Progressive tax policy and informal labor in developing economies

Néstor Castañeda
University College London
n.castaneda@ucl.ac.uk

David Doyle
University of Oxford
david.doyle@politics.ox.ac.uk

Forthcoming, *Governance*

Abstract

Governments in many industrializing democracies face difficult policy trade-offs. Liberalization and informality have placed electoral pressure on them to expand non-contributory social spending. However, governments in developing democracies face constraints when attempting to finance this expansion. In some countries, the informal labor market is very large, thereby undermining the revenue that can be collected through income tax. We argue that this has given rise to a paradoxical situation. Left governments in developing democracies with large informal labor markets have a strong electoral incentive to expand welfares regimes to previously excluded outsiders but to fiscally underwrite this expansion, they have increasingly been forced to fund their redistributive strategies via a regressive policy instrument, indirect consumption taxation. We examine this argument for a sample of 17 Latin American countries between the years 1990 to 2016. Our results suggests that labor informality forces left governments to turn to indirect taxation.

Keywords: Tax policy, redistribution, informal labor markets, taxation–developing economies

1 Introduction

Left-leaning governments in the developing world face a dilemma. On the one hand, they come to power in societies with high levels of inequality and poverty, with regressive and narrow welfare systems and where the demand for redistribution and universalism to offset the cost of economic liberalization and entrenched poverty is generally high. In many instances, they arrive in office with a commitment to expand welfare transfers and broaden redistribution (Huber and Stephens, 2012; Carnes and Mares, 2014; Garay, 2016). However, on the other hand, they also face steep funding constraints. Economic liberalization and the disproportionate agenda-setting power of organized business groups has placed pressure on all governments to cut capital taxation and streamline the cost of labor (Fairfield, 2015; Castañeda, 2017). Borrowing can often be difficult, particularly during economic crises when counter-cyclical spending both to stimulate the economy and cushion the effect of downturns is really needed (Wibbels, 2006; Campello, 2015).

At the same time, many developing world countries have very large informal labor markets, thereby limiting the funds that can be drawn from contributory income taxation (Gasparini and Tornarolli, 2009; Lustig et al., 2014). We argue that variation in the size of the informal labor market can help us to understand some of the heterogeneity in tax strategies pursued by developing world governments. When faced with large informal labor markets, redistributive-oriented administrations have been compelled to turn to indirect taxes, notably consumption taxes, to fund their endeavors. If we look at Latin America for example, the average rate of consumption tax, across all countries, has dramatically increased in the last two decades. This raises a particular problem for left-leaning governments. Although in some cases, consumption taxes, when combined with generous and well-targeted welfare transfers can produce fiscal systems that would be *less* progressive without such indirect taxes (see Lustig, 2017, 34-35), in general however, indirect taxation is regressive (e.g. Kato, 2003; Salanie, 2011). Those in the lower income brackets are likely to spend a much greater proportion of their income on consumption in comparison to those in the top income brackets

and as such, it places a heavy redistributive cost on society. This gives rise to a somewhat unusual situation. In Latin America, in countries with large informal labor markets, which usually accompany narrow and regressive welfare systems, the left have an electoral incentive to broaden redistributive programs (Carnes and Mares, 2014) but to fund these endeavors, they are compelled to use a regressive policy instrument, indirect taxation.

The use of regressive taxation to fund social policies is not a unique attribute of Latin American fiscal policy. Several scholars have shown that European and North American governments have also recently implemented regressive taxes to respond to the fiscal stress produced by globalization, financial market pressures, the inclination to preserve social security expenditures (Kato, 2003), or as a consequence of diffusion (Baturo and Gray, 2009). The Latin American case is no exception to these general trends; however, it provides us with an exceptional scenario to understand the politics underpinning the reliance on regressive taxation and the expansion of the welfare state in countries where industrialization and democratization are still in consolidation.

Our argument builds on seminal contributions on the insider-outsider politics of redistribution and taxation in the advanced industrial democracies, which has emphasized the fiscal and institutional constraints faced by contemporary left-wing governments when pursuing redistributive strategies (Rueda, 2007). This work has demonstrated that left-wing governments in corporatist societies are compelled to turn to regressive consumption taxes to fund redistribution (Beramendi and Rueda, 2007) and that high levels of welfare spending in industrialized countries has coincided with an increasing reliance on value added tax (Kato, 2003).

We suggest that a similar dynamic can be observed in developing democracies, but for different underlying causal reasons. The policy instruments available to the left in industrialized economies are curtailed because of institutionalized wage agreements, whereas in developing democracies, we argue that the left's redistributive strategy is limited because of the extent of labor informality. Labor informality limits the revenue base for direct taxation

while at the same time establishes an electoral incentive to expand social policies. This creates a dilemma for redistributive-oriented governments in new democracies.

This argument has implications for the literature on redistribution and taxation in emerging economies. While social spending has received considerable attention (e.g. Kaufman and Segura-Ubiergo, 2001; Wibbels, 2006; Huber and Stephens, 2012; Castañeda, 2013), taxation, the other half of the redistribution story, has received less focus and we have somewhat conflicting interpretations of the relationship between ideology and taxation (Wibbels and Arce, 2003; Hart, 2010; Machado and Stein, 2012; Caro and Stein, 2013). Our argument can go some way towards explaining this, and the heterogeneity of policies in general, chosen by left governments in emerging markets (Campello, 2015).

The article proceeds as follows. The second and third sections of the article discuss the relationship between ideology, taxation and spending. The fourth section presents the central argument of the article. In the empirical section, we test the main hypothesized relationship for a sample of 17 Latin American countries between the years 1990 to 2016. The results of these estimations indicate that, as the size of the informal labor market increases, the left is increasingly forced to raise revenue through indirect taxation, in addition to corporate taxes. The final section concludes.

2 Ideology and Taxation

Left and right governments prefer divergent taxation strategies to pursue economic growth and satisfy their core support. This idea is central to our understanding of comparative political economy (Hibbs, 1977). For the left, who believe that the distortions of the free market necessitate state-led redistribution (Garrett, 1998; Boix, 1998) and given that the viability of the traditional Keynesian strategy of running large budget deficits to fund social democracy has waned in recent years (Beramendi and Rueda, 2007, 629), expanded redistribution is generally funded with revenue from taxation. This means, at least in the advanced

industrial democracies, that left governments are associated with higher tax revenues in comparison to right-wing governments (Swank and Steinmo, 2002; Leigh, 2008; Beramendi and Rueda, 2007).

Both divergent concerns over economic growth and electoral incentives will also manifest itself in different tax *strategies* under left and right-wing governments (Boix, 1998, 11-12). Left governments will favor shifting the burden of taxation from labor onto capital, while right-wing governments will reduce taxation on capital at the expense of labor. For the left, this means lower indirect taxation, most notably consumption taxation and higher direct taxation, in the form of corporate and income taxes. For right governments, this means lower corporate tax rates and higher indirect taxation (Quinn and Shapiro, 1991; Boix, 1998). Of course, this effect is mediated by a host of variables (see Swank and Steinmo, 2002), which can mean the effect of ideology on taxation strategies is either washed out (Leigh, 2008), or distorted (Beramendi and Rueda, 2007).

In developing democracies, we know less about the contemporary salience of the left-right divide for policy outcomes. Recent work on Latin America, considering the pressure of the global market economy, has suggested that the partisan preferences of the executive is no longer relevant for a range of policies (e.g. Kingstone and Young, 2008), or at the very least, that executives across the region are severely constrained by the economic realities they face (e.g. Murillo, 2009). In contrast, there is limited empirical evidence suggesting that under *certain conditions*, left and right governments are related to divergent economic policies (Kaufman and Segura-Ubiergo, 2001; Wibbels and Arce, 2003; Hart, 2010).

When it comes to taxation, we know even less about the importance of the left-right divide in new democracies. For Latin America, Wibbels and Arce (2003) provided us with one of the first serious efforts to understand varying taxation strategies. The results of their analysis indicated that left-leaning governments, although constrained by the realities of the wider international economic environment, nonetheless, when backed by powerful labor unions, are more resistant to shifting the tax burden from capital onto labor. For Ardanaz

and Scartascini (2013), the low level of personal taxation in Latin American democracies is a consequence of legislative malapportionment, thereby allowing parties allied to elites (in general, conservative and right-leaning parties) disproportionate access to power, which they then use to resist any reforms towards more progressive taxation. In contrast, Flores-Macías (2012) notes how contemporary left-leaning governments in Bolivia, Ecuador, Nicaragua and Venezuela have all increased corporate tax rates (for a similar effect at the municipal level in Brazil, see also Machado and Stein, 2012). Cross-nationally, Hart (2010) has provided evidence that right-wing parties collect more tax revenue than left-wing parties. This is because right-leaning parties rely more heavily on regressive consumption taxation, which raises more revenue than the taxation channels preferred by left-leaning parties. Caro and Stein (2013) however, argue that across the region, left-leaning governments are actually associated with *increases* in total tax revenues, an effect which primarily operates through income tax.

While this work has clearly advanced our understanding of taxation, nonetheless, we still struggle to explain the heterogeneity of taxation strategies pursued by left (and right) wing governments across Latin America.

3 Spending and the Left in Latin America

Over the last twenty years, left-leaning governments have notably increased social spending across Latin America (Huber and Stephens, 2012; Pribble, 2013). Contributory social programs in Latin America, which are not without issues, compose the bulk of social spending (Franzoni, 2008). In the poorer Andean and Central American countries, contributory pensions and social insurance are heavily skewed towards the upper income quintiles (see Martinez Franzoni, 2013). As a consequence, there has been a move in the region towards more targeted social assistance, comprising revenue-funded cash transfers to individuals, households and communities (McGuire, 2014, 1-2) and more broad-based non-contributory

insurance in an effort to include informal 'outsiders' in social programs (Garay, 2016; Huber and Stephens, 2012). This is what Barrientos (2009, 89) has termed a 'liberal-informal' direction and it is a trend that has been hastened under left governments that began to sweep to power across the region at the turn of the millennium (Pribble, 2013), but also one that has proven popular in some circumstances with right-leaning incumbents (see Fairfield and Garay, 2017). For example, in Bolivia by 2010, pension coverage was extended to nearly 100 per cent of outsiders (Garay, 2016).

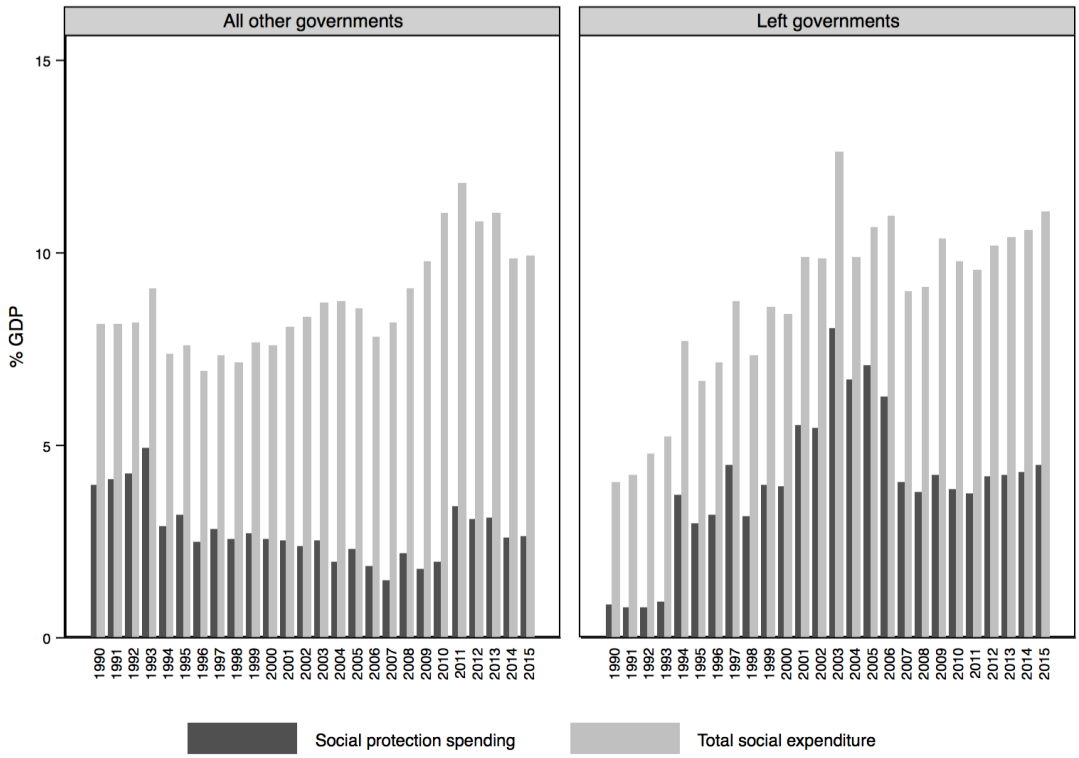


Figure 1: Social spending and non-contributory social protection programs as %GDP (regional average) in Latin America, 1990-2015. The *Classification of the Functions of Government (COFOG)* developed by the OECD designates "Social Protection" as government expenditures in non-contributory programs focused on sickness and disability, old age, survivors, family and children, unemployment, housing, social exclusion, and R&D social protection. The category "Social Expenditures" includes both contributory and non-contributory social programs. Data from ECLAC

Figure 1 clearly illustrates this trend. This graph depicts total social spending as a

percentage of GDP, by left and right/centrist governments across Latin America since 1990 as light gray bars. The darker bars in this graph represent non-contributory social programs. As this graph shows, total social spending has increased in the last two decades in Latin America, under both left *and right* governments. Importantly, non-contributory spending, which tends to be primarily targeted to informal outsiders and vulnerable groups, has increased far more precipitously under the left (Garay, 2016; Huber and Stephens, 2012).

Given the size of the informal labor market in some Latin American countries, and the heightened insecurity among formal workers in these countries, moves to expand social programs have come with a notable electoral benefit for parties on the left (Carnes and Mares, 2014), but also for parties on the right (Fairfield and Garay, 2017). For example, in Brazil, the successful implementation of the CCT program *Bolsa Família*, which now covers nearly a quarter of all households, had a significant effect on the vote share of incumbent Lula and his PT party in the 2006 elections (Zucco and Power, 2013). As a result, members of both the formal and informal labor force are coalescing around support for non-contributory and universal forms of social spending (Berens, 2015).

Of course, as Holland (2016, 2015) has importantly demonstrated, welfare to informal workers can be also delivered via forbearance, or selective law enforcement. While this often involves local authorities intentionally ignoring violations of local ordinances in order to benefit specific groups, such as informal vendors, forbearance can also be employed as a redistributive strategy at the national level. By actively choosing not to increase resources to central government tax inspectors, thereby impeding heightened scrutiny of informal sector salaries, national level politicians can deliver welfare goods to a wide range of informal sector workers. Forbearance, given it is relatively cheap, when feasible and credible, will likely be an important consideration for national politicians when considering a welfare strategy.[1]

[1]This strategy will be shaped by the credibility of government enforcement and the marginal returns (both fiscal and electoral) of forbearance versus increased tax capacity. We would like to thank an anonymous reviewer for pointing this out.

4 Informality and Taxation in Latin America

These patterns of spending however, raise a number of questions. How are governments funding this increased expenditure? Particularly for left governments, given the rapid expansion of non-contributory spending they have overseen relative to right governments, where is the money coming from? Larger non-contributory programs inevitably require higher levels of tax revenue (Kato, 2003, 4) and while this spending could be funded by running budget deficits, Latin American governments have significant incentives to balance their national budgets and they have limited access to capital markets, particularly in hard times, to cover such deficits (Wibbels, 2006).

Of course, the commodity boom of the 2000s undoubtedly helped in this regard. However, the end of the commodities super cycle is creating considerable obstacles for Latin American governments to raise revenue and fund expanded social transfers (Calvo-González et al., 2017). Several countries in the region supplement their tax revenues with large amounts of non-tax revenue mainly received from public sector companies dedicated to the exploitation of natural resources (minerals or oil). These revenues increased significantly in the 2000s with the boom in the international demand for commodities and raw materials. The accessibility of these resources makes governments and politicians less prone to implement revenue-raising tax reforms and even enables governments to reduce taxation while increasing spending (Morrison, 2014).[2]

These additional fiscal resources however, are not available for many countries in the region (see Table A8) and what is more, Garay (2016) has shown that the increase in social spending discussed above does not neatly coincide with the commodity boom. For example, the former Ecuadorian president, Jamil Mahuad, extended welfare coverage to outsiders in 1998, long before the country benefited from rising oil prices, while in Brazil, social policy expansion began towards the end of the 1980s and in Mexico in the early 2000s. Conversely,

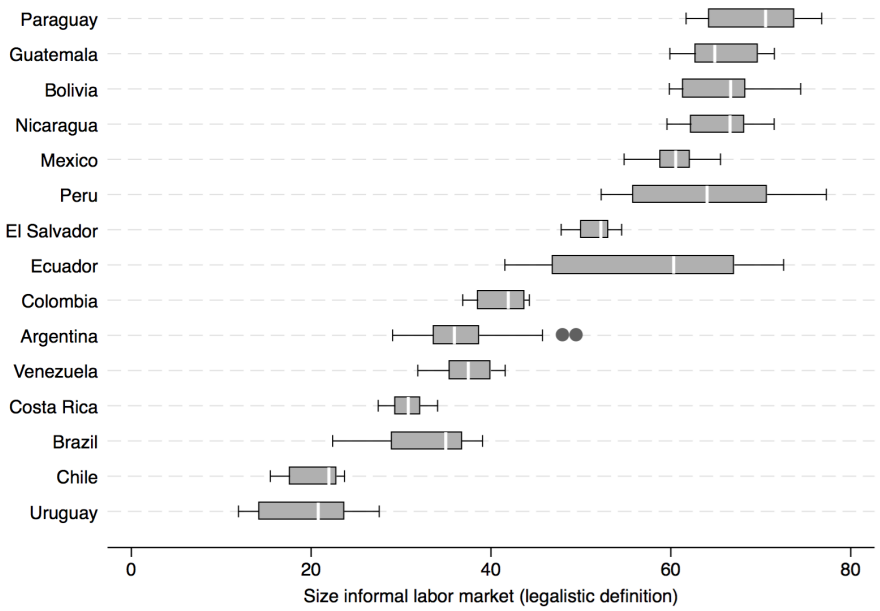
[2]Table A8 in the Appendix shows the amount of non-tax revenue (as % GDP) available to Latin American governments between 1990 and 2015.

in Peru, where the government benefited massively from commodity exports, there was no notable concomitant increase in welfare coverage (see Garay, 2016, 9-10).

Notwithstanding the fiscal leeway that resource rents provide for some countries, we suggest that labor informality comprises a major impediment for the funding of expanded social transfers by limiting the base for income taxes. In many Latin American countries, the size of the informal labor market now far outstrips that of the formal (and taxable) labor market. Figure A8 shows the variation in the size of the informal labor market, as a percentage of the total labor force, across Latin America. In Bolivia, Guatemala, Nicaragua, Peru and Ecuador, the informal workforce comprises over 60 per cent of the labor market. In some Latin America countries such as Venezuela, Honduras, Peru, Panama and Bolivia, the informal labor market has gradually grown between 1990 and 2010. In others, for example, Chile and Costa Rica, informality has declined, while in others, such as Bolivia and Brazil, the informal labor market has remained largely static (Gasparini and Tornarolli, 2009, 30).

