection (SFIT). SFIT is a federal government agency that enforces labor regulations. It does so through a decentralized network of headquarters, or *superintendências*, which are located in each state capital.<sup>20</sup> These regional offices are subdivided into 114 regional offices (called *gerências*). These offices conduct on-site inspections in multiple municipalities.<sup>21</sup> Inspectors are selected through competitive public service exams and report to the *superintendente*, a politically appointed individual who is not usually a career auditor.<sup>22</sup>

In my interviews with inspectors, union leaders, and local officials, it became clear to me that local governments influence field operations of the SFIT. The SFIT is severely understaffed:

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<sup>20</sup> Twenty-six plus one for the federal district.

<sup>21</sup> After their visits, inspectors notify the firm of any violation of the labor code. The size of the fines varies but experts believe they are “high enough to curtail breaches of the law, especially in small and medium enterprises” (Cardoso and Lage 2006, p. 6).

<sup>22</sup> Inspectors must report to the superintendent in two cases: to bring an injunction against a company or a worksite and to request a special funds for worksite visits to distant municipalities.

about 2,800 inspectors are responsible for auditing firms that employ a workforce of 100 million, spread across 5,500 municipalities. SFIT inspectors therefore rely on local officials for resources and information. And, although SFIT local offices receive general guidelines from the agency's national headquarters, ground-level inspectors retain considerable discretion over which establishments they visit, which rules they oversee most aggressively, whether they consider an irregularity to constitute a violation, and whether they deal with it informally or with a citation and adjudication process. Inspectors' discretionary power and reliance on local resources allows local officials to influence how inspectors interpret and enforce the law.

## Research Design

I use a close-election RD design to estimate the effect of a mayor's partisanship on informality and enforcement. At the sub-state level, Brazil has 5,564 municipal governments headed by mayors, who are elected by popular vote for a four-year term. I study close races in the 1996, 2000, 2004, and 2008 municipal electoral contests, a period that encompasses five federal administrations: two PSDB governments from 1994 to 2002 and three PT governments from 2003 to 2012.

Close-election RD designs rest on a simple assumption: in close elections, winners and losers are determined essentially by chance.<sup>23</sup> Therefore, municipalities where a candidate from the PT barely wins should be, on average, indistinguishable from municipalities in which a PT candidate loses by a small margin. The only difference between them is that one set of municipalities is governed by PT mayors while the other set is governed by mayors from other parties. Therefore, I restrict the sample to municipalities in which one of the top two candidates belonged to the PT. To estimate the effect of PT incumbency, I use local-linear regression with triangular kernel weights around two bandwidths,  $h$  and  $2 \cdot h$ , estimated using the optimal function developed by Imbens and Kalyanaraman (2012). The appendix shows analogous results using the bandwidth selected

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<sup>23</sup> For a full derivation of the RD estimand see Imbens and Lemieux (2008).

by the Calonico, Cattaneo and Titiunik (2014) estimator and their bias-corrected confidence intervals.<sup>24</sup>

The identification assumption that municipalities on both sides of the cutoff – those with and without a PT mayor – should look on average alike is essentially unverifiable. But no statistically significant differences are discovered for units with and without a PT mayor for a number of relevant pre-treatment covariates.<sup>25</sup>

## Dependent Variables

Below I describe the main variables in my analysis. Table 1 provides descriptive statistics for the main dependent variables. PT races only include municipalities in which one of the top two candidates belonged to the PT.

Variable	Overall Sample			PT Races			Period
	Mean	Std Dev.	N	Mean	Std Dev.	N	
% waged informal workers	36.48	17.31	11,067	32.88	18.85	1,222	2000, 2010
% informal workers (all)	66.61	21.65	11,067	60.09	23.79	1,222	2000, 2010
Social Security taxes p/c	451.94	576.12	10,952	652.73	804.24	1,605	2000-2012
Inspections p/1,000c	2.94	4.3	22,214	4.1	5.52	2,458	1996-2012
Severance fund p/w	42	173.21	9,451	35.53	124.55	1,596	2004-2012
% undeclared workers	9.65	16.55	18,178	7.85	14.68	2,213	1996-2012
SSEs created p/1,000c	0.68	1.79	21,700	0.59	1.46	2,436	1996-2012
Total SSEs p/1,000c	2.2	4.37	11,202	2.25	4.18	1,755	2005, 2012

**Table 1:** Descriptive Statistics of Dependent Variables.

**Informal sector.** A key outcome variable is the size of the informal sector. I investigate the effect of a PT victory on two measures of labor informality. The first is the share of informal workers in the economy as discerned in the Brazilian demographic censuses of 2000 and 2010.<sup>26</sup> I operationalize this variable in two ways: as the share of *wage* workers who do not have a labor

<sup>24</sup> See Appendix, A.4.

<sup>25</sup> See Appendix, A.1 and A.2, for more details.

<sup>26</sup> This data is made available by the Centro de Estudos da Metrópole. See <http://www.fflch.usp.br/centrodametropole/>.

card, and as the share of non-card-holding workers, including both *waged* and *self-employed* workers. I study the effect of a PT victory in 1996 on the share of informal workers in 2000, and that of a PT victory in 2008 on the share of informal workers in 2010. Since we expect – other things being equal – that the larger the percentage of informal-sector workers, the smaller the revenues coming from social security taxes, I investigate the effect of a PT victory on the amount of Social Security taxes collected from the paychecks of formal workers. I consider the effect of PT victories on tax revenues for three mayoral cohorts: 2000, 2004, and 2008.<sup>27</sup> I consider the total number of taxes collected during a mayor’s term, divided by the number of people in the municipality and adjusted for inflation.

**Labor inspections.** My theory predicts a go-slow strategy by leftist mayors on labor inspections. As a measure of enforcement efforts, I use data on the number of labor inspections at the municipal level for the period 1996–2012, normalized by computing the 1,000 per capita number of inspections during a mayor’s term.<sup>28</sup> In addition to the number of inspections, I include the amount of unpaid taxes in the workers’ severance indemnity fund (per visited worker) collected by inspectors (available since 2004) and the share of workers “off the books” (i.e., without labor cards) found during inspections. The unpaid taxes on the workers’ severance indemnity fund collected by inspectors serves as an indicator of the enforcement of working conditions in the formal sector; the share of unreported workers found during inspections indicates efforts toward enforcing labor contracts.<sup>29</sup> I also make use of the 2003 Enterprise Surveys (ES), which incorporates data on 1,642 registered firms in 419 municipalities and 13 (out of 27) states on aspects of business–state relations. Researchers asked firm managers about the number of labor and social security inspections they were subject to during the previous year. With these data, I test whether the inspection agency shifts enforcement toward larger or smaller firms and to firms with more or fewer informal workers in PT-held municipalities.

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<sup>27</sup> Data on social security taxes is available as of 2000.

<sup>28</sup> Results are robust to alternative ways of normalizing this variable; for instance, taking the logarithm.

<sup>29</sup> Data was provided by the Brazilian Ministry of Labor.



**Solidarity Enterprises (SSEs).** Given my expectation that the left will attempt to improve the conditions of informal-sector workers, I gathered data on SSEs. These come from surveys carried out in 2005–2007 and 2012–2013 by the National Secretary of Solidarity Economy (SENAES).<sup>30</sup> These censuses counted 20,000 collective, permanent organizations engaged in the production of goods and services, including associations, cooperatives, and self-managed enterprises. I focus on the number of SSEs per 1,000 capita at the end of a mayor's term for mayors elected in 2000 and 2008, and the number of organizations created during a mayor's term since 1996 that were still in operation at the time of any of the censuses (excluding SSEs created after the end of the mayoral term).

## **PT Mayors Increase the Size of the Informal Sector**

Do PT mayors increase the number of workers in their municipalities who are employed in the informal sector? The answer is, they do. The graphical analysis reveals that municipalities governed by the PT have, on average, a larger share of informal workers (Figure 1, panel a). This finding is confirmed by regression analysis, comparing treatment (PT-governed) and control (non-PT-governed) municipalities (Figure 1, panel b). The effect is not only statistically significant at conventional levels, but also large. A PT victory increases the number of informal workers by six percentage points on average.<sup>31</sup> These results remain when I control for past levels of informality.<sup>32</sup>

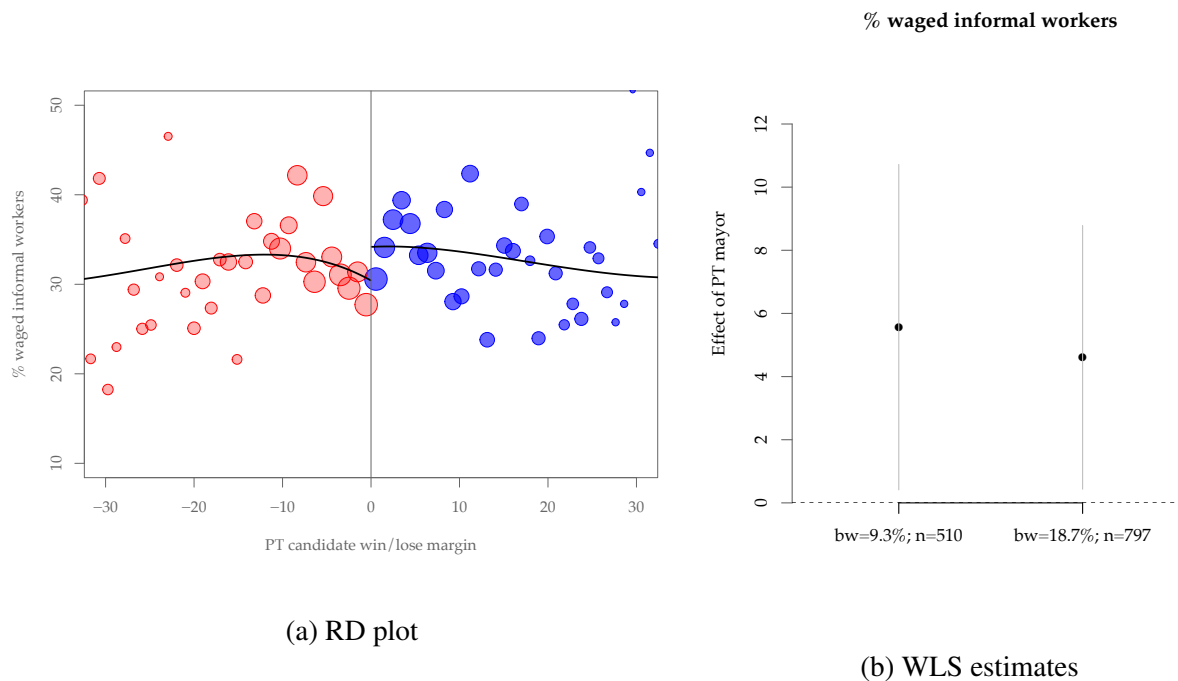
Additional evidence that the informal sector grows under leftist mayors comes from the social security taxes that the federal government collects from the paychecks of formal workers. These contributions, about 10% of a worker's salary (20% for a self-employed worker), guarantee that the contributor and his or her family receive payments in the event of illness, injury, accident, or pregnancy. They also cover death benefits for surviving family members. In municipalities

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<sup>30</sup> See <http://sies.ecosol.org.br/atlas>.

