Does the Left Breed Economic Informality?

Party Strategies and Selective Enforcement in Brazil

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September 15, 2017

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Given their links to organized labor and reliance on working-class voters, leftist governments 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. 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. My analysis reveals that the PT pursues a strategy of enforcing barriers-to-entry to the formal sector within large firms, while at the same time improving working conditions of informal-sector workers by incorporating them into worker-run informal sector enterprises.

> *There are differences and contradictions between the informal and formal sector,*
>
> *often between workers and smallholders. There is a polarization, still not explained,*
>
> *that the Workers' Party and our governments need to explore further.*
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> — José Dirceu, President of Brazil's Workers' Party, 1999.

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, I show that 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; indeed, they benefit from keeping the barriers to entry into formal-sector work high.[1] Informal workers might want to cross these barriers but are generally unskilled; relatively few transition from informal to formal work. Therefore their more realistic goals are to increase the supply of jobs and improve working conditions for low-skilled people like themselves.

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[1] See Lindbeck and Snower (1988, 2001).

How do left-leaning parties resolve this tension? If all the left had to worry about were increasing wages and improving conditions for an undifferentiated working class, we would expect it to use the monitoring power of the state to crack down on firms that employ informal workers. Or, if it were simply focused on minimizing unemployment, it would weaken job-security laws to lower firms' costs of hiring additional workers. But, given its electoral needs and the segmented nature of the working classes, it keeps in place steep hiring and firing costs for protected workers, uses its monitoring capacity selectively, and seeks 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, the labor supply at low wages is substantial, and parties vary greatly in the nature of their ties to workers. It is in such a setting that we can expect leftist parties to engage in selective enforcement. Among Brazil's parties I focus mainly 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.

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. Indeed, a central element of my argument is that left-leaning parties rely heavily on local actors to manipulate enforcement, which allows them to adjust national laws to heterogeneous local circumstances.

To test the implication that leftist parties, when in government, *increase* the size of the informal sector, I use an original municipal-level dataset with information on the relative size of the informal sector over time, the pace and incidence of labor contract inspections, the extent of informal-sector

organizations and cooperatives, among other variables.[2] Yet it is a challenge, empirically, to discern the impact of partisanship, since which party is elected will likely vary as a function of potentially confounding variables (e.g., poverty rates and the structure of the local industry). I sidestep this difficulty, in part, by using a regression discontinuity (RD) design in "close" mayoral elections. This design rests on a simple assumption: in close elections, winners and losers are determined essentially by chance. 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 outcomes in 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 (including wage workers and the self-employed) increases sharply. Payroll taxes collected in the district – a measure of the size of the formal sector – drop sharply. My study also offers evidence that local PT governments improve conditions for the informal sector. 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. PT mayors also slow the pace of labor inspections and redirect these inspections to firms in which formal-sector workers are more likely to be employed. They thus block enforcement among small firms and those more likely to employ workers "off the books."[3]

Scholars who study party strategies vis-á-vis labor in the developing world have noted that they often have to appeal to heterogeneous constituencies.[4] For instance, they may vary their campaign appeals or add impoverished groups to their electoral coalitions through vote-buying (Levitsky 2003; Luna 2014; Thachil 2011). What I show is that they can use public policy and selective enforcement, in some cases actively encouraging the firms to flaunt labor laws, to build internally heterogeneous constituencies. My construct of selective enforcement is closer to Holland's (2016;

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[2] 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

[3] Using semi-automated text analysis of federal-local agreements, I also show that supporting solidarity enterprises is a frequent topic in the agreements signed by PT mayors. See Appendix A.

[4] For a seminal treatment on this topic, see Przeworski and Sprague (1986).

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.

Party strategies and the informal sector

Conventional wisdom associates informal workers with street vendors, self-appointed parking attendants, waste pickers, and beggars. Most informal workers, however, are salaried workers rather than self-employed.[5] These workers are typically employed in small shops and firms but a non-negligible share of them work in larger enterprises that lower labor costs by hiring workers "off the books." The defining characteristic of these workers is that they are not covered by labor protections prescribed by law, including contributory social security programs. For this reason governments, both on the left and the right, have fiscal reasons to restrict informal-sector labor, which represents lost revenue. Apart from these goals, governments have distributive objectives and their choices about law enforcement are restricted by the electoral coalitions that support them.

Consider, first, the case of a left-leaning party. The classic approach to labor and social policy reform focuses on the relative power of business versus labor (Esping-Andersen 1999; Korpi 1983). In Latin America, scholarly studies suggest that leftist parties represent the interests of the working class and have been a positive force of welfare state development (Huber and Stephens 2012; Pribble 2013). Scholars have also found that the left increases, and the right decreases, labor market rigidity, meaning that left-leaning governments are more likely to pass laws that raise the costs of hiring and firing workers (Murillo, Ronconi and Schrank 2011). Therefore, much of the political economy literature suggests, either implicitly or explicitly, that left-leaning governments will encourage a shift from informal to formal jobs. To put it simply, strong labor regulations are rendered useless if employers ignore them by hiring workers informally.

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[5] Self-employed informal workers make up 24 percent of total urban employment in Latin America; informal salaried workers account for roughly 30 percent (Perry et al. 2007).

This view, however, ignores that left parties mobilize support among multiple constituencies, some of whose interests are visibly in conflict with one another. The period of market reforms deeply transformed labor's traditional base. De-industrialization reduced the number of unionized industrial workers; these workers can no longer deliver electoral victories to leftist parties on their own. Additionally, market reforms weakened clientelistic ties between outsiders and conservative parties, providing an opportunity for left-leaning parties to build support among the working poor. Thus, in many developing and middle-income countries, the left appeals both to a core constituency of unions and formal workers, and to a more marginalized constituency of informal-sector workers.

Yet, as a literature on related topics from Europe suggests, there are real tensions between courting these workers in the labor market simultaneously (Rueda 2005, 2007). A majority of informal workers are employed in small and unproductive firms that provide employment of last resort for millions of workers. These firms stay afloat by ignoring all kinds of taxes and regulations and are often seen as crucial to reduce poverty and unemployment.[6] Informal-sector workers see their employment opportunities further complicated by steep job security regulations, which allow formal workers to demand wage increases that keep unemployment above the "natural" rate and make it harder to reshuffle who is formally employed.[7]

In this context, formal workers in protected jobs are presumed to lack incentives to extend benefits to other workers (Lindbeck and Snower 1988, 2001; Saint-Paul 1996). Indeed, previous studies have found that formal and informal workers lack a coherent class identity and belong to different organizations (Haggard, Kaufman and Long 2013; Roberts 2002). Parties of the left, then, face a dilemma: either they crack down on firms that employ informal workers, or they reform labor codes and alienate their core working-class supporters.

In response to these tensions between their different constituencies, left governments opt for the strict enforcement of labor codes among big firms, where unions have more influence and the forbearance of regulations is likely to benefit business owners rather than workers. But instead of

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[6] Some of these firms are not registered with state agencies while others have a permit to operate but avoid at least some taxes and regulations. For a summary on small firms, see Lederman et al. (2013).

[7] For a review, see Betcherman (2012) and Freeman (2009). See also King and Rueda (2008).

punitively enforcing contracts among enterprises that employ many informal-sector workers, these governments improve wages and work conditions for workers who remain in the informal sector – for instance, by promoting the creation of workers' cooperatives that receive some state support and offer a range of improved benefits. The key for understanding why leftist parties may be weak on the enforcement of formal contracts is to keep in mind the trade-offs involved in enforcing costly labor regulations. Actions that increase welfare for the median formal worker also reduce the employment opportunities for the median informal worker. Selectively enforcing regulations allows left-leaning parties to be bridge the demands of critical local constituencies.

The situation is different for a rightist party with ties to business and upper income voters. Conservative parties can respond to the challenge posed by a growing base of informal outsiders in a number of ways: they can promote labor reforms to make employment less expensive and more flexible; they can also take a battery of measures to moderate unions' power, especially in the public sector. By lowering public wages, restricting strikes and picketing, relaxing employment protection legislation, and lowering payroll taxes, these governments can claim they promote *formal* job creation. Furthermore, the preferences of parties on enforcement are contingent on baseline levels of enforcement. In countries with autonomous and capable labor inspectors and powerful unions that pressure larger firms into compliance, conservative governments may actually prefer an equal exposure to regulations over unevenly enforced regulations to reduce unfair competition from small businesses.[8]

A political model of enforcement

To illustrate the distinct interests of formal and informal workers, consider the following utility function of a formal-sector worker:

$$U_{formal} = p \cdot [w_f(1-t)] + (1-p) \cdot [w_u + q \cdot w_i] \tag{1}$$

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[8] That said, large firms often subcontract small firms to sidestep regulations. See Amengual (2016) for a discussion.

where p is the probability of remaining formally employed, w_f is the income while formally employed (including working conditions and other benefits), and t is a tax payed by the worker if formally employed. In turn, q is the probability of informal employment, w_u is whatever income an unemployed worker earns (his or her unemployment insurance or severance pay), and w_i is the income a worker can earn while informally employed. Unemployed and informal-sector workers have an equivalent utility function, with p being the probability of being formally employed. This setup captures well two features of developing labor markets: wage dualism and high levels of open unemployment and underemployment.

Formal workers are protected by costly job security regulations, which reduce their risk of unemployment. This insulation means that the probability of *remaining* a formal workers is substantially greater than the probability of *becoming* one ($p_{formal} > p_{formal}$). As a result, formal-sector workers prefer policies that increase formal-sector wages (w_f), dislike policies that raise taxes for the formally employed (t), and favor policies that shield them from losing their formal jobs (p). Outsiders, instead, are more concerned about unemployment. Because the income available to unemployed informal-sector workers (w_u) is zero in most developing countries, these workers like policies that increase informal-sector wages (w_i) and are more concerned with policies that reduce their chances of employment, either formal (p) or informal (q).[9]

I argue that variation in the size of the informal sector reflects not only variation in state monitoring capacity but also in government incentives to enforce laws and regulations. Here I study two policies that help to rectify the competing interests of formal and informal workers: labor inspections that oversee labor contracts and benefits and the promotion of "solidarity enterprises" that improve working conditions for informal workers without shifting them to formal work. The size of the informal sector depends on a broader range of factors and policies but these two policies are important because they reflect whether governments seek to incorporate more workers into the formal sector or rely, instead, on a strategy of selective enforcement.

