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Opting for Exit: Is Informalization a Function of Social Policy Discontent and Lack of Good Governance?

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Abstract

The informal sector challenges economic growth and the abatement of income disparities in developing countries. This study argues that a weak and poorly governed welfare state can increase the informal sector when individuals use it as an exit option from an unsatisfying welfare system. This article explores how the benefit structure of the welfare state and trust in institutions to deliver public goods affect the likelihood of informality. A logistic hierarchical model based on cross-sectional survey data from Latin America and the Caribbean and descriptive panel data from Brazil are used to test the hypothesis. Findings reveal that social policy discontent, low trust, an elitist distribution of welfare benefits and dysfunctional institutions increase the likelihood of being informally employed across the board. However, workers with greater agency, the better educated, seem notably less likely to informalize when social policy benefits are targeted toward their own socio-economic group.

Keywords: informal sector · institutions · Latin America and the Caribbean · preferences · welfare state

1 Introduction

Labor markets in low- and middle-income economies are segmented by the persistent phenomenon of informality. Informal labor is generally defined by the lack of protection and recognition by a legal framework and the vulnerability of the individual in respect to property rights or job security (ILO 2002: 3). The informal sector is conceived as a worrisome phenomenon, as it implies a significant lack of tax revenue, inefficient allocation of resources, lower productivity and, overall, lower economic growth (Perry et al. 2007; Dabla-Norris et al. 2008; Loayza et al. 2009). Moreover, it comes with social exclusion and ‘outsiderness’ from the labor market (Carnes & Mares 2014; Berens 2015a) and lack of political representation (Altamirano 2019).

However, we still know little about what drives individuals to seek work in the shadow economy. The academic debate on tax compliance (see Allingham & Sandmo 1972; Torgler 2005; Saavedra & Tommasi 2007) provides useful evidence on individual tax behavior and serves as a good starting point for considering an individual’s decision to enter the informal employment sector. But the phenomenon differs from mere tax evasion, as informality can also depend on employer discretion and structural hurdles, so that we need to move beyond the tax compliance literature. Regulatory barriers (De Soto 1989; Loayza 1996; Johnson et al. 1998), low institutional quality (Saavedra & Tommasi 2007), the quality of the legal system (Dabla-Norris et al. 2008; Carnes 2014), and low social trust or tax morale (Torgler & Schneider 2009; D’Hernoncourt & Méon 2011) have so far been identified as important factors that increase the informal economy at the macro level. But the analysis of individual level determinants of informalization – that is, working in the informal sector – is still in its infancy (e.g. Torgler 2005; Jonasson 2012; Günther & Launov 2012).

Revealingly subtitled “Exit and Exclusion,” Perry et al.’s (2007) seminal account of informality in Latin America and the Caribbean (LAC hereafter) shed light on the broad heterogeneity of the informal sector and emphasized its dual character. Some workers are voluntary exit seekers, while others are involuntary, structurally excluded workers who would rather be formal. Building on Perry et al. (2007), this study links informality to the welfare state and thereby lays out one avenue through which the informal sector can thrive. I argue that the government’s ability to provide welfare services and the quality of public goods provision influence the likelihood of working in the informal sector. Formal employment comes at the cost of taxation and contributions to the welfare system. If the benefit of the welfare state falls below its costs, if it offers misguided incentives (see Levy 2008, for the Mexican case), or if the state lacks good governance by wasting resources in undemocratic processes, individuals might seek alternative options such as the informal sector – a possible “exit option” à la Hirschman (1970). Thus, discontent with social services might increase the likelihood of ending up in informality when individuals use it as an exit option from an unsatisfying welfare system. The proposed mechanism should mostly apply to those who can voluntarily choose their sector of employment, whom I refer to as potential exit seekers. The question that this article addresses is, therefore, not primarily *why* workers enter the informal economy but, more specifically, whether informal labor is a “vote” against the status quo of a public welfare system that either fails to ease unequal income distribution and high poverty rates or that simply falls short in delivering benefits.

LAC illustrates a labor-abundant region with large informal economies, varying degrees of established welfare systems, and experience with both aspects over a long period of time. Survey data from the Latin American Public Opinion Project (LAPOP 2008, 2010) for 24 LAC countries is used to test the theoretical argument. I distinguish

“exit seekers” from those who have less capacity to choose their sector of employment by their levels of education. Subsequently, I analyze the effect of social policy and state capacity shortcomings on the likelihood of being an informal sector worker for the average individual and for potential exit seekers in particular. To address endogeneity concerns, I present descriptive panel data on switches from formal/non-employed to informal work derived from the 2010 Brazilian Electoral Panel Study (BEPS). Due to the low number of respondents who switch labor-market status, the panel data serves merely as a first illustration of the proposed mechanism.

Findings from the logistic hierarchical regression analysis of the likelihood of informal employment reveal that the more individuals trust state institutions and the better the institutional quality, the less likely they are to be informal sector workers, while a more unequal distribution of welfare benefits, favoring the rich, increases the odds of informality – which lends support to the exit argument. This pattern is further corroborated by descriptive analysis of the BEPS. The overall effects indicate that informality can be conceived as a “vote” against the public system when the welfare state falls short of the individual’s expectations. The well educated, moreover, are particularly sensitive to welfare benefits that accrue to their own income group, with a declining incidence rate of informality the higher the share of social insurance benefits for the top quintile. Findings suggest that welfare state incentives are needed to retrench the informal sector, moving ahead of the general panacea of labor regulation reform as the solution to informal employment. Although an elitist or truncated welfare model seems to matter to keep the well educated attracted to the formal economy, the effects are not sufficiently large to provide an argument against more universal social policy programs. When benefits are distributed more equally, individuals with low or average levels of schooling (who are also more numerous) can be incentivized to enter or remain in the formal sector.

2 Informal Labor and Welfare Services in LAC

The fragmentation of Latin American labor markets can be traced back to the emergence of labor market institutions (Carnes 2014) and the development and reform of welfare systems (Wibbels & Ahlquist 2011). Public transfers have only limited effects on narrowing the gap between rich and poor, as social insurance redistributes income with an upward bias (Lindert et al. 2006; Holland 2018). Contributory social insurance programs protect military staff, civil servants and workers in the formal sector, excluding labor market outsiders (Huber & Stephens 2012). The welfare system is still regressive and truncated, despite heavy investments in conditional cash transfer programs in recent years, targeted toward the poor (Brooks 2015; Carnes & Mares 2014; Holland 2018). As Holland & Schneider (2017) observe, social expenditures have dramatically increased in LAC, but while the expansion of social assistance helps alleviate poverty, it leaves the truncated social insurance system intact.