<sup>31</sup> Results counting both salaried and self-employed informal workers are analogous – in size and statistical significance – to those presented here; see Appendix, A.3.

<sup>32</sup> See Appendix, A.5.

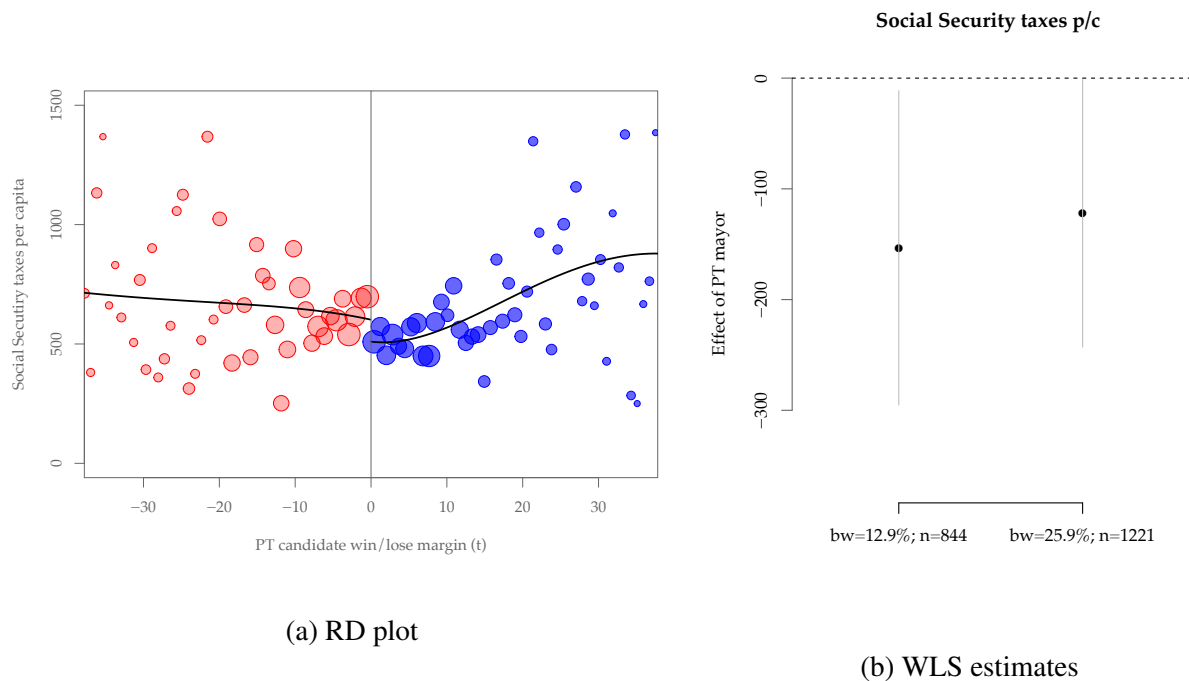


**Figure 1:** RD for the effect of a PT victory on the share of waged informal workers over the total number of salaried workers at the municipal level (2000, 2010). Panel (a) The circles depict bin averages of the share of informal workers at the municipal level in places where a PT candidate wins or loses. Panel (b) WLS point estimates at  $\hat{h}$  and  $2 \cdot \hat{h}$  with 95% (gray) confidence intervals.

controlled by the PT, tax collection drops by roughly 150 *reais* per capita for the whole mayoral term (Figure 2, panel b). The graphical analysis further confirms this finding (Figure 2, panel a).

## PT Mayors Enforce Labor Law Selectively

We have seen that the PT increases the size of the informal sector. One reason is that PT municipal administrations may reduce pressure on firms to convert positions from informal- to formal-sector status. Do we see evidence of lax enforcement? My analysis indicates that we do. In places where the PT wins by a small margin, firms are subject to fewer inspections than places where the PT loses by a small margin (Figure 3). And the effect is substantial. A PT victory reduces inspections by 50% percent relative to the average number of inspections at the local level: roughly 1.5 per 1,000 capita for the entire four-year period. This effect does not depend on the party controlling the federal government. The number of inspections drops (and the informal



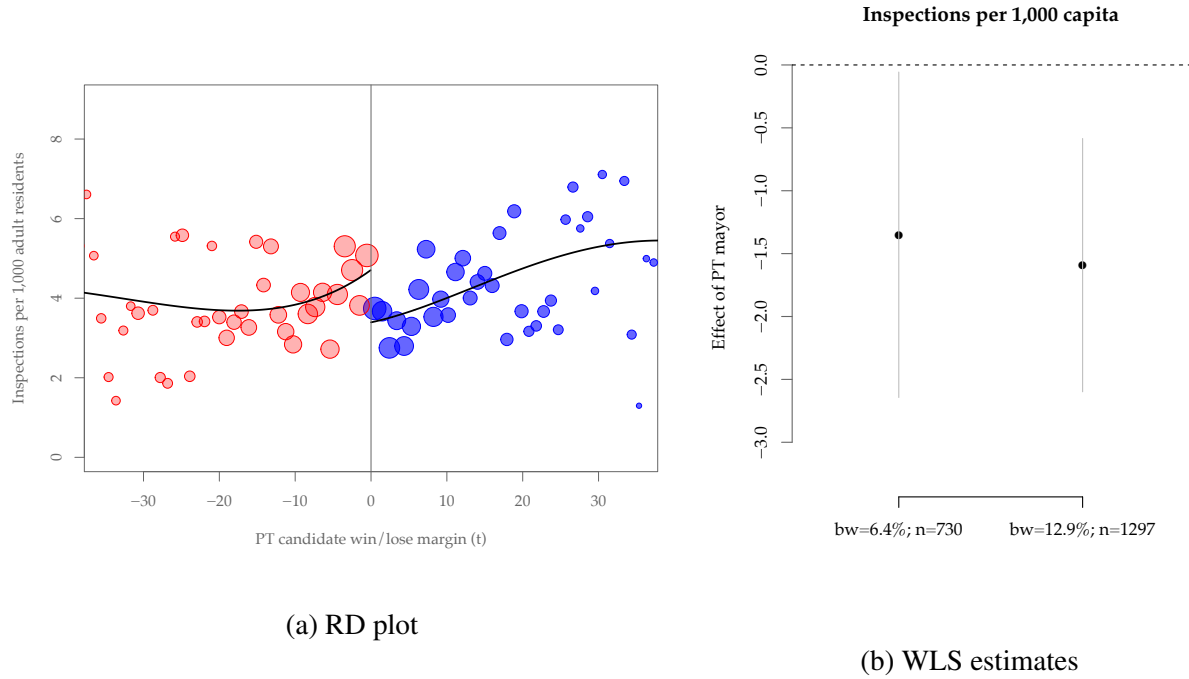
**Figure 2:** RD for the effect of a PT victory on the amount of social security taxes collected during a mayor's term, divided by population and adjusted for inflation (2000-2012). Panel (a) The circles depict bin averages of per capita social security taxes collected at the municipal level in places where a PT candidate wins or loses. The fitted lines were estimated using local-linear regression regression. Panel (b) WLS point estimates at  $\hat{h}$  and  $2 \cdot \hat{h}$  with 95% (gray) confidence intervals.

sector grows) under PT mayors, both during periods in which the PT was out of office at the federal level (1997-2000) and during periods in which the PT controlled the presidency but not the Ministry of Labor (2009-2012).<sup>33</sup>

I suggested that leftist governments would move slowly on enforcing labor contracts and would focus, instead, on enforcing protections for incumbent formal workers. And indeed, although point estimates are substantially noisier, a victory by the PT also influences the type of labor violations that are most vigorously enforced. In PT-controlled municipalities, inspectors focus on detecting labor violations against formal rather than informal workers, especially lax collection of payments for the workers' severance fund. They instead pay little attention to the presence of unreported workers (Figure 4).<sup>34</sup>

<sup>33</sup> See Appendix, A.4.