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[9] The income available to unemployed informal-sector workers has become positive in many countries with the implementation of cash transfers in the 2000s; yet these income-support policies typically offer meager benefits.

Labor contract inspections. In most countries, labor inspectors oversee the whole of the labor code, including worker's formal registration, severance pay, and minimum wage regulations.[10] I distinguish two kinds of enforcement depending on whether the target of enforcement are formal or informal workers. Labor inspectors can increase the costs of *formal* employment by demanding compliance with costly regulations (e.g., overtime pay); this reduces demand for formal labor. They can also increase costs of *informal* employment by raising the expected penalty for employing workers "off the books." This kind of enforcement depresses demand for informal labor and forces firms to reclassify informal workers as formal or to terminate their employment. When firms face stricter enforcement of regulations, their access to informal workers is diminished, employing workers formally is more expensive, and the unemployment rate is higher.[11]

As is clear from equation 1, the effect of labor inspections on a worker's utility depends on the status of the worker and the regulations that inspectors enforce more aggressively. For formal workers, low levels of enforcement of labor contracts increase competition from outsiders in industries where formal and informal laborers are substitutable, depressing the wages of employed formal-sector workers. Inspections that limit the access of firms to informal workers increase formal wages (w_f) by raising the marginal product of labor. In the civil construction sector, for instance, where formal workers are typically unskilled, unions frequently lobby inspectors to increase enforcement and limit firms' access to informal labor (Amengual 2016; Cardoso and Lage 2006).[12] Insiders also favor the enforcement of benefits (e.g., overtime and severance pay) because it increases entry costs to formal employment.

Informal workers, on the other hand, are easily replaceable: they lack employment protections and are generally unskilled. Thus, they may fear that the enforcement of formal contracts will lower their chances of employment (i.e., they will decrease q and/or p), particularly in industries

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[10] The exception are Anglo-Saxon countries, which divide labor enforcement into various agencies. See Piore and Schrank (2008).

[11] The rise in unemployment helps to clear the market. See, e.g., Harris and Todaro (1970).

[12] That being said, some insiders – e.g., those with more skills – may profit from firms having access to cheap and flexible labor. Similarly, strict enforcement of some rules – e.g., working hours – may benefit outsiders, by increasing demand for additional workers.

and firms that compete on low wages.[13] In the Brazilian garment industry, for instance, Tilly et al. (2013) argue that "workers see the state more as a threat to their income (through the collection of fees and taxes or through inspections that threaten to eliminate their means of survival) than a provider of social security or as a promoter of decent working conditions" (p. 26).

Solidarity economy enterprises (SSEs). Governments can also implement policies to increase the income a given worker makes in the informal sector (w_i) or while unemployed (w_u). In the framework proposed by equation 1, informal workers and the unemployed are the main beneficiaries of these policies. These include cash transfers targeted to informal-sector workers, wage subsidies to workers in informal enterprises and friendlier legal frameworks that allow informal-worker associations and cooperatives to access public subsidies and credit lines (as well as the forbearance of taxes and regulations; Holland 2017; Hummel 2017). To the degree that formal workers are protected from unemployment, they will be less interested in increasing informal-sector wages (w_i) and will instead be concerned about the effect of these policies on their taxes (t) and on labor-market competition from outsiders (e.g., firms may want to outsource part of the production process to the informal sector).

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 initiatives. These programs seek to organize workers marginalized from formal employment to "extend and strengthen labour standards *within* the informal economy" (Fonteneau et al. 2011, p. 78; emphasis added). Unions have sometimes supported these initiatives, but not without reservations. In Brazil, for instance, the first experiences with SSEs began in cities controlled by the PT, such as Porto Alegre, Belém, and Santo André (Gaiger, Ferrarini and Veronese 2015).[14] But unions linked to the party – those organized around the Unified Workers' Central (CUT) – have argued that "many of these processes [the promotion of social and solidarity

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[13] 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).

[14] Similarly, PT local governments were pioneers in the implementation of conditional cash transfers targeted to informal workers.

economy initiatives] are coordinated by businessmen who want to lower labor costs (. . .) The union movement must pressure for a more rigorous state control of these cooperatives" (Magalhães and Todeschini 2000, p. 2).

Hypotheses and observable implications

Three hypotheses emerge from my argument. The main observable implication of my theory is that *leftist parties, when in government, will increase the size of the informal sector.* The number of workers informally employed increases partly because *these governments will invest in efforts to improve working conditions for informal workers*, like promoting solidarity enterprises – but, critically, without extending them formal contracts. Informality also increases because *left-dominated governments will block enforcement among small firms and those more likely to employ workers "off the books."*

Between the unions and the *Economia Solidária* in Brazil

Brazil has one of the most rigid labor codes in the world, which dates 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, and 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).[15] Furthermore, 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 paid maternity leave is 120 days. Employers must also give prior notice of dismissal no smaller than one month; once the worker receives this notice she is granted two hours a day to look for a job. Workers with non-justified dismissals have the right to receive a monetary compensation paid by the employer, beyond that accumulated in the worker's job security fund. On the whole, turnover costs – the

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[15] 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.

linchpin of insiderness – are largely determined by government regulations and are among the highest in the world.

As generous as these conditions may be, they help only a segment of the labor force. Half of workers in the country are either employed in the informal sector or employed in informal jobs – i.e., they work without a work permit or *carteira.* The average and median share of informal workers in a municipality in 2010 were roughly the same, averaging 60% of all workers. These workers earn low wages and are not covered by social insurance – although, as Garay (2016) notes, they have gain access to a range of transfers and programs particularly (but not only) after the PT won the presidency in 2002.

Early analyses of partisan politics in Latin America argued that workers outside the formal sector were highly heterogeneous in their preferences and social circumstances, which undermined their collective capacity in the political arena. In Brazil, extensive poverty and inequality did not translate into massive support for the PT following democratization in 1985. 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). At the same time, the joint effect of democratization and a shrinking blue-collar base in the 1980s forced many left and labor-based parties – including the PT – to mobilize the poor. Mainwaring, Torcal and Somma (2015), analyzing twenty-four presidential elections and eight legislative elections, show that poor, unskilled workers have played a decisive role in contemporary Latin America in supporting parties on the left. They argue that "class voting is in fact strongest among highly disadvantaged sectors – the poor self-employed and unskilled workers – and weak among skilled workers" (p. 111).

From the party's beginning, the leadership of the PT realized that the organized working class was not big enough to win power at either the national or sub-national levels. In 1999, the president of the PT, 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). To make up for a small blue-collar base, the party forged ties to middle-class professionals and myriad social movements, including sectors of the Catholic church; however, a large portion of the working poor remained elusive to the party.

Several victories at the local level led the PT to a period of ideological transformation that allowed it to aggrandize its coalition – but not without conflict, especially between the party and its allied unions. Luiza Erundina, São Paulo's mayor from 1989 to 1992, "faced cross-cutting pressures between raising wages of municipal workers and attending to other city residents, including poorer and less organized constituents who had provided an important margin for her victory" (Hunter 2010, p. 91). PT mayors in other cities, such as Porto Alegre, faced similar constraints, "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" (ibid, p. 96).[16] For much of the 1980s, unions linked to the PT were representatives of what was called "new unionism." They were more sympathetic to shop-floor organization and 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, "new unionism" became more pragmatic, self-oriented, and institutionalized (Antunes and Santana 2014; Sluyter-Beltrão 2010). At the same time the PT started to prioritize electoral victories, CUT-affiliated unions became more focused on preserving jobs and wages for their members.

Research design and data

Brazil is a presidential democracy with 26 states and one federal district. At the sub-state level, Brazil has 5,564 municipal governments, which collect taxes and provide a number of public goods and services, including education and basic health services. Municipal governments are headed by mayors, who are elected by popular vote. If a district has more than 200,000 voters, the election is held under a runoff system. Otherwise, mayors are elected through plurality rule. All executive offices are elected every four years.

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[16] See also Baiocchi (2003), pp. 4 and 23.

Brazil has a highly fragmented party system composed of weak and personalistic parties. The PT is, however, considered the strongest party in Brazil and an exception to the rule of highly personalistic and patronage-oriented parties. This article studies close races in the 1996, 2000, 2004, and 2008 municipal electoral contests, thus including five different federal governments: two PSDB governments from 1994 to 2002 and three PT governments from 2003 to 2012. I restrict the sample to municipalities in which one of the top two candidates belonged to the PT. The focus on the PT is justified because the other left-wing parties in Brazil are either organizationally weak or have little presence at the municipal level. 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 (Hunter 2010, p. 83).

A close-election RD design can be adapted to estimate the effect of a mayor's partisanship on informality and enforcement. This design rests on a simple assumption: in close elections, winners and losers are determined essentially by chance.[17] Therefore, municipalities where a candidate from party j barely wins should be, on average, indistinguishable from municipalities in which a party j candidate loses by a small margin. The only difference between them is that one set of municipalities is governed by party j while the other set is governed by mayors from other parties $(-j)$. A common choice for estimating the local average treatment effect (LATE) is to restrict the sample to include only close competitive races where party j was either winner or runner-up. To estimate the effect of PT incumbency, I use a local-linear estimator with triangular kernel weights around two bandwidths, h and $h/2$, estimated using the optimal function developed by Imbens and Kalyanaraman (2012).