Employment-related welfare services have supported the stratification of the labor market. A segmented labor market can influence welfare state support at the individual level (Fernández-Albertos & Manzano 2016; Berens 2015a), decreasing support when welfare programs are benefitting only a particular group or when individuals fear the costs of the welfare state are not equally shared. When benefits are denied because of a dysfunctional state and a lack of distributive capacities, or when benefits favor particular groups (because of clientelism, for example), individuals might turn their backs on the public transfer system. Brooks (2009) illustrated how dissatisfaction with the public social insurance system facilitated pension privatization in several Latin American states. Additionally, Levy (2008) revealed how a costly social security system provides incentives for formal workers to informalize, in order to receive the social protection subsidy, instead of paying for social security through income tax. Hence, individuals

respond to the offerings – or missing offers – of the public welfare system. We can therefore expect that the regressive and exclusionary nature of the welfare systems in LAC also influences informality.

3 Baseline of Informality

Risk-taking temperament and personal monetary gains and losses largely explain individual fiscal behavior in high-income economies (see Slemrod & Yitzhaki 2002, for an overview). Fear of punishment is a relevant factor for tax avoidance (Allingham & Sandmo 1972). But, as Alm et al. (1992) emphasize, fear of punishment does not explain why so many individuals comply. Moreover, many informal sector workers in low- and middle-income economies primarily need income to survive, whether this income is subject to taxation or not. Tax evasion requires a deliberate decision not to pay tax (e.g. Allingham & Sandmo 1972; Alm et al. 1992; Slemrod & Yitzhaki 2002; Feld & Frey 2007), but becoming an informal wage earner is not necessarily equivalent to an unwillingness to comply. Employer discretion, lack of skills to qualify for formal jobs, or abundance of labor can exclude workers from the formal economy (Perry et al. 2007).

Maloney (2004) highlights the voluntary nature of informality, arguing that workers choose the informal sector due to higher flexibility and autonomy (see also Perry et al. 2007). Günther & Launov (2012) illustrate, however, that the proportion of informal workers who would achieve higher earnings in the formal sector is larger than it should be according to the theoretical prediction. The discrepancy between the estimated optimal size of the informal sector and its actual size speaks to entry barriers to the formal economy and serves as empirical evidence that informality consists of both voluntary and involuntary parts. Perry et al. (2007) scrutinize both parts, and emphasize that household income, life cycle effects, and the socio-economic background of the family generally

predetermine the chances of finding employment in the formal labor market.

Furthermore, informal micro firms are often run by family members and provide the first job for adolescents in these households (Perry et al. 2007: 51, 60). Individuals who grow up in low-income households lack material support to pursue an educational career that allows them to qualify for formal employment, which usually requires a higher level of education. Additionally, the more dependent workers are on daily wages, the less bargaining power they have toward their employer; we can assume that the likelihood of informal employment rises with increasing poverty (see Günther & Launov 2012). But Perry et al. (2007: 47) equally show that a substantial number of individuals in the informal sector have voluntarily opted for exit, emphasizing that “the two views, exclusion and exit, are complementary rather than competing analytical frameworks.”

3.1 The Argument

Acknowledging the heterogeneity of rationales that determine informal labor, this paper focuses on the drivers of voluntary exit from formal employment. I propose that satisfaction with public welfare goods and good governance of public services are decisive factors for formal versus informal labor. The argument is based on the assumption that individuals gain utility from stable income, as offered in the formal sector, and that utility increases with mounting personal income. Individuals do not only maximize short-term gains (e.g. income) but also future income, which is more certain in formal employment. Formal employment increases the individual’s utility by offering greater income through better-paid jobs (Pagés & Stampini 2009) and job security (e.g. employment contract, legal status, access to unemployment insurance, and so on), albeit at the cost of taxation. In contrast, informal employment comes at the cost of higher vulnerability (regarding legal status and higher transaction costs: see Feige 1990), income

insecurity, and uncertainty about future revenue. On the benefit side, the informal sector provides higher flexibility (Jonasson 2012: 486), possibly social protection coverage through a formally working spouse, and non-tax-paid earnings, which are usually higher than equivalent formal, post-tax wages (Perry et al. 2007). In the long run, employment in the informal economy can be very costly, due to the lack of entitlements to pensions, for instance.

The utility that derives from employment in the formal sector outweighs employment in the informal sector when post-tax income and transfers exceed the level of non-tax income, all else constant. The individual's preference for formal or informal work is therefore affected by the costs of taxation and the gains from welfare benefits or insurance. Moreover, keeping in mind the hurdles to qualify for welfare programs such as contribution-based pensions, which usually require stable employment histories, individuals also discount their chances of eligibility when making choices about the sector of employment. Thus, the general assumption developed here is that individuals gain greater utility from working in the informal sector only when benefits and insurance gains are uncertain, when they are ineligible for welfare programs (see Levy 2008), or costs exceed benefits. Finally, the expected stream of transfers is conditional on how well the individual trusts the state to handle public goods provision.

Social Policy Benefits, Institutional Quality, and Informality

An attractive welfare state can offer an incentive to enter or remain in the formal sector when benefits are employment-related, which increases the utility of formal work.

Attraction encompasses both a generous system of social benefits and a state that is actually capable of providing social services. In a laboratory experiment, Alm et al. (1992) found that it is not only risk aversion that leads to tax compliance, but also the

expectation of public goods as reward for paid contributions. Outside of the laboratory, Torgler & Schneider (2009) reveal that institutional quality significantly affects the size of the shadow economy at the macro level, while Jonasson (2012) finds empirical evidence for this mechanism in Brazil. Similarly, rule of law and the performance of the legal system have been identified as significantly influencing informalization of businesses (Dabla-Norris et al. 2008). A well-functioning institutional system should increase reliance on the state for welfare provision (see Mares 2005), because a more functional and efficient institutional framework is more capable of providing public goods (see also Rothstein 2011). Moreover, a more capable state is also more efficient at restraining free-riders so that public goods can be provided. The greater the expected returns from the welfare state, the larger the utility of formal sector employment. Reliability of good governance is particularly important, therefore, since welfare benefits are usually not immediately distributed after contributions are made (Rothstein 2011).

A more capable state, then, increases the utility of formal sector employment by providing not only immediate benefits, but also certainty of future benefits. Institutional strength encompasses rule of law, lack of corruption, accountability, and political stability, ensuring the generation of public revenue to finance social services, and distributive capacities to deliver social insurance and public transfers.¹ However, it is mostly only individuals of a more privileged socio-economic background that allows them to choose between employment sectors who are equipped to make this sort of cost-benefit calculation. I suggest, therefore, that potential exit seekers – the better educated – should be the most sensitive to institutional capacity.