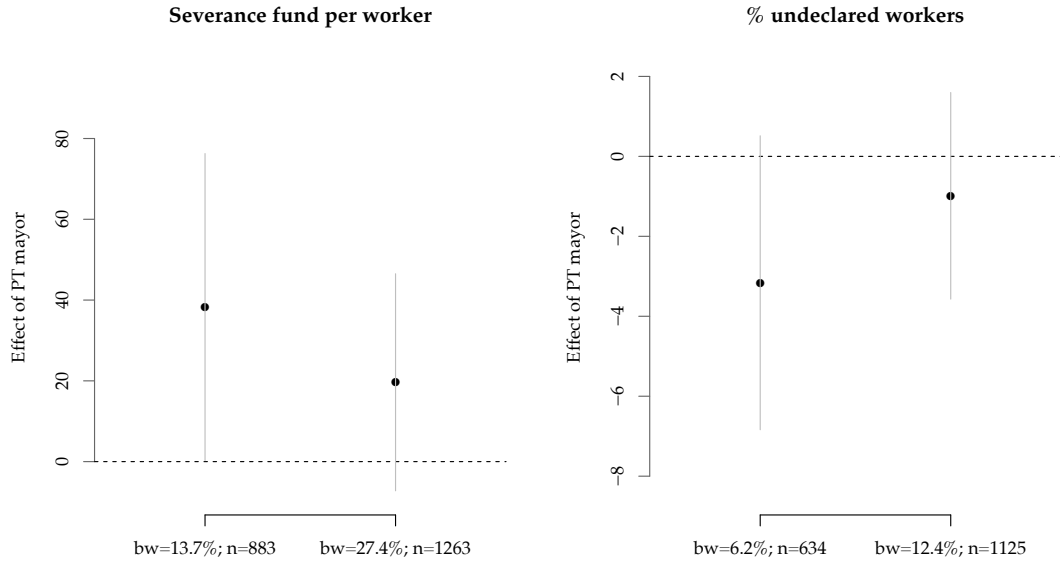
<sup>34</sup> This last effect is not statistically significant at conventional levels.



**Figure 3:** RD for the effect of a PT victory on the number of per capita inspections (1996–2012). Panel (a) The circles depict average number of inspections per 1,000 capita at the municipal level during a mayor’s term in places where a PT candidate wins or loses. The fitted lines were estimated using local-linear regression regression. Panel (b) WLS point estimates at  $\hat{h}$  and  $2 \cdot \hat{h}$  with 95% (gray) confidence intervals.

Another hypothesis is that leftist incumbents will move slowly on the enforcement of labor protections in firms employing a larger share of informal workers. It is in these firms in which the trade-off between enforcement and employment is acute. To evaluate this claim, I use firm-level data from the Enterprise Surveys.<sup>35</sup> I code the dependent variable as one if a firm received at least one inspection, zero otherwise. I also show results for the logged number of times each firm was visited by a labor inspector. I consider two proxies for the share of workers that a given firm employs without offering them a contract: the size of the firm, measured by the standardized number of workers employed by the firm; and the share of workers without a written contract “in a typical firm your size in your industry,” as reported by firm managers. As before, I use

<sup>35</sup> The World Bank’s Enterprise Analysis Unit selected firms from a sample stratified by size, industry, and region. The sampled industries are auto parts, chemicals, electronics, food, garments, machinery, textile, and wood manufacturing.



**Figure 4:** WLS point estimates at  $\hat{h}$  and  $2 \cdot \hat{h}$  with 95% (gray) confidence intervals for the effect of a PT victory on enforcement. *Severance fund per worker* is the amount of unpaid FGTS taxes collected by inspectors over the total number of workers covered. *% undeclared workers* is the number of undeclared workers found during an inspection over the total number of workers covered.

local-linear regression at the optimal IK bandwidths.<sup>36</sup> I include an interaction term between PT incumbency and the firm-size.<sup>37</sup>

Indeed, partisanship effects are moderated by the size of the firm, for both the number of labor inspections and probability of receiving an inspection (Figure 5). Small firms located in places governed by the PT receive fewer inspections than the average. Moving one standard deviation down from the average firm (54 employees) reduces labor inspections in PT-held municipalities at the firm level by almost 30%. Similarly, the negative effect of PT mayors on the likelihood of receiving an inspection only reaches statistical significance for firms below the average size. Firm employing large numbers of informal workers also receive fewer visits from inspectors and are less likely to be inspected at least once in PT-held municipalities. Hence I find support for the hypothesis that the PT blocks inspections to protect job sources for informal workers.

<sup>36</sup> The appendix shows analogous results at  $2 \cdot \hat{h}$ .

<sup>37</sup> Appendix B.1 shows balance and density tests, using the cohort of mayors elected in 2000.



**Figure 5:** Marginal effect of PT-incumbency on firms receiving a labor inspection conditional on firm size. 90% confidence intervals in dark grey and 95% confidence intervals in grey, calculated using clustered robust standard errors.

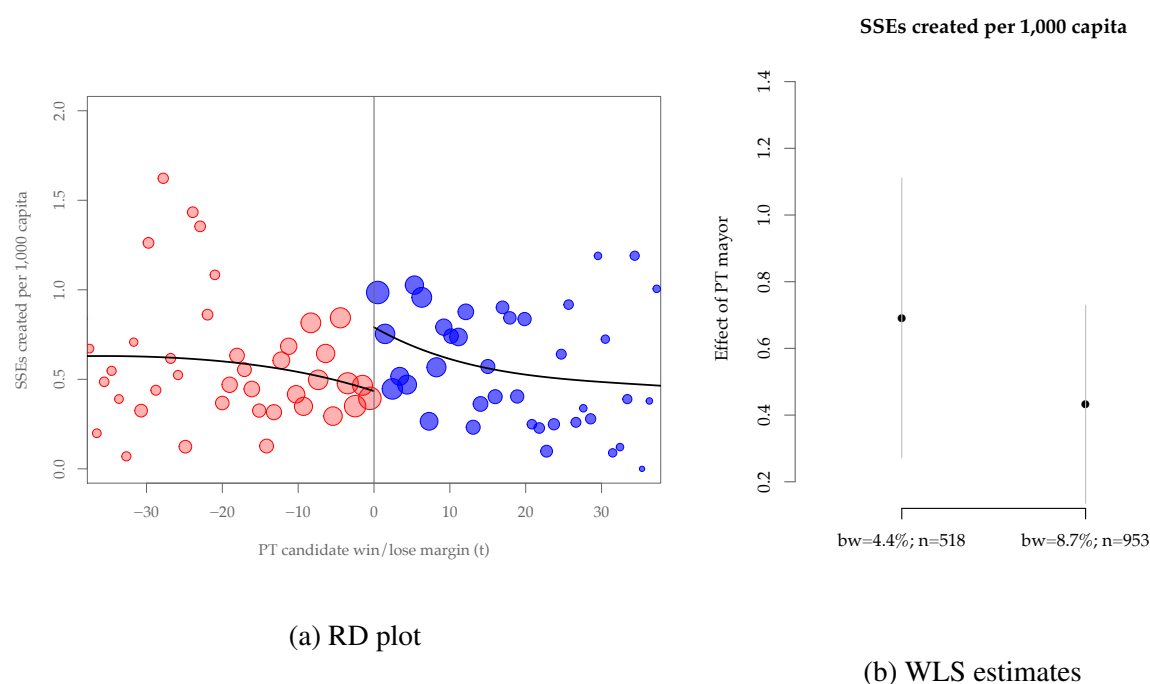


**Figure 6:** Marginal effect of PT-incumbency on firms receiving a labor inspection conditional on the share of informal workers. 90% confidence intervals in dark grey and 95% confidence intervals in grey, calculated using clustered robust standard errors.

## PT Mayors Improve Conditions in the Informal Sector

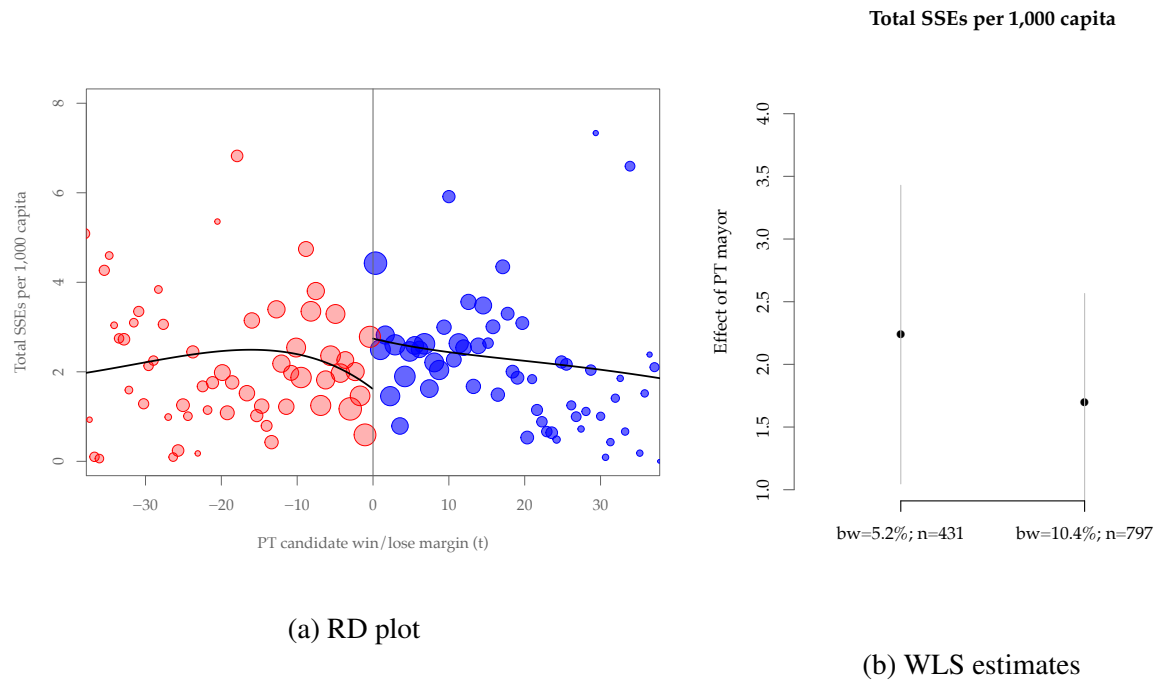
In addition to slowing the rate of inspections strategically to maximize the employment opportunities of informal workers, mayors can ameliorate the conditions of informal-sector work.