This dynamic however, raises some serious problems for the left across the region. For the right, revenue shortages can be funded through increased consumption tax (Hart, 2010), but we should expect the left to prefer more progressive direct taxation, such as income or corporation tax. This is difficult for the left in Latin America however, where business often commands disproportionate political power (e.g. Fairfield, 2015) and where high levels of labor informality limits the base for income tax. Where the size of the informal labor market is small, then we might expect expanded social transfers to be funded with existing contributory taxes and/or corporate taxes. Even in this scenario, governments may still need to resort to indirect taxes. In Chile, the increase in consumption taxes under Ricardo Lagos "was linked to social benefits negotiated at the time by the incumbent" (Garay, 2016; Fairfield, 2015, 77).

In contrast, where the informal labor market is large, the sheer number of informal workers creates a strong electoral incentive to expand welfare programs to these informal outsiders (Garay, 2016). But it is not just the size of the informal labor market that creates a demand



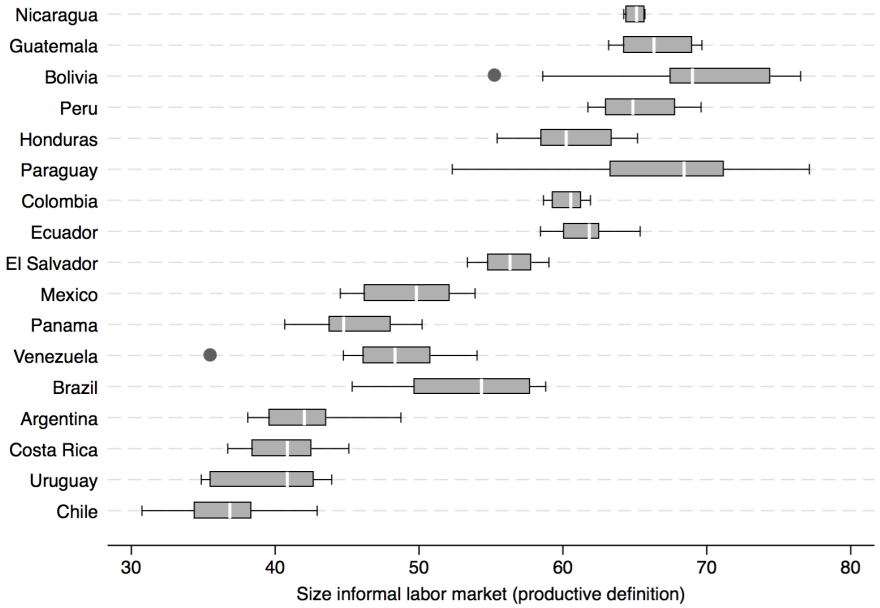


Figure 2: The distribution of informality across Latin America (1990-2016). The length of the boxes indicate the central 50 per cent of the empirical distribution. Whiskers show up to 1.5 standard deviations, circles represent outliers beyond these limits and the vertical bars indicate the median absolute movement. Data is from the *Center for Distributional, Labor and Social Studies (CEDLAS)* and the World Bank's *Latin America and the Caribbean Poverty and Gender Group (LCSPP)*

for more universal and non-contributory welfare programs. As Carnes and Mares (2014) have argued, de-industrialization across Latin America not only forced large swathes of the formal sector workforce into the informal labor market, but it also increased the overall level of vulnerable employment, including among those in the formal sector. The heightened insecurity and probability of churning between labor markets has created a coalitional realignment in favor of non-contributory and universal welfare transfers among *both* formal and informal sector workers (see Carnes and Mares, 2014). It will also increase support among informal workers for traditional benefits, given that they may expect to shift into the formal labor market (Baker and Velasco-Guachalla, 2018). This dynamic is distinctly different to the outsider-insider divide in Western Europe (see Baker and Velasco-Guachalla, 2018). The previously non-aligned, and in many cases unmobilized, informal sector workers, together with increased vulnerabilities in the formal sector (Carnes and Mares, 2014), create strong incentives for governments (both left and right) across the region to expand both traditional and non-contributory welfare spending (Garay, 2016; Fairfield and Garay, 2017).

Of course, when the labor market is dominated by informal workers, then this raises the problem of funding these expansionary polices, given the restricted tax base. In this scenario then, we argue that the left, in addition to attempts to shift taxation onto capital, will increasingly adopt an indirect taxation strategy, as it is both the least electorally costly and technocratically easiest option. While all vulnerable workers, either formal or informal, will have clear preferences about the very tangible benefits of expanded universal and non-contributory redistribution (Carnes and Mares, 2014), public understanding of, and preferences for, particular tax systems is notoriously complex (see Fairfield, 2015). While income tax is unpopular and places voters in the domain of losses, and corporate taxes can be undermined by powerful economic elites, consumption tax is simply less publicly visible. For example, in Colombia, a new consumption tax, *Impuesto Nacional al Consumo*, was created during the 2012 Tax Reform, partly in response to informality (see Osorio, 2016, 129-130).

The shift to indirect taxation may come with regressive implications. Poorer constituencies consume a greater proportion of their income in comparison to those in the higher income deciles and while consumption taxes are highly efficient, they can also have serious redistributive consequences (Fullerton and Metcalf, 2002; Salanie, 2011; Beramendi and Rueda, 2007, 621-622). Some recent empirical evidence however, suggests that in contexts where informality is high, indirect taxes can have a progressive effect because informal workers find ways to avoid consumption taxes (Jaramillo, 2014); at the same time, if consumption taxes are combined with generous and well-targeted welfare transfers, then this fiscal system can be *less* progressive without such indirect taxes (see Lustig, 2017, 34-35). This could partly explain the left's reliance on consumption taxes as informality increases. Having said that, for a number of Latin American countries, fiscal policy (taxes and spending) increases poverty - a startling effect that is primarily driven by high consumption taxes on basic goods (see Lustig, 2017). In Bolivia and Brazil for example, consumption taxes more than wipe out the poverty reduction achieved through direct government transfers (Lustig et al., 2014, 292).

In addition, in contexts with a large informal labor market, it is highly likely that formal sector interests, most notably elite business interests, will be more concentrated and will also be pushing for a shift to more indirect forms of taxation. In general, business elites will prefer lower levels of corporate tax and direct contributory tax to which they also contribute. Their ability to push for their desired preferences will depend on their concentration and organization (see Hacker and Pierson, 2002; Schneider, 2013; Fairfield, 2015; Castañeda, 2017).[3] When these groups are powerful, then this should further reinforce the pressure for a move to more indirect forms of taxation, under both left and right governments (see also Fairfield and Garay, 2017). Even when the cohesion and dominance of economic elites might facilitate a more coherent state building project, as in the small Central American states, it

[3]In Brazil however, economic elites, at least during their Cold War, were united in their broad support for state-led development (Ondetti, 2015). In Colombia, the cohesion of business and government elites actually partly facilitated a series of wealth taxes (see Flores-Macías, 2014).

will still limit the progressivity of the tax regime (see Schneider, 2012, 16-17). Informality and business coordination will clearly be correlated and we expect both forces to work in tandem to produce a greater reliance on indirect taxation.

And this dynamic can also help explain why, in some situations, left governments might rely to a greater extent on consumption taxes for fiscal adjustment as opposed to corporate taxation. When business elites are concentrated and powerful, then income and corporate taxes will be more difficult for left and right governments to increase (Fairfield and Garay, 2017; Ondetti, 2017). For example, in Chile, where domestic business elites wield significant instrumental power, these groups restricted corporate tax reform; they were able to do this even while a left of center coalition with a redistributive agenda was in power (see Fairfield, 2015). Similarly, in Mexico, repeated attempts at tax reform floundered due to the resistance of an exceptionally politically mobilized economic elite and when Vincente Fox did try to reform tax structures to raise extra revenue, he proposed doing so through consumption tax reform (Ondetti, 2017, 61). In 2010, Mexico increased its general rate of consumption tax from 15% to 16% (see CEPAL, 2014, 41).

Of course, when business elites are less powerful, then left governments should have more space to increase direct corporate taxes, although even in this scenario, we still expect left governments to adopt an indirect taxation strategy in the face of high levels of informality. Indeed, left-leaning governments in Bolivia, Ecuador, Nicaragua and Venezuela all increased corporate tax rates in the 2000s (see Flores-Macías, 2012); at the same time, Venezuela also increased the general consumption tax rate in 2009 from 9% to 12% (see CEPAL, 2014, 41).

On the basis of this discussion, we can begin to formulate different taxation strategies left governments might pursue. Where labor informality is low, the expansion of social benefits can be cross-subsidized with revenue from direct worker taxation (see Garay, 2016, 76-77) or even corporate taxes. For example, in Brazil, pensions for rural workers were initially funded by the existing pension system (Garay, 2016). In contexts of high labor informality however, both informal and some formal sector workers will exhibit support for parties willing to

expand non-contributory welfare spending, creating a serious electoral incentive for the left (and the right in some circumstances). In order to fund this increased expenditure, while left governments might try to shift part of the tax burden onto economic elites, given the pressure for fiscal adjustment, we also expect that left governments will increasingly turn to indirect taxation as labor informality increases.

Although we are primarily concerned with left governments in this paper, it is worth noting the tax strategies we expect right governments to pursue. For right governments in contexts of low levels of informality, but who have also electorally profited from the extension of benefits to informal workers (see Fairfield and Garay, 2017), their more modest expansion of spending can be funded via consumption tax, as we might expect (see Hart, 2010). These governments might also increase corporate taxes when business is less organized and weaker (see Fairfield and Garay, 2017), albeit with oftentimes watered down variants of such taxation (Ondetti, 2017).

Just as Beramendi and Rueda (2007, 627-628) and Kato (2003) have argued that social democratic and left-leaning governments in the advanced industrial democracies and in corporatist environments have to rely on regressive consumption taxes to fund redistribution, so too must the left in Latin America, but for different underlying reasons. In Latin America, the left's turn to indirect taxation is conditioned by the size of the informal labor market. This gives rise to a somewhat paradoxical situation. It is in those countries where the need for universal social assistance is greatest, where the left is forced to use a regressive tax instrument to fund expanded social transfers.

5 Empirical Analysis

5.1 Data and Methods

In order to test our argument, we explore the joint effects of the left-right divide and labor informality on tax policy using a panel of 17 Latin American countries, between 1990 and

2016 (see basic descriptive statistics in Table A1 in the appendix).

Our first dependent variable measures the cross-country variation in the tax-to-GDP ratio in Latin America between 1990 and 2016. This measure includes direct tax revenues (taxes on income, profits and capital gains, and taxes on property), indirect tax revenues (general and specific taxes on goods and services), and taxes on international trade and financial transactions. This figure does not include revenues levied on the exploitation of strategic natural resources (i.e. royalties on oil production).

Our second dependent variable measures the cross-country variation in direct and indirect tax revenues as a percentage of total tax revenues. Direct tax revenues are generally levied on wages/salaries, interest/dividends on income, capital gains, profits, property, net wealth, inheritance, and financial and capital transactions. Indirect tax revenues are usually levied on consumers via value-added taxes, general sales taxes, single-stage and cumulative multi-stage taxes, excises, and taxes levied on the use of motor vehicles. In our analysis, we discriminate between personal income taxes (PIT), corporate income taxes (CIT), and value added taxes (VAT). This data comes from the *OECD Revenues Statistics* database.

The existing general literature on taxation (see Inclan et al., 2001) and the literature on taxation in Latin American (see Wibbels and Arce, 2003; Hart, 2010) has frequently employed tax revenue, as opposed to actual tax rates, as a proxy for government strategy. The rationale for this choice is the assumption that tax rates are unreliable indicators of the actual tax burden, which is the end product of government strategy, because of income exclusions, investment incentives and tax evasion (see Wibbels and Arce, 2003; Hart, 2010, 313). For example, as Inclan et al., (185-186) argue, corporate tax rates are often not meaningful in assessing the actual tax on business because of the almost innumerable profit exclusions, which are allowed for in the tax code by the government. As a consequence, "corporate tax revenue as a percentage of GDP is one of two comparative indicators used by the Committee on Ways and Means in their statistical descriptions of US corporate tax policy" (Inclan et al., 2001, 186). The problem of using tax rates may be exacerbated in

the Latin American context, where tax rate increases often lead to increases in tax evasion (Wibbels and Arce, 2003, 12). As a result of this, the *Economic Commission for Latin America and the Caribbean* also uses tax revenue as the appropriate measure when analyzing tax policy across Latin America (see Gómez Sabaini and Morán, 2014).

Of course, this is not to completely dismiss the value of using tax rates as a dependent variable (see Hallerberg and Basinger, 1998). Therefore, as a supplementary and secondary dependent variable, we also repeat all our models with the maximum corporate tax rate (CIT rate), the maximum income tax rate (PIT rate) and the general VAT rate as dependent variables. A caveat however: tax rates are notoriously sticky and path dependent and may not reflect immediate tax strategies (see Inclan et al., 2001). This data comes from UN-CEPALSTAT.

For the ideological orientation of the government (our main explanatory variable), we construct a dummy variable, *left government*, that takes the value of 1 when the government in office is of the left and zero when the government is of the center or the right. This variable is constructed using the scores collected by Wiesehomeier and Benoit (2009), which based on expert surveys, measure the policy positions of political parties and presidents across different countries. In those cases where data was missing, we use proxies for ideological scores developed by Coppedge (1997), Huber et al. (2008), and Murillo et al. (2011).

We argue that tax strategies are conditional on the size of the informal labor market. To evaluate this claim, we use two measures of the share of adults working in the informal sector developed by the *Center for Distributional, Labor, and Social Studies (CEDLAS)* and the *World Bank (Latin America and the Caribbean Poverty and Gender Group - LCSPP)*. The first measure is based on a "productive" definition of informality in which workers are considered as informal if they are unskilled, self-employed workers, or they are zero-income workers; that is, workers in low-productivity, unskilled, or marginal jobs. The second measure is based on a "legalistic" definition of informality in which workers are considered as informal if they are not formally entitled to pensions when retired; that is, workers that do not receive

labor protection or social security benefits. In both cases, we use data from the CEDLAS-World Bank dataset on informal labor markets in Latin America that is directly based on national household surveys.

We also include a range of political and economic controls that are usually considered as good predictors of the over-time changes in tax policy. First, we control for the percentage of seats held by the president's party (coalition) in congress. Second, we control for the current and lagged annual rate (%) of economic growth to measure the impact of economic performance and control for economic country-specific effects. Third, we include two indicators to assess the impact of previous fiscal performance at the country-level: the current and lagged primary fiscal balance (% of GDP) and the current and lagged size of the central government debt (% of GDP). Fourth, we control for the size of central government by including metrics of the current and lagged government consumption shares (current expenditures as % of GDP). Fourth, we control for non-tax revenue sources available to central governments. Fifth, we include the logarithmic transformation of each country's population size to account for demographic effects on tax policy and finally, we also control for trade openness (Wibbels and Arce, 2003). For these indicators, we rely on data provided by the World Bank's Database on Political Institutions (Beck et al., 2001), the Penn World Tables (Heston et al., 2002), and the UN Economic Commission for Latin America and the Caribbean (ECLAC).

Dependent and independent variables are measured at various points of time (1990-2016) for 17 countries in Latin America. Consequently, we estimate cross-sectional, fixed-effects models to test our working hypotheses. These estimations allow us to evaluate the relationship between government ideology and tax policy over time and the impact of within-country characteristics on predictor variables. We do not include lags of the dependent variable in the fixed-effects model specification. In order to assess the potential effects of past values on current values of the dependent variables and the robustness of our results, we also estimate dynamic, Arellano-Bond models (see Table A7 in the Appendix). Finally,

and in line with our main theoretical argument, we also present a series of statistical models including interaction terms to assess the joint effect of informality and the left-right divide on tax policy.

5.2 Findings

5.2.1 Baseline models

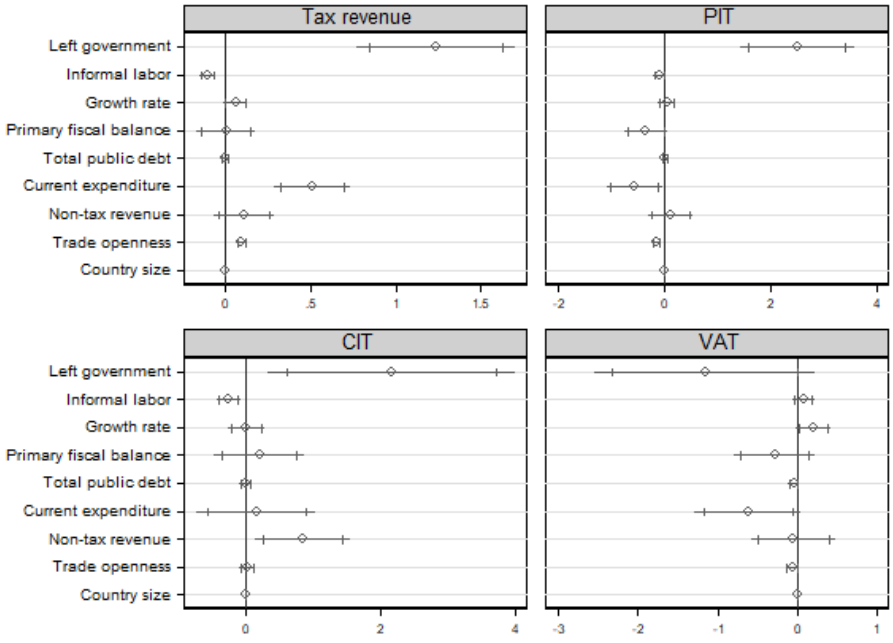
The results of the fixed-effects, cross-sectional models are reported in Figure 3 and Tables A2 and A3. Models reported in Figure 3 predict tax policy outcomes by using a "legalistic" definition of the informal labor market in the model estimation. In panel (a) we report the effect of our variables of interest on different types of tax revenue, while the models reported in panel (b) show their effect on tax rates. Each plot represents the coefficients and confidence intervals (95% and 99% C.I.).