H1 *Higher institutional quality decreases the likelihood of working in the informal labor market, particularly among potential exit seekers.*

One could oppose this claim with the argument that lower institutional quality simply means that the state is unable to monitor the labor market, which thus facilitates informalization. The mechanism for informality would then be the ease of entry to the informal sector rather, than a vote against a poor welfare system and an incapable state. However, I assume that individuals generally derive greater utility from working in the formal sector as it affords higher job security (employment contracts) and income security (benefits and insurance). Only when individuals pay taxes without receiving a return from the state through the welfare system does the utility of working in the informal sector rise (Maloney 2004; Pagés & Stampini 2009).

Next, *how* welfare benefits are distributed should also make a difference. If the state provides public transfers, we should observe a declining informal sector: such an investment in human resources and insurance against risks should lead, on the one hand, to greater employability and, on the other, to satisfaction with the public system, making exit less attractive.

H2 *Better welfare provision decreases the likelihood of working in the informal labor market, particularly among potential exit seekers.*

However, expanding welfare does not benefit everyone to the same degree. In LAC, social spending is often regressive, so social insurance benefits that are based on contributory systems reach higher-income strata more than the poor (Holland 2018). The poor mostly benefit from the expansion of social assistance programs. We therefore need to take into account who benefits in order to assess the incentives to informalize for potential exit seekers compared to those who may have less discretion over their sector of employment. When the welfare state improves social insurance benefits, the better

educated are less likely to work in the informal labor market, as they would gain from these adjustments when working in the formal sector. In contrast, the poor are more likely to resent an elitist welfare distribution, not only because they are excluded from these benefits due to the regressive nature of the system, but also because a truncated welfare state represents inefficient usage of scarce public resources. Improvements in social policy for the rich are therefore an incentive for the less privileged to work in the informal sector.

H2a *Expansion of social insurance reduces the probability of potential exit seekers working informally, but increases the likelihood that the average individual will do so.*

On the other hand, when the welfare state expands social assistance, we should see less informal labor among the poor, as this is where they benefit. However, as Levy (2008) shows for the Mexican case, non-contributory welfare benefits can also provide an incentive to work informally, because one can simply take both: non-taxed earnings and the welfare benefit. But formal work comes not only with better access to welfare programs, but also with protection through labor law (Berens & Kemmerling, 2019), so that improvements in social assistance can still be an incentive to formal work. The logic established here expects individuals to reciprocate with formal labor when the state provides sufficient benefits and insurance through the welfare state. Assuming that the better educated understand the welfare-maximizing impact for society at large of universal social policy benefits, such as investments in the education and health of the poor (see Rueda & Stegmueller 2016), I expect that benefits for the poor – that is, an efficient usage of public resources – will also offer an incentive to seek or to remain in

formal employment for the potential exit seekers.

H2b *Expansion of social assistance decreases the likelihood of working in the informal labor market, particularly among potential exit seekers.*

3.2 A Note on Causality

A final caveat relates to the direction of the causal mechanism. It is likely that certain factors reinforce each other. An expanding informal sector can be deleterious to public goods provision, because much-needed tax revenue is missing, which then further incentivizes informalization. Moreover, working in the informal sector can change the individual's view of the state. Those who are better off and buy insurance and protection in the private market – health care, for example – might experience higher quality in the private sector and thus become even more dismissive of public solutions. And the more individuals opt for private solutions, the lower the quality of the public system; not only is funding insufficient, but also better-qualified staff will be poached by private providers. For the poor, working in the informal sector might confront them with their vulnerability, being outside the legal framework, and such awareness can further reduce trust in state institutions. The inability to rely on legal protection also makes informal workers more subject to demands for bribery to prevent enforcement, which further damages institutional capacity and quality.²

Torgler & Schneider (2009), too, emphasize that causality is not always clear-cut. A large informal economy also decreases tax morale and governmental quality in the long run, when individuals observe that others do not comply and when the state is deprived of vital resources (see also Perry et al. 2007). There is the risk of a downward spiral, although we do not observe such a decline empirically. It might, though, explain a

developmental stalemate in some countries (Rothstein 2011). Moreover, in order to foster economic growth, Latin American countries have invested in human capital by increasing expenditure on primary and secondary education in the last two decades (Lloyd-Sherlock 2009; Holland & Schneider 2017), so that the informal sector is less likely to debilitate the welfare system despite its negative externalities.

Furthermore, Loayza et al. (2009), Friedman et al. (2000), and Torgler & Schneider (2009) find empirical support for the proposed causal trajectory of the impact of institutional quality on informality at the macro level, with carefully specified models for different time points that consider reversed causality; and Jonasson (2012) provides empirical evidence for the suggested mechanism at the micro level for the case of Brazil. These findings strongly increase confidence in the proposed causal direction. To trace the causal trajectory, in the robustness section below I make use of BEPS, which allows perceptions of governmental service provision and performance to be related to switches from formal/non-employed to informal labor for a limited set of respondents.³

4 Empirical Setup

The dependent variable, being a self-employed informal, is measured with survey data from the Latin American Public Opinion Project (LAPOP) for the years 2008 and 2010 for 24 LAC countries.⁴ I concentrate the analysis on informals who consider themselves as informally self-employed, going back to Hart's (1973) classification of informals by their status of self-employment and simultaneous lack of contribution-based benefits (health insurance), following Berens (2015b) and Baker & Velasco-Guachalla (2018).⁵ Information on the respondent's enrolment in social insurance programs is only surveyed in LAPOP 2008 and 2010, so the analysis is restricted to these two periods. I code respondents as informal sector workers when they identify as self-employed in the

employment status question (ocup1a) and answer ‘no’ to the question which asks how far the respondent is enrolled in a health care plan (ocup1c in 2008 and sal1 in 2010).⁶ All others are in the 0 category, so that the DV measures informal workers versus the rest of the population.⁷

The study is predominantly about the likelihood of being in one or the other sector, as the available data does not allow investigating the point of transition.⁸ I acknowledge that this is an imperfect measure of informality which omits some informal workers, such as many women who do manual work while taking care of their children and probably consider themselves housewives rather than informal self-employed, leading to misreporting in the survey. But Loayza & Rigolini (2011) support the operationalization of informals with the use of the self-employment survey category, as the group of self-employed informals accounts for a high proportion of informal workers (see also Maloney 2004).