One strategy is to encourage self-managed enterprises and associations. Indeed, my analyses show that PT-controlled municipalities drive up the number of SSEs. I estimate the effect of a PT victory on the number of SSEs created during a mayor's term that were still in operation by the time of a census. Of the SSEs still in operation, roughly 0.8 per 1,000 capita more were created during the tenure of a PT mayor than under mayors from other parties (Figures 7). Municipalities governed by the PT house almost 2.5 per 1,000 capita more SSEs than municipalities where the PT barely lost (Figures 8).



**Figure 7:** RD for the effect of a PT victory the number of SSEs (1996–2012). Panel (a) The circles depict number of SSEs (per 1,000 capita) created during a mayor's term (1996–2012). The fitted lines were estimated using local-linear regression regression. Panel (b) WLS point estimates at  $\hat{h}$  and  $2 \cdot \hat{h}$  with 95% (gray) confidence intervals.

The conventional wisdom is that poor and unskilled workers must fend for themselves in the informal sector. But in fact, leftist governments have improved standards in the informal economy by providing technical and financial services to cooperatives and associations of informal and unemployed workers. They pursue this strategy, I suggest, as an alternative to one that might open formal-sector jobs to larger numbers of informal-sector workers.



**Figure 8:** RD for the effect of a PT victory the number of SSEs (2000,2008). Panel (a) The circles depict the total number of SSEs (per 1,000 residents) in the municipality. The fitted lines were estimated using local-linear regression regression. Panel (b) WLS point estimates at  $\hat{h}$  and  $2 \cdot \hat{h}$  with 95% (gray) confidence intervals.

## Qualitative Evidence of the Left's Strategy

I have shown that a PT victory causes a sharp rise in the number of workers informally employed; a drop in the collection of payroll taxes; a decline in the number of labor inspections and a shift in the target of labor inspectors away from small firms, which have more employees who are “off the books,” and toward large firms; and a rise in the number of organizations that aid informal-sector workers. My theory links all of these effects with the left's dilemma of needing to simultaneously court formal- and informal-sector workers. Qualitative evidence from my interviews with inspectors, their supervisors, and local politicians supports these findings.

**Fieldwork interviews.** How do PT mayors influence field-level operations of SFIT? My interviews reveal two strategies that local politicians use to influence inspectors, one *ex post*, the other *ex ante*. The former takes place after an inspector visits a worksite and issues a citation. Firm managers seek to reduce the cost of an inspection by asking local officials to intercede with



the superintendent. Superintendents lack direct control over inspectors but they do act as brokers for stakeholders, including local governments.<sup>38</sup> One superintendent explained to me: “There is a lot of conflict between state and local governments and inspectors. . . . When someone comes to me with a complaint or request, I participate informally in the negotiations. . . . I do not tell inspectors what to do, but I call their supervisor and he comes to me. I have a political relationship with him.”<sup>39</sup> Along the same lines, one inspector explained that local governments often pressure inspectors and contact superintendents to slow down or redirect enforcement efforts. He added: “The superintendent should not have a lot of influence over what we do, but he has.”<sup>40</sup>

Local governments also give access to information that allows labor inspectors to plan operations. They develop reports about regions and economic sectors, pinpointing locales where informal workers and child labor are concentrated.<sup>41</sup> Municipalities also sign cooperation agreements (*parcerias*) with the enforcement agency, which commit them to provide resources for enforcement.<sup>42</sup> And municipal governments sponsor public forums and councils that include SFIT officials, local business associations, and unions. Local governments’ contributions of resources for enforcement enhances their influence over SFIT operations. One inspector emphasized inspectors’ autonomy from political authorities; nonetheless, he noted that: “Having a good dialog with local governments and unions is important because they can tell us where to go, which sectors need to be inspected, whether the local government is already working to help firms that are struggling, and which sectors and employers are more troublesome”<sup>43</sup> Another inspector added: “Sometimes in search of [political] consensus, you end up not enforcing the law.”<sup>44</sup>

My interviews also help understand the motivations behind PT’s segmented enforcement strategy. PT officials justified their demand for “flexible” enforcement as a necessity in the context of poverty and inadequate social policies. For instance, one state legislator argued that the

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<sup>38</sup> I interviewed the superintendents of four *superintendências* and they all suggested they behaved in this way.

<sup>39</sup> Interview SP10

<sup>40</sup> Interview SP8

<sup>41</sup> Interviews BH3, RGDS1, and SP1.

<sup>42</sup> PT-held governments signed 25% of all these agreements between 1996–2012. See Appendix, Section C.

<sup>43</sup> Interview BH3

<sup>44</sup> Interview RGDS12

PT viewed the labor market through social, and not just economic, lenses: “The neoliberal parties do not care about social development; the [center/center-right] PSDB, for example, they only care about productivity... They think that having more unemployment is good because it helps to lower wages. We want everyone to be able to work in decent conditions.”<sup>45</sup> When I asked him what “decent conditions” implied in terms of state action, he added that “smaller firms, including those in the solidarity economy, create lots of jobs and income. The state needs to support them. Inspections should focus on larger firms with more capacity to comply with the law.”

**Text analysis of policy agreements.** I showed that the number of SSEs increases during the government of PT mayors. But do local governments take explicit actions to foster the creation of SSEs? The text analysis of all the *parcerias* or cooperation agreements signed by PT mayors and the federal Ministry of Labor between 1996–2012 provides supportive evidence of PT mayors’ strategy vis-à-vis informal workers.<sup>46</sup> I analyze the content of these documents using the Structural Topic Model (STM) developed by Roberts et al. (2014). This model estimates both the content and prevalence of topics in the text as a function of covariates (in my case, simply state and year fixed effects). Of the topics identified by the model, many outline a regime of government support for SSEs and informal-sector workers, including terms such as *solidarity*, *inclusion*, *family*, and *allowance* (indicating support for workers enrolled in *Bolsa Familia*).<sup>47</sup>

## Additional Observable Implications

An observable implication of my theory is that the left’s imperative to shield vulnerable workers from contract inspections will be especially urgent in settings that suffer upward shocks in unemployment. In Brazil, one such shock followed trade liberalization during the 1990s. According to Dix-Carneiro and Kovak (2017), regions facing larger tariff reductions experienced larger declines in both earnings and employment levels and an increase in informal employment. I follow these authors, who construct a measure of liberalization-induced price changes by taking

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<sup>45</sup> Interview BH4.

<sup>46</sup> This data was web scrapped from <http://www.portaldatransparencia.gov.br/convenios/>.

<sup>47</sup> See Appendix C, Table A4.

into account regional differences in the size of industries with *exogenous* cross-industry variation in tariff cuts.<sup>48</sup> This measure captures how local labor markets were affected by the liberalization of trade: Local labor markets whose workers were concentrated in industries facing the largest tariff cuts should be hit harder by tariff changes than those facing smaller cuts or with fewer workers employed in liberalizing industries. Using the same regression discontinuity design as before, I interact my variable of PT incumbency with the municipal-level change in tariff protections constructed by these authors. And indeed, local PT governments work harder to block enforcement precisely in municipalities that were more severely buffeted by the liberalization of trade.<sup>49</sup>

The decision of the PT to pursue a selective enforcement strategy should also vary with political conditions. Because there are multiple parties in Brazil, parties gain access to office by obtaining hugely different levels of electoral support. If the strategy of the PT reflects electoral imperatives, as I contend, we would expect PT mayors to pursue selective enforcement more aggressively in cities and towns in which the left must assemble larger electoral coalitions that include both formal- and informal-sector workers. To evaluate this claim, I estimate the same RD models at two levels of the strongest opponent's vote share: below and above the median value. Indeed, the effect of PT mayors on enforcement and informality concentrates in municipalities where the strongest opposition party wins more than 45% of the votes.<sup>50</sup> This analysis shows that PT's labor-market strategy depends on the electoral environment, as reflected here by the number of votes obtained by the strongest opponent's vote share.<sup>51</sup>

This point raises questions about external validity. RD designs estimate a *local* average treatment effect for cities where a PT mayoral candidate wins or loses an election by essentially a margin of zero. We actually expect mayors who win a close election to behave differently from those who win by larger margins. In places where local competition is intense, leftist mayors have

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<sup>48</sup> The authors show that tariff cuts were nearly perfectly correlated with pre-liberalization tariff levels. They also show that their results change little when including pre-trend controls.

<sup>49</sup> See Appendix, Section D for the full analysis.

<sup>50</sup> See Appendix, Section D.

<sup>51</sup> For a formal analysis of RD designs with multiple cutoffs, see Cattaneo et al. (2016).

stronger incentives to appeal to a broad sector of society – e.g., poor and unskilled workers who are not unionized. We might not expect the findings reported here to generalize to municipalities that are either strongholds or lost causes for the left.

## **Conclusion and future research**

Over the past three decades, Latin American countries took steps to liberalize and privatize their economies while still retaining or even strengthening their labor laws and regulations. Yet, half of the workers work informally, with no protection for unemployment, accident, sickness, or old age. We would expect leftist governments – which rely on the electoral support of workers – to extend the reach of job security rules and other formal protections by shifting informal workers to the formal sector. But in the world’s second largest developing democracy, these expectations were not met. Far from reducing or simply tolerating informality, the PT in Brazil in fact fomented the informal sector. PT mayors increase the size of the informal sector, redirect inspections away from firms employing workers “off the books,” and encourage the creation of informal-sector enterprises. These policies – the selective enforcement of regulations and the promotion of autonomous work-organizations – make outsiders relatively better off but reinforce the divide between insiders and outsiders. In the words of Tandler (2002), they make “informality [...] more attractive, and formalization less attractive, than they otherwise might be” (p. 3). Awareness of the left’s dilemma helps explain these surprising choices.