While the identification assumption that in the absence of the treatment (having a PT mayor), municipalities on both sides of the cutoff should look on average alike is unverifiable, no statistically significant differences are discovered for units with and without a PT mayor for a number of relevant pre-treatment covariates. Hence, control and treated municipalities are indistinguishable in a number of pre-treatment covariates.[18]

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[17] For a full derivation of the RD estimand see Imbens and Lemieux (2008).

[18] See Appendix, A.1 and A.2, for more details.

Informality. 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 using two rounds of the Brazilian Demographic Census (2000 and 2010). I operationalize this variable in two ways: as the share of *salaried* workers who do not hold a labor card and as the share of workers who do not hold a labor card, also including *self-employed* workers. I look at the effect of a PT victory in 1996 and 2008 in the share of informal workers in 2000 and 2010, respectively. I also investigate the effect of a PT victory on the total amount of Social Security taxes collected from the paychecks of formal workers (over the number of residents). These data are available as of 2000; thus, I look at the effect of PT victories for three mayoral cohorts: 2000, 2004, and 2008. I consider the total number of taxes collected during a mayor's term, divided by the number of residents in the municipality.

Solidarity Enterprises (SSEs). In 2005–2007 and 2012–2013, the National Secretary of Solidarity Economy (SENAES) – created by President Lula da Silva in 2003 – conducted national censuses with the aim of mapping the number and operation of SSEs in Brazil. The second round mapped new organizations and those that were mapped in the first round and still in operation at the time of the second census.[19] This survey counted 20,000 collective, permanent organizations engaged in the production of goods and services, including associations, cooperatives, and self-managed enterprises. Only 8% were considered formal, and most of the workers lacked working cards. I focus on two outcomes: the number of SSE per 1,000 residents at the end of a mayor's term, for those 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.

Inspections. To measure enforcement efforts, I use data on labor inspections at the municipal level for the period 1996–2012.[20] The Federal System of Labor Inspection (SFIT) has approximately 3,000 labor inspectors and oversees the enforcement of labor regulations (e.g., worker's formal registration and severance pay). Although labor inspectors report to the federal

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[19] See http://sies.ecosol.org.br/atlas.
[20] Data was provided by the Brazilian Ministry of Labor.

government, local politicians exercise influence over field operations by providing labor inspectors with information and resources that are critical for enforcement. The appendix, Section C, provides a detailed discussion of how mayors influence enforcement in Brazil.

The dataset contains a myriad of enforcement measures at the municipal level. In addition to the number of inspections, it includes data on the amount of unpaid taxes on the workers' severance indemnity fund collected by inspectors and the number of unreported workers found during inspections. I normalize the first variable by dividing the number of inspections by the number of residents in the municipality, and multiplying this by 1,000.[21] The variable provides a measure for the intensity of enforcement, which I predict will go down when a leftist mayor is in office. To identify different types of inspections, the latter two variables are normalized by the number of workers covered during inspections. The unpaid taxes on the workers' severance indemnity fund collected by inspectors serves as an indicator of the enforcement of insiders' working conditions; the number of unreported workers found during inspections indicates efforts toward enforcing labor contracts.

I also use data from the 2003 Enterprise Surveys (ES). This survey interviewed 1,642 *registered* firms in 419 municipalities and 13 (out of 27) states on aspects of business–state relations. Firms were selected from a stratified sample of firm size, industry, and region. The industries sampled are auto parts, chemicals, electronics, food, garments, machinery, textile, and wood manufacturing. Respondents – usually firm managers – were asked about the number of labor and social security inspections they received over the last year. These data give a picture of the types of firms that the agency targets. I test whether the 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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[21] Results are robust to alternative ways of operationalizing the dependent variables; for instance, taking the logarithm of the number of inspections.

Results

The following sections present the main results; validity and placebo checks, including tests of design, are relegated to the appendix.

PT mayors increase informality

Does informality increase under the tenure of PT mayors? The graphical analysis reveals patterns consistent with the theoretical expectations 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-held) and control (non-PT-held) municipalities. Figure 1, panel b, shows treatment effects using kernel regression at $\hat{h}$ and twice that bandwidth. The effect is not only statistically significant at conventional levels but also large in magnitude. A PT victory increases the number of informal workers (both waged and waged and self-employed) by roughly six percentage points.[22]

Additional evidence on labor market segmentation comes from the collection of social security taxes from the paychecks of formal workers. These taxes are paid by formal workers (both self-employed and employees) and are on average 10% of a worker's salary (20% for a self-employed worker). These contributions guarantee that the payer or his family will receive money in the event of illness, injury, accident, pregnancy, or death of the payer. In municipalities controlled by the PT, per capita tax collection drops by 270 to 370 *reais* for the whole mayoral term (Figure 2, panel b).[23] The graphical analysis further confirms this finding (Figure 2, panel a).

Two mechanisms help explain the increase of informal workers: the first mechanism is a reduction in enforcement efforts – particularly, in the reclassification of informal workers as either formal or unemployed workers – within firms that employ many informal workers. Enforcement also changes the relative attractiveness of informal jobs whether compared to jobs in the formal

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[22] Results counting both salaried and self-employed informal workers are analogous – in size and statistical significance – to those presented here; see Appendix, A.3.

[23] For PT-races, the mean is 1232 *reais* per capita with a standard deviation of 2006.

(a) RD plot

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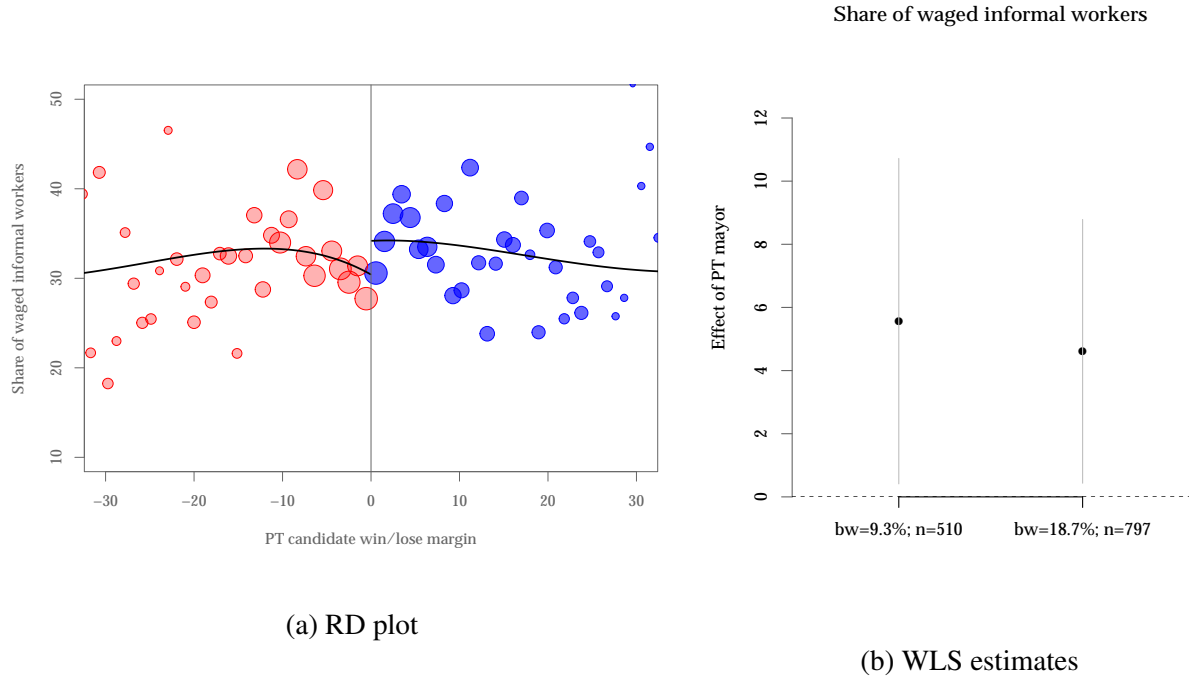
Figure 1: RD for the effect of a PT victory on the share of salaried informal workers over the total number of salaried workers at the municipal level. Panel (a) The circles depict bin averages of the share of informal workers at the municipal level in places where a PT candidate wins or loses. Panel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

sector or to unemployment. Labor inspectors can enforce regulations that workers deem attractive, such as health and safety conditions and overtime pay. Thus, an increase in inspections can reduce informality if some workers in the informal sector are choosing informal jobs rather than being excluded from formal ones (see Maloney 2004). Lax enforcement, by contrast, blurs the difference between the average formal and informal sector jobs, reinforcing the incentives of some workers to remain informal. Finally, policies supporting the informal sector, such as 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. I evaluate each of these possibilities in turn.