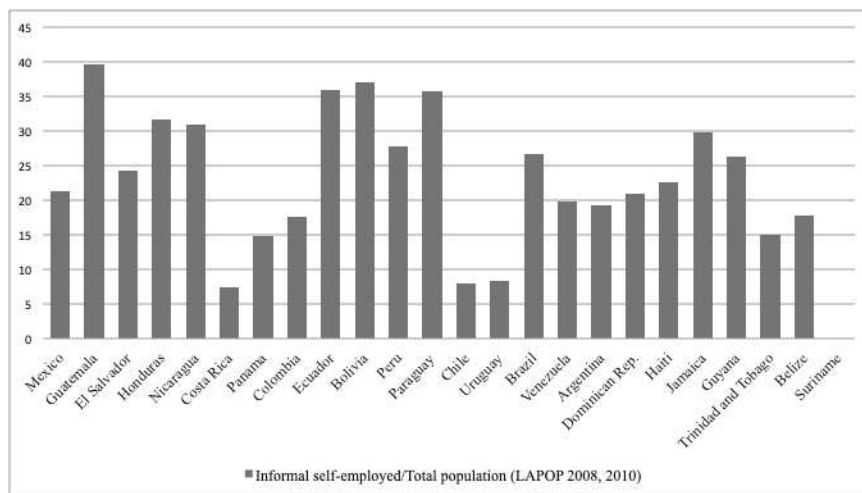


Figure 1. Self-Employed Informal Workers as Percentage of Total Workforce

Figure 1 illustrates the percentage of self-employed informal workers in the total population based on the LAPOP survey data. The measure positively correlates with ILO (2018) data on informal workers as a percentage of the active working population

($p=0.893$).

To identify the cut-off point distinguishing voluntary and involuntary informal workers (the point at which level of education allows more choice between informal and formal employment), I apply an empirical solution by estimating the model for the full sample and adding a squared term for years of education. The predictive marginal effects plot of education and education squared, which controls for the non-linearity effect of education (see Figure 2 below), illustrates the education effect and empirically qualifies the choice of the cut-off point *complete secondary education* (13 years of education and more), as further discussed below.

As reasons for entering the informal sector need to be identified at the micro as well as at the macro level, I employ a hierarchical logistic regression model.⁹ Observations are not independent, but cluster within countries, so that a hierarchical model is statistically recommended (Steenbergen & Jones 2002). As a robustness test, I make use of BEPS (Ames et al. 2013), conducted in 2010 around the presidential elections with three waves (March/April, $N=2,482$; August, $N=908$; November, $N=1,221$); only the first two waves contain the occupation status item needed to identify informal sector workers. The time between the first two waves is short (approximately four months), hence it is not surprising that the number of respondents who switched from formal/non-employed to informal sector worker is small.¹⁰ The dependent variable is now the change from formal/non-employed in wave 1 to informal labor in wave 2. Moreover, as a robustness test, I replicate the LAPOP analysis with data from the Latinobarometer 2009 and 2010, which contains similar items at the individual level. Estimation results (provided as an online appendix) generally support the LAPOP results.

4.1 Independent Variables: Welfare Provision and Quality of Institutions

The World Bank's Atlas of Social Protection Indicators of Resilience and Equity dataset (ASPIRE) provides estimations on the benefit incidence of social insurance and social assistance by income quintiles as percentages of the benefits incidence to the total population (see Holland 2018).¹¹ Information on social insurance and social assistance recipients originate from household surveys. Social insurance refers to contribution-based programs. Social assistance includes universal programs and also conditional cash transfers (CCTs).

I consider the benefit incidence of social insurance going to the top quintile (*SI benefit Q5*) relative to the social insurance incidence of the population and the respective measure for the share of social insurance received by the lowest quintile (*SI benefit Q1*). I also use the percentage of social assistance benefits received by the lowest quintile (*SA benefit Q1*) as a control, since the welfare state often deploys both social insurance and social assistance programs. An increase in social assistance benefits to the poor reflects a more generous targeted, means-tested welfare system (rather than universalism, since very few countries have universal social policy programs like Bolivia's), whereas an increase in *SI benefit Q5* shows that the country fosters welfare programs that redistribute heavily to the better off. The distinction between social insurance and social assistance across income groups allows for testing whether the better educated link their decision to enter the informal sector to welfare state generosity that maximizes social welfare in general (that is, an increase in *SA benefit Q1* or *SI benefit Q1*), or only to welfare benefits that accrue to their income group (*SI benefit Q5*).¹²

To measure institutional quality and, thus, the capacity of the state to deliver public goods, I use data from the World Bank's Worldwide Governance Indicators (WGI) (see also Torgler & Schneider 2009). The indicators measure several dimensions of the state:¹³ control of corruption, rule of law, regulatory quality, voice and

accountability, political stability, and government effectiveness (Kaufmann et al. 2010). I use principal component analysis (PCA) to reduce the six indicators to a single dimension that reflects the underlying *institutional quality*.

Finally, I factor in how individuals perceive the performance of the state in providing public goods, as objective and perceived performance might differ. I use the individual's stated trust in public institutions and the state in general as indicators for perception of state capacity. LAPOP employs a battery of items on trust in public institutions, covering the state's executive, judiciary and legislature.¹⁴ High levels of trust in these diverse institutions should be closely correlated with a general belief that the state is capable of delivering social benefits. As the answer categories range from 1 to 7, again I employ PCA to reduce the answers to one dimension of general institutional trust.¹⁵ In addition, aggregated data does not tell us how satisfied individuals are with what they receive, so we need a measure at the individual level. LAPOP asks about satisfaction with a broad set of public goods (LAPOP items sd1-sd12). I focus on public goods related to the welfare state (education, health care, and housing), and combine the information (the answer categories are yes/no) to a single indicator (called *public goods dissatisfaction*; higher values indicate more dissatisfaction) through multiple correspondence analysis (MCA.) However, this information is only available for LAPOP 2008. In order to control for general service satisfaction in both survey years, I make use of a more general question on satisfaction about services provided by the municipality (SGL1) as a proxy for the public goods dissatisfaction variable in further model specifications.¹⁶

4.2 Estimation Model

The dependent variable is a dichotomous measure, so a logistical model is applied. I use a

varying-intercept hierarchical model, allowing the intercept to vary across countries. The dependent variable reflects the likelihood of being a self-employed worker in the informal sector. Following the notation used in Gelman & Hill (2007), I specify the model for $i=1, \dots, I$ (individuals) and $j=1, \dots, J$ (countries) as follows:

$$\Pr(y_i = 1) = \text{logit}^{-1}(\alpha_j + \beta_1 X_i + \beta_2 K_i + \beta_3 U_j)$$

$$\alpha_j \sim N(\gamma_0^\alpha + \gamma_1^\alpha Z_j + \gamma_2^\alpha U_j, \sigma_\alpha^2)$$

Micro-level independent variables (trust in institutions and welfare goods satisfaction) are demonstrated by K and X is a vector of micro controls. The vector Z reflects a set of independent variables at the macro level: institutional quality and welfare indicators. U illustrates a vector of macro control variables and σ is the standard deviation of the country-level errors. I add an interaction term for the ‘exit seekers’ and the respective independent variables K and X .