The non-enforcement or forbearance of regulations is a powerful political tool, particularly for governments targeting poor constituencies in welfare states that fail to protect the poorest members of society. In line with Holland (2016, 2017), I show that politicians with working-class constituencies frequently ignore legal violations by the poor to alleviate their most immediate needs. And, in line with Hummel (2017), I show that local governments often improve labor standards *not* by forcefully enforcing regulations but, instead, by helping informal-sector workers organize in worker-run cooperatives and associations in the informal sector. Milner and Rudra (2015) also argue that governments have disincentives to reduce the informal sector, including

that they are leery of reducing the employment opportunities of unskilled workers. But my work demonstrates a link between enforcement and non-enforcement as political strategies, and the left's need to build a broad working-class coalition in countries like Argentina, Brazil, Mexico, or Uruguay. Previous studies argued that left-leaning parties simply adapted to the rise of informal labor by relying more on clientelism and less on unions (e.g., Levitsky 2003). But my analysis shows that leftist parties in developing democracies build coalitions of formal and informal workers by selectively altering the benefits and costs of regulatory compliance.

Turning to the broader implications of this study, one may wonder whether the pressures for selective enforcement are greater at the local than at the national level. Presidential administrations have access to massive fiscal, legal, and technical resources that they can deploy to compensate informal workers and the unemployed. And local politicians are heavily constrained in their relationship with workers; the laws regulating individual and collective labor rights cannot be modified by local governments.

That said, Brazil's PT pursued a similar strategy after winning the presidency in 2002 (see, in particular, Luna 2014, pp. 310–315). The PT retained most protections for insiders: it restored collective bargaining and kept in place generous social security benefits for formal workers, while implementing policies that benefited informal-sector workers – conditional cash transfers like *Bolsa Familia* and the creation of the National Secretary of Solidarity Economy, among other initiatives. Informality receded during PT's administrations but enforcement efforts are an unlikely explanation for this retrenchment (see, e.g., Cardoso 2007). Informality began to recede in 1999, during the presidency of Cardoso, of the PSDB. Also, the number of labor inspectors decreased during the presidencies of the PT. In my fieldwork, many labor inspectors complained to me that the PT national administrations did not increase the operational capacity of the agency.<sup>52</sup> Instead of upping the institutional capacity for labor inspections, the PT under presidents Lula and Dilma encouraged tripartite councils such as the National Labor Forum to

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<sup>52</sup> The PT did continue with efforts to increase the operational capacity of a small team of elite labor inspectors in charge of rescuing “slave-like” workers. See Coslovsky (2014).

bring together unions and employers to govern the labor market.<sup>53</sup> These policies allowed the PT to retain a significant share of its core constituency while extending linkages to the poorest segments of the population (Samuels and Zucco 2014; Zucco 2013).

Are these lessons useful beyond Brazil? The split between formal- and informal-sector workers is a salient feature of Latin American countries. Roughly 50% of workers in the region work in the informal sector. At the same time, most countries retained labor regulations that are more protective of formal workers than those found in France, Spain, Sweden, or Norway (Heckman and Pagés 2000). Thus, the need to collect votes from a heterogeneous labor base is widespread in the region. But the structural characteristics of the labor market are probably not the whole story. Not all leftist governments in Latin America followed the same course in their relations with formal- and informal-sector workers. In some countries, like Argentina and Brazil, the so-called “New Left” governments established strategic alliances with both unions and informal-sector organizations. But in Venezuela and Ecuador, for instance, leftist politicians clashed with organized labor (Handlin 2013; Silva 2017). Silva (2017), whose focus is on the Andean region, contends that left-leaning parties in the 2000s cemented their power by building alliances with informal-sector workers, not unions. But in other countries, such as Argentina, more traditional working class actors played a larger part in the left’s period in power (Etchemendy and Collier 2007). Explaining variation in the left’s strategy vis-à-vis the broader working class should be a focus of future research.

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<sup>53</sup> These councils do not have enforcement capacity.

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# Online Appendix for *Does the Left Breed Economic Informality?*

German Feierherd\*

October 27, 2017

## Contents

<b>A</b>	<b>RD: balance and robustness checks</b>	<b>2</b>
A.1	Density test . . . . .	2
A.2	Balance tests . . . . .	3
A.3	Results for waged and self-employed informal workers . . . . .	4
A.4	Results using the Calonico, Cattaneo and Titiunik (2014) estimator . . . . .	4
A.5	Results controlling for informality in 1991 . . . . .	5
A.6	Results by cohorts . . . . .	5
<b>B</b>	<b>Enterprise Surveys (ES) data</b>	<b>6</b>
B.1	McCrary's density and balance tests . . . . .	6
B.2	RDD for conditional effects for alternative bandwidths . . . . .	8
<b>C</b>	<b>Text analysis of cooperation agreements</b>	<b>9</b>

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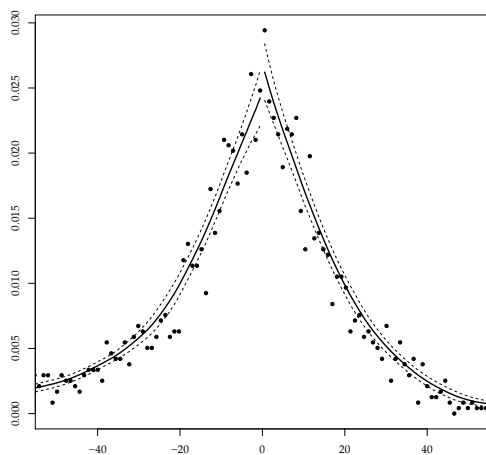
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<b>D</b>	<b>Heterogeneous Effects</b>	<b>10</b>
D.1	Coalition size . . . . .	10
D.2	Trade Liberalization . . . . .	12
<b>E</b>	<b>Details about interviews in Brazil</b>	<b>14</b>

## A RD: balance and robustness checks

### A.1 Density test

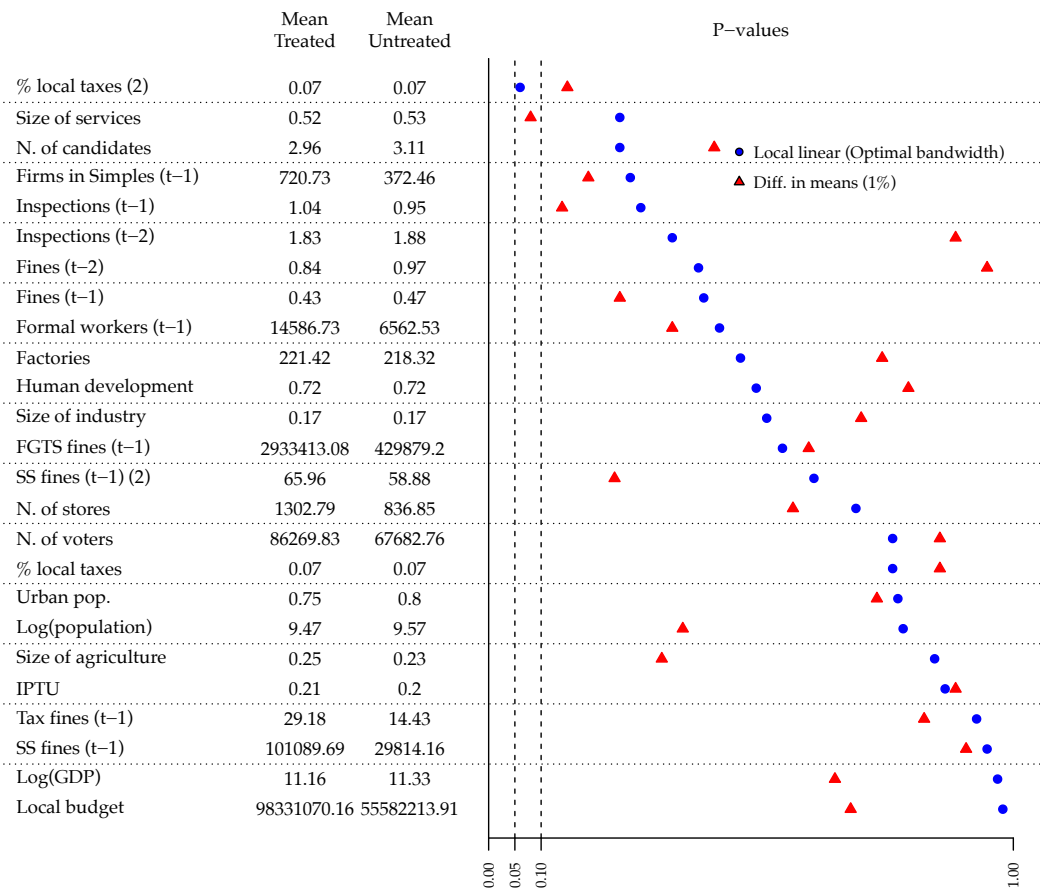
A potential threat to the regression-discontinuity design comes from the possibility that units (PT candidates that barely lost or won a mayoral election) can sort near the threshold. I use the test developed by McCrary (2008) to identify sorting on the running variable (the vote margin of PT candidates). The test fails to reject the null hypothesis of no sorting. This test reduces concerns about electoral manipulation.



**Figure A1:** McCrary Density Test for PT candidates. The running variable (x-axis) is the electoral margin of the PT candidate.