Social Security taxes

(a) RD plot

(b) WLS estimates
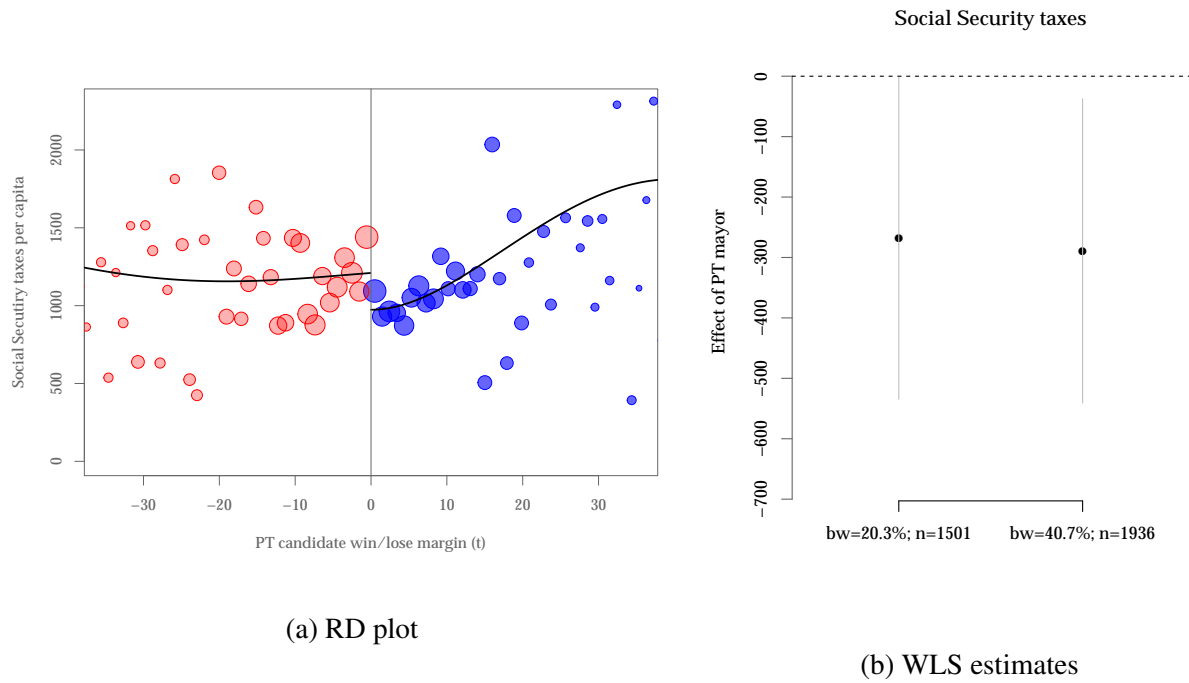
Figure 2: RD for the effect of a PT victory on the amount of social security taxes collected during a mayor's term, divided by the number of residents. Panel (a) The circles depict bin averages of per capita social security taxes collected at the municipal level in places where a PT candidate wins or loses. Panel (b) WLS point estimates at $\hat{h}$ and $\hat{h}/2$ with 95% (gray) confidence intervals.

PT mayors improve conditions in the informal sector

Governments, at both the national and local level, can make informality more attractive by helping the working poor to organize in self-managed enterprises. As I mentioned earlier, governments have increasingly promoted SSE initiatives to combat unemployment and underemployment in the formal sector. Consistent with expectations, Figure 3 shows that PT mayors are associated with an increase in the number of SSEs. The results are both statistically and substantively significant. The plot on the left shows estimates for the effect of a PT victory on the number of SSEs that were created during a mayor's term. PT municipalities have roughly 0.8 per 1,000 residents more SSEs (over the total number of firms) than control municipalities.[24] The

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[24] The mean of the dependent variable is 0.587; the standard deviation is 1.46

plot on the right shows effects on the total number of SSEs. Municipalities governed by the PT have almost 2.5 per 1,000 residents more SSEs than municipalities where the PT barely lost.[25]

The appendix provides additional evidence of PT mayors' efforts at promoting SSEs to improve the life of the working poor.[26] Using a text analysis model called Structural Topic Model (STM), I analyze all the *parcerias* or cooperation agreements signed between PT-headed governments and the federal Ministry of Labor. Of the topics identified by the STM, many refer to the provision of support to SSEs and informal-sector workers. While common wisdom suggests that poor and unskilled workers must fend for themselves in the informal sector, leftist governments have improved standards in the informal economy by providing technical and financial services to cooperatives and associations of informal and unemployed workers.
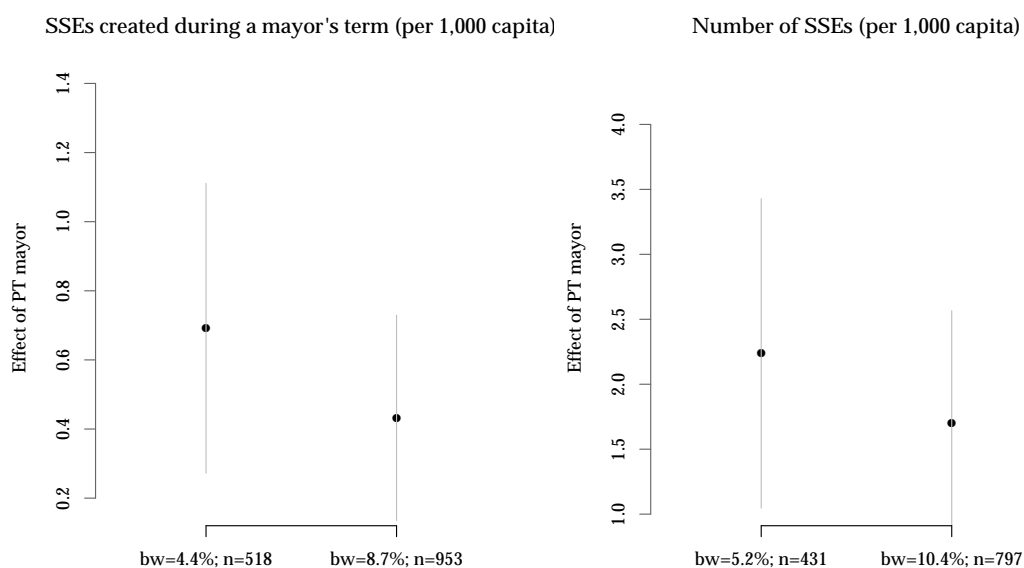
Figure 3: WLS point estimates at $\hat{h}$ and $\hat{h}/2$ with 95% (gray) confidence intervals for the effect of a PT victory on the number of SSEs. *SSEs created during...* is the number of SSEs (per 1,000 residents) created during a mayor's term (1996–2012). *Number of SSEs* is the total number of SSEs (per 1,000 residents) in the municipality.

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[25] The mean of the dependent variable is 2.26 with a standard deviation of 4.2.

[26] See Appendix C.2 for details.

PT mayors reduce and segment the enforcement of labor law

Enforcement also differs significantly according to which party wins or loses the mayoral race. 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 4). These results are both substantive and statistically significant at conventional levels. A PT victory is associated with a negative effect of 1.65 inspections per 1,000 capita for the entire four-year period (and almost 2 points for half the IK bandwidth).[27]

(a) RD plot

(b) WLS estimates
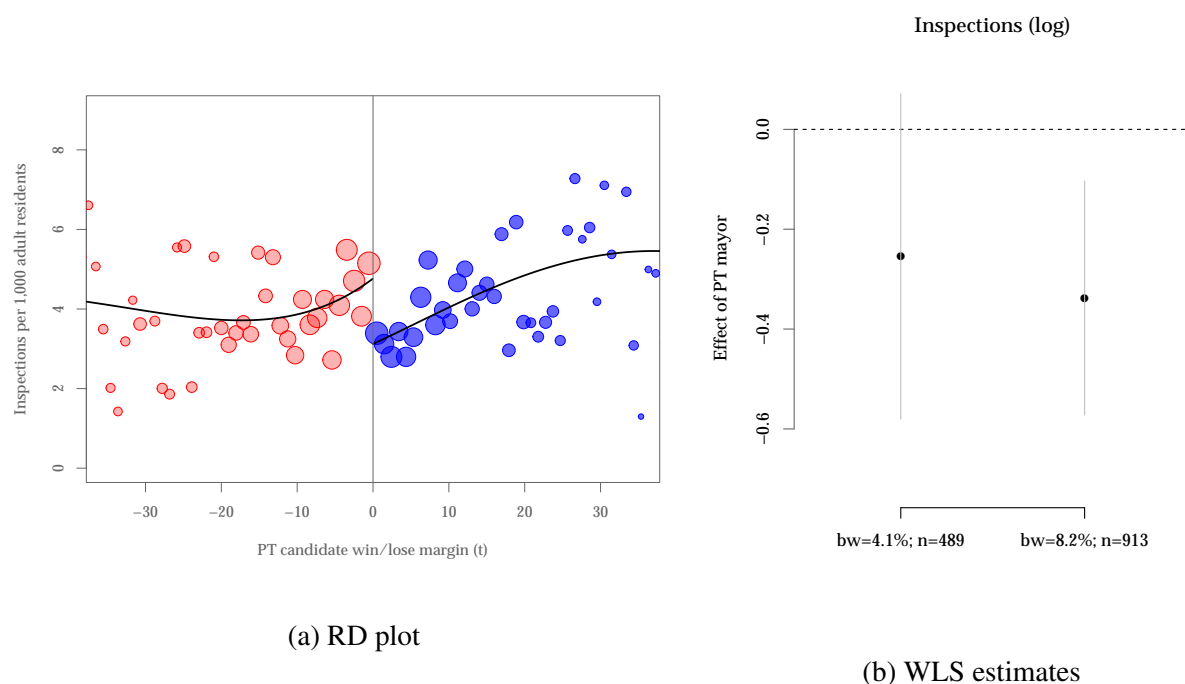
Figure 4: RD for the effect of a PT victory on the number of inspections (1996–2012). Panel (a) The circles depict average number of inspections per 1,000 residents at the municipal level in places where a PT candidate wins or loses. Panel (b) WLS point estimates at $\hat{h}$ and $\hat{h}/2$ with 95% (gray) confidence intervals.