4.3 Micro Controls

I measure income by the possession of a number of assets, as has become standard in studies on developing countries. With this information I create a wealth index using MCA (for a discussion, see Filmer & Pritchett 2001). Higher values reflect higher wealth. Education is operationalized with a measure for years of education. Alongside socio-demographic characteristics such as gender (female), age, urban/rural, and marital status (married), I include an attitudinal control variable measuring social trust (dummy variable) in the robustness section.¹⁷ D’Hernoncourt & Méon (2011) revealed that trust in others increases tax compliance, so this, too, could be a factor mitigating informalization.

4.4 Macro Controls

For robustness tests I add a measure for rigidity of labor law (Heritage Foundation 2010).

Higher values reflect less labor protection and, thus, lower entry barriers for informal workers (see Saint-Paul et al. 1996). Moreover, it is a classical argument in the tax compliance literature that the tax rate matters for individual fiscal behavior (Hatipoglu & Ozbek 2011), because taxation influences net income. I use Gómez Sabaini & Jiménez's (2012) tax burden indicator (2008/2009 average). Finally, informalization is influenced by the general demand for labor. If unemployment rates are high, formal employment is more difficult to find, due to the abundance of labor. A context of low labor demand therefore also reflects a context of low bargaining power for the individual. In this vein, a large informal economy that is already established can facilitate employment in the informal labor market. Information on unemployment rates (World Bank; see Table S3) and a measure of the informal economy from Schneider et al. (2010) are used (for 2007, latest available data). The variable captures the wealth that is generated in the informal sector. Descriptive statistics and estimation results are displayed in the online supplementary material and briefly discussed below.

5 Results

Table 1 shows estimation results on the likelihood of being an informal worker with logistic coefficients. Starting with the analysis of public goods satisfaction and confidence in the government at the individual level, I find support for Hypothesis 1 and limited support for H2 regarding the effect on the average individual. Dissatisfaction with public service provision exerts a positive impact on the average respondent's likelihood of being an informal sector worker at the 1% level of significance (M3). A similar, reverse, effect is detected for trust in institutions. The probability of working in the informal sector significantly decreases when trust in public institutions is high (M5). I plot the coefficients as predicted probabilities in Figure 2 with 95% confidence intervals

to allow for a substantive interpretation of the results. Confidence intervals overlap for the dissatisfaction measure (panel (a) in Figure 2) so that we do not find large differences between highly satisfied or highly dissatisfied individuals; the differences are not significant, but the average effect is different from zero. Regarding institutional trust, the likelihood of being in the informal sector declines from roughly 30% for individuals who have no confidence in institutions to 20% for those who express high levels of trust (panel (b) in Figure 2).

Table 1: Logistic hierarchical regression: Likelihood of informality and individual attitudes

	(M 1)	(M 2)	(M 3)	(M 4)	(M 5)	(M 6)
DV: informal worker						
Micro predictors						
Years of education	-0.057*** (0.003)	0.094*** (0.010)				
Years of education ²		-0.009*** (0.001)				
Higher edu			-0.694*** (0.054)	-0.776*** (0.038)	-0.707*** (0.055)	-0.776*** (0.038)
Female	-1.359*** (0.023)	-1.357*** (0.023)	-1.444*** (0.036)	-1.339*** (0.026)	-1.444*** (0.036)	-1.339*** (0.026)
Age	-0.005*** (0.001)	-0.002* (0.001)	-0.000 (0.001)	-0.000 (0.001)	-0.000 (0.001)	-0.000 (0.001)
Urban	-0.082** (0.026)	-0.101*** (0.026)	-0.180*** (0.041)	-0.132*** (0.029)	-0.180*** (0.041)	-0.132*** (0.029)
Wealth indicator	-0.265*** (0.013)	-0.254*** (0.014)	-0.249*** (0.020)	-0.291*** (0.014)	-0.248*** (0.020)	-0.291*** (0.014)
Married	0.244*** (0.024)	0.229*** (0.024)	0.242*** (0.038)	0.236*** (0.027)	0.242*** (0.038)	0.236*** (0.027)
Public service dissatisfaction			0.053** (0.018)		0.044* (0.019)	
Trust in institutions				-0.071*** (0.006)		-0.071*** (0.006)
Interaction terms						
Higher edu x Pub. service dissatisf.					0.063 (0.049)	
Higher edu x Trust in institutions						0.000 (0.017)
2010	0.121*** (0.023)	0.115*** (0.023)		0.115*** (0.025)		0.115*** (0.025)

Constant	1.144*** (0.185)	0.497* (0.194)	0.841*** (0.162)	1.011*** (0.128)	0.839*** (0.162)	1.011*** (0.128)
Random effects parameters						
Var (constant)	0.675** (0.236)	0.721** (0.251)	0.230** (0.081)	0.190** (0.062)	0.230** (0.081)	0.190** (0.062)
N Level 1	53873	53873	21486	40933	21486	40933
N Level 2	24	24	17	20	17	20
Log-likelihood	-25422.59	-25284.04	-10287.96	-20096.87	-10287.13	-20096.869
Chi ²	4458.75	4625.46	1990.75	3784.28	1990.19	3784.34
BIC	50943.2	50677.0	20665.7	40299.9	20674.0	40310.6

Sources: LAPOP 2008, 2010; World Bank, WDI 2018, ASPIRE 2018.

Note: +p<0.10, *p<0.05, **p<0.01, ***p<0.001; Standard errors are in parentheses. Observations for public service dissatisfaction are only available for 2008. Information for institutional trust is missing for SUR, HIT, PAN and CRI.