## A.2 Balance tests

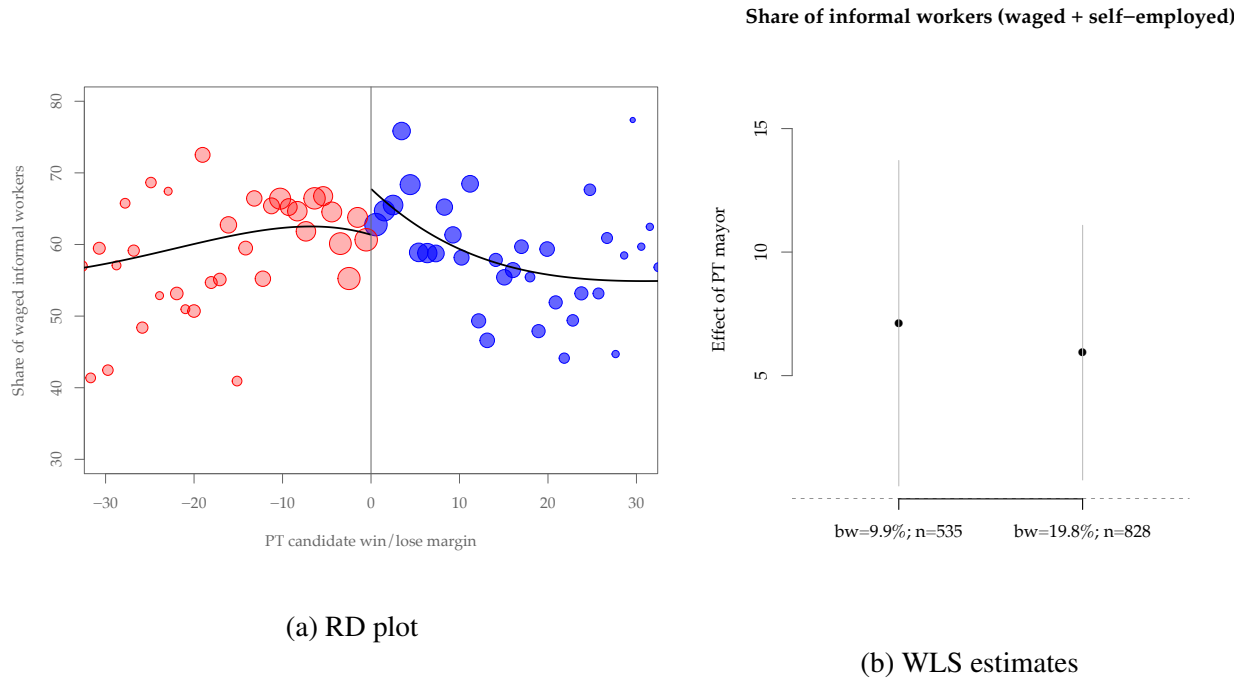
Figure A2 shows balance tests for two estimators – local-linear regression, using a 5% bandwidth, and difference in means, using a 1% bandwidth – on a number of pre-treatment covariates for municipalities where PT candidates came either first or second. Treated and control municipalities are statistically indistinguishable from one another on a number of relevant covariates.



**Figure A2: RDD: balance tests for pre-treatment covariates (municipal-level data).** *% of local taxes (1) and (2)*, is the share of local taxes one year and two years before the election, as a share of the local GDP; *Size of services, industry, and agriculture* is the size of each industry over GDP; *Firms in Simples* is the number of firms participating in a tax simplification program, the year before the election; *Inspection and Fines* (multiple years) is the per capita number of labor inspections and fines; *SS and FGTS fines* is the amount of unpaid taxes collected by the inspectorate on each tax; *Human development* is a municipal-level human development index. *IPTU* is share of local property taxes over the local budget; the rest of the variables are self-explanatory.



### A.3 Results for waged and self-employed informal workers



**Figure A3:** RD for the effect of a PT victory on the share of salaried and self-employed informal workers over the total number of salaried workers at the municipal level. Panel (a) The circles depict bin averages of the share of informal workers at the municipal level in places where a PT candidate wins or loses. Panel (b) WLS point estimates at  $\hat{h}$  and  $\hat{h}/2$  with 95% (gray) confidence intervals.

### A.4 Results using the Calonico, Cattaneo and Titiunik (2014) estimator

Variable	Estimate	Std. Error	95% CI	N	Opt. bandwidth
% waged informal workers	5.572	2.721	[1.109,11.773]	671	13.697
% informal workers (all)	6.748	3.479	[1.079,14.715]	733	15.992
Social Security taxes p/c	-153.49	87.862	[-342.211,2.201]	868	13.474
Inspections p/1,000c	-1.507	0.572	[-2.797,-0.555]	1431	15.252
Severance fund p/w	34.166	28.86	[-12.286,100.841]	977	16.046
% undeclared workers	-0.619	1.502	[-3.8,2.088]	1380	17.225
SSEs created p/1,000c	0.283	0.134	[0.017,0.542]	1696	20.458
Total SSEs p/1,000c	1.038	0.423	[0.315,1.971]	1111	16.833

**Table A1:** Effect of having a PT mayor on several labor-market outcomes. The table reports coefficients from a local linear regression using triangular kernel weight. Optimal bandwidths and robust standard errors are estimated using the Calonico, Cattaneo and Titiunik (2014) procedure.

## A.5 Results controlling for informality in 1991

Variable	Estimate	Std. Error	95% CI	N	Opt. bandwidth
% waged informal workers	4.669	2.344	[0.914,10.101]	634	12.623
% informal workers (all)	5.367	3.301	[-0.026,12.914]	684	14.386

**Table A2:** Effect of having a PT mayor on Informality, controlling for the size of the informal sector in 1991. The table reports coefficients from a local linear regression using triangular kernel weights. Optimal bandwidths and robust standard errors are estimated using the Calonico, Cattaneo and Titiunik (2014) procedure.

## A.6 Results by cohorts

Table A3 shows that the PT depresses the number of inspections, both in periods where the PT was out of office at the federal level (1997-2000) and in periods where the PT was in office but did not control the Ministry of labor (2009-2012). During 2003-2012 (a period covering three PT presidential terms), the PT headed the Ministry of Labor only until March 2007, when Luiz Marinho (a union leader from São Paulo) was replaced by Carlos Lupi, from the Democratic Labor Party (PDT).

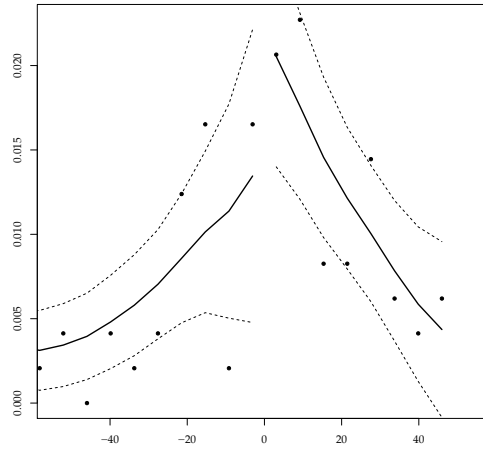
	RD Estimate	Standard Error	p-value	Bandwidth	N
1996-2012	-1.692	0.679	0.013	5.952	669
1997-2000	-6.991	2.539	0.006	7.456	109
2001-2004	1.127	1.768	0.524	7.599	114
2005-2008	-1.040	0.959	0.278	7.367	290
2009-2012	-1.669	0.818	0.041	5.931	243

**Table A3:** RDD: WLS point estimates at  $\hat{h}$  for the effect of a PT victor on the number of inspections per 1,000 adult residents by electoral round (1996–2012).

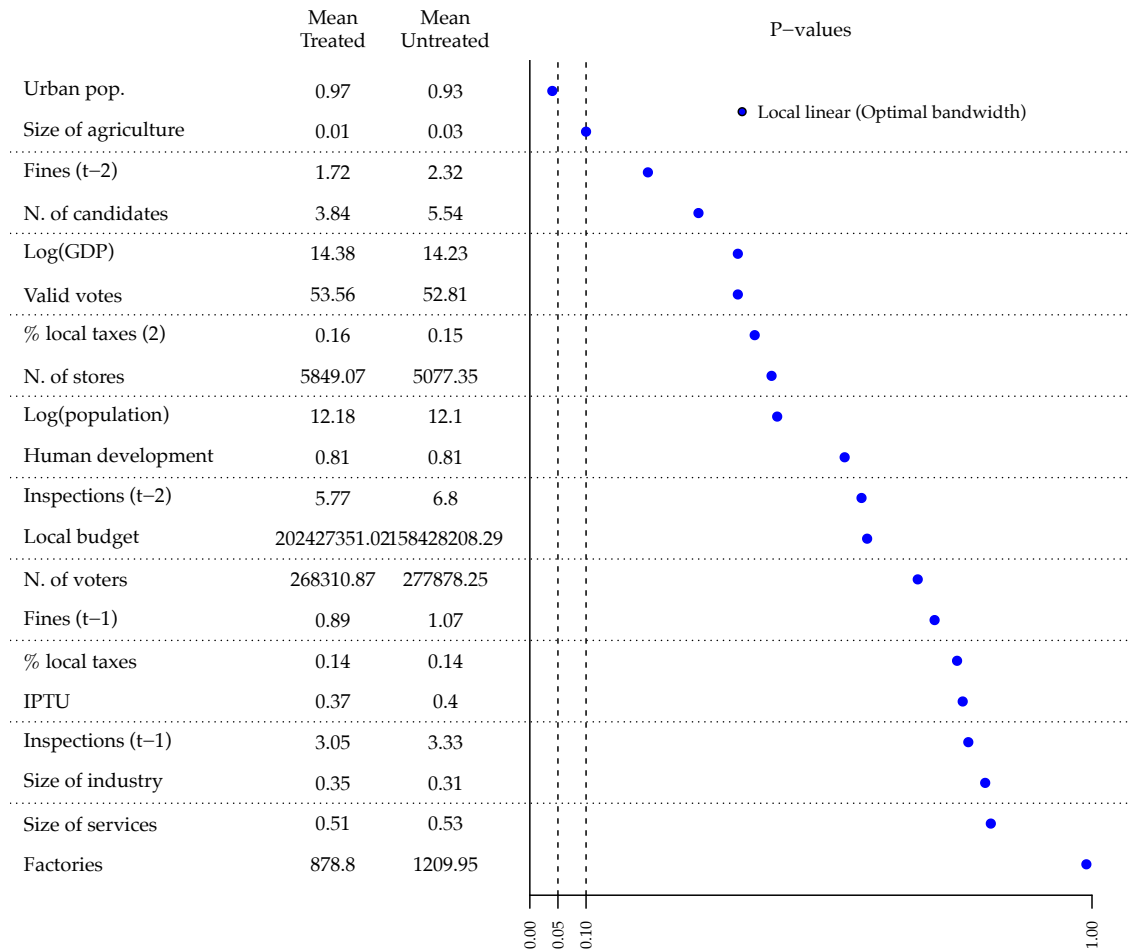
## B Enterprise Surveys (ES) data

### B.1 McCrary's density and balance tests

Figure A4 shows that there is no evidence of PT candidates in 2000 being able to sort near the threshold. Figure A5 shows that “treated” and “control” municipalities (i.e., where PT candidates win or lose a close elections) included in the ES sample are similar in a number of pre-treatment covariates; yet some imbalance remains. Municipalities in the control group are more rural and slightly poorer.