We begin with the results for left governments. According to our estimations, left governments are associated with higher overall levels of tax revenue, and greater levels of revenue from both personal income (PIT) and corporate (CIT) taxes. Total tax revenues are about 1% of GDP higher when the central government is from the left. Meanwhile, revenue from income and corporate taxes are between 2.2% and 2.5% of GDP higher when the central government is from the left. At the same time, as Figure 3 clearly shows, VAT rates are also significantly lower when the central government is from the left.[4]

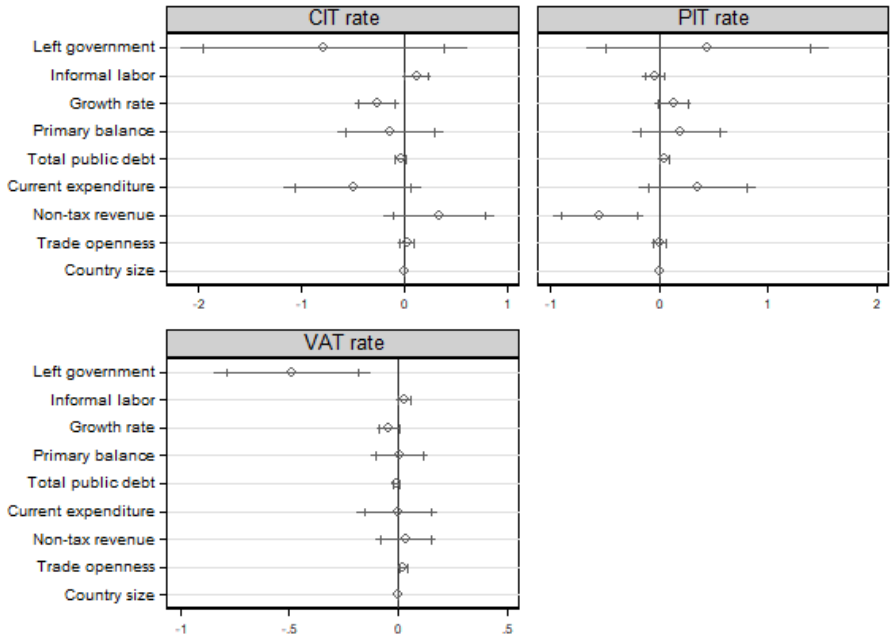
In other words, our estimations suggest that, *ceteris paribus*, left governments in the region clearly develop progressive tax strategies. These results are consistent across different model specifications, different definitions of the informal labor market, and even after controlling for potential lagged dependent variable effects (see Tables A2, A3, and A7 in the Appendix).

When we turn to labor informality, consistent with our theoretical expectations, our results show that central governments have less capacity to collect taxes as informality in-

[4]As is revenue from VAT, although this effect just falls short of statistical significance.



(a) Tax Revenue



(b) Tax Rates

Figure 3: *Left governments, tax policy, and informal labor market in Latin America 1990-2016. Fixed-effects models. Based on models estimated in Tables A2 and A3. PIT: personal income tax; CIT: corporate income tax; VAT: value-added tax*

creases. The models presented in Figure 3 show that tax revenues as % of GDP are significantly lower as the size of the informal labor market increases. Total tax revenues decrease about 0.1% of GDP for each 1% increase in the size of the informal labor market. This is a remarkable effect when compared with the effect of important macroeconomic variables such as economic growth or total public debt (e.g. the effect of lagged economic growth rates on tax revenue is less than 0.1% of GDP).

Our results also suggest that PIT and CIT revenues (as % total tax revenues) decrease significantly as the size of the informal labor market increases (see models 2, 6, and 7 in Table A2). The expansion of the informal sector in developing countries not only reduces productivity and wages, but also limits the corporate income and personal income tax base. In fact, the expansion of the informal labor market not only diminishes taxes on individuals, it also reduces the stock of formal firms, their productivity levels, and the capacity of central governments to catch them in the corporate tax net. These results are quite consistent with the literature on the negative effects of dualism for fiscal consolidation in developing countries (La Porta and Shleifer, 2014).

The effect of informality on tax rates illustrates substantial policy trade-offs. As informality increases, governments seek alternative sources of revenue. Results presented in Table A3 suggest that CIT and VAT rates increase marginally as informal labor grows. Interestingly, our estimations suggest that the left-right divide and size of the informal labor market has contradictory effects on VAT rates: they go down when the left is in office and up at higher levels of informality.

In sum, our estimations indicate that left governments collect more overall tax revenue and larger amounts of revenue from personal income and corporate taxes. Simultaneously, they seem to favor lower VAT rates. Informality has the opposite effect: governments develop less progressive tax strategies as informality increases. Consequently, as we show in the next section, developing progressive tax strategies is only viable when informal labor markets are relatively small.

The results in Figure 3 also illustrate that macroeconomic factors have inconsistent effects on tax policy outcomes. The fiscal balance and total public debt have little or no effect on tax strategies, while increasing government consumption (as % of GDP) places some pressure on tax revenue collection. Trade openness is positively correlated with higher tax revenues, lower PIT revenues, higher VAT revenues, and higher VAT rates (see also Swank and Steinmo, 2002). The availability of non-tax revenue sources has some effect on tax strategies (particularly when we use a productive definition of informality in our model estimations). Given this, in Table A9, we evaluate the joint effect of non-tax revenue sources and the left-right divide on tax strategies, and the results suggest that increasing non-tax revenues do not have a significant effect on revenue collection but they do have a negative effect on CIT rates. At high levels of non-tax revenue, there does not appear to be significant differences between the tax strategies of left and non-left governments (see Figure A6).

Our results are quite consistent across different model specifications (e.g. dynamic panel model, see Table A7) and when controlling for different alternative explanations, such as the growth in non-contributory social protection spending (Tables A10 and A11), ethnic fractionalization from Alesina et al. (2003)'s Fractionalization dataset (Table A12), electoral fragmentation (Table A13), and year effects (Table A14).

5.2.2 Left Governments and Labor Informality

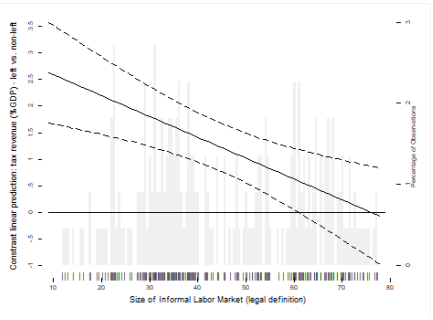
The main argument of this paper is that it is difficult for left governments to sustain a properly progressive tax strategy if the informal labor market is substantially large (a common feature of developing economies). The rationale is straightforward: tax bases become smaller as the informal labor market increases, and both left and non-left governments need to increasingly rely upon regressive taxes in order to raise enough tax revenues and expand their fiscal space.

In order to interpret the effect of informality on tax strategies while a left government is in power, we estimate a series of fixed-effects models for our sample of Latin American

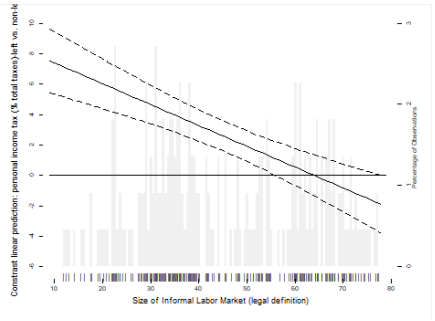
countries where we interact left governments with levels of labor informality. The full results of these models are reported in Tables A4 and A5. In Figure 4, we calculate and plot the contrasts of marginal joint effects of left government and labor informality on tax policy (see Brambor et al., 2006). Each panel in Figure 4 depicts the effect of a left government (relative to a non-left government) on different tax policy outcomes across different levels of labor informality.

Consistent with our expectations, Figure 4 illustrates that the progressive tax strategies of left governments partly disappear as the size of the informal labor market increases. Panels (a), (b), (d) and (g) show that left governments develop significantly different tax strategies when informality is below 40% or 50% of the labor force. They collect more overall tax revenue, higher amounts of revenue from income tax, and they also collect less revenue from value-added taxes and adopt lower general VAT rates. However, when the informal sector amounts to about half of the overall labor force, these differences become statistically insignificant. What is more, at very high levels of labor informality, left governments actually collect *more* revenue from value-added taxes than right or centrist administrations. In other words, our results suggest that the differences in tax strategies between left governments and other administrations tend to disappear when informal labor comprises 50% and above of the labor force.

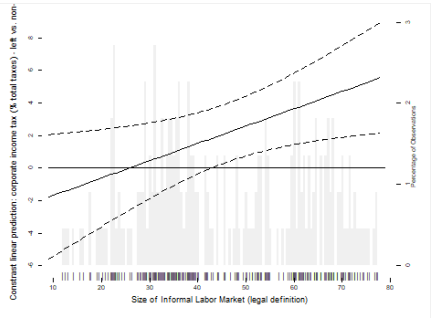
Having said that, as labor informality rises, left governments also collect more revenue from corporate taxes relative to right or centrist administrations. There is no difference at lower levels of labor informality. This suggests that left governments do attempt to shift part of the tax burden onto economic elites in contexts of high informality. Taken as a whole therefore, our evidence suggests that the progressive tax strategies of left governments are partially undermined when labor informality is high. At best, these governments adopt a mixed strategy for fiscal adjustment: they increase revenue from consumption-based taxes, in addition to revenue from corporate taxes.



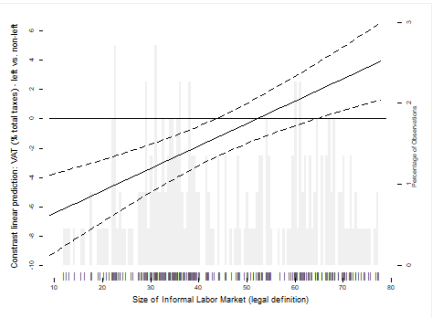
(a) Tax Revenue



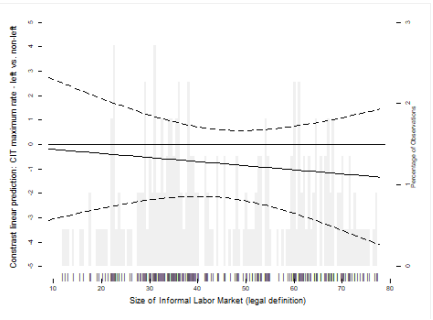
(b) Personal income taxes



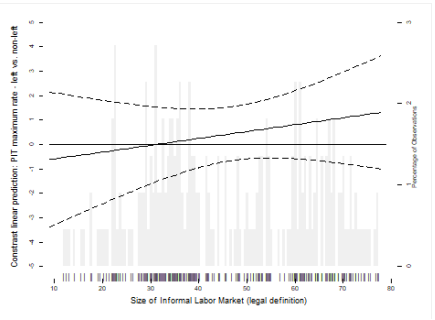
(c) Corporate income taxes



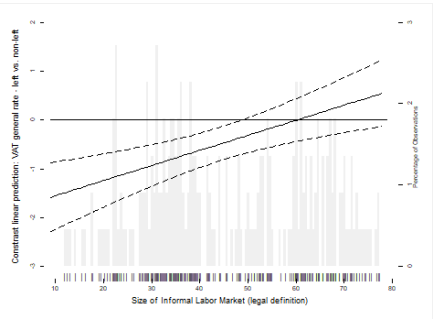
(d) VAT



(e) CIT maximum rate



(f) PIT maximum rate



(g) VAT general rate

Figure 4: *Contrast of linear predictions of the effect of left governments on tax policy, conditional to the size of the informal labor market - Latin America 1990-2016*

5.2.3 Reinforcing Effects

But what determines the balance of corporate or consumption taxation that left governments adopt? We suggest that variation in the power of business elites could reinforce and also condition the mix of tax strategies chosen by left governments (see also Fairfield, 2015; Ondetti, 2017; Castañeda, 2017). When business elites are powerful, the options for fiscal adjustment available to left governments will be more limited. In these scenarios, left government will be more likely to rely on consumption taxes to achieve fiscal adjustment strategies. In contrast, if business elites are less powerful, left governments will have a little more space to maneuver in the face of high levels of informality. In this scenario, we could expect them to still increase indirect taxation, but at the same time, to compliment this approach with increases in the corporate tax burden.

Therefore, in this section, we examine the tax strategies of left governments (total revenue, and revenue from PIT and VAT) across different levels of informality, conditional on the power of organized business interests. In order to evaluate the power of economic elites, we use a metric of business coordination that combines both the degree to which business interest groups are centrally coordinated (i.e. business centralization) and the degree to which they are integrated into decisive policy-making arenas (i.e. policy integration). Castañeda (2017) builds a metric of business coordination with values of 0 for decentralized or weakly centralized business coordination (centralization is low and policy integration is weak) and values of 1 for highly centralized business coordination (centralization is high and policy integration is strong).[5]

We estimate models to assess the triple interactive effects of left-right divide, informality, and the degree of business coordination (see Table A6). In order to better illustrate these findings, panels (a), (b) and (c) of Figure A5 in the appendix displays the marginal effects of

[5]Clearly, business coordination and high levels of informality will be related, but coordination does not always occur in contexts of high informality and low levels of coordination does not always occur when informality is low. Indeed, the correlation between informality and business coordination is is -0.164 (for the legal definition) and -0.148 (for the productive definition).

left governments relative to other administrations, across different levels of labor informality and by weakly organized business interests (left-hand panels) and highly coordinated business interests (right-hand panels). There are remarkable differences in tax strategies depending on whether or not business interest groups are highly coordinated. The results presented in Figure A5 indicate that left governments in Latin America adopt a more mixed tax strategy as labor informality increases only when business interest groups are weakly coordinated. When business interests are highly coordinated, then such a mixed strategy is less feasible at any level of informality. Indeed, in this scenario, there is no discernible difference in the tax strategies of left and right governments; both left and right governments are forced to turn to indirect taxes.

6 Conclusion

This article investigates if there are substantial ideological differences in the implementation of tax policies in Latin America. Our findings suggest that the effects of ideological divisions on tax policy fade out as the level of labor informality increases. Specifically, we found that, in countries with large informal labor markets, left governments actually collect more revenue from consumption tax than right or centrist governments and there is no substantial difference in the VAT rates adopted by left and right governments. In some Latin American countries, although indirect taxes can have a progressive incidence, these taxes can also come with serious implications for poverty levels (see Lustig, 2017). However, left governments do collect more revenue from corporate taxes under high levels of labor informality. For the left, this means a more mixed partisan tax strategy.

There are distinct political differences among our sample. When labor informality is low, left governments can build a tax strategy centered on direct income taxes and low levels of consumption taxation. And at high levels of informality, if political circumstances allow, they can also shift some of the tax burden onto economic elites. This means that ideology is

still an important determinant of government tax policy in Latin America, but only under restrictive conditions. The labor market vulnerabilities wrought by deindustrialization across Latin America have created a coalitional realignment among formal and informal sector workers in favor of non-contributory welfare programs, particularly in contexts where a large sector of the labor market is in the informal sector and where the likelihood of formal sector workers churning between the formal and informal labor markets is greater (Carnes and Mares, 2014). Left (and right) governments can reap the electoral boon of increased spending, but to finance these endeavors, especially when informal workers comprise a large share of the labor market, they must shift the tax burden onto members of the informal and formal middle class via consumption tax.

These findings contribute to a number of theoretical debates about redistribution and taxation. We suggest that, similar to industrial democracies, left-wing governments in Latin America have been compelled to increase indirect taxation in order to deal with increasing fiscal pressure. However, in the case of Latin America, the left's distributive strategy is curtailed by the increasing size of the informal labor market. First, larger informal labor markets reduce the taxable base for direct taxes. Second, taxing the informal economy directly is technically challenging and not very efficient. Thirdly, taxing the informal economy directly is (electorally) costly for leftist politicians because the informal sector is generally composed of low-income businessmen and workers, who often comprise core members of their constituency. Fourth, when business elites are powerful, corporate tax becomes less of an option. Therefore, all else equal, left governments, will implement indirect tax policies when levels of labor informality are high.

The theoretical framework and the empirical results presented here not only address questions about the heterogeneity of taxation strategies pursued by left-wing governments, but also questions about ideological realignments in developing countries. Our argument compliments recent work on this issue. For example, (Fairfield and Garay, 2017, 1880) have argued that right leaning governments will also increase redistributive expenditure when competi-

tion for low-income voters is intense and they also argue that the concomitant tax decisions of these governments will be constrained by business interests. While we also acknowledge the importance of business power in limiting the options available to governments, we expect a similar convergence in tax policies between left and right governments with regards tax strategies, but primarily as a product of labor informality. The analysis of tax policy strategies not only provides important insights to understand the electoral incentives of the left, but it also provides important clues to understand how public policies influence political divides and how those divisions have changed over time.

References

Alesina, A., Devleeschauwer, A., Easterly, W., Kurlat, S., and Wacziarg, R. (2003). Fractionalization. *Journal of Economic growth*, 8(2):155–194.

Ardanaz, M. and Scartascini, C. (2013). Inequality and personal income taxation the origins and effects of legislative malapportionment. *Comparative Political Studies*, 46(12):1636–1663.

Baker, A. and Velasco-Guachalla, V. X. (2018). Is the informal sector politically different?(null) answers from latin america. *World Development*, 102:170–182.

Barrientos, A. (2009). Labour markets and the (hyphenated) welfare regime in Latin America. *Economy and Society*, 38(1):87–108.

Baturo, A. and Gray, J. (2009). Flatliners: Ideology and rational learning in the adoption of the flat tax. *European Journal of Political Research*, 48(1):130–159.

Beck, T., Clarke, G., Groff, A., Keefer, P., and Walsh, P. (2001). New tools in comparative political economy: The database of political institutions. *World Bank Economic Review*, 15(1):165–176.

Beramendi, P. and Rueda, D. (2007). Social democracy constrained: indirect taxation in industrialized democracies. *British Journal of Political Science*, 37(04):619–641.

Berens, S. (2015). Between exclusion and calculating solidarity? preferences for private versus public welfare provision and the size of the informal sector. *Socio-Economic Review*, 13(4):651–678.

Boix, C. (1998). *Political parties, growth and equality: Conservative and social democratic economic strategies in the world economy*. Cambridge University Press.

Brambor, T., Clark, W. R., and Golder, M. (2006). Understanding interaction models: Improving empirical analyses. *Political analysis*, 14(1):63–82.

Calvo-González, O., Castaneda, R. A., Farfán, M. G., Reyes, G. J., and Sousa, L. (2017). How is the slowdown affecting households in Latin America and the Caribbean? *World Bank Policy Research Working Paper*, (7948).

Campello, D. (2015). *The politics of market discipline in Latin America: globalization and democracy*. Cambridge University Press.

Carnes, M. E. and Mares, I. (2014). Coalitional realignment and the adoption of non-contributory social insurance programmes in Latin America. *Socio-Economic Review*, 12(4):695–722.

Caro, L. and Stein, E. (2013). Ideology and taxation in Latin America. Technical report, Inter-American Development Bank.

Castañeda, N. (2013). Party system nationalization, presidential coalitions, and government spending. *Electoral Studies*, 32(4):783–794.

Castañeda, N. (2017). Business coordination and tax politics. *Political Studies*, 65(04).

CEPAL, N. (2014). Panorama fiscal de américa latina y el caribe 2014: Hacia una mayor calidad de las finanzas públicas.

Coppedge, M. (1997). *A classification of Latin American political parties*. Number 244. Helen Kellogg Institute for International Studies.

Fairfield, T. (2015). *Private Wealth and Public Revenue in Latin America: Business Power and Tax Politics*. Cambridge University Press.

Fairfield, T. and Garay, C. (2017). Redistribution under the right in Latin America: electoral competition and organized actors in policymaking. *Comparative Political Studies*, 50(14):1871–1906.

Flores-Macías, G. A. (2012). *After neoliberalism?: the left and economic reforms in Latin America*. Oxford University Press.

Flores-Macías, G. A. (2014). Financing security through elite taxation: The case of colombia's democratic security taxes? *Studies in Comparative International Development*, 49(4):477–500.

Franzoni, J. M. (2008). Welfare regimes in Latin America: capturing constellations of markets, families, and policies. *Latin American Politics and Society*, 50(2):67–100.