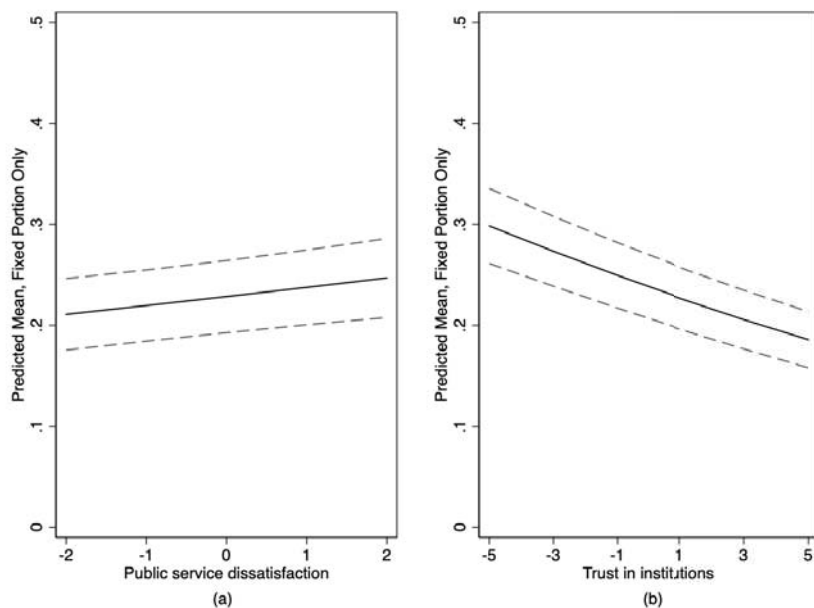


Figure 2. Predicted Probabilities for Table 1 M3 and M4; *Source:* LAPOP 2008, 2010

In line with the exclusion argument, findings also support the expectation of an influential education- and wealth-effect. Lack of income and schooling strongly increase the likelihood of informal labor, which is consistent with household survey evidence from LAC (see Perry et al. 2007). In Figure 3, I plot the predicted probabilities for the

squared education term¹⁸ with 95% confidence intervals, in order to determine the cut-off point that distinguishes potential exit seekers from the less privileged.¹⁹ The slope declines most steeply and falls below the value of the illiterate at the point of completed secondary schooling, so that appears to be a reasonable cut-off point (respondents with 13 years of education and above).²⁰ The less well educated are, in any case, always more likely to be informal sector workers than the better educated, as shown by the coefficient for the dichotomous variable *high edu* in M3 and onwards.

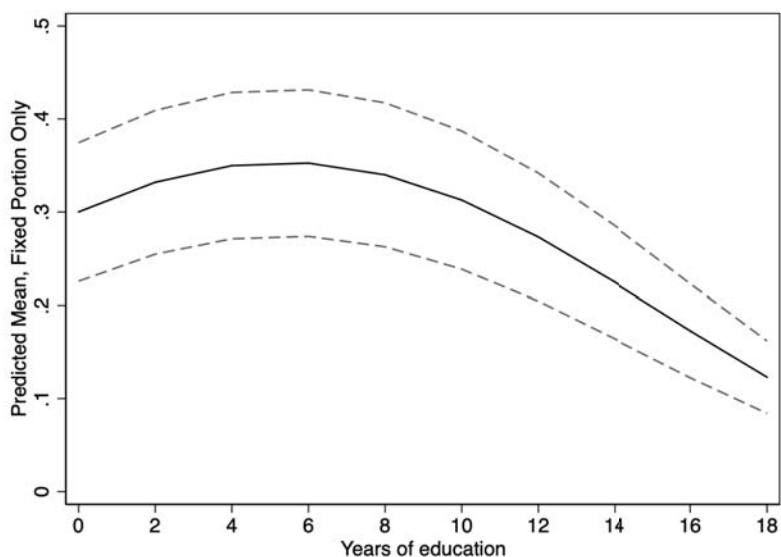


Figure 3. Predicted Probabilities at Different Levels of Education, Table 1, M2

Source: LAPOP 2008, 2010

In contrast to the theoretical expectation, there is no significant difference between the well educated and those with less schooling at different levels of dissatisfaction with public goods provision or institutional trust with regard to the likelihood of informal labor. Both interaction terms (M5 and M6) are insignificant. Negative perceptions of public goods provision and distrust in the state as a capable provider increase the odds of working in the informal sector across the board. While

socio-economic characteristics are highly determinant for informality, discontent with social policies and lack of institutional trust are equally important for the less well educated, illustrating more discretion among the less privileged than initially expected, and providing further support for Perry et al.'s (2007) proposition that exit and exclusion are “complementary.”

Table 2 displays the results for context effects. I visualize the predicted probabilities for the context effects from M7 to M9 in Figure 4 (a–c). The histogram shows the distribution of the macro level variable in the sample. An elitist, truncated social insurance system, which disproportionately benefits the top 20% in society, increases the chances of informality for the average respondent, as shown in panel (a). By comparison, the larger the share of social *assistance* received by the lowest quintile, the lower the probability of informality, but the effect is not significant (see also Figure 4 panel (b)). An increase in social insurance for the lowest quintile surprisingly indicates a positive correlation with the likelihood of informal sector employment, but it has to be noted that only a very small fraction of social insurance goes to Q1 (0– 6%; see panel (c) in Figure 4), compared to the scale of SI benefits accruing to Q5 (30–85%).

Thus, small improvements in social insurance for the lowest income group first of all reduce the attractiveness of the formal sector, because, as Maloney (2004: 1165) emphasizes, “we have to remember that social protections are not free.” Coverage by social insurance requires regular payroll contributions and these can be very costly in the low-income sector where turnover rates are high (and therefore it is more difficult to claim an insurance benefit), and the level of benefits still remains too low to equal the costs of mandatory contributions. This might explain why improving social insurance for the poor meets in its early stages with an increase in informality. Regarding the effect of actual governmental performance (*institutional quality*), a better institutional framework

strongly decreases the likelihood of informal working at the 0.1% level of significance

(M9) for the average respondent (see Figure 4 panel (d)).

Table 2: Logistic hierarchical regression: Likelihood of informality, welfare provision and institutional quality