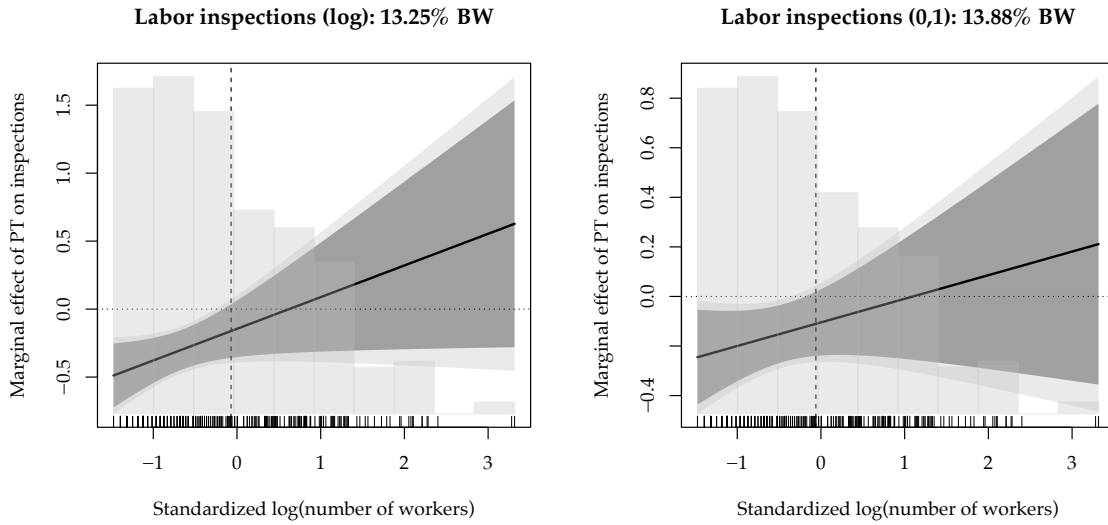
**Figure A4:** ES data: McCrary's Density Test for PT candidates. The running variable (x-axis) is the electoral margin of the PT candidate.



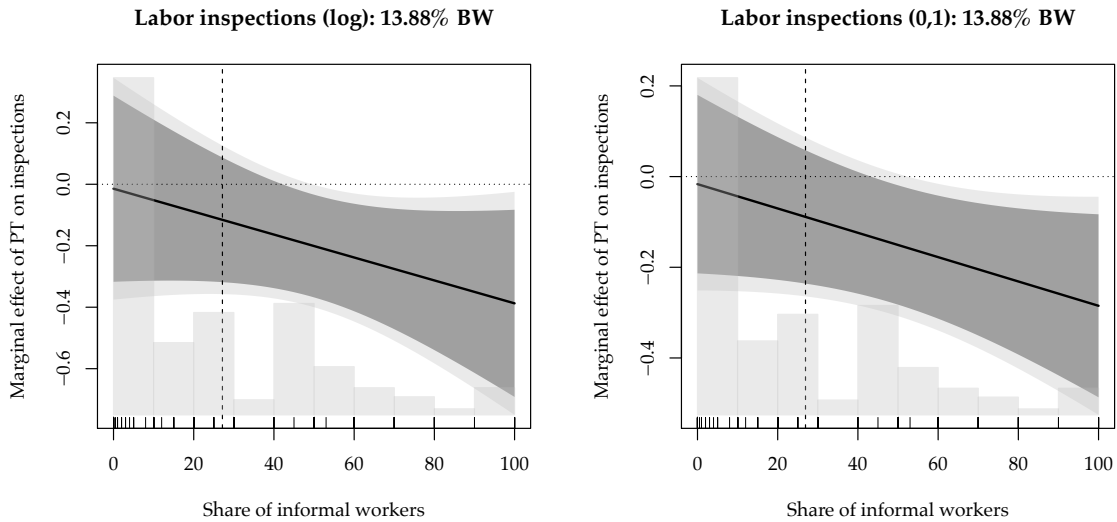
**Figure A5:** RDD: balance tests for pre-treatment covariates (ES data). For sources, see Figure A2.

## B.2 RDD for conditional effects for alternative bandwidths

Figures A6 and A7 replicate figures 7 and 8 in the main text using twice the optimal IK bandwidths. Again, the negative effect of PT mayors on enforcement decreases with firm size and increases with the share of informal workers employed by the firm.



**Figure A6:** Marginal effect of a PT mayor on labor inspections, conditional on firm size.



**Figure A7:** Marginal effect of a PT mayor on labor inspections, conditional on the share of informal workers.

## C Text analysis of cooperation agreements

The channels through which PT mayors influence labor inspectors are hard to observe quantitatively. That said, the number and type of cooperation agreements between local governments and the federal Ministry of Labor – on which the SFIT depends – provide some evidence of the greater involvement of PT mayors with local labor markets and the federal agencies in charge of enforcing labor law. Table A4 shows that a large proportion of these agreements are signed by PT mayors: 25% of all agreements signed between the Ministry of Labor and local governments were signed by a municipality headed by a PT mayor; more than 16% of PT mayors had signed agreements with the Ministry of Labor.

	Municipalities with...		
	no agreement	agreement	%
Non-PT mayor	14,000	593	4.06
PT mayor	932	182	16.34

**Table A4:** Agreements signed between local governments and the Federal Ministry of Labor between 1996–2012

Examining the content of these agreements provides evidence of the intent of PT mayors: instead of seeking cooperation from the SFIT to formalize informal workers and sanction non-compliant firms, PT mayors seek support to promote Social and Solidarity Enterprises (SSEs) and to provide assistance and training for marginal workers.

To examine the agreements, I first cleaned the text of the agreements signed by PT mayors using a series of standard techniques: I converted the text to lowercase, stemmed all words and removed stop words and numbers. I also removed words that appeared in fewer than 25 documents. With this data, I used a semi-automated, text analysis model called Structural Topic Model (STM) using the R package developed by Roberts et al. (2014). This model estimates both the content and prevalence of topics in the text as a function of covariates (in my case, simply state and year fixed effects). The STM is an unsupervised model, meaning that topics emerge from the data rather than by a coding scheme created by the researcher; unlike single-member

models, each document or agreement may contain multiple topics.

Table A5 lists keywords identified as being part of each topic. Of the topics identified by the STM model, several relate to the selective enforcement strategy of the PT and indicate that local government involvement with federal labor agencies focuses on improving conditions for informal-sector workers rather than on enforcing labor protections or the formalization of informal workers.

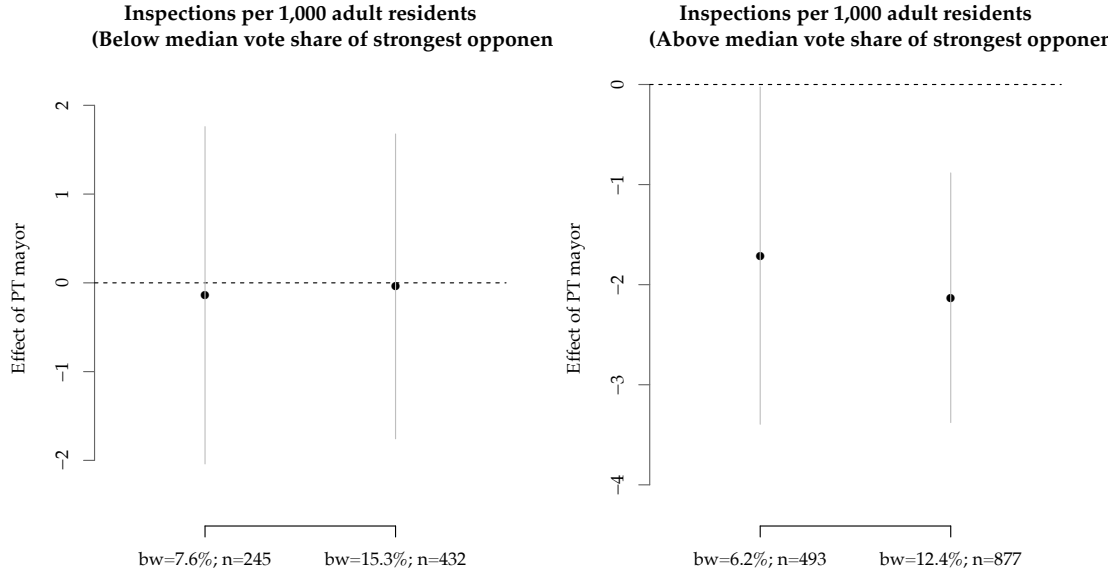
<b>Topics</b>	<i>Keywords</i>
SSE initiatives (1)	solidarity, income, development, work, local
Support for the unemployed	employment, unemployment, SINE, insurance, training
Cooperation with SFIT	cooperation, technical, financial, agreement, establishment
SSE initiatives (2)	enterprise, economy, social, family, inclusion
Support for marginal workers	construction, allowance, family, civil, program