A victory by the PT also influences the type of labor violations that are enforced more vigorously. I hypothesized that leftist incumbents would move slowly on the enforcement of labor protections, particularly in firms employing a larger share of informal workers (where the trade-off between enforcement and employment is likely to be greater). Figure 5 shows results for analogous

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[27] The mean of the dependent variable for the entire sample of PT races is 4.13 with a standard deviation of 5.52.

local-linear regressions. In PT-controlled municipalities, inspectors focus disproportionally on detecting labor violations that affect formal rather than informal workers: they focus on the collection of FGTS payments for the workers' severance fund while ignoring the detection of unreported workers (this last effect is not statistically significant at conventional levels).
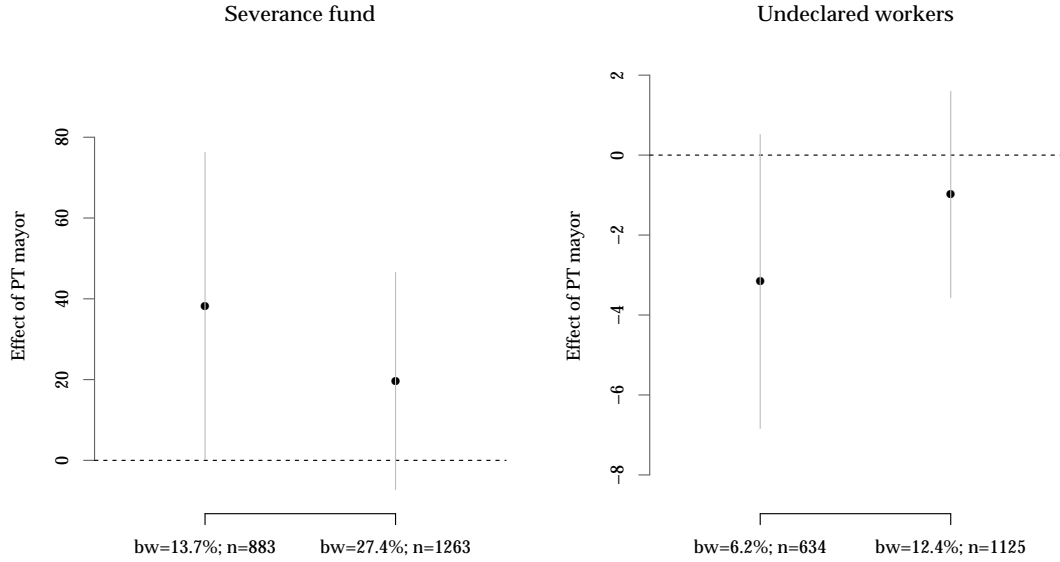
Figure 5: WLS point estimates at $\hat{h}$ and $\hat{h}/2$ with 95% (gray) confidence intervals for the effect of a PT victory on enforcement. *Severance fund* is the amount of unpaid FGTS taxes collected by inspectors over the total number of workers covered. *Undeclared workers* is the number of undeclared workers found during an inspection over the total number of workers covered.

Further evidence on PT's segmented enforcement strategy comes from the 2003 ES firm-level data. I code the dependent variable as one if a firm received at least one inspection and zero otherwise. I also show results for the number of times each firm was visited by a labor inspector. The appendix (B.1) shows the corresponding balance and density tests, using the cohort of mayors elected in 2000.[28]   All standard errors are clustered at the city level. Main effects – i.e., the unconditional effect of a PT victory on a firm receiving a visit from a labor inspector – replicate the findings previously shown: firms in PT-held municipalities are 21% less likely to receive a labor inspection (see Appendix, B.2).

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[28] There are only 12 cities (121 firms) that had a PT candidate as the winner or runner-up within $\hat{h}$ (3.41%). Thus, I use 5% bandwidths to increase the number of observations.

Figure 6 shows that partisanship effects are moderated by the size of the firm, for both the number of labor inspections and probability of receiving an inspection. Small firms located in places governed by the PT receive fewer inspections than the average. Moving one standard deviation away from the average firm (54 employees) reduces the negative impact of the PT on the likelihood of a firm receiving a federal inspection by almost 30%. Firms employing large numbers of informal workers also receive fewer visits from inspectors in PT-held municipalities, consistent with the hypothesis that the PT blocks inspections to protect job sources for informal workers.

(a)   (b)

Figure 6: 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.

Heterogeneous effects and rival interpretations

The findings from the previous section show that a PT victory *causes* a sharp rise in the number of workers informally employed and a drop in the collection of payroll taxes, a rise in the number of informal-sector organizations, a drop in the number of labor inspections and a change in the target

23

Labor inspections (log): 5% BW Labor inspections (0,1): 5% BW

(a)   (b)

Figure 7: 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.

of labor inspectors (who focus disproportionally on large firms and firms less likely to employ workers "off the books," and on enforcing employment protections for formal-sector workers).

The pressures that lead to segment labor markets in Brazil are widespread for a party with a divided labor base, given the relative strength of unions, the large numbers of informal-sector workers employed in small and unproductive firms, and the cost of *de jure* labor protections; yet contextual factors may reduce or increase incentives for mayors to segment enforcement. I consider two moderating conditions in the appendix. First, I look at the effect of trade liberalization on informality and enforcement. Trade liberalization is expected to reduce employment in import-competing industries where wages cannot be adjusted downward because of labor rigidities (e.g., unions and employment protection legislation) or where labor is not highly mobile. I show that, during the 1990s, PT local governments block enforcement precisely in those municipalities that were hurt most by the liberalization of trade (especially those containing a larger share of unskilled workers).[29]   Second, PT mayors may feel more pressure to segment enforcement in

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[29] As I explain in the appendix, the size of the liberalization shock on local labor markets was plausibly exogenous to underlying political conditions and counterfactual industry performance (see Kovak 2013).

places where they must assemble larger electoral coalitions that include both formal and informal workers. I show that the effect of mayors on enforcement and informality increases with the vote share obtained by PT's strongest opponent.

Here I consider several possible objections and alternative interpretations of these findings. A vast literature in political science argues that presidents reward allied-held constituencies and penalize those headed by an opposition incumbent in the allocation of central resources. In principle, it is possible that PT presidents reward firms in allied municipalities with less enforcement in exchange of campaign funds for allied mayors. Weak or lax enforcement may explain the increase in informality as well. This explanation, however, is not supported by the data. PT mayors depress the number of inspections and increase informality, 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).[30]

Another concern with these findings is that, while a change in the partisanship of the mayor may induce a change in the behavior of inspectors, firms and workers may increase their compliance with labor law when the PT is in government, making identification harder. But this is precisely not what I find. While labor inspectors find fewer informal workers during inspections in firms located in municipalities governed by a PT mayor, the number of informal workers in PT-held municipalities in fact goes up.

The research design also raises questions about the external validity of the findings. The main drawback of the RD is that it estimates a *local* average treatment effect for cities where a PT mayoral candidate wins or loses an election by essentially a margin of zero. Mayors who win a close election may, however, behave differently from those who win by larger margins. On the one hand, in places where local competition is intense, leftist mayors may face stronger incentives to appeal to a broad sector of society – e.g., poor and unskilled workers who are not unionized. On the other, competitive environments typically increase incentives for political parties, both leftist and rightist, to shift policy toward the center. Similarly, one may also wonder whether the left

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[30] See Appendix, A.4.

faces similar incentives at different levels of government or if the pressures that lead PT mayors to segment enforcement are stronger at the local level. I discuss this possibility in the concluding section.

Conclusion and future research

Over the past three decades, developing and middle-income countries around the world 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. Given their links to organized labor and reliance on the electoral support of workers, leftist governments – which have dominated government in the region since the early 2000s – are expected to extend the reach of job security rules and other formal protections by shifting informal workers to the formal sector. But this paper shows that far from reducing or simply tolerating informality, mayors from the leftist PT in Brazil have in fact fomented the informal sector.

I found that leftist governments increase the size of the informal sector, redirect inspections away from firms employing "off the books" (i.e., informal) workers, and encourage the creation of informal-sector enterprises. These policies – the promotion of autonomous work-organizations and the forbearance of regulations – make outsiders relatively better off but reinforce the divide between insiders and outsiders. In the words of Tendler (2002), they make "informality [. . .] *more* attractive, and formalization *less* attractive, than they otherwise might be" (p. 3). My theory helps explain why leftist incumbents implement policies we would have not expected (such as blocking enforcement of labor contracts in small enterprises or fomenting informal-sector jobs).

This paper joins recent studies that acknowledge that non-enforcement, selective enforcement, and forbearance are powerful political tools, particularly for governments targeting poor constituencies in welfare states that do not 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 in the informal sector.

But my work takes a step further and links the literature on enforcement with the coalitional constraints that the left faces in countries like Argentina, Brazil, Mexico, or Uruguay. While previous studies argued that left-leaning parties simply adapted to the informalization of labor markets by relying more on clientelism and less on unions (Collier and Handlin 2009; Levitsky 2003), my analysis shows that leftist parties in developing settings frequently build coalitions that include both formal and informal workers by selectively enforcing regulations.

Turning to the broader implications of this study, one may wonder whether the pressures for segmented enforcement are greater at the local than at the national level. National-level incumbents have access to additional fiscal, legal, and technical resources to compensate outsiders. And local politicians are heavily constrained in their relationship with workers as the laws regulating individual and collective labor rights cannot be modified by local governments.

That said, the PT may have followed a similar *segmented* strategy after winning the presidency in 2002 (see, in particular, Luna 2014, pp. 310–315). The PT retained most protections for insiders, including restoring collective bargaining and keeping generous social security benefits for formal workers, while implementing policies targeted at informal-sector workers – the widely known *Bolsa Familia* but also the creation of the SENAES, among other initiatives. Informality receded during PT's administrations but enforcement efforts are an unlikely explanation for this retrenchment (Cardoso 2007). Informality began to recede in 1999, during the presidency of Cardoso, of the PSDB. Also, the number of labor inspectors did not increase during the presidencies of the PT. On numerous occasions, labor inspectors complained to me that the PT did not increase the operational capacity of the agency.[31] Instead of revamping the agency, the PT encouraged tripartite councils such as the National Labor Forum to bring together unions and

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[31] 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).

employers to govern the labor market.[32] 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 and beyond the PT? As Garay (2016) and others show, left-leaning parties compete for the votes of both informal and formal workers everywhere in Latin America. Thus, the challenges of collecting votes from a heterogeneous labor base are common to other developing democracies. Furthermore, many developing societies feature both large unskilled segments of the labor force and laws that powerfully protect workers in the formal economy. In Latin America, even Uruguay and Chile, the two countries with the most flexible regulations in the region, have labor regulations that are more protective than those found in France, Spain, Sweden, or Norway (Heckman and Pagés 2000). But the structural characteristics of the labor market are probably not the whole story. Throughout Latin America, leftist governments have established different relations with formal and informal organizations. 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 other nations, such as Venezuela and Ecuador, leftist politicians clashed with organized labor (Handlin 2013). Future research can investigate how different types of political coalitions change government incentives to sustain large informal sectors and restrict the enforcement of labor regulations.