	(M 7)	(M 8)	(M 9)	(M 10)	(M 11)	(M 12)	(M 13)
DV: informal worker							
Micro predictors							
Higher edu	-0.741*** (0.037)	-0.733*** (0.037)	-0.775*** (0.035)	-0.218 (0.195)	-0.849*** (0.050)	-0.595*** (0.087)	-0.736*** (0.036)
Female	-1.392*** (0.025)	-1.393*** (0.025)	-1.349*** (0.023)	-1.393*** (0.025)	-1.396*** (0.025)	-1.392*** (0.025)	-1.350*** (0.023)
Age	-0.001 (0.001)	-0.001 (0.001)	-0.001+ (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001+ (0.001)
Urban	-0.106*** (0.028)	-0.090** (0.028)	-0.108*** (0.026)	-0.104*** (0.028)	-0.087** (0.028)	-0.107*** (0.028)	-0.107*** (0.026)
Wealth indicator	-0.269*** (0.014)	-0.290*** (0.014)	-0.274*** (0.013)	-0.269*** (0.014)	-0.290*** (0.014)	-0.270*** (0.014)	-0.275*** (0.013)
Married	0.211*** (0.025)	0.196*** (0.026)	0.227*** (0.024)	0.210*** (0.025)	0.195*** (0.026)	0.211*** (0.025)	0.226*** (0.024)
Service satisfaction	-0.168*** (0.026)	-0.178*** (0.026)	-0.167*** (0.025)	-0.168*** (0.026)	-0.178*** (0.026)	-0.168*** (0.026)	-0.166*** (0.025)
Macro predictors							
SI benefits Q5	0.013* (0.005)	0.024** (0.008)		0.014** (0.005)	0.024** (0.008)	0.013* (0.005)	
SA benefits Q1	-0.002 (0.002)			-0.002 (0.002)		-0.002 (0.002)	
SI benefits Q1		0.140** (0.047)			0.126** (0.047)		
Institutional quality			-0.360*** (0.080)				-0.368*** (0.080)
Interaction terms							
Higher edu x SI benefits Q5				-0.008** (0.003)			
Higher edu x SI benefits Q1					0.098*** (0.027)		
Higher edu x SA benefits Q1						-0.005+ (0.003)	
Higher edu x Instit. quality							0.059*** (0.017)
2010	0.113*** (0.026)	0.079** (0.028)	0.136*** (0.023)	0.113*** (0.026)	0.077** (0.028)	0.114*** (0.026)	0.135*** (0.023)
Constant	0.149	-0.773	0.746***	0.064	-0.766	0.137	0.744***

	(0.385)	(0.596)	(0.192)	(0.386)	(0.596)	(0.385)	(0.193)
Random effects parameters							
Var (constant)	0.244**	0.355**	0.741*	0.244**	0.353**	0.245**	0.744*
	(0.081)	(0.123)	(0.324)	(0.081)	(0.122)	(0.082)	(0.326)
N Level 1	45610	44820	53873	45610	44820	45610	53873
N Level 2	19	18	24	19	18	19	24
Log-likelihood	-22011.00	-21365.29	-25277.55	-22007.35	-21358.82	-22009.30	-25271.98
Chi ²	4242.92	4121.30	4684.86	4244.76	4244.83	4128.90	4690.7436
BIC	4177.3817	4086.5091	4630.6706	4178.9836	4091.6456	4179.8242	4635.2132

Source: LAPOP 2008, 2010; World Bank, WDI 2018, ASPIRE 2018.

Note: +p<0.10, *p<0.05, **p<0.01, ***p<0.001; Standard errors are in parentheses. Observations for *SI benefit Q5* are missing for Colombia in 2008 and 2010 and in 2008 for Jamaica. *SI benefit Q1* is missing for Venezuela, Haiti, Guyana and in 2008 also for Colombia. *SA benefit Q1* is missing for Venezuela, Haiti, Jamaica, and for 2008 in Colombia and Uruguay. Belize is an outlier in *SI benefit Q1* with a value of 19% and excluded in M8 and M10.

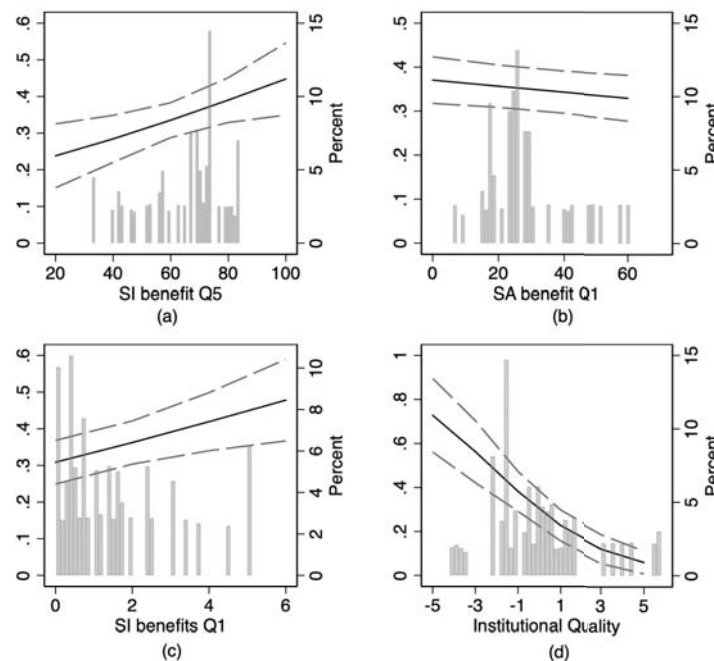


Figure 4. Predicted Probabilities, Table 2 M7–M9

Source: LAPOP 2008, 2010; World Bank, ASPIRE 2018

The predicted probabilities for institutional quality in Figure 4(d) show that the slope is steadily declining, meaning that the probability of being informally employed

declines from above 70% with increasing institutional quality to 8%. The findings particularly speak for the mechanism proposed in Hypothesis 2a: that a more exclusive welfare state raises the likelihood that the average individual will work in the informal sector, whereas improvements in institutional capacity to provide public goods reduce the odds. However, better welfare provision for the poor (*SA benefits Q1*) does not significantly alter the probability of informality, contradicting Hypothesis 2b.

Turning toward the interaction term between the context factors and respondents with high levels of schooling reveals that the well educated are, to a limited extent, responsive to welfare state returns. Figure 5 plots the average marginal effect (AME) for the highly educated at different levels of the respective welfare state indicator and institutional quality. The AME displays the change in the incidence rate of being an informal sector worker when moving from less or averagely educated (0) to the highly educated group (1). When the individual reaches a high degree of schooling, the odds of being an informal sector worker significantly decline the more social insurance benefits cluster in the highest quintile (Table 2, M10, Figure 5, panel (a)). An elitist social insurance structure, then, reduces the likelihood of informality among potential exit seekers.

The pattern is reversed for an increase in social insurance benefits in Q1 (M11, Figure 5 panel (c)). Here, moving into the highly educated group increases the likelihood of being in the informal sector, but the odds are still negative. The average marginal effects are all below 0, so the probabilities of being in the informal sector for the highly educated only move between less unlikely (approaching 0) and more unlikely (more negative values) at different levels of welfare generosity or institutional quality. This might be driven by the fact that the odds of the well educated being in the informal sector are consistently lower compared to others. The positive slope for the AME at higher

levels of institutional quality (Figure 5, panel (d), is in stark contrast to theoretical expectations. The marginal effect is most negative for the highly educated when institutional quality is poor, but the AME also only approaches 0 at the highest level of institutional quality.