**Table A5:** Highest probability words by selected topic

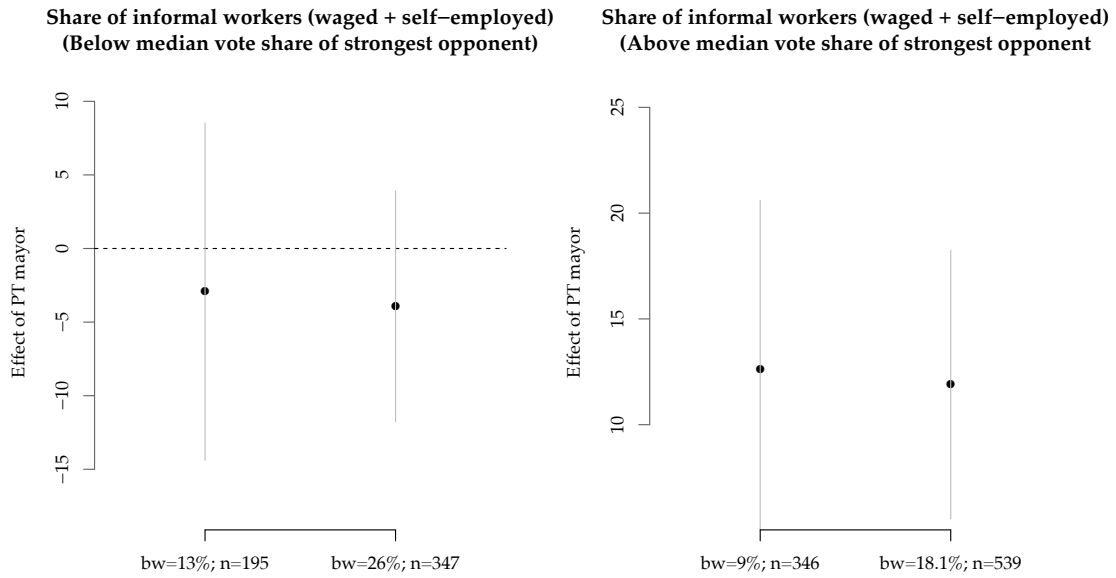
## **D Heterogeneous Effects**

### **D.1 Coalition size**

Next, I explore the heterogeneity of the effect of a PT victory by separately estimating the RD effects at two levels of the strongest opponent's vote share: below and above the median value. For each sample, I separately estimate the RD effect of a PT victory on the number of inspections during the 4-year mayoral term. As suggested in the main text, the PT should adopt an strategy of segmented enforcement in municipalities where it has to build larger coalition that includes both insiders and outsiders. Indeed, the negative effect of the PT on enforcement, and the positive effect of the PT on informality, concentrate in municipalities where the strongest opposition party wins more than 45% of the votes.



**Figure A8:** WLS point estimates at  $\hat{h}$  and  $\hat{h}/2$  with 95% (gray) confidence intervals for the effect of a PT victory on enforcement by levels of strongest opponent's vote share.



**Figure A9:** WLS point estimates at  $\hat{h}$  and  $\hat{h}/2$  with 95% (gray) confidence intervals for the effect of a PT victory on Informality by levels of strongest opponent's vote share.



## D.2 Trade Liberalization

Scholarly studies suggest that openness to international markets has deep political consequences. Globalization impacts the everyday lives of workers and consumers in several ways, as well as their employment prospects. The liberalization in trade in Brazil involved drastic reductions in overall trade tariffs across industries, reducing the dispersion of tariffs across industries. The bulk of the liberalization reform took place between 1991 and 1994. Following 1994, tariffs remained essentially stable. I follow Kovak (2013), who exploits exogenous changes in prices across 21 tradable industries, including agricultural and non-traded goods. Kovak defines a “region-level tariff change” (RTC) as a weighted average of liberalization-induced price changes, with weights based on the industrial distribution of labor in each region:

$$RTC_m = \sum_{i \neq N} \lambda_{m,i} \cdot d \cdot \ln(1 + \tau_i) \quad (1)$$

where

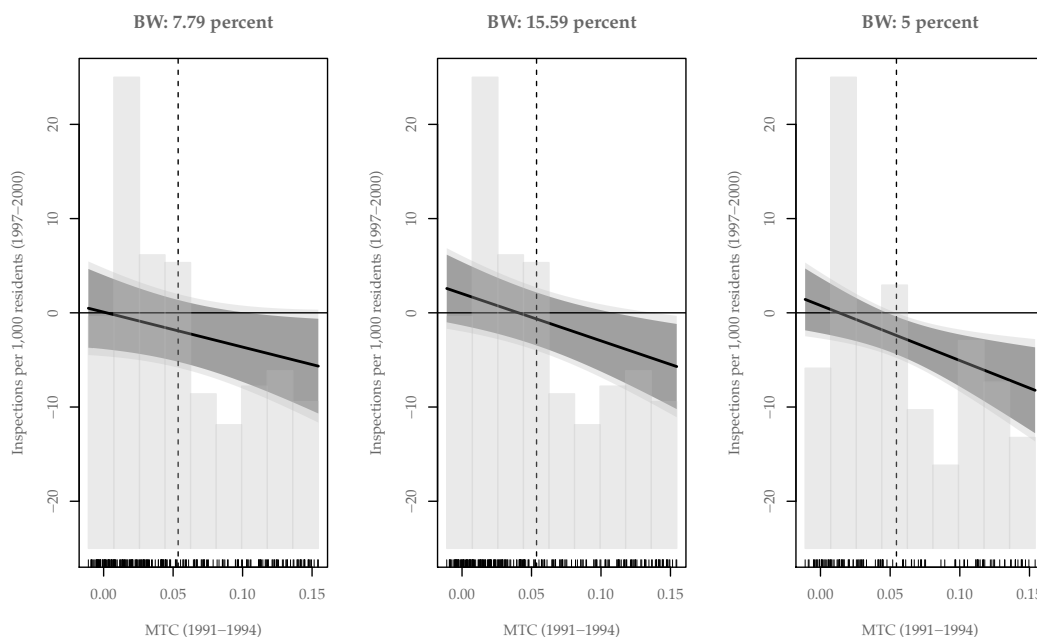
$$\lambda_{m,i} = \frac{\frac{1}{\lambda_{m,i}} \frac{1}{\theta_i}}{\sum_{i' \neq N} \frac{1}{\theta_{i'}}} \quad (2)$$

In these equations,  $i$  denotes industries and  $m$  local labor markets.  $d \cdot \ln(1 + \tau_i)$  is a measure of the liberalization-induced price changes, where  $\tau_i$  is the nominal tariff rate for industry  $i$  and  $d$  represents the long-difference from 1990 to 1995.<sup>1</sup> These changes are weighted by the fraction of local labor allocated to industry  $i$  in municipality  $m$  ( $\lambda_{m,i}$ ).  $\theta_i$  is equal to one minus the wage bill share of industry  $i$  and proxies for labor demand elasticity in each industry. My analysis departs from Kovak’s in two ways: first, I measure the region-level tariff change at the municipal level, while he focuses on micro-regions (which typically include several municipalities). Second, I compute the region-level tariff changes, by looking at the distribution of unskilled workers across industries and municipalities (defined here as workers without completed high-school).

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<sup>1</sup> That is,  $\ln(1 + \tau_{i,95}/100) - \ln(1 + \tau_{i,90}/100)$ .

$RTC_m$  captures how municipal labor markets are affected by the liberalization of trade: municipalities whose workers were concentrated in industries facing the largest tariff cuts should be more affected by tariff changes than those facing smaller cuts or with fewer workers employed in liberalizing industries. I use the same regression discontinuity design as in equation (2) and a difference in means at the 10% bandwidth, but I add an interaction between the treatment (i.e., the partisanship of the mayor) and  $RTC_m$ . As mentioned, the bulk of the tariff reform process took place between 1991-1994. Thus, I focus on the effect of the municipal-level tariff change by looking at the cohort of mayors elected for the 1996-2000 period. Figure A10 shows results for heterogeneous treatment effects for PT-held municipalities on the number of labor inspections, conditional on  $RTC_{m,unsk}$ . Irrespective of bandwidth or model choice, PT mayors block enforcement in municipalities that experienced a negative trade shock in industries with many unskilled workers.



**Figure A10:** Marginal effect of PT mayors on enforcement conditional on the regional tariff change, weighted for the industry-municipal proportion of unskilled workers. 90% confidence intervals in dark grey and 95% confidence interval in light grey, calculated using robust standard errors.

## **E Details about interviews in Brazil**

I conducted semi-structured interviews with officials of the federal Ministry of Labor, the state and local labor offices, labor inspectors, federal and state prosecutors and judges, union leaders, businessmen, and local experts. The following list provides the identification code, position (if available), organization, geographic location, and date of interviews cited or referenced in the main text:

**BA1**, Former Ministry of Labor of Santa Fe, Buenos Aires, Argentina, 09/2015

**BA2**, Senior Official, Department of Labor Inspection, Ministry of Labor, Employment and Social Security, Buenos Aires, Argentina, 09/2015

**BH2**, Union Leader, FETAG-BA, Bahia, Brazil, 06/2015

**BH3**, Labor Inspector (AFT), Ministry of Labor and Employment, Bahia, Brazil, 06/2015

**BH4**, State Legislator, Bahia, Brazil, 06/2015

**RGDS1**, Labor Inspector (AFT), Ministry of Labor and Employment, Rio Grade do Sul, Brazil, 05/2015

**RGDS2**, Union Leader and Labor Inspector (AFT), AGITRA/Ministry of Labor and Employment, Rio Grade do Sul, Brazil, 05/2015

**RGDS5**, Former Senior Official, Secretary of Labor, Rio Grade do Sul, Brazil, 05/2015

**RGDS7**, Labor Inspector (AFT), Ministry of Labor and Employment, Rio Grade do Sul, Brazil, 05/2015

**RGDS12**, Labor Inspector (AFT), AGITRA/Ministry of Labor and Employment, Rio Grade do Sul, Brazil, 05/2015

**SP1**, Senior Official, Ministry of Labor and Employment, São Paulo, Brazil, 09/2014

**SP2**, Union Leader, CUT-SP, São Paulo, Brazil, 09/2014

**SP3**, Former Labor Inspector (AFT), SINAIT, São Paulo, Brazil, 09/2014

**SP8**, Labor Inspector (AFT), Ministry of Labor and Employment, São Paulo, Brazil, 10/2014

**SP10**, Superintendent, Ministry of Labor and Employment, São Paulo, Brazil, 10/2014

**SP11**, Journalist, São Paulo, Brazil, 08/2016

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