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[32] These councils do not have enforcement capacity but allow large employers and unions to share information, communicate demands, and coordinate around shared goals.

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

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September 15, 2017

Contents

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1

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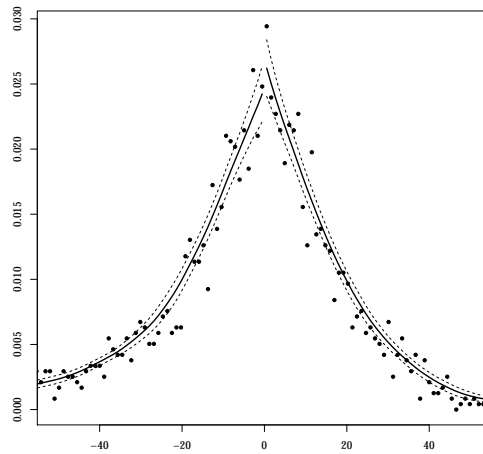
Figure A1: McCrary Density Test for PT candidates. The running variable (x-axis) is the electoral margin of the PT candidate.

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.

	Mean Treated	Mean Untreated
% local taxes (2)	0.08	0.06
Size of services	0.52	0.51
N. of candidates	3.03	3.02
Firms in Simples (t−1)	396.96	232.21
Inspections (t−1)	1.19	0.82
Inspections (t−2)	2.01	1.66
Fines (t−2)	0.93	0.92
Fines (t−1)	0.52	0.42
Formal workers (t−1)	6035.74	3522.77
Factories	146.89	120.92
Human development	0.72	0.71
Size of industry	0.18	0.16
FGTS fines (t−1)	319710.6	294617.96
SS fines (t−1) (2)	44.84	85.94
N. of stores	995.94	635.16
N. of voters	56162.27	41239.06
% local taxes	0.07	0.06
Urban pop.	0.76	0.77
Log(population)	9.58	9.29
Size of agriculture	0.24	0.27
IPTU	0.23	0.2
Tax fines (t−1)	11.58	6.73
SS fines (t−1)	10187.81	15888.85
Log(GDP)	11.27	11.03
Local budget	43944608.07	31033485.22

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

Share of informal workers (waged + self–employed)

(a) RD plot

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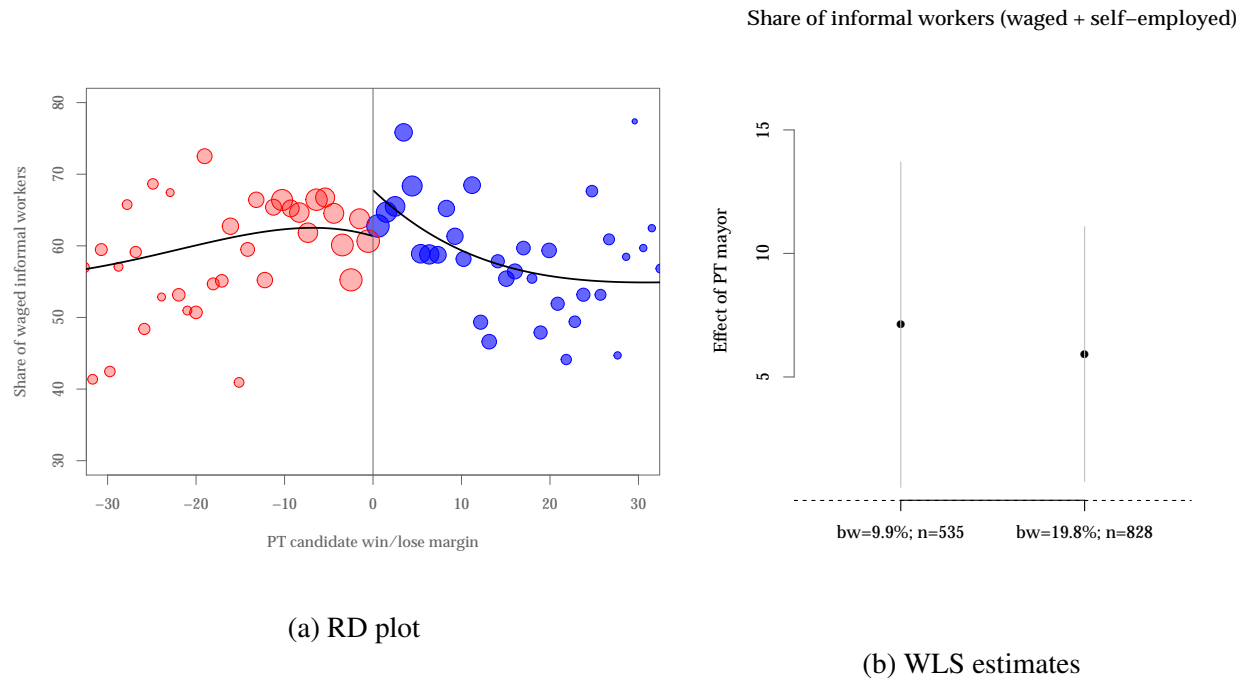
Figure A3: RD for the effect of a PT victory on the share of salaried and self-employed informal workers over the total number of salaried workers at the municipal level. Panel (a) The circles depict bin averages of the share of informal workers at the municipal level in places where a PT candidate wins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

A.4   Results by cohorts

Table A1 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 is 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 A1: 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).
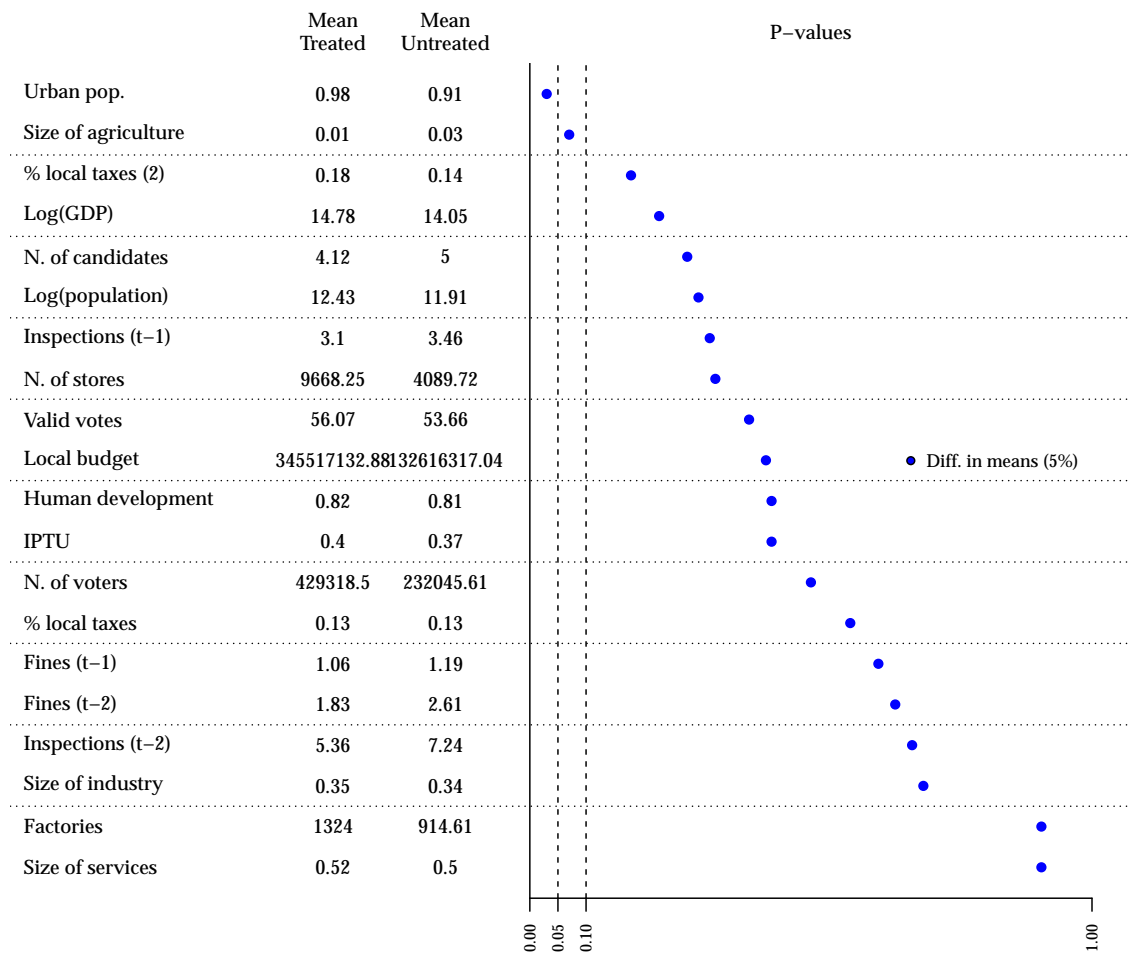
B   Enterprise Surveys (ES) data

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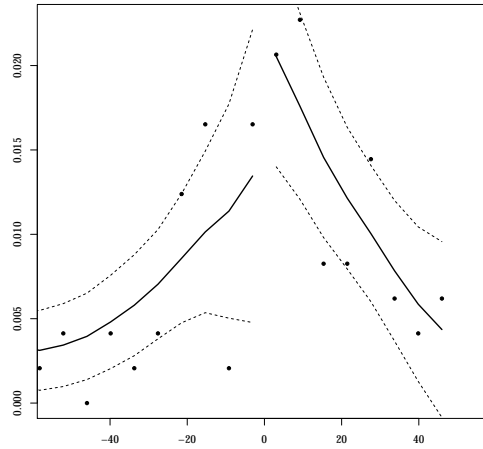
Figure A4: ES data: McCrary's Density Test for PT candidates. The running variable (x-axis) is the electoral margin of the PT candidate.