Fullerton, D. and Metcalf, G. E. (2002). Tax incidence. *Handbook of public economics*, 4:1787–1872.

Garay, C. (2016). *Social Policy Expansion in Latin America*. Cambridge University Press.

Garrett, G. (1998). *Partisan politics in the global economy*. Cambridge University Press.

Gasparini, L. and Tornarolli, L. (2009). Labor informality in Latin America and the Caribbean: patterns and trends from household survey microdata. *Desarrollo y Sociedad*, (63):13–80.

Gómez Sabaini, J. C. and Morán, D. (2014). Tax policy in Latin America: Assessment and guidelines for a second generation of reforms.

Hacker, J. S. and Pierson, P. (2002). Business power and social policy: Employers and the formation of the american welfare state. *Politics & Society*, 30(2):277325.

Hallerberg, M. and Basinger, S. (1998). Internationalization and changes in tax policy in oecd countries: the importance of domestic veto players. *Comparative Political Studies*, 31(3):321–352.

Hart, A. (2010). Death of the partisan? globalization and taxation in South America, 1990-2006. *Comparative Political Studies*, 43(3):304–328.

Heston, A., Summers, R., and Aten, B. (2002). Penn World Table. *Center for International Comparisons at the University of Pennsylvania*.

Hibbs, D. A. (1977). Political parties and macroeconomic policy. *American Political Science Review*, 71(04):1467–1487.

Holland, A. C. (2015). The distributive politics of enforcement. *American Journal of Political Science*, 59(2):357–371.

Holland, A. C. (2016). Forbearance. *American Political Science Review*, 110(02):232–246.

Huber, E. and Stephens, J. D. (2012). *Democracy and the left: social policy and inequality in Latin America*. University of Chicago Press.

Huber, E., Stephens, J. D., Mustillo, T., and Pribble, J. (2008). Social policy in Latin America and the Caribbean dataset, 1960-2006. *University of North Carolina*.

Inclan, C., Quinn, D. P., and Shapiro, R. Y. (2001). Origins and consequences of changes in US corporate taxation, 1981-1998. *American Journal of Political Science*, pages 179–201.

Jaramillo, M. (2014). The incidence of social spending and taxes in Peru. *Public Finance Review*, 42(3):391–412.

Kato, J. (2003). *Regressive taxation and the welfare state: path dependence and policy diffusion*. Cambridge University Press.

Kaufman, R. R. and Segura-Ubiergo, A. (2001). Globalization, domestic politics, and social spending in Latin America: a time-series cross-section analysis, 1973–97. *World Politics*, 53(04):553–587.

Kingstone, P. and Young, J. (2008). Partisanship and Policy Choice: What's Left for the Left in Latin America? *Political Research Quarterly*.

La Porta, R. and Shleifer, A. (2014). Informality and development. *Journal of Economic Perspectives*, 28(3):109–26.

Leigh, A. (2008). Estimating the impact of gubernatorial partisanship on policy settings and economic outcomes: A regression discontinuity approach. *European Journal of Political Economy*, 24(1):256–268.

Lustig, N. (2017). Fiscal policy, income redistribution and poverty reduction in low and middle income countries.

Lustig, N., Pessino, C., and Scott, J. (2014). The impact of taxes and social spending on inequality and poverty in argentina, bolivia, brazil, mexico, peru, and uruguay: Introduction to the special issue. *Public Finance Review*, 42(3):287–303.

Machado, F. and Stein, E. (2012). The Rise of the Left and Increases in Tax Revenue: Evidence from Brazilian Municipalities. *Washington, DC, United States: Inter-American Development Bank. Manuscript.*

Martinez Franzoni, J. (2013). Social protection systems in Latin America and the Caribbean: El Salvador.

McGuire, J. W. (2014). Causes, characteristics, and consequences ? *Routledge handbook of Latin American politics*, page 200.

Morrison, K. M. (2014). *Nontaxation and Representation.* Cambridge University Press.

Murillo, M. V. (2009). *Political competition, partisanship, and policy making in Latin American public utilities.* Cambridge University Press.

Murillo, M. V., Oliveros, V., and Vaishnav, M. (2011). Economic constraints and presidential agency. *The resurgence of the Latin American left*, pages 52–70.

Ondetti, G. (2015). The roots of Brazil's heavy taxation. *Journal of Latin American Studies*, 47(4):749–779.

Ondetti, G. (2017). The power of preferences: Economic elites and light taxation in Mexico. *Revista Mexicana de Ciencias Políticas y Sociales*, 62(231):47–76.

Osorio, L. (2016). Tax reform and labor informality in Colombia: A dynamic and stochastic general equilibrium analysis. *Ensayos sobre Política Económica*, 34(80):126–145.

Pribble, J. (2013). *Welfare and party politics in Latin America*. Cambridge University Press.

Quinn, D. P. and Shapiro, R. Y. (1991). Business political power: The case of taxation. *American Political Science Review*, 85(03):851–874.

Rueda, D. (2007). *Social Democracy Inside Out: Government Partisanship, Insiders, and Outsiders in Industrialized Democracies*. Oxford: Oxford University Press.

Salanie, B. (2011). *The economics of taxation*. MIT press.

Schneider, A. (2012). *State-building and tax regimes in Central America*. Cambridge University Press.

Schneider, B. R. (2013). *Hierarchical Capitalism in Latin America*. Cambridge University Press.

Swank, D. and Steinmo, S. (2002). The new political economy of taxation in advanced capitalist democracies. *American Journal of Political Science*, 46(3):642–655.

Wibbels, E. (2006). Dependency revisited: International markets, business cycles, and social spending in the developing world. *International Organization*, 60(02):433–468.

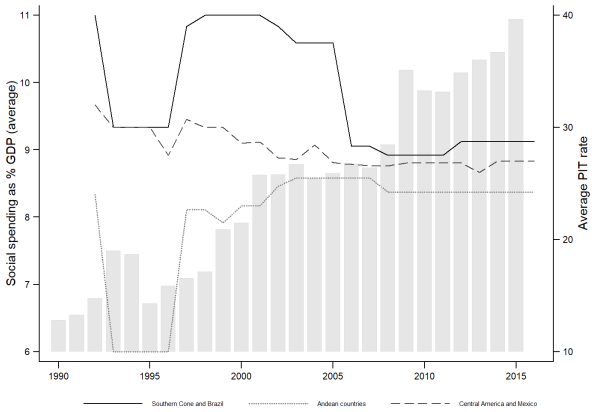
Wibbels, E. and Arce, M. (2003). Globalization, taxation, and burden-shifting in Latin America. *International Organization*, 57(01):111–136.

Wiesehomeier, N. and Benoit, K. (2009). Presidents, parties, and policy competition. *The Journal of Politics*, 71(04):1435–1447.

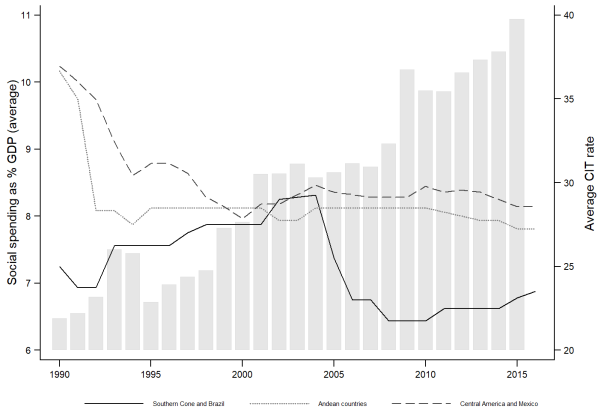
Zucco, C. and Power, T. J. (2013). Bolsa Família and the Shift in Lula's Electoral Base, 2002–2006: A Reply to Bohn. *Latin American Research Review*, 48(2):3–24.

7 Appendix

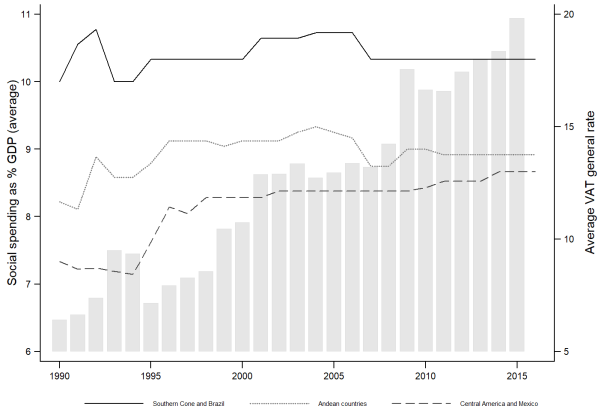
7.1 Figures



(a) PIT maximum rate (average)

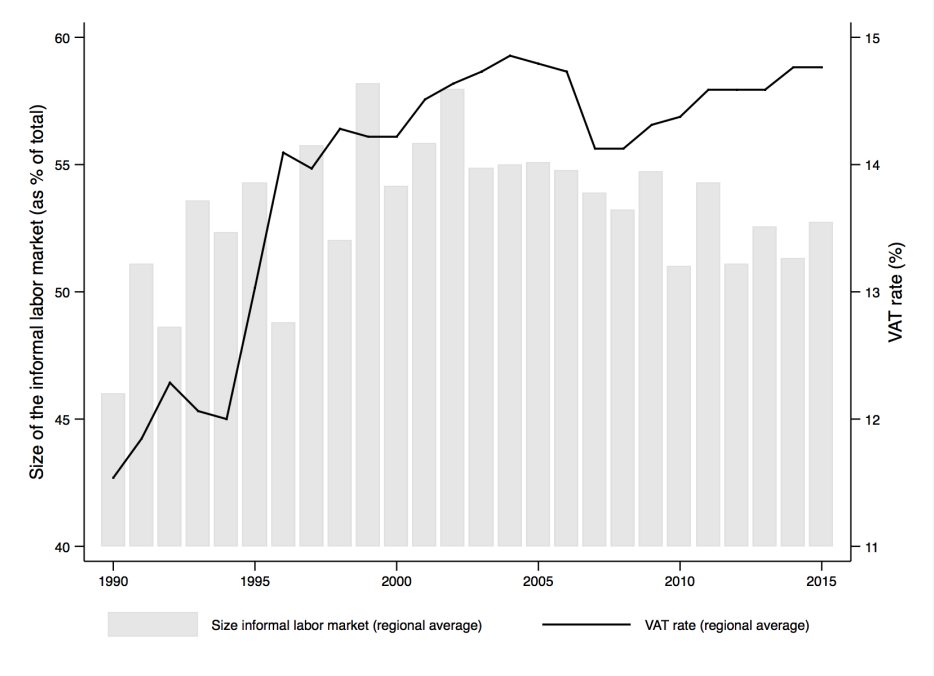


(b) CIT maximum rate (average)

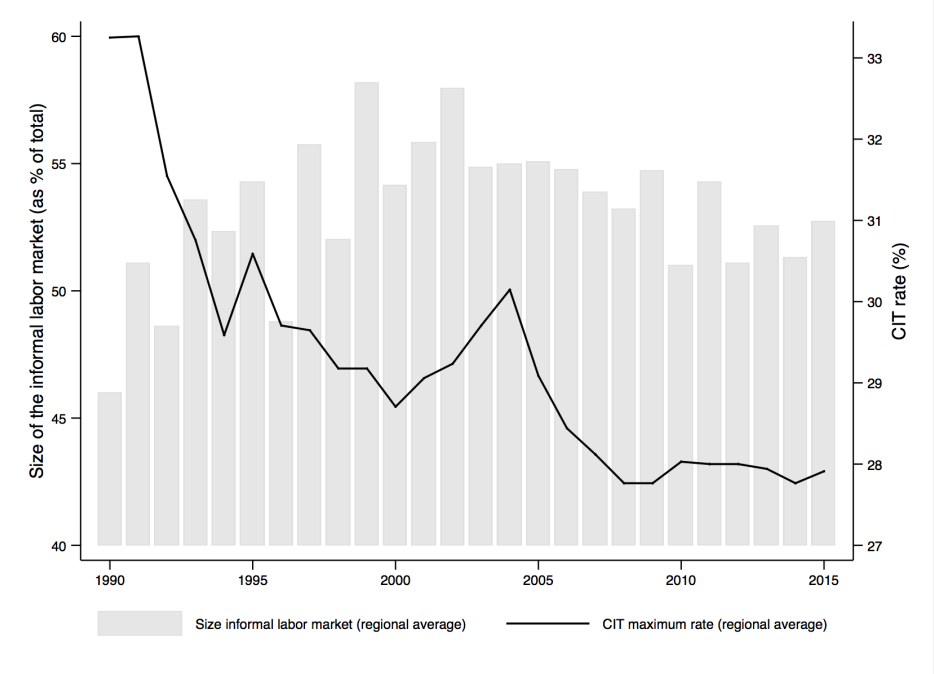


(c) VAT general rate (average)

Figure A1: Social Spending and Tax Rates, Latin America 1990-2016

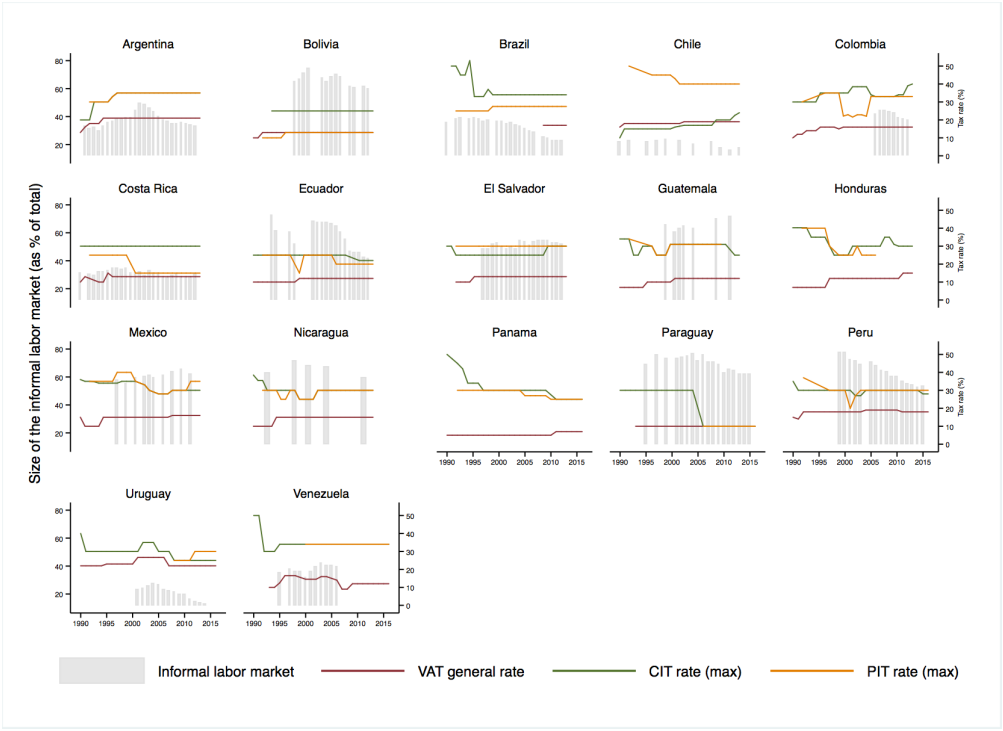


(a) VAT general rate

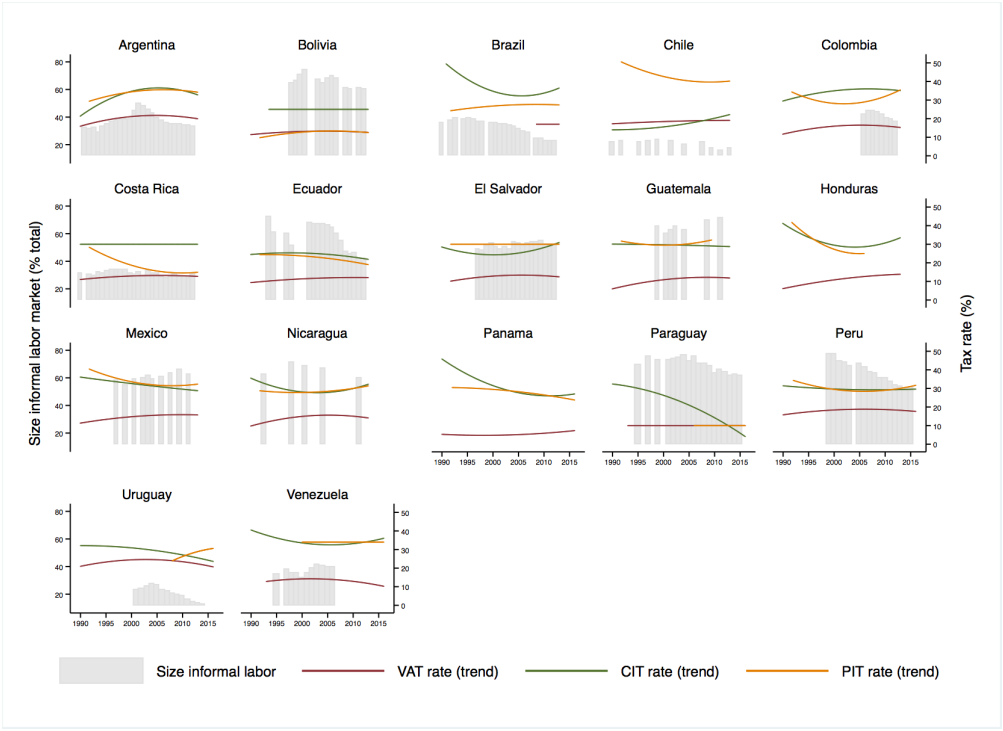


(b) CIT maximum rate

Figure A2: Tax rates and the expansion of the informal labor market in Latin America, 1990-2015.