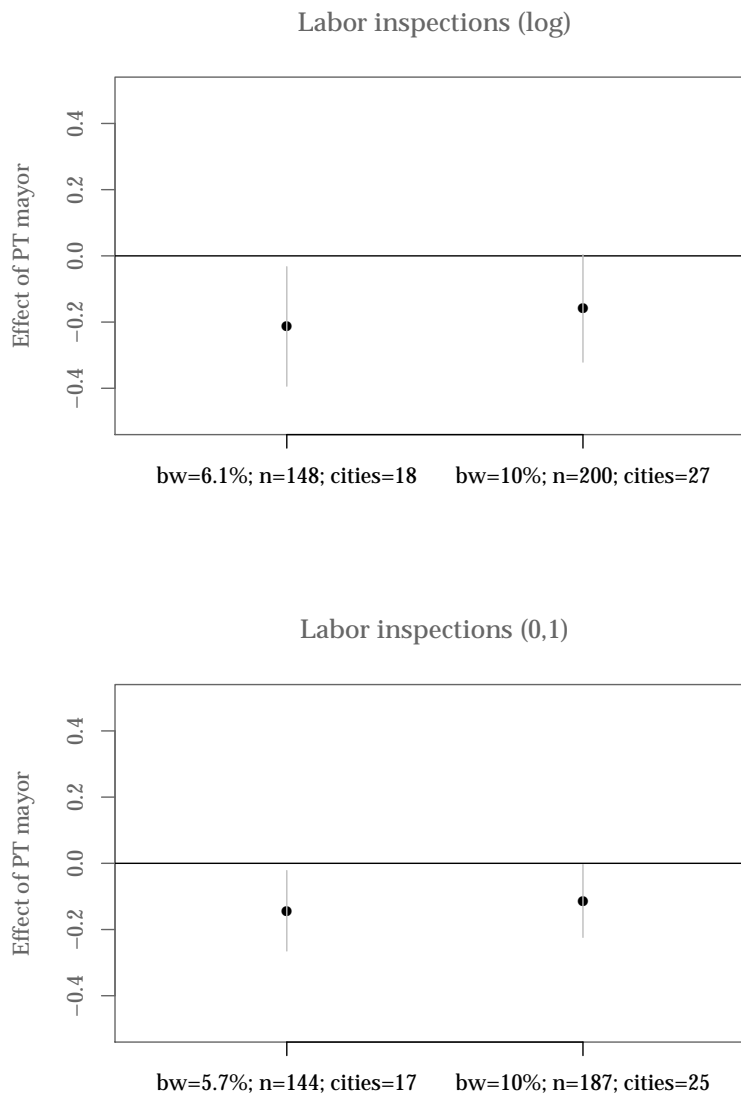|	Mean Treated	Mean Untreated	P−values
Urban pop.	0.98	0.91	
Size of agriculture	0.01	0.03	
% local taxes (2)	0.18	0.14	
Log(GDP)	14.78	14.05	
N. of candidates	4.12	5	
Log(population)	12.43	11.91	
Inspections (t−1)	3.1	3.46	
N. of stores	9668.25	4089.72	
Valid votes	56.07	53.66	
Local budget	345517132.88	132616317.04	Diff. in means (5%)
Human development	0.82	0.81	
IPTU	0.4	0.37	
N. of voters	429318.5	232045.61	
% local taxes	0.13	0.13	
Fines (t−1)	1.06	1.19	
Fines (t−2)	1.83	2.61	
Inspections (t−2)	5.36	7.24	
Size of industry	0.35	0.34	
Factories	1324	914.61	
Size of services	0.52	0.5	

Figure A5: RDD: balance tests for pre-treatment covariates (ES data). For sources, see Figure A2.
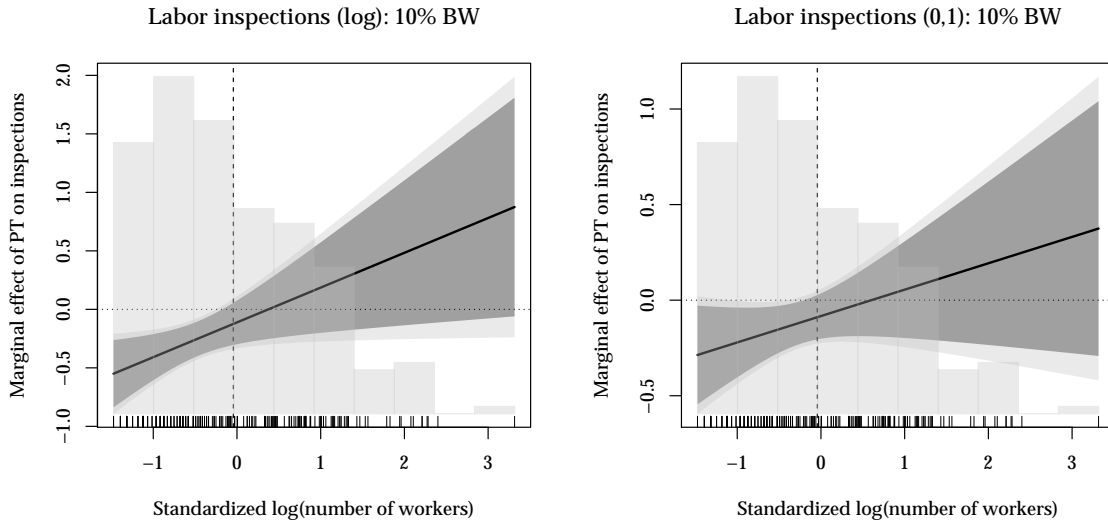
B.2 RDD for unconditional effects

Figure A6 show results for the unconditional effect of a PT victory on a firm receiving a visit from a labor inspector using the ES data. These results largely replicate the findings using the municipal-level administrative: firms in PT-held municipalities are approximately 20% less likely to receive a labor inspection.

Labor inspections (log)

bw=6.1%; n=148; cities=18   bw=10%; n=200; cities=27

Labor inspections (0,1)

bw=5.7%; n=144; cities=17   bw=10%; n=187; cities=25

Figure A6: RDD: effect of PT mayor on inspections (ES data). Dots represent average treatment effects. Bars represent 95% confidence intervals. Models were estimated using difference in means and clustered-robust standard errors.

B.3 RDD for conditional effects for 10% bandwidths

Figures A7 and A8 replicate figures 7 and 8 in the main text using 10% 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 A7: Marginal effect of PT mayor on receiving a labor inspection, conditional on firm size.
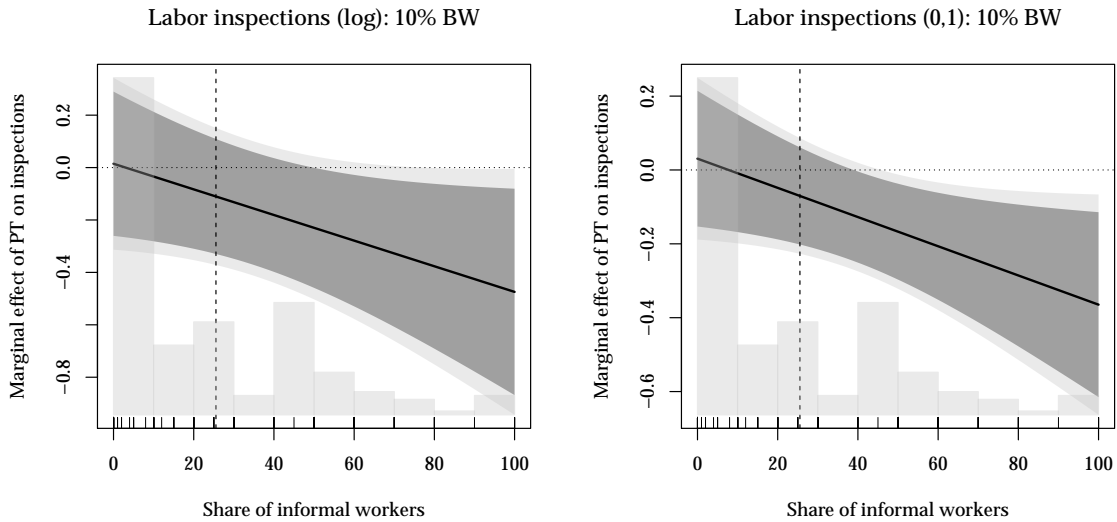
Figure A8: Marginal effect of PT mayor on receiving a labor or municipal and labor inspectors, conditional on the share of informal workers.

C   Mayors and labor inspectors in Brazil

The Federal System of Labor Inspection (SFIT) is in charge of controlling the enforcement of all labor regulations. Inspectors are selected through competitive public service exams and have one of the best-paid jobs in the federal civil service. The agency is decentralized into *superintendências* at the state level, which are located in the state capitals (26 plus one for the federal district), and these regional offices are subdivided into 114 *gerências regionais*. These lower level offices are in charge of labor inspections in more than one municipality. Inspectors are affiliated with a specific *superintendência* and report to the *superintendente*, a politically-appointed individual who is not necessarily a career auditor.[1]

Inspections can be broadly grouped into two categories: planned and unplanned. Every year, the federal government sets physical goals for each state-level office. These goals include the number of unpaid taxes that should be collected, the number of undeclared or "off the books" workers that should be detected, and the sectors that should be inspected more aggressively. Regional offices organize their work around these goals drawing information on labor violations from multiple sources, including claims filed by workers, unions, and local governments. Unplanned inspections are initiated in response to complaints filed by third parties, including workers and unions. Given the limited number of inspectors, inspectors choose which complaints they address and which they ignore. They prioritize complaints that affect a group of workers over those that affect only one worker.[2] Over the years, the SFIT has moved away from unplanned inspections and instead prioritizes planned inspections.[3]

During an inspection, inspectors notify the firm of any violation to the labor code. The firm has 10 days to respond to the accusation. If the firm does not refute the claim and pays the fine within 10 days of its notification, there is a 50% discount on the amount of the fine. Alternatively, if the firm decides to appeal the decision, it must deposit the total value of the

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[1] Inspectors must report to the superintendent in two cases: to bring an injunction against a company or a worksite or to request a travel allowance for worksite visits to distant municipalities.

[2] Interviews RGS3, BH3.

[3] Interviews SP1, SP3, RGS3, BH3.

penalty until a second decision has been reached. 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).

C.1 Qualitative evidence from interviews

I am Â interested in the influence of local government agencies, with little or no access to presidential or congressional channels of influence, on enforcement. Studying the enforcement of the Occupational Health and Safety Act (OSHA), Scholz, Twombly and Headrick (1991) show that *local* political networks influence the behavior of *federal* bureaucratic agencies in several ways. According to these authors, local influence varies negatively with the enforcement resources of field-level offices and positively with the discretionary power of field-level officials. In Brazil (and elsewhere in Latin America), labor inspectors possess great discretionary power – even more so than OSHA inspectors. They are in charge of enforcing the whole of the labor code and can decide which rules to enforce more aggressively. They also have discretion over which places to visit, how closely to scrutinize an establishment, and whether to sanction a violation or deal with it informally. Additionally, labor enforcement agencies lack resources to enforce regulations more broadly. The SFIT is clearly understaffed considering the number of workers that inspectors need to cover and the sparse geography of the country. Qualitative studies examining the day-to-day work of labor inspectors in Brazil provide numerous examples of local governments participating in the process of enforcing labor protections (Almeida 2008; Pires 2013; Tendler 2002).

I conducted fieldwork in several municipalities across four Brazilian states (including Brazil's federal district), where I interviewed local labor agencies, federal labor inspectors, and employer and worker representatives. To identify the effect of local governments on enforcement, I exploit three particularities of the Brazilian system. Firstly, to enforce regulations, inspectors rely (to some degree, at least) on municipalities. Local governments have plenty information on local labor market conditions. All businesses must register with the municipal tax agency and

11

obtain an operating permit, and municipalities also supervise the operation of particular sectors. For instance, they supervise construction projects: they examine practical and facility aspects, issue equipment operating permits, and check that the construction conforms to municipal legislation, zoning laws, and the municipal building code. Inspectors rarely reside in the municipality where they conduct inspections; thus, they frequently seek information and guidance from local actors, including local government agencies. For an understaffed labor agency, municipalities are an invaluable source of resources and information.[4]

Secondly, local governments have informal and formal channels of influence over the labor agency. Mayors successfully lobby the superintendent and inspectors to block or prevent enforcement efforts. Complaints (or expected complaints) from mayors on inspectors affect inspectors' behavior and deter enforcement.[5] Municipalities can also sign *parcerias* (cooperation agreements) with the enforcement agency. With these agreements, municipalities provide resources for enforcement (e.g., access to data or a building to set up a local inspection office); they also influence the operation of the agency by focusing the attention of inspectors on particular sectors or by signaling that the local government is already working with firms and workers to improve compliance. Inspectors are aware of the risks of regulatory capture but they also recognize that enforcement is more likely to produce "sustainable compliance" when local development agencies are positively involved in enforcement.[6]

Finally, a substantial number of inspectors are affiliated with the PT. Surveyed in 1999, 45% declared their sympathy with a particular party. Of these, more than 60% declared being affiliated with the PT (Rosso 1999). Inspectors whose political sympathies lie with PT mayors may share policy guidelines with them.[7]

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[4] Interviews BH2, BH4, RDS1, SP1, SP2, RDS1.
[5] Interviews SP1, SP3, RDS2.
[6] Interviews BH3, RGDS5, SP3.
[7] See Blau (1963) and Kaufman (1960).

C.2 Cooperation agreements with the Ministry of Labor

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 A2 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 A2: 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.

13

Table A3 lists keywords identified as being part of each topic. Of the topics identified by the STM model, several relate to the segmented 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.

| Topics	Keywords
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 A3: Highest probability wiords 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.

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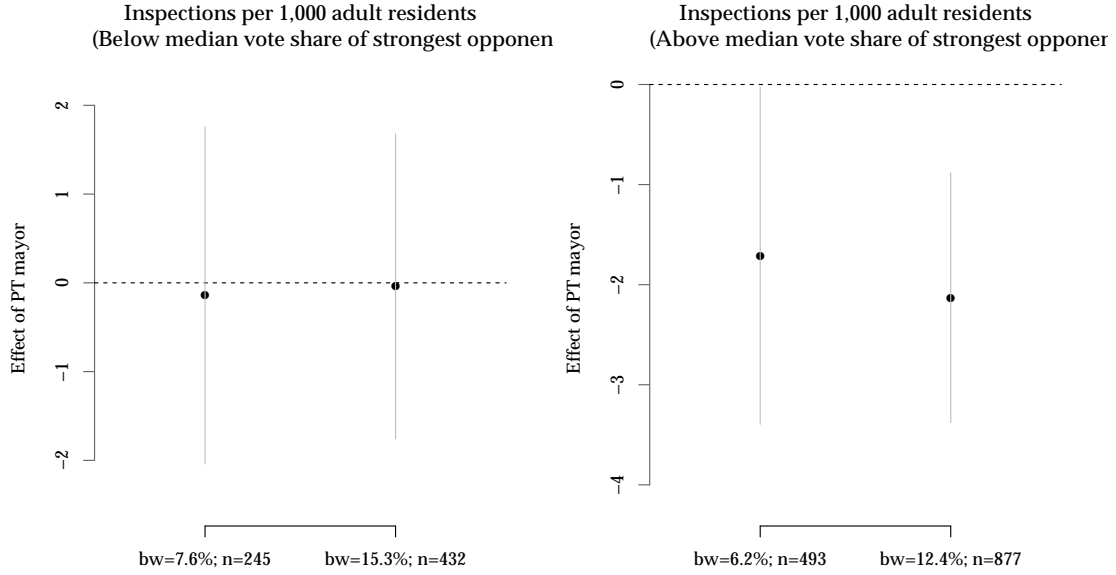
Figure A9: WLS point estimates at $\hat{h}$ and $\hat{h}/2$ with 95% (gray) confidence intervals for the effect of a PT victory on enforcement by levels of strongest opponent's vote share.

Figure A10: 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.

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:

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

where

$$\lambda_{m,i} = \frac{\lambda_{m,i} \dfrac{1}{\theta_i}}{\sum_{i' \neq N} \dfrac{1}{\theta_{i'}}} \tag{2}$$

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 τ_i is the nominal tariff rate for industry i and d represents the long-difference from 1990 to 1995.[8] These changes are weighted by the fraction of local labor allocated to industry i in municipality m ($\lambda_{m,i}$). θ_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).

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

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[8] That is, $ln(1 + \tau_{i,95}/100 - ln(1 + \tau_{i,90}/100)$.

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 A11 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.
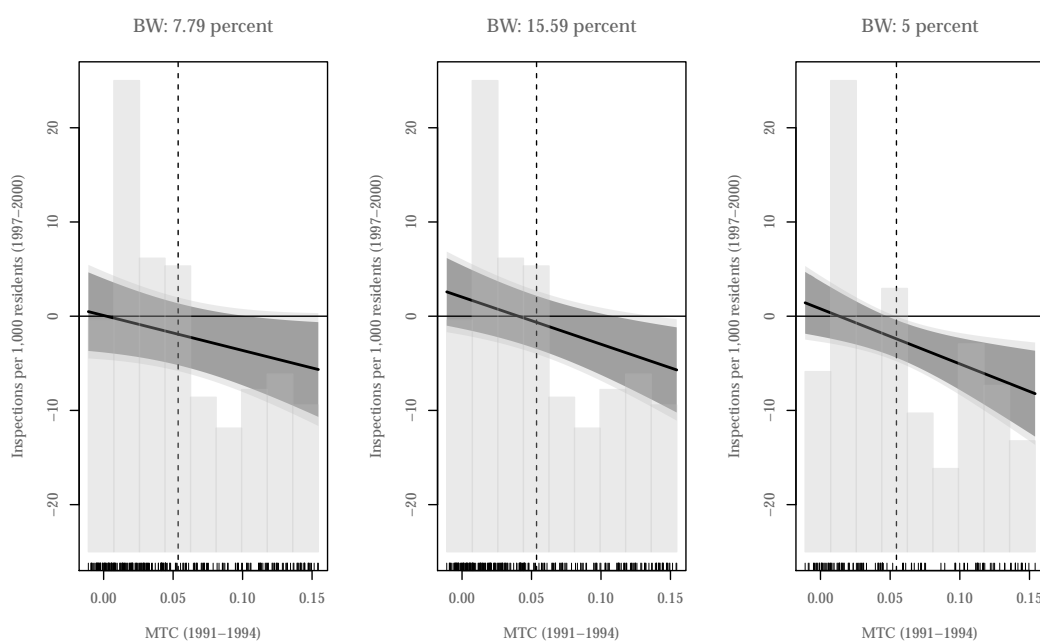
Figure A11: Marginal effect of PT mayors on enforcement conditional on the regional tariff change, weighted for the industry–municipal proportion of unskilled workers. 90% confidence intervals in dark grey and 95% confidence internal in grey, calculated using robust standard errors.

E   Details about interviews in Brazil and Argentina

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

SF2, Senior Official, Ministry of Labor of Santa Fe, Santa Fe, Argentina, 08/2015

ER1, Labor Inspector, Department of Labor Inspection, Ministry of Labor, Employment and Social Security, Entre Rios, Argentina, 08/2015

PR1, Journalist, Pará, Brazil, 08/2016

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

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

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

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

SP11, Journalist, São Paolo, Brazil, 08/2016

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