(a) Rates



(b) Trends

Figure A3: Tax rates and the expansion of the informal labor market in Latin America, 1990-2015 (by country). Sources: *CEPALSTAT, CEDLAS*

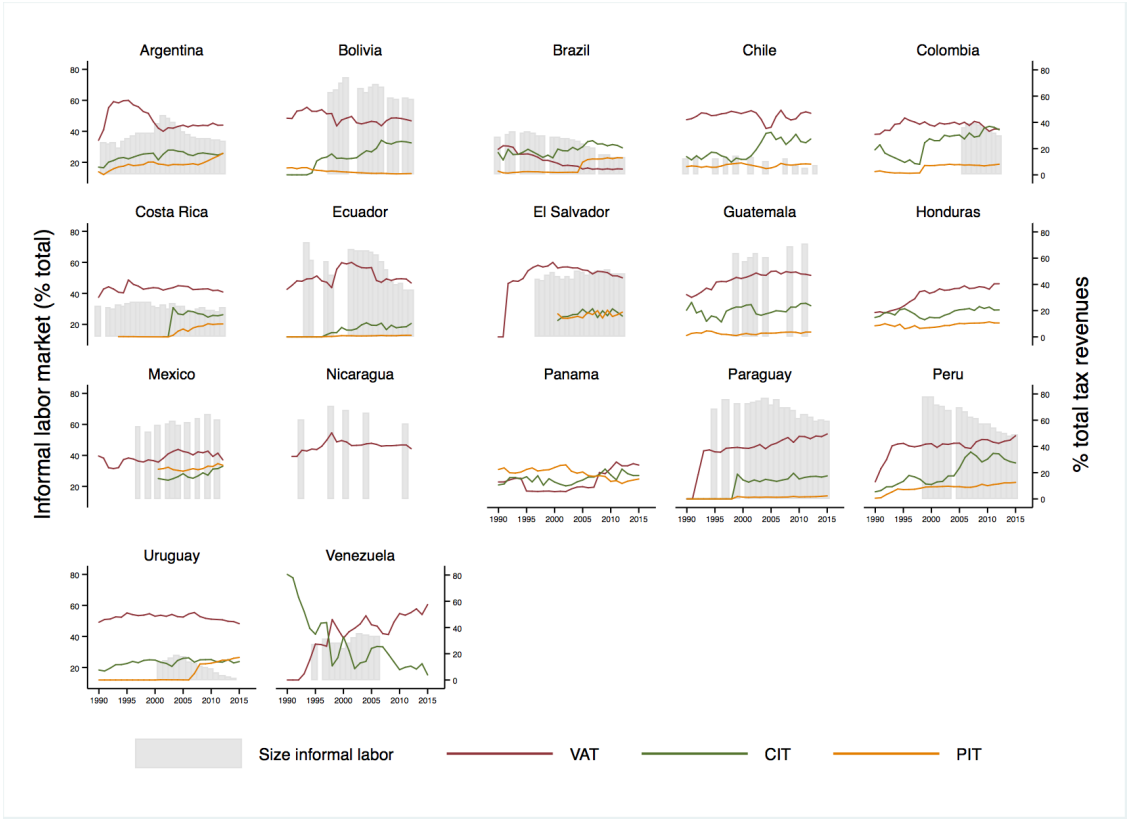
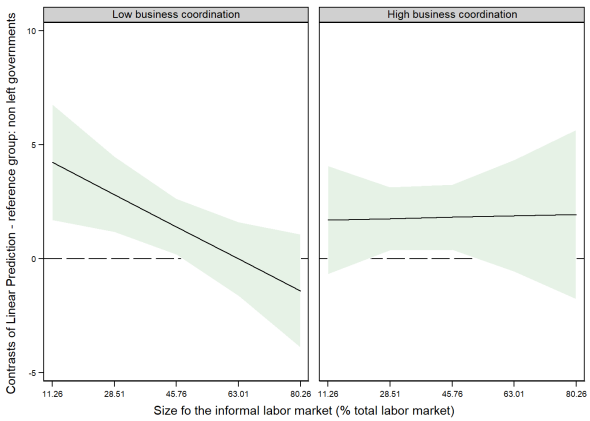
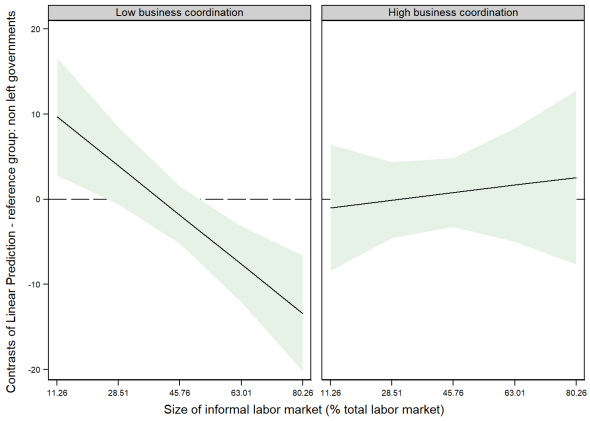


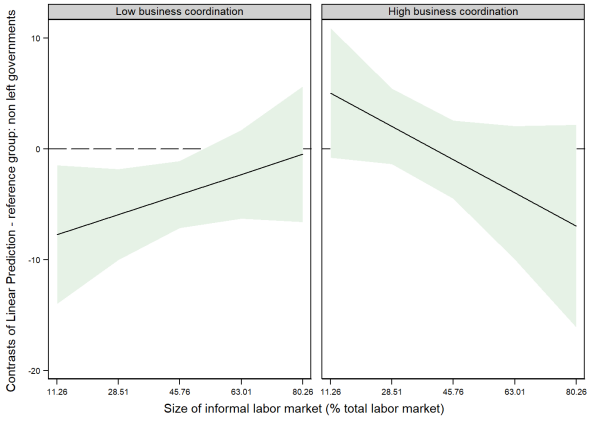
Figure A4: Tax revenue and the expansion of the informal labor market in Latin America, 1990-2015 (by country). Sources: *CEPALSTAT, CEDLAS*



(a) Tax revenue

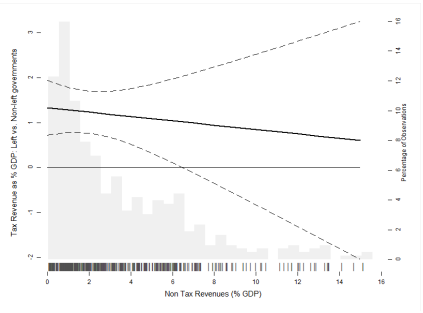


(b) PIT revenue

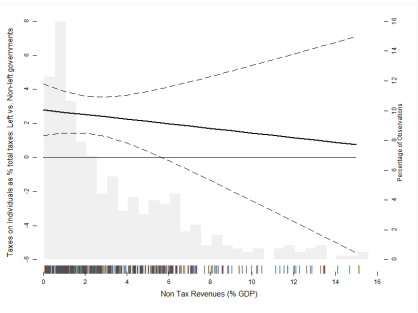


(c) VAT revenue

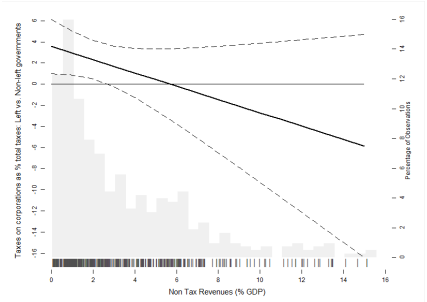
Figure A5: Contrasts of Margins of Left Governments on Tax Revenues (Conditional to the Degree of Business Coordination), Latin America 1990-2010. Analysis based on models estimated in Table A6.



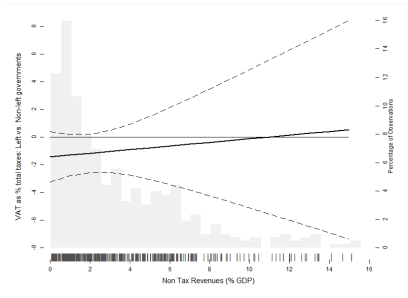
(a) Tax Revenue



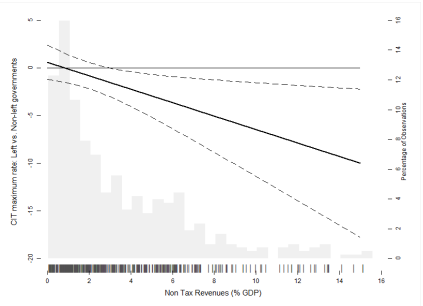
(b) Personal income taxes



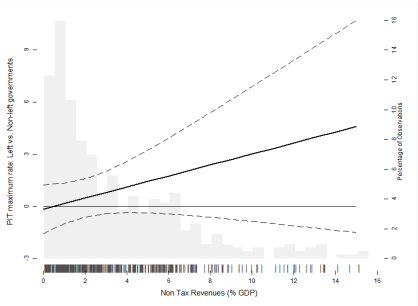
(c) Corporate income taxes



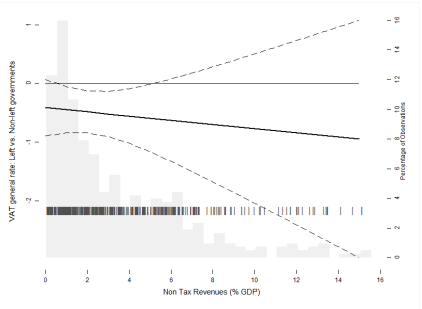
(d) VAT



(e) CIT maximum rate

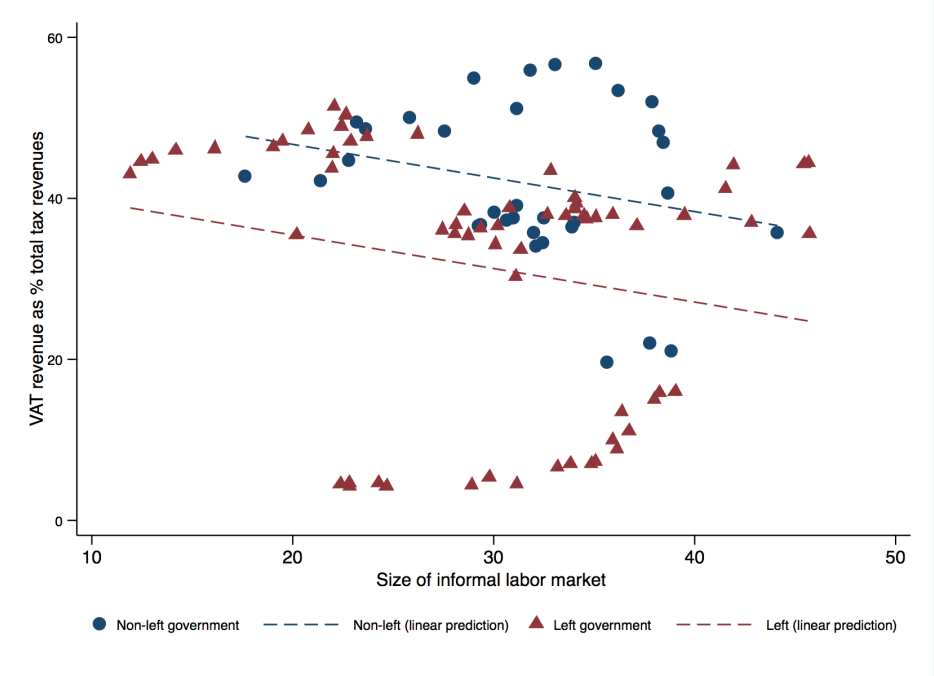


(f) PIT maximum rate

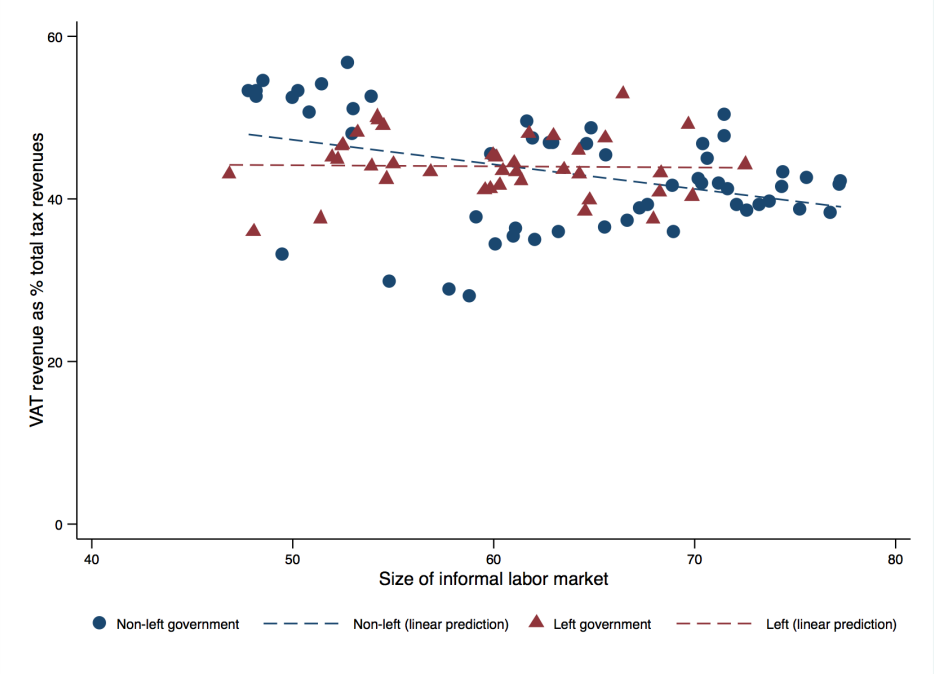


(g) VAT general rate

Figure A6: *Contrast of linear predictions of the effect of left governments on tax rates, conditional to the size of the informal labor market (legal definition) and the availability of non tax revenues, Latin America 1990-2016. Analysis based on models estimated in Table A9*



(a) Informality below the mean



(b) Informality above the mean

Figure A7: *VAT revenues (% total), informal labor market (legal definition) and government ideology, Latin America 1990-2016*

	Low Informality	High Informality
Other Governments	Argentina 1991 (3) Argentina 1992 (2) Argentina 1995 (3) Costa Rica 1992 (-1) Costa Rica 1993 (-1) Costa Rica 1994 (-1) Uruguay 2001 (3.69)	Chile 1991 (2) Colombia 1991 (2) Colombia 1993 (2) Colombia 1996 (2) Colombia 2000 (-1) Colombia 2001 (1) Costa Rica 1991 (3) El Salvador 1996 (3) Guatemala 1996 (3) Guatemala 2002 (2) Honduras 1998 (5) Honduras 2014 (3) Mexico 1991 (-5) Mexico 1995 (5) Mexico 2010 (1) Peru 1991 (-1) Peru 1992 (4) Peru 2004 (1) Uruguay 1995 (1)
Left Governments	Costa Rica 1996 (5) Costa Rica 1997 (-2) Uruguay 2007 (-4.69)	Bolivia 1992 (3) Chile 2004 (1) Ecuador 2000 (2) Peru 2011 (-1)

(a) Change in VAT Rates

	Low Informality	High Informality
Other Governments	Argentina 1993 (10) Argentina 1997 (3) Argentina 1998 (2) Brazil 1993 (-5) Uruguay 2002 (5)	Chile 1991 (5) Chile 2011 (3) Colombia 1996 (5) El Salvador 1992 (-5) Guatemala 1998 (-5) Guatemala 2001 (6) Guatemala 2014 (-3) Guatemala 2015 (-3) Honduras 1994 (-5.25) Honduras 1998 (-5) Honduras 1999 (-5) Honduras 2003 (5) Honduras 2010 (5) Honduras 2012 (-4) Honduras 2013 (-1) Mexico 1991 (-1) Mexico 1993 (-.20) Mexico 1994 (-.79) Mexico 1999 (1) Mexico 2003 (-1) Mexico 2004 (-1) Mexico 2005 (-3) Mexico 2006 (-1) Mexico 2007 (-1) Mexico 2010 (2) Nicaragua 2000 (-5) Panama 1991 (-2.5) Panama 1992 (-2.5) Panama 1993 (-3) Panama 1994 (-8) Paraguay 2005 (-10) Paraguay 2006 (-10) Peru 1991 (-5) Peru 2002 (-3) Peru 2004 (3) Uruguay 1991 (-10) Venezuela 1992 (-20)
Left Governments	Brazil 1996 (-20) Brazil 1999 (4) Chile 2003 (.5) Uruguay 2005 (-5) Uruguay 2008 (-5)	Brazil 2000 (-3) Chile 2002 (1) Chile 2004 (.5) Ecuador 2011 (-1) Ecuador 2012 (-1) Ecuador 2013 (-1) El Salvador 2012 (5) Peru 2015 (-2)

(b) Change in CIT Rates

Figure A8: Tax rate changes by country year, according to high and low informality (split at the median level of informality according to the legal definition) and by left governments and all other types of administrations. The top pane represents changes in average general VAT rates; the bottom pane represents changes in the maximum average corporate tax rate.

	Low Informality	High Informality
Other Governments	30 cases of change in VAT revenue (15 increases and 15 decreases)	178 cases of change in VAT revenue (109 increases and 69 decreases)
Left Governments	60 cases of change in VAT revenue (21 increases and 39 decreases)	80 cases of change in VAT revenue (42 increases and 38 decreases)

Figure A9: Summary of changes in VAT revenue, as a proportion of total tax revenue, according to high and low informality (split at the median level of informality according to the legal definition) and by left governments and all other types of administrations.

7.2 Tables

Table A1: Summary statistics

Variable	Mean	Std. Dev.	Min.	Max.	N
Informal labor (productive)	53.55	11.073	30.741	77.122	277
Informal labor (legalistic)	45.767	17.258	11.917	77.283	221
Social expenditure (%GDP)	8.903	2.844	2.529	16.033	305
Growth rate	3.634	3.449	-11.032	18.287	457
Trade openness	63.519	32.331	14.136	167.683	456
Tax revenue (%GDP)	12.906	3.192	4.814	22.123	441
Personal income tax (%total tax rev.)	7.186	6.724	0	26.892	358
Corporate income tax (%total tax rev.)	16.996	9.604	0	80.446	379
Value added tax(%total tax rev.)	36.947	12.994	0	57.513	441
CIT maximum rate	29.241	6.495	10	53	454
PIT maximum rate	27.608	8.063	10	50	332
VAT general rate	14.005	4.529	5	26.69	430
Current expenditure (%GDP)	15.05	4.006	6.344	29.763	433
Primary fiscal balance (%GDP)	0.377	2.102	-6.857	8.384	433
Total public debt (%GDP)	40.954	27.974	3.922	222.139	439
Size government coalition	0.526	0.162	0.09	1	439
Electoral fragmentation	0.684	0.12	0.35	0.93	436
Non-tax revenue (%GDP)	3.416	3.205	0.081	15.115	433
Left government (yes = 1)	0.393	0.489	0	1	369
Size of the country (log population)	9.527	1.165	7.812	12.252	459
Growth social spending	0.219	0.763	-2.72	2.731	288
Business coordination index	1.134	0.778	0	2	357
Ethnic fractionalization	0.408	0.196	0.169	0.74	405
Social protection spending (%GDP)	3.211	2.673	0.103	10.845	305
Growth social protection	0.067	0.474	-1.996	2.439	288

Table A2: Tax policy, government ideology, and informal labor market in Latin America 1990-2016. Fixed-effects, baseline models

	Informal labor market (productive)				Informal labor market (legalistic)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Tax rev.	PIT	CIT	VAT	Tax rev.	PIT	CIT	VAT
	b/se	b/se	b/se	b/se	b/se	b/se	b/se	b/se
Left government	1.291***	1.965***	2.394*	-1.232	1.236***	2.503***	2.171*	-1.162
	(0.27)	(0.51)	(0.95)	(1.04)	(0.24)	(0.55)	(0.93)	(0.70)
Informal labor (P)	-0.097***	-0.184***	0.068	0.101				
	(0.04)	(0.07)	(0.12)	(0.14)				
Informal labor (L)					-0.105***	-0.106*	-0.254***	0.075
					(0.02)	(0.05)	(0.09)	(0.07)
Size gov. coalition	2.951***	0.459	1.559	-3.808	1.286	-1.644	-1.538	-0.352
	(0.94)	(1.74)	(3.14)	(3.58)	(0.92)	(2.14)	(3.55)	(2.72)
Growth rate	0.046	-0.033	0.100	-0.031	0.059	0.041	0.013	0.200
	(0.04)	(0.07)	(0.13)	(0.15)	(0.04)	(0.08)	(0.14)	(0.11)
L.growth rate	0.104***	-0.034	0.208	-0.224	0.090***	0.013	0.155	-0.027
	(0.03)	(0.06)	(0.11)	(0.12)	(0.03)	(0.07)	(0.11)	(0.09)
Primary fiscal balance	0.130	-0.179	0.344	-0.138	0.006	-0.353	0.206	-0.280
	(0.09)	(0.17)	(0.30)	(0.34)	(0.09)	(0.20)	(0.34)	(0.26)
L.primary balance	0.099	0.100	0.120	-0.357	0.113	0.104	0.153	-0.250
	(0.08)	(0.15)	(0.28)	(0.31)	(0.09)	(0.19)	(0.33)	(0.26)
Total public debt	-0.008	-0.019	-0.004	-0.096*	-0.007	0.003	0.001	-0.045
	(0.01)	(0.02)	(0.04)	(0.05)	(0.01)	(0.02)	(0.04)	(0.03)
L.total public debt	0.019	-0.009	-0.025	-0.074	0.028*	-0.009	0.019	-0.080*
	(0.01)	(0.02)	(0.04)	(0.04)	(0.01)	(0.03)	(0.04)	(0.03)
Current expenditure	0.469***	-0.322	0.389	-0.281	0.510***	-0.572*	0.165	-0.621
	(0.12)	(0.22)	(0.41)	(0.45)	(0.11)	(0.26)	(0.45)	(0.34)
L.current expenditure	0.227	0.345	0.104	-0.053	0.176	0.272	-0.095	-0.226
	(0.12)	(0.23)	(0.42)	(0.46)	(0.12)	(0.27)	(0.46)	(0.35)
Non-tax revenue	0.094	-0.270	0.752*	-0.986***	0.110	0.115	0.850*	-0.049
	(0.09)	(0.18)	(0.32)	(0.36)	(0.09)	(0.22)	(0.36)	(0.27)
Trade openness	0.067***	-0.078***	0.041	0.166***	0.094***	-0.152***	0.020	-0.060
	(0.01)	(0.02)	(0.04)	(0.05)	(0.01)	(0.03)	(0.06)	(0.04)
Country size	-0.000***	0.000***	0.000*	-0.000	-0.000***	0.000***	0.000	0.000
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Constant	3.482	13.790***	-11.427	42.661***	4.442*	10.398*	14.306	57.035***
	(2.56)	(4.82)	(8.86)	(9.74)	(1.99)	(4.93)	(8.26)	(5.93)
N	222	205	200	222	181	167	162	181
R^2	0.611	0.454	0.352	0.270	0.725	0.485	0.378	0.337

NOTE: *** p<0.01, * p<0.05 ; Tax revenue is measured as percentage of GDP. Personal income taxes, corporate income taxes, and VAT are measured as percentage of total tax revenues. Primary fiscal balance is not defined as surplus only, therefore, it could have positive and negative values. To estimate these coefficients we use the following fixed-effects model specification: $\hat{tax.rev}_{i,t} = \hat{\beta}_0 + \hat{\beta}_1 left_{i,t} + +\hat{\beta}_2 informal_{i,t} + \hat{\beta}_3 size.govt.coalition_{i,t} + \hat{\beta}_4 growth_{i,t} + +\hat{\beta}_5 growth_{i,t-1} + +\hat{\beta}_6 primary.balance_{i,t} + \hat{\beta}_7 primary.balance_{i,t-1} + \hat{\beta}_8 public.debt_{i,t} + \hat{\beta}_9 public.debt_{i,t-1} + \hat{\beta}_{10} current.expenditure_{i,t} + \hat{\beta}_{11} current.expenditure_{i,t-1} + \hat{\beta}_{12} non.tax.rev_{i,t} + \hat{\beta}_{13} trade.openness_{i,t} + \hat{\beta}_{14} country.size_{i,t} + \alpha_i + u_{i,t}$, where α_i corresponds to country fixed-effects.

Table A3: Tax rates, government ideology, and informal labor market in Latin America 1990-2016. Fixed-effects, baseline models

	(1) CIT b/se	(2) PIT b/se	(3) VAT b/se
Left government	-0.778	0.450	-0.486***
	(0.71)	(0.56)	(0.18)
Informal labor (legalistic)	0.121*	-0.041	0.030*
	(0.07)	(0.05)	(0.02)
Size govt. coalition	4.683*	2.132	0.784
	(2.73)	(2.04)	(0.70)
Growth rate	-0.263**	0.130	-0.042
	(0.11)	(0.09)	(0.03)
L.growth rate	-0.130	-0.044	-0.008
	(0.09)	(0.07)	(0.02)
Primary fiscal balance	-0.130	0.191	0.007
	(0.26)	(0.22)	(0.07)
L.primary balance	0.302	0.363*	0.050
	(0.26)	(0.20)	(0.07)
Total public debt	-0.029	0.045*	-0.008
	(0.03)	(0.03)	(0.01)
L.total public debt	0.061*	-0.024	0.009
	(0.03)	(0.03)	(0.01)
Current expenditure	-0.494	0.352	-0.003
	(0.34)	(0.27)	(0.09)
L.current expenditure	0.838**	-0.271	0.257***
	(0.36)	(0.29)	(0.10)
Non-tax revenue	0.343	-0.549***	0.037
	(0.27)	(0.21)	(0.07)
Trade openness	0.029	0.003	0.025**
	(0.04)	(0.03)	(0.01)
Country size	-0.000	-0.000	0.000
	(0.00)	(0.00)	(0.00)
Constant	14.742**	25.812***	7.875***
	(5.94)	(4.69)	(1.54)
N	181	156	171
R^2	0.210	0.154	0.249

NOTE: *** p<0.01, ** p<0.05, * p<0.1; Primary fiscal balance is not defined as surplus only, therefore, it could have positive and negative values. To estimate these coefficients we use the following fixed-effects model specification: $\hat{tax.rate}_{i,t} = \hat{\beta}_0 + \hat{\beta}_1 left_{i,t} + + \hat{\beta}_2 informal_{i,t} + \hat{\beta}_3 size.govt.coalition_{i,t} + \hat{\beta}_4 growth_{i,t} + + \hat{\beta}_5 growth_{i,t-1} + + \hat{\beta}_6 primary.balance_{i,t} + \hat{\beta}_7 primary.balance_{i,t-1} + \hat{\beta}_8 public.debt_{i,t} + \hat{\beta}_9 public.debt_{i,t-1} + \hat{\beta}_{10} current.expenditure_{i,t} + \hat{\beta}_{11} current.expenditure_{i,t-1} + \hat{\beta}_{12} non.tax.rev_{i,t} + \hat{\beta}_{13} trade.openness_{i,t} + \hat{\beta}_{14} country.size_{i,t} + \alpha_i + u_{i,t}$, where α_i corresponds to country fixed-effects.

Table A4: Tax policy, government ideology, and informal labor market in Latin America 1990-2016. Fixed-effects, interaction models

	(1) Tax revenue b/se	(2) PIT b/se	(3) CIT b/se	(4) VAT b/se
Left government	2.979***	8.761***	-2.740	-7.951***
	(0.58)	(1.28)	(2.33)	(1.68)
Informal labor (legalistic)	-0.093***	-0.065	-0.287***	0.031
	(0.02)	(0.05)	(0.09)	(0.07)
Left∗Informal labor	-0.039***	-0.137***	0.106*	0.153***
	(0.01)	(0.03)	(0.05)	(0.03)
Size govt. coalition	1.048	-2.677	-0.784	0.574
	(0.89)	(1.97)	(3.51)	(2.58)
Economic growth rate	0.065	0.065	-0.000	0.174
	(0.04)	(0.08)	(0.14)	(0.10)
L.growth rate	0.077***	-0.031	0.192	0.024
	(0.03)	(0.06)	(0.11)	(0.08)
Primary fiscal balance	0.026	-0.295	0.153	-0.358
	(0.08)	(0.19)	(0.33)	(0.25)
L.primary balance	0.154	0.246	0.044	-0.408
	(0.08)	(0.18)	(0.33)	(0.24)
Total public debt	-0.004	0.012	-0.004	-0.053
	(0.01)	(0.02)	(0.04)	(0.03)
L.total public debt	0.024*	-0.022	0.029	-0.064
	(0.01)	(0.02)	(0.04)	(0.03)
Current expenditure	0.546***	-0.455	0.097	-0.764*
	(0.11)	(0.24)	(0.44)	(0.32)
L.current expenditure	0.152	0.203	-0.071	-0.132
	(0.12)	(0.25)	(0.46)	(0.34)
Non-tax revenues	0.130	0.210	0.788*	-0.128
	(0.09)	(0.20)	(0.36)	(0.26)
Trade openness	0.099***	-0.142***	0.012	-0.079*
	(0.01)	(0.03)	(0.06)	(0.04)
Country size	-0.000***	0.000***	0.000*	0.000
	(0.00)	(0.00)	(0.00)	(0.00)
Constant	4.011*	9.210*	15.380	58.712***
	(1.94)	(4.52)	(8.15)	(5.62)
N	181	167	162	181
R^2	0.743	0.572	0.401	0.411

NOTE: *** p<0.01, ** p<0.05, * p<0.1; Models estimated using a "legalistic" definition of the informal labor market. Tax revenue is measured as percentage of GDP. Personal income taxes, corporate income taxes, and VAT are measured as percentage of total tax revenues. Primary fiscal balance is not defined as surplus only, therefore, it could have positive and negative values. To estimate these coefficients we use the following fixed-effects model specification: $\hat{tax.rev}_{i,t} = \hat{\beta}_0 + \hat{\beta}_1 left_{i,t} + \hat{\beta}_2 informal_{i,t} + \hat{\beta}_3 left_{i,t} * informal_{i,t} + \hat{\beta}_4 size.govt.coalition_{i,t} + \hat{\beta}_5 growth_{i,t} + \hat{\beta}_6 growth_{i,t-1} + \hat{\beta}_7 primary.balance_{i,t} + \hat{\beta}_8 primary.balance_{i,t-1} + \hat{\beta}_9 public.debt_{i,t} + \hat{\beta}_{10} public.debt_{i,t-1} + \hat{\beta}_{11} current.expenditure_{i,t} + \hat{\beta}_{12} current.expenditure_{i,t-1} + \hat{\beta}_{13} non.tax.rev_{i,t} + \hat{\beta}_{14} trade.openness_{i,t} + \hat{\beta}_{15} country.size_{i,t} + \alpha_i + u_{i,t}$, where α_i corresponds to country fixed-effects.

Table A5: Tax rates, government ideology, and informal labor market in Latin America 1990-2016. Fixed-effects, interaction models

	(1) CIT max. rate b/se	(2) PIT max. rate b/se	(3) VAT gen. rate b/se
Left government	-0.032	-0.871	-1.857***
	(1.79)	(1.70)	(0.43)
Informal labor (legalistic)	0.125	-0.046	0.021
	(0.07)	(0.05)	(0.02)
Left∗Informal labor	-0.017	0.028	0.031***
	(0.04)	(0.03)	(0.01)
Size govt. coalition	4.581	2.353	0.984
	(2.74)	(2.06)	(0.68)
Economic growth rate	-0.260*	0.126	-0.047
	(0.11)	(0.09)	(0.03)
L.growth rate	-0.136	-0.040	0.002
	(0.09)	(0.07)	(0.02)
Primary fiscal balance	-0.122	0.195	-0.011
	(0.26)	(0.22)	(0.06)
L.primary fiscal balance	0.320	0.330	0.019
	(0.26)	(0.21)	(0.07)
Total public debt	-0.028	0.044	-0.010
	(0.03)	(0.03)	(0.01)
L.total public debt	0.059	-0.022	0.012
	(0.03)	(0.03)	(0.01)
Current expenditure	-0.479	0.353	-0.036
	(0.34)	(0.27)	(0.09)
L.current expenditure	0.827*	-0.263	0.279***
	(0.36)	(0.29)	(0.09)
Non-tax revenues	0.352	-0.557***	0.022
	(0.27)	(0.21)	(0.07)
Trade openness	0.031	-0.002	0.021*
	(0.04)	(0.04)	(0.01)
Country size	-0.000	0.000	0.000
	(0.00)	(0.00)	(0.00)
Constant	14.558*	25.712***	8.327***
	(5.97)	(4.69)	(1.49)
N	181	156	171
R^2	0.211	0.158	0.308

NOTE: *** p<0.01, ** p<0.05, * p<0.1; Models estimated using a "legalistic" definition of the informal labor market. Primary fiscal balance is not defined as surplus only, therefore, it could have positive and negative values. To estimate these coefficients we use the following fixed-effects model specification: $\hat{tax.rate}_{i,t} = \hat{\beta}_0 + \hat{\beta}_1 left_{i,t} + \hat{\beta}_2 informal_{i,t} + \hat{\beta}_3 left_{i,t} * informal_{i,t} + \hat{\beta}_4 size.govt.coalition_{i,t} + \hat{\beta}_5 growth_{i,t} + \hat{\beta}_6 growth_{i,t-1} + \hat{\beta}_7 primary.balance_{i,t} + \hat{\beta}_8 primary.balance_{i,t-1} + \hat{\beta}_9 public.debt_{i,t} + \hat{\beta}_{10} public.debt_{i,t-1} + \hat{\beta}_{11} current.expenditure_{i,t} + \hat{\beta}_{12} current.expenditure_{i,t-1} + \hat{\beta}_{13} non.tax.rev_{i,t} + \hat{\beta}_{14} trade.openness_{i,t} + \hat{\beta}_{15} country.size_{i,t} + \alpha_i + u_{i,t}$, where α_i corresponds to country fixed-effects.

Table A6: Tax policy, government ideology, labor market and business coordination in Latin America 1990-2016. Interaction random-effects models

	(1) Tax revenue b/se	(2) PIT b/se	(3) CIT b/se	(4) VAT b/se	(5) CIT rate b/se	(6) PIT rate b/se	(7) VAT rate b/se
Left government	5.176***	13.506***	-3.392	-8.900**	17.577**	-1.887	-2.038
	(1.63)	(4.44)	(5.26)	(4.01)	(7.64)	(4.24)	(1.73)
Informal labor	0.026	-0.060	-0.014	-0.356***	-0.001	-0.152**	-0.114***
	(0.02)	(0.06)	(0.08)	(0.06)	(0.11)	(0.06)	(0.03)
Business coordination	0.018	-1.509	-9.169**	-16.211***	6.381	-3.775	-5.732***
	(0.98)	(2.92)	(3.59)	(2.40)	(4.42)	(2.54)	(1.08)
Left*informal labor	-0.082**	-0.336***	0.028	0.105	-0.279*	-0.027	0.016
	(0.03)	(0.09)	(0.10)	(0.08)	(0.15)	(0.08)	(0.03)
Left*business coordination	-1.758	-7.536**	6.389	7.958**	-3.891	-5.276	2.878**
	(1.30)	(3.72)	(4.55)	(3.18)	(5.62)	(3.36)	(1.38)
Informal labor*coordination	0.008	0.093*	0.200***	0.310***	-0.010	0.059	0.085***
	(0.02)	(0.05)	(0.06)	(0.04)	(0.08)	(0.05)	(0.02)
Left*informal*coordination	0.043	0.194**	-0.010	-0.140*	0.031	0.191**	-0.041
	(0.03)	(0.08)	(0.10)	(0.07)	(0.13)	(0.08)	(0.03)
Size of govt. coalition	2.121	-12.494***	-3.038	-4.401	-0.943	-1.846	-0.987
	(1.42)	(3.95)	(4.72)	(3.49)	(4.54)	(3.68)	(1.64)
Growth rate	0.151***	-0.080	0.053	0.059	0.301	-0.143	0.049
	(0.06)	(0.16)	(0.19)	(0.14)	(0.20)	(0.15)	(0.06)
L.growth rate	-0.008	-0.259*	0.216	-0.063	-0.292	0.074	-0.036
	(0.05)	(0.14)	(0.17)	(0.13)	(0.18)	(0.13)	(0.05)
Primary fiscal balance	0.468***	-0.497	0.928**	-0.411	1.209**	-0.449	0.496***
	(0.13)	(0.38)	(0.46)	(0.33)	(0.48)	(0.35)	(0.15)
L.primary balance	0.190	0.797**	0.269	0.209	0.169	-0.156	0.261*
	(0.14)	(0.38)	(0.47)	(0.34)	(0.50)	(0.36)	(0.15)
Total public debt	0.004	-0.048	-0.036	-0.094**	0.065	0.014	-0.005
	(0.02)	(0.05)	(0.05)	(0.04)	(0.06)	(0.04)	(0.02)
L.total public debt	-0.003	0.017	-0.003	0.007	-0.076	0.072*	-0.001
	(0.02)	(0.05)	(0.05)	(0.04)	(0.05)	(0.04)	(0.02)
Current expenditure	0.525***	-1.053**	0.279	-1.112**	-0.761	-0.460	0.246
	(0.18)	(0.50)	(0.62)	(0.44)	(0.63)	(0.47)	(0.22)
L.current expenditure	-0.034	0.470	0.222	0.515	-0.619	0.083	0.355
	(0.18)	(0.51)	(0.62)	(0.45)	(0.63)	(0.48)	(0.22)
Non-tax revenue	-0.089	0.436*	-0.676**	0.394*	0.641**	-0.280	-0.506***
	(0.09)	(0.24)	(0.28)	(0.21)	(0.29)	(0.22)	(0.10)
Trade openness	-0.023**	-0.102***	0.004	-0.079***	-0.407***	-0.024	-0.065***
	(0.01)	(0.03)	(0.04)	(0.03)	(0.04)	(0.03)	(0.01)
Country size	-0.000***	0.000	0.000	-0.000***	-0.000***	0.000***	0.000***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Constant	3.942**	28.515***	10.545*	85.069***	61.975***	41.951***	19.366***
	(1.81)	(5.05)	(6.03)	(4.45)	(5.83)	(4.71)	(2.34)
N	131	118	113	131	107	131	121

NOTE: *** p<0.01, ** p<0.05, * p<0.1; Models estimated using a "legalistic" definition of the informal labor market. Tax revenue is measured as percentage of GDP. Personal income taxes, corporate income taxes, and VAT are measured as percentage of total tax revenues. CIT rate = maximum rates; PIT rate = maximum rates; VAT rate = general rates. Primary fiscal balance is not defined as surplus only, therefore, it could have positive and negative values. To estimate these coefficients we use the following random-effects model specification: $\hat{tax.outcome}_{i,t} = \hat{\beta}_0 + \hat{\beta}_1 left_{i,t} + \hat{\beta}_2 informal_{i,t} + \hat{\beta}_3 business.coordination_{i,t} + \hat{\beta}_4 left_{i,t} * informal_{i,t} + \hat{\beta}_5 left_{i,t} * business.coordination_{i,t} + \hat{\beta}_6 informal_{i,t} * business.coordination_{i,t} + \hat{\beta}_7 left_{i,t} * business.coordination_{i,t} * informal_{i,t} + \hat{\beta}_8 size.govt.coalition_{i,t} + \hat{\beta}_9 growth_{i,t} + \hat{\beta}_{10} growth_{i,t-1} + \hat{\beta}_{11} primary.balance_{i,t} + \hat{\beta}_{12} primary.balance_{i,t-1} + \hat{\beta}_{13} public.debt_{i,t} + \hat{\beta}_{14} public.debt_{i,t-1} + \hat{\beta}_{15} current.expenditure_{i,t} + \hat{\beta}_{16} current.expenditure_{i,t-1} + \hat{\beta}_{17} non.tax.rev_{i,t} + \hat{\beta}_{18} trade.openness_{i,t} + \hat{\beta}_{19} country.size_{i,t} + u_{i,t} + \varepsilon_{i,t}$, where $u_{i,t}$ corresponds to between-country error and $\varepsilon_{i,t}$ corresponds to within-entity error.

Table A7: Tax policy, government ideology, and informal labor market in Latin America 1990-2016. Dynamic panel data, Arellano-Bond models

	(1) Tax revenue b/se	(2) tPIT b/se	(3) CIT b/se	(4) VAT b/se
Left government	0.546**	3.615*	-1.397	-2.573**
	(0.26)	(1.93)	(0.96)	(1.30)
Informal labor	-0.004	0.013	-0.015	-0.025
	(0.01)	(0.02)	(0.04)	(0.05)
Left*informal labor	-0.005	-0.063**	0.042**	0.047*
	(0.00)	(0.03)	(0.02)	(0.02)
Size govt. coalition	0.219	-0.413	0.808	1.357
	(0.39)	(1.13)	(1.00)	(1.22)
Growth rate	0.057**	-0.016	0.120**	0.056
	(0.03)	(0.03)	(0.06)	(0.05)
L.growth rate	0.016	-0.033	0.169**	-0.036
	(0.02)	(0.03)	(0.07)	(0.05)
Primary fiscal balance	0.200***	-0.108	0.329	-0.301
	(0.06)	(0.10)	(0.21)	(0.19)
L.primary balance	-0.105	0.282***	0.181	0.020
	(0.08)	(0.08)	(0.27)	(0.13)
Total public debt	0.003	-0.018	0.013	-0.039***
	(0.01)	(0.01)	(0.02)	(0.02)
L.total public debt	0.008	-0.004	0.008	-0.009
	(0.01)	(0.02)	(0.02)	(0.02)
Current expenditure	0.388***	-0.324**	0.403*	-0.360*
	(0.07)	(0.16)	(0.24)	(0.21)
L.current expenditure	-0.180***	0.429***	-0.350*	0.289**
	(0.07)	(0.14)	(0.18)	(0.12)
Non-tax revenue	-0.172**	-0.050	0.155	-0.422**
	(0.07)	(0.13)	(0.28)	(0.21)
Trade openness	0.026***	-0.032	-0.098***	0.049***
	(0.01)	(0.04)	(0.04)	(0.02)
Country size	-0.000	0.000*	0.000***	-0.000
	(0.00)	(0.00)	(0.00)	(0.00)
L.tax revenue	0.734***			
	(0.06)			
L.PIT		0.752***		
		(0.13)		
L.CIT			0.231***	
			(0.06)	
L.VAT				0.668***
				(0.05)
Constant	1.135	-2.527	2.944	18.695***
	(2.28)	(4.53)	(6.92)	(5.94)
N	138	124	121	138

NOTE: *** p<0.01, ** p<0.05, * p<0.1; Models estimated using a "legalistic" definition of the informal labor market. Tax revenues are measured as percentage of GDP. PIT, CIT and VAT revenues are measured as percentage of total tax revenues. Primary fiscal balance is not defined as surplus only, therefore, it could have positive and negative values. To estimate these coefficients we use the following Arellano-Bond dynamic panel model specification: $\hat{tax.rev}_{i,t} = \hat{\beta}_0 + \hat{\beta}_1 left_{i,t} + \hat{\beta}_2 informal_{i,t} + \hat{\beta}_3 left_{i,t} * informal_{i,t} + \hat{\beta}_4 size.govt.coalition_{i,t} + \hat{\beta}_5 growth_{i,t} + \hat{\beta}_6 growth_{i,t-1} + \hat{\beta}_7 primary.balance_{i,t} + \hat{\beta}_8 primary.balance_{i,t-1} + \hat{\beta}_9 public.debt_{i,t} + \hat{\beta}_{10} public.debt_{i,t-1} + \hat{\beta}_{11} current.expenditure_{i,t} + \hat{\beta}_{12} current.expenditure_{i,t-1} + \hat{\beta}_{13} non.tax.rev_{i,t} + \hat{\beta}_{14} trade.openness_{i,t} + \hat{\beta}_{15} country.size_{i,t} + v_{i,t}$, where $v_i = u_i + \epsilon_{i,t}$ corresponds to instrumental variables correlated with past and current realizations of the error term.

Table A8: Non-tax revenue as %GDP, Central Government, Latin America 1990-2015

	1990	1995	2000	2005	2010	2015
Argentina	1.03	1.00	1.94	0.62	2.38	3.13
Bolivia	9.52	8.83	6.10	9.72	11.71	13.41
Brazil			1.64	1.85	4.19	1.96
Chile	6.55	4.63	3.09	5.21	4.33	2.30
Colombia	0.31	0.28	0.28	0.10	0.12	0.09
Costa Rica	0.41	0.22	0.10	0.25	0.96	0.83
Ecuador	7.14	6.94	8.88	5.57	9.03	4.75
El Salvador	0.65	1.03	1.10	0.74	0.88	0.67
Guatemala	1.20	0.98	1.09	0.76	0.79	0.64
Honduras	1.40	1.52	1.16	1.84	1.08	0.94
Mexico	4.77	5.35	4.67	6.39	6.18	4.50
Nicaragua		0.44	0.42	1.00	1.07	1.14
Panama	10.48	5.02	8.04	6.08	6.08	4.08
Paraguay	2.66	3.12	4.36	4.37	3.54	4.35
Peru	0.78	1.66	2.73	2.18	2.46	1.89
Uruguay	1.45	2.75	3.31	2.95	2.67	2.01
Venezuela	5.55	3.46	7.30	12.28	8.19	

NOTE: Elaborated by the authors based on data made available by UN-CEPALSTAT

Table A9: Tax revenues rates, government ideology, and non-tax revenues in Latin America 1990-2016. Interaction fixed-effects models

	(1) Tax revenue b/se	(2) PIT b/se	(3) CIT b/se	(4) VAT b/se	(5) CIT rate b/se	(6) PIT rate b/se	(7) VAT rate b/se
Left government	1.331***	2.797***	3.573***	-1.420	0.611	-0.148	-0.412*
	(0.31)	(0.77)	(1.31)	(0.92)	(0.91)	(0.71)	(0.24)
Non-tax revenue	0.163	0.261	1.508***	-0.193	1.120***	-0.921***	0.078
	(0.14)	(0.34)	(0.57)	(0.43)	(0.42)	(0.34)	(0.11)
Left*non-tax revenue	-0.049	-0.137	-0.628	0.131	-0.708**	0.317	-0.036
	(0.10)	(0.25)	(0.42)	(0.30)	(0.30)	(0.23)	(0.08)
Informal labor	-0.107***	-0.110**	-0.269***	0.081	0.090	-0.027	0.029
	(0.02)	(0.05)	(0.09)	(0.07)	(0.07)	(0.05)	(0.02)
Size government coalition	1.319	-1.486	-0.759	-0.442	5.171*	1.780	0.807
	(0.92)	(2.16)	(3.57)	(2.74)	(2.70)	(2.05)	(0.71)
Growth rate	0.060	0.042	0.015	0.197*	-0.247**	0.134	-0.041
	(0.04)	(0.08)	(0.14)	(0.11)	(0.11)	(0.09)	(0.03)
L.growth rate	0.088***	0.007	0.124	-0.023	-0.153*	-0.028	-0.009
	(0.03)	(0.07)	(0.11)	(0.09)	(0.09)	(0.07)	(0.02)
Primary balance	0.003	-0.356*	0.196	-0.273	-0.168	0.225	0.004
	(0.09)	(0.20)	(0.34)	(0.26)	(0.26)	(0.22)	(0.07)
L.primary balance	0.124	0.130	0.274	-0.278	0.457*	0.286	0.057
	(0.09)	(0.20)	(0.34)	(0.26)	(0.26)	(0.21)	(0.07)
Total public debt	-0.007	0.002	-0.004	-0.045	-0.032	0.049*	-0.008
	(0.01)	(0.03)	(0.04)	(0.03)	(0.03)	(0.03)	(0.01)
L.total public debt	0.028**	-0.010	0.014	-0.079**	0.056*	-0.024	0.009
	(0.01)	(0.03)	(0.04)	(0.03)	(0.03)	(0.03)	(0.01)
Current expenditure	0.509***	-0.569**	0.158	-0.619*	-0.505	0.385	-0.003
	(0.11)	(0.27)	(0.45)	(0.34)	(0.33)	(0.27)	(0.09)
L.current expenditure	0.174	0.268	-0.092	-0.222	0.814**	-0.288	0.255**
	(0.12)	(0.27)	(0.46)	(0.36)	(0.35)	(0.29)	(0.10)
Trade openness	0.095***	-0.149***	0.038	-0.062	0.041	-0.003	0.026**
	(0.01)	(0.03)	(0.06)	(0.04)	(0.04)	(0.04)	(0.01)
Country size	-0.000***	0.000***	0.000	0.000	-0.000	0.000	0.000
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Constant	4.478**	10.182**	13.112	56.938***	15.266**	25.507***	7.934***
	(2.00)	(4.96)	(8.26)	(5.95)	(5.86)	(4.68)	(1.55)
N	181	167	162	181	181	156	171
R^2	0.725	0.486	0.388	0.338	0.238	0.166	0.250

NOTE: *** p<0.01, ** p<0.05, * p<0.1; Models estimated using a "legalistic" definition of the informal labor market. Tax revenue is measured as percentage of GDP. Personal income taxes, corporate income taxes, and VAT are measured as percentage of total tax revenues. CIT rate = maximum rates; PIT rate = maximum rates; VAT rate = general rates. Primary fiscal balance is not defined as surplus only, therefore, it could have positive and negative values. To estimate these coefficients we use the following fixed-effects model specification: $\hat{tax.outcome}_{i,t} = \hat{\beta}_0 + \hat{\beta}_1 left_{i,t} + \hat{\beta}_2 non.tax.rev_{i,t} + \hat{\beta}_3 left_{i,t} * non.tax.rev_{i,t} + \hat{\beta}_4 informal_{i,t} + \hat{\beta}_5 size.govt.coalition_{i,t} + \hat{\beta}_6 growth_{i,t} + \hat{\beta}_7 growth_{i,t-1} + \hat{\beta}_8 primary.balance_{i,t} + \hat{\beta}_9 primary.balance_{i,t-1} + \hat{\beta}_{10} public.debt_{i,t} + \hat{\beta}_{11} public.debt_{i,t-1} + \hat{\beta}_{12} current.expenditure_{i,t} + \hat{\beta}_{13} current.expenditure_{i,t-1} + \hat{\beta}_{14} non.tax.rev_{i,t} + \hat{\beta}_{15} trade.openness_{i,t} + \hat{\beta}_{16} country.size_{i,t} + \alpha_i + u_{i,t}$, where α_i corresponds to country fixed-effects.

Table A10: Tax revenue, government ideology, and informal labor market in Latin America 1990-2016. Baseline fixed-effects models (controlling for growth in non-contributory social protection spending)

	Informal labor market (productive)				Informal labor market (legalistic)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Tax rev.	PIT	CIT	VAT	Tax rev.	PIT	CIT	VAT
	b/se	b/se	b/se	b/se	b/se	b/se	b/se	b/se
Left government	0.925***	0.999**	0.214	-1.868**	0.969***	1.281***	0.788	-1.994***
	(0.33)	(0.41)	(0.91)	(0.86)	(0.28)	(0.41)	(0.93)	(0.66)
Informal labor(L)					-0.113***	0.005	0.031	0.151**
					(0.03)	(0.04)	(0.10)	(0.07)
Informal labor (P)	-0.092**	-0.125**	0.280**	0.225*				
	(0.05)	(0.06)	(0.12)	(0.12)				
Size govt. coalition	4.142***	1.767	8.260***	-3.641	1.443	1.621	5.435	0.139
	(1.17)	(1.42)	(3.09)	(3.08)	(1.08)	(1.55)	(3.48)	(2.59)
Growth rate	0.055	-0.043	0.097	0.049	0.079*	-0.012	0.013	0.069
	(0.05)	(0.06)	(0.12)	(0.12)	(0.04)	(0.06)	(0.13)	(0.10)
L.growth rate	0.106***	-0.053	0.176*	-0.165	0.114***	-0.012	0.143	-0.042
	(0.04)	(0.05)	(0.10)	(0.10)	(0.03)	(0.05)	(0.11)	(0.08)
Primary fiscal balance	0.088	-0.016	0.106	-0.236	-0.013	-0.073	0.070	-0.770***
	(0.11)	(0.13)	(0.29)	(0.28)	(0.10)	(0.14)	(0.32)	(0.24)
L.primary balance	0.242**	0.207	0.255	-0.518*	0.205**	0.202	0.036	-0.463**
	(0.11)	(0.13)	(0.29)	(0.28)	(0.10)	(0.14)	(0.31)	(0.23)
Total public debt	-0.006	-0.001	-0.013	-0.098***	-0.001	0.010	-0.019	-0.088***
	(0.01)	(0.02)	(0.04)	(0.04)	(0.01)	(0.02)	(0.04)	(0.03)
L.total public debt	0.030**	-0.005	0.007	-0.088**	0.032**	-0.003	0.003	-0.061**
	(0.01)	(0.02)	(0.04)	(0.04)	(0.01)	(0.02)	(0.04)	(0.03)
Current expenditure	0.457***	0.037	0.417	-0.366	0.491***	-0.055	0.411	-1.227***
	(0.15)	(0.18)	(0.41)	(0.39)	(0.14)	(0.20)	(0.45)	(0.33)
L.current expenditure	0.452***	0.429**	0.192	-0.584	0.361**	0.391*	-0.197	-0.398
	(0.16)	(0.19)	(0.43)	(0.42)	(0.14)	(0.20)	(0.46)	(0.34)
Growth social protection	0.051	-0.081	-0.261	-0.176	0.192	-0.439	-0.467	-0.171
	(0.25)	(0.30)	(0.66)	(0.65)	(0.23)	(0.33)	(0.74)	(0.54)
Non-tax revenue	0.141	-0.114	0.955***	-0.581*	0.090	0.324**	0.654*	0.275
	(0.12)	(0.14)	(0.31)	(0.31)	(0.11)	(0.16)	(0.36)	(0.25)
Trade openness	0.069***	-0.093***	0.060	0.075*	0.109***	-0.165***	0.089	-0.066*
	(0.02)	(0.02)	(0.04)	(0.04)	(0.02)	(0.03)	(0.06)	(0.04)
Country size	-0.000***	0.000***	0.000**	0.000	-0.000***	0.000***	0.000	0.000
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Constant	0.266	2.625	-28.441***	47.265***	2.701	-7.359*	-4.930	63.679***
	(3.29)	(4.05)	(9.03)	(8.65)	(2.70)	(3.99)	(9.03)	(6.46)
N	175	169	165	175	143	136	132	143
R^2	0.601	0.606	0.377	0.463	0.731	0.680	0.303	0.588

NOTE: *** p<0.01, ** p<0.05, * p<0.1; Models estimated using a "legalistic" definition of the informal labor market. Tax revenue is measured as percentage of GDP. Personal income taxes, corporate income taxes, and VAT are measured as percentage of total tax revenues. CIT rate = maximum rates; PIT rate = maximum rates; VAT rate = general rates. Primary fiscal balance is not defined as surplus only, therefore, it could have positive and negative values. To estimate these coefficients we use the following fixed-effects model specification $\hat{tax.rev}_{i,t} = \hat{\beta}_0 + \hat{\beta}_1 left_{i,t} + \hat{\beta}_2 informal_{i,t} + \hat{\beta}_3 size.govt.coalition_{i,t} + \hat{\beta}_4 growth_{i,t} + \hat{\beta}_5 growth_{i,t-1} + \hat{\beta}_6 primary.balance_{i,t} + \hat{\beta}_7 primary.balance_{i,t-1} + \hat{\beta}_8 public.debt_{i,t} + \hat{\beta}_9 public.debt_{i,t-1} + \hat{\beta}_{10} current.expenditure_{i,t} + \hat{\beta}_{11} current.expenditure_{i,t-1} + \hat{\beta}_{12} growth.social.protection_{i,t} + \hat{\beta}_{13} non.tax.rev_{i,t} + \hat{\beta}_{14} trade.openness_{i,t} + \hat{\beta}_{15} country.size_{i,t} + \alpha_i + u_{i,t}$, where α_i corresponds to country fixed-effects.

Table A11: Tax rates, government ideology, and informal labor market in Latin America 1990-2016. Baseline fixed-effects models (controlling for growth in non-contributory social protection spending)

	(1) CIT rate b/se	(2) PIT rate b/se	(3) VAt rate b/se
Left government	-0.331	-0.551	0.168
	(0.95)	(1.61)	(0.39)
Informal labor	0.015	0.044	0.030*
	(0.04)	(0.06)	(0.02)
Left*informal labor	0.025	0.021	-0.010
	(0.02)	(0.03)	(0.01)
Size govt. coalition	0.260	3.494	0.713
	(1.24)	(2.12)	(0.54)
Growth rate	-0.033	0.073	-0.022
	(0.05)	(0.08)	(0.02)
L.growth rate	-0.016	-0.044	-0.001
	(0.04)	(0.07)	(0.02)
Primary balance	0.240*	0.228	-0.099*
	(0.11)	(0.21)	(0.05)
L.primary balance	0.148	0.374*	0.074
	(0.11)	(0.20)	(0.05)
Total public debt	0.010	0.032	-0.009
	(0.01)	(0.02)	(0.01)
L.total public debt	0.005	-0.013	0.006
	(0.01)	(0.02)	(0.01)
Current expenditure	0.293*	0.342	-0.074
	(0.16)	(0.27)	(0.07)
L.current expenditure	0.167	-0.015	0.168*
	(0.16)	(0.29)	(0.08)
Growth social protection	-0.056	0.228	-0.112
	(0.26)	(0.43)	(0.11)
Non-tax revenue	-0.268*	-0.539***	0.025
	(0.12)	(0.20)	(0.05)
Trade openness	0.006	0.009	0.025***
	(0.02)	(0.03)	(0.01)
Country size	-0.000*	-0.000	0.000
	(0.00)	(0.00)	(0.00)
Constant	21.959***	17.196***	9.707***
	(3.13)	(5.38)	(1.33)
N	143	135	135
R^2	0.273	0.187	0.269

NOTE: *** p<0.01, ** p<0.05, * p<0.1; Primary fiscal balance is not defined as surplus only, therefore, it could have positive and negative values. To estimate these coefficients we use the following fixed-effects model specification $\hat{tax.rates}_{i,t} = \hat{\beta}_0 + \hat{\beta}_1 left_{i,t} + \hat{\beta}_2 informal_{i,t} + \hat{\beta}_3 size.govt.coalition_{i,t} + \hat{\beta}_4 growth_{i,t} + \hat{\beta}_5 growth_{i,t-1} + \hat{\beta}_6 primary.balance_{i,t} + \hat{\beta}_7 primary.balance_{i,t-1} + \hat{\beta}_8 public.debt_{i,t} + \hat{\beta}_9 public.debt_{i,t-1} + \hat{\beta}_{10} current.expenditure_{i,t} + \hat{\beta}_{11} current.expenditure_{i,t-1} + \hat{\beta}_{12} growth.social.protection_{i,t} + \hat{\beta}_{13} non.tax.rev_{i,t} + \hat{\beta}_{14} trade.openness_{i,t} + \hat{\beta}_{15} country.size_{i,t} + \alpha_i + u_{i,t}$, where α_i corresponds to country fixed-effects.

Table A12: Tax policy, government ideology, and informal labor market in Latin America 1990-2016. Baseline random-effects models (controlling for ethnic fractionalization)

	(1) Tax rev. b/se	(2) PIT b/se	(3) CIT b/se	(4) VAT b/se	(5) CIT rate b/se	(6) PIT rate b/se	(7) VAT rate b/se
Left government	1.966***	1.974*	2.799*	-1.480	-0.285	1.143	0.006
	(0.32)	(0.96)	(1.20)	(0.90)	(0.84)	(1.20)	(0.37)
Informal labor	0.032*	0.049	0.153***	0.089*	-0.078*	-0.075	-0.011
	(0.01)	(0.04)	(0.05)	(0.04)	(0.03)	(0.05)	(0.01)
Size govt. coalition	3.301***	-5.015	8.953*	-2.016	4.857	4.803	1.287
	(1.21)	(3.57)	(4.36)	(3.45)	(3.22)	(4.37)	(1.40)
Growth rate	0.169***	-0.226	0.128	0.094	-0.312*	0.025	0.065
	(0.05)	(0.15)	(0.18)	(0.15)	(0.14)	(0.20)	(0.06)
L.growth rate	0.089*	-0.128	0.035	-0.032	-0.206	-0.349*	-0.053
	(0.04)	(0.12)	(0.15)	(0.12)	(0.12)	(0.17)	(0.05)
Primary fiscal balance	0.402***	0.039	1.354***	-0.194	-0.073	1.183*	0.483***
	(0.12)	(0.35)	(0.43)	(0.34)	(0.32)	(0.48)	(0.14)
L.primary balance	0.103	0.105	0.185	0.245	0.217	0.223	0.427***
	(0.12)	(0.34)	(0.43)	(0.35)	(0.32)	(0.48)	(0.14)
Total public debt	0.006	-0.070	-0.028	-0.068	0.002	-0.010	0.012
	(0.02)	(0.05)	(0.06)	(0.05)	(0.04)	(0.06)	(0.02)
L.total public debt	-0.012	0.020	-0.077	-0.032	0.105*	-0.030	-0.014
	(0.02)	(0.04)	(0.05)	(0.05)	(0.04)	(0.06)	(0.02)
Current expenditure	0.740***	0.001	1.205	-0.850	-0.118	-0.357	0.177
	(0.18)	(0.53)	(0.67)	(0.53)	(0.49)	(0.74)	(0.21)
L.current expenditure	-0.070	0.612	-0.149	0.780	0.100	-0.166	0.494*
	(0.19)	(0.53)	(0.67)	(0.53)	(0.49)	(0.76)	(0.21)
Non-tax revenue	-0.136*	-0.909***	-1.426***	0.305	-0.922***	-0.391	-0.379***
	(0.07)	(0.20)	(0.25)	(0.20)	(0.18)	(0.26)	(0.08)
Trade openness	-0.024*	-0.010	0.047	-0.187***	0.009	-0.229***	-0.114***
	(0.01)	(0.03)	(0.04)	(0.03)	(0.03)	(0.04)	(0.01)
Country size	-0.000	0.000***	0.000***	-0.000***	0.000***	0.000***	0.000***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Ethnic fractionalization	-2.134	-3.862	10.145*	-10.531***	13.779***	-2.092	-2.083
	(1.11)	(3.28)	(4.12)	(3.15)	(2.94)	(4.41)	(1.28)
Constant	1.360	1.511	-13.712*	62.668***	22.807***	50.931***	13.487***
	(1.44)	(4.39)	(5.38)	(4.09)	(3.82)	(5.38)	(1.66)
N	166	152	147	166	166	141	166

NOTE: *** p<0.01, ** p<0.05, * p<0.1; Models estimated using a "legalistic" definition of the informal labor market. Tax revenue is measured as percentage of GDP. Personal income taxes, corporate income taxes, and VAT are measured as percentage of total tax revenues. CIT rate = maximum rates; PIT rate = maximum rates; VAT rate = general rates. Primary fiscal balance is not defined as surplus only, therefore, it could have positive and negative values. To estimate these coefficients we use the following random-effects model specification $\hat{tax.outcomes}_{i,t} = \hat{\beta}_0 + \hat{\beta}_1 left_{i,t} + \hat{\beta}_2 informal_{i,t} + \hat{\beta}_3 size.govt.coalition_{i,t} + \hat{\beta}_4 growth_{i,t} + \hat{\beta}_5 growth_{i,t-1} + \hat{\beta}_6 primary.balance_{i,t} + \hat{\beta}_7 primary.balance_{i,t-1} + \hat{\beta}_8 public.debt_{i,t} + \hat{\beta}_9 public.debt_{i,t-1} + \hat{\beta}_{10} current.expenditure_{i,t} + \hat{\beta}_{11} current.expenditure_{i,t-1} + \hat{\beta}_{12} non.tax.rev_{i,t} + \hat{\beta}_{13} trade.openness_{i,t} + \hat{\beta}_{14} country.size_{i,t} + \hat{\beta}_{15} ethnic.fractionalization_{i,t} + u_{i,t} + \varepsilon_{i,t}$, where $u_{i,t}$ corresponds to between-country error and $\varepsilon_{i,t}$ corresponds to within-entity error.

Table A13: Tax policy, government ideology, and informal labor market in Latin America 1990-2016. Baseline fixed-effects models controlling for electoral competition

	(1) Tax revenue b/se	(2) PIT b/se	(3) CIT b/se	(4) VAT b/se	(5) CIT rate b/se	(6) PIT rate b/se	(7) VAT rate b/se
Left government	1.204***	2.338***	2.580***	-1.068	-0.685	0.327	-0.521***
	(0.24)	(0.56)	(0.93)	(0.70)	(0.72)	(0.58)	(0.18)
Informal labor	-0.102***	-0.121**	-0.195**	0.062	0.133*	-0.047	0.020
	(0.02)	(0.05)	(0.09)	(0.07)	(0.07)	(0.06)	(0.02)
Size govt. coalition	1.136	-0.212	-6.610*	0.657	3.285	2.578	1.693**
	(1.03)	(2.40)	(3.99)	(3.03)	(3.09)	(2.37)	(0.79)
Growth rate	0.072*	0.027	0.104	0.144	-0.241**	0.134	-0.064**
	(0.04)	(0.09)	(0.14)	(0.11)	(0.11)	(0.09)	(0.03)
L.growth rate	0.084***	0.005	0.178	0.002	-0.143	-0.067	-0.009
	(0.03)	(0.07)	(0.11)	(0.09)	(0.09)	(0.07)	(0.02)
Primary fiscal balance	0.003	-0.389*	0.298	-0.260	-0.144	0.149	-0.009
	(0.09)	(0.20)	(0.34)	(0.26)	(0.26)	(0.22)	(0.07)
L.primary balance	0.101	0.087	0.102	-0.220	0.329	0.383*	0.064
	(0.09)	(0.20)	(0.33)	(0.26)	(0.26)	(0.21)	(0.07)
Total public debt	-0.007	-0.003	0.023	-0.042	-0.028	0.039	-0.010
	(0.01)	(0.03)	(0.04)	(0.03)	(0.03)	(0.03)	(0.01)
L.total public debt	0.025**	-0.007	0.000	-0.067*	0.057	-0.024	0.013
	(0.01)	(0.03)	(0.04)	(0.03)	(0.04)	(0.03)	(0.01)
current expenditure	0.490***	-0.672**	0.415	-0.544	-0.480	0.279	-0.027
	(0.12)	(0.27)	(0.45)	(0.34)	(0.35)	(0.28)	(0.09)
L.current expenditure	0.172	0.302	-0.297	-0.218	0.837**	-0.236	0.280***
	(0.12)	(0.27)	(0.46)	(0.35)	(0.36)	(0.29)	(0.10)
Non-tax revenue	0.104	0.181	0.637*	-0.004	0.284	-0.542**	0.073
	(0.09)	(0.22)	(0.36)	(0.27)	(0.28)	(0.21)	(0.07)
Trade openness	0.091***	-0.137***	-0.034	-0.043	0.013	0.008	0.037***
	(0.02)	(0.04)	(0.06)	(0.04)	(0.05)	(0.04)	(0.01)
Country size	-0.000***	0.000***	0.000*	0.000	-0.000	-0.000	0.000
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Electoral fragmentation	-0.135	4.670	-14.643***	1.751	-3.926	1.559	2.284**
	(1.35)	(3.09)	(5.35)	(3.96)	(4.04)	(3.17)	(1.02)
Constant	5.106**	7.777	25.175***	53.072***	18.210***	25.495***	5.749***
	(2.27)	(5.59)	(9.28)	(6.65)	(6.79)	(5.36)	(1.70)
N	179	165	160	179	179	154	169
R^2	0.716	0.496	0.409	0.264	0.215	0.151	0.288

NOTE: *** p<0.01, ** p<0.05, * p<0.1; Models estimated using a "legalistic" definition of the informal labor market. Tax revenues are measured as percentage of GDP. PIT, CIT and VAT revenues are measured as percentage of total tax revenues. Primary fiscal balance is not defined as surplus only, therefore, it could have positive and negative values. To estimate these coefficients we use the following fixed-effects model specification $\hat{tax.outcomes}_{i,t} = \hat{\beta}_0 + \hat{\beta}_1 left_{i,t} + \hat{\beta}_2 informal_{i,t} + \hat{\beta}_3 size.govt.coalition_{i,t} + \hat{\beta}_4 growth_{i,t} + \hat{\beta}_5 growth_{i,t-1} + \hat{\beta}_6 primary.balance_{i,t} + \hat{\beta}_7 primary.balance_{i,t-1} + \hat{\beta}_8 public.debt_{i,t} + \hat{\beta}_9 public.debt_{i,t-1} + \hat{\beta}_{10} current.expenditure_{i,t} + \hat{\beta}_{11} current.expenditure_{i,t-1} + \hat{\beta}_{12} non.tax.rev_{i,t} + \hat{\beta}_{13} trade.openness_{i,t} + \hat{\beta}_{14} country.size_{i,t} + \hat{\beta}_{15} electoral.fragmentation_{i,t} + \alpha_i + u_{i,t}$, where α_i corresponds to country fixed-effects.

Table A14: Tax policy, government ideology, and informal labor market in Latin America 1990-2016. Baseline fixed-effects models controlling for year effects

	(1) Tax revenue b/se	(2) PIT b/se	(3) CIT b/se	(4) VAT b/se	(5) CIT rate b/se	(6) PIT rate b/se	(7) VAT rate b/se
Left government	1.542***	-0.654	0.190	-2.882***	0.350	1.420**	-0.407*
	(0.31)	(0.67)	(1.02)	(0.96)	(0.96)	(0.65)	(0.21)
Informal labor	-0.039*	-0.035	-0.111	-0.125*	0.259***	-0.016	0.034**
	(0.02)	(0.05)	(0.07)	(0.07)	(0.07)	(0.05)	(0.02)
1991	-4.718***	-5.989*	-6.104	-10.329**	-8.714*		-2.136**
	(1.54)	(3.33)	(4.90)	(4.74)	(4.99)		(1.06)
1992	-0.941	-1.574	0.525	4.162	3.269	.	1.163
	(1.00)	(2.41)	(3.55)	(3.07)	(3.49)	.	(0.77)
1993	-1.125	-1.609	0.138	6.362*	5.378	-5.408***	0.267
	(1.08)	(2.68)	(3.95)	(3.31)	(3.73)	(2.05)	(0.86)
1994	-1.773	0.906	1.079	2.903	1.532	-6.988**	0.019
	(1.09)	(2.52)	(4.08)	(3.35)	(3.72)	(2.69)	(0.79)
1995	-1.373	1.033	-1.139	2.111	8.097**	-6.114***	1.621**
	(0.98)	(2.34)	(3.54)	(3.01)	(3.42)	(2.07)	(0.75)
1996	-1.031	0.500	2.183	7.983**	0.787	-6.091***	3.366***
	(1.01)	(2.37)	(3.63)	(3.09)	(3.47)	(2.07)	(0.77)
1997	-0.388	0.529	-1.017	3.900	4.502	-1.771	2.717***
	(1.02)	(2.40)	(3.68)	(3.13)	(3.53)	(1.86)	(0.79)
1998	-0.675	1.471	0.882	2.178	2.750	-0.448	2.395***
	(0.92)	(2.32)	(3.50)	(2.83)	(3.24)	(1.56)	(0.70)
1999	-0.242	2.774	2.001	-0.329	4.313	-2.875*	2.321***
	(0.90)	(2.26)	(3.33)	(2.76)	(3.23)	(1.59)	(0.69)
2000	0.398	3.400	-0.080	-1.127	2.550	-1.130	2.311***
	(0.90)	(2.29)	(3.37)	(2.77)	(3.21)	(1.49)	(0.68)
2001	0.371	1.566	1.362	-1.558	4.020	-3.659**	2.905***
	(0.90)	(2.24)	(3.31)	(2.78)	(3.25)	(1.56)	(0.70)
2002	0.803	2.057	2.560	-2.918	4.546	-2.884*	2.894***
	(0.88)	(2.17)	(3.20)	(2.71)	(3.19)	(1.49)	(0.68)
2003	1.167	0.927	1.898	-1.711	4.300	-3.139**	2.900***
	(0.88)	(2.14)	(3.17)	(2.72)	(3.18)	(1.51)	(0.68)
2004	1.871**	0.844	3.216	-1.849	4.934	-3.144*	3.082***
	(0.91)	(2.21)	(3.27)	(2.79)	(3.25)	(1.60)	(0.70)
2005	2.013**	1.392	6.796**	-1.773	2.566	-3.524**	3.083***
	(0.90)	(2.19)	(3.25)	(2.75)	(3.21)	(1.54)	(0.69)
2006	2.409***	1.677	7.228**	-1.633	2.065	-3.820**	3.192***
	(0.87)	(2.16)	(3.20)	(2.69)	(3.13)	(1.47)	(0.67)
2007	2.220**	3.573	8.098**	0.480	1.747	-3.226**	2.727***
	(0.91)	(2.25)	(3.35)	(2.81)	(3.23)	(1.59)	(0.69)
2008	2.477***	4.674**	8.091**	-0.396	1.306	-4.594***	2.746***
	(0.90)	(2.24)	(3.33)	(2.77)	(3.20)	(1.54)	(0.68)
2009	1.772*	5.444**	9.359***	-1.748	1.877	-4.370***	2.876***
	(0.92)	(2.29)	(3.40)	(2.84)	(3.24)	(1.60)	(0.70)
2010	1.780*	4.884**	6.662*	0.682	2.096	-5.099***	3.074***
	(0.93)	(2.30)	(3.42)	(2.85)	(3.22)	(1.62)	(0.68)
2011	1.914**	5.332**	7.911**	-0.271	2.695	-4.443***	2.966***
	(0.93)	(2.32)	(3.46)	(2.87)	(3.25)	(1.63)	(0.69)
2012	2.438***	6.138***	7.893**	-0.851	3.477	-4.275***	3.011***
	(0.90)	(2.25)	(3.35)	(2.78)	(3.18)	(1.56)	(0.67)
2013	2.279**	6.714***	7.306**	-1.372	3.357	-4.038**	2.958***
	(0.96)	(2.38)	(3.54)	(2.96)	(3.33)	(1.69)	(0.71)
2014	2.582***	6.681***	7.341**	-1.756	3.291	-3.681**	3.015***
	(0.91)	(2.27)	(3.37)	(2.80)	(3.20)	(1.60)	(0.68)
2015	2.701***	7.491***	6.642*	-2.105	3.492	-3.911**	2.968***
	(0.94)	(2.34)	(3.47)	(2.90)	(3.29)	(1.64)	(0.70)
N	193	178	173	193	192	164	176
R^2	0.702	0.510	0.496	0.331	0.270	0.260	0.480

NOTE: *** p<0.01, ** p<0.05, * p<0.1; Models estimated using a "legalistic" definition of the informal labor market. Tax revenues are measured as percentage of GDP. PIT, CIT and VAT revenues are measured as percentage of total tax revenues. Primary fiscal balance is not defined as surplus only, therefore, it could have positive and negative values. To estimate these coefficients we use the following fixed-effects model specification: $\hat{tax.outcomes}_{i,t} = \hat{\beta}_0 + \hat{\beta}_1 left_{i,t} + \hat{\beta}_2 informal_{i,t} + \hat{\beta}_3 size.govt.coalition_{i,t} + \hat{\beta}_4 growth_{i,t} + \hat{\beta}_5 growth_{i,t-1} + \hat{\beta}_6 primary.balance_{i,t} + \hat{\beta}_7 primary.balance_{i,t-1} + \hat{\beta}_8 public.debt_{i,t} + \hat{\beta}_9 public.debt_{i,t-1} + \hat{\beta}_{10} current.expenditure_{i,t} + \hat{\beta}_{11} current.expenditure_{i,t-1} + \hat{\beta}_{12} non.tax.rev_{i,t} + \hat{\beta}_{13} trade.openness_{i,t} + \hat{\beta}_{14} country.size_{i,t} + \delta_2 1991 + \ldots + \delta_{15} 2015 + \alpha_i + u_{i,t}$, where α_i corresponds to country fixed-effects.

Table A15: Informality and Electoral Support for the Left

	(1) b/se	(2) b/se
Informal (no ins.)		0.401*
		(0.23)
Self-employed	0.438***	
	(0.15)	
Public Salary	0.617***	
	(0.16)	
Retired	-0.190	
	(0.24)	
Housework	0.169	
	(0.12)	
Student	0.351*	
	(0.19)	
Out of work	0.121	
	(0.15)	
Left	1.607***	1.599***
	(0.21)	(0.21)
Center	0.414***	0.402***
	(0.14)	(0.14)
Rich	0.021	0.050
	(0.20)	(0.20)
Poor	-0.141	-0.146
	(0.11)	(0.10)
Very Poor	-0.333**	-0.334**
	(0.15)	(0.15)
High School	-0.199*	-0.214*
	(0.12)	(0.12)
University	-0.328*	-0.309*
	(0.17)	(0.18)
Middle age	-0.204	-0.226*
	(0.13)	(0.13)
Old	-0.388*	-0.572**
	(0.23)	(0.22)
Constant	12.174***	12.373***
	(0.25)	(0.26)
N	7484	7484
R^2	0.048	0.045

NOTE: OLS Models with robust standard errors, clustered by region, in brackets, based on Latinobarometro 2009; * p<0.01, ** p<0.05, *** p<0.1. The reference category in model 1 is salaried workers in private sector.

Table A16: Pairwise correlation between size of the informal labor market and degree of business coordination

	Business coordination
Size of informal labor market (legalistic definition)	-0.1648*
Size of informal labor market (productive definition)	-0.1488*