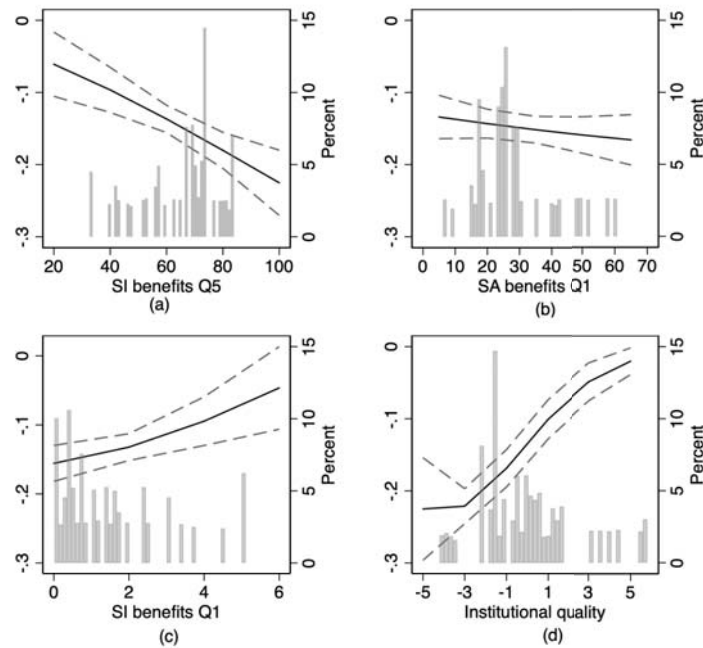


Figure 5. Average Marginal Effect for *High edu* at Different Levels of *SI benefit Q5* (a) and *SA benefit Q1* (b), *SI benefit Q1* (c), and *Institutional Quality* (d) (Table 2 M10–13) *Source:* LAPOP 2008, 2010; World Bank, WDI 2018, ASPIRE 2018

To briefly reflect on the control variables, I find a negative effect for female on the likelihood of being a self-employed informal. This is not surprising when we consider the measurement of informality in this analysis. Not all women who work in the informal sector are captured by the measurement of informal employment as applied here; many women identify as housewives and therefore end up in the 0 category of the DV. The gender coefficient therefore needs to be interpreted with caution. Being married increases the likelihood of informality, which might be driven by the fact that many households are

mixed in type, with one formal worker and an informal spouse (Perry et al. 2007).

To summarize, the findings imply that lack of institutional capacity and individual trust in institutions and an insufficient, elitist welfare system go in line with an increased likelihood of informality for the average individual. I do not find a substantive effect for public goods dissatisfaction. I find only limited effects when distinguishing between individuals with more or less bargaining power; the predicted probabilities for both groups run in parallel, refuting this part of Hypotheses 1, 2 and 2b.

5.2 Sensitivity Tests

In order to assess the stability of the findings, I add further macro-level variables that have been identified as theoretically relevant factors: tax burden, size of the informal economy, and rigidity of labor law that increase barriers to entry (estimation results are only displayed in the online supplementary material). The effects for institutional trust and welfare satisfaction at the individual level remain robust when further macro controls for labor demography are added (see Tables S2 and S3).²¹ The findings for the interaction terms also remain substantively unchanged.

A higher tax burden increases the likelihood of informal work, but the effect is barely significant. A larger informal economy does not significantly influence the likelihood of informal work, whereas an increase in the unemployment rate negatively does so. This makes sense, factoring in that the unemployed are coded as part of the non-employed population. In addition, more flexible labor law, as designated in the Heritage Foundation's (2010), 'freedom of labor' index, goes along with a lower likelihood of informal work. Finally, one could argue that individuals opt for formal employment in times of increased economic vulnerability. The effects for attitudinal measures, institutional quality and the interaction terms remain robust to the inclusion of trade

openness and GDP per capita.²² Adding an individual-level control variable for social trust does not alter the main findings. More trusting individuals are less likely to be informal. Moreover, the main findings are corroborated by the estimation results with data from the Latinobarometer (see Tables S9 and S10).²³

5.3 Panel Survey from Brazil

Finally, to reduce endogeneity concerns regarding the direction of the effect, I test how far the pattern revealed above holds when we can study actual transitions in labor market status. BEPS 2010 contains two consecutive waves which survey the respondent's employment status (Ames et al. 2013). I classify workers as informal based on the employment categories self-employed/own account worker, and only code them as informal when the respondent indicates that he/she does not contribute to a pension plan, in order to exclude formal professionals from this group (all others are coded as formal/non-employed workers). Only 73 respondents switch from non-employed/formal to informal, which is not surprising given the short time period of observation. However, it has to be kept in mind that some respondents identified as formal workers or non-employed might have switched to informality immediately after the survey, so the DV is censored (this also holds for the cross-sectional analysis), requiring more complex analytical techniques, such as a hazard model, to properly test the theoretical argument. Due to the low variation and the brevity of the available panel observations, I only present simple correlations instead of specifying a regression model, which might be over-demanding of the data structure.

I use responses to a battery of items which investigate the respondent's perception that the government fights poverty (n1), corruption (9), unemployment (n12), promotes democracy (n3), the economy (n15), and improves security (n11) (answer

categories range from 1=not at all to 7=a lot). The latent dimension of government effectiveness is captured as a single indicator through PCA.²⁴ The correlation between labor-market “switchers” (the government effectiveness indicator is only available for 60 of the 73 respondents) and a positive perception of government effectiveness is $\rho = -0.08$ and significant at the 5% level. The simple cross-table (Table 3), using a dichotomized indicator for positive perception of government performance versus a less positive perception, shows that more of those who switched from formal/non-informal to the informal sector think that the government is not very effective (81.7%) compared to non-switchers (74.1%). These findings are in line with the estimation results based on LAPOP and LAB data.

Table 3: Cross-table for Switching to Informality and Government Performance

		Government performs well		
		No	Yes	Total
Switch to informal	No	446 74.09%	156 25.91%	602 100%
	Yes	49 81.67%	11 18.33%	60 100%
Total		495 74.77%	167 25.23%	662 100%

Source: BEPS 2010 (waves 1 and 2)

6 Conclusion

The article set out to elicit the extent to which working in the informal sector is a function of social policy discontent and lack of good governance by the state. I advance the micro foundation of informal labor markets by including institutional context and testing the exit rationale, which allows for decision-making freedom in employment sector choices. Many low- and middle-income countries pursue regressive and exclusive welfare programs (Huber & Stephens 2012), which benefit only particular groups in society and

provide no certainty of support in times of need (Holland 2018). As the analysis revealed, shortcomings in a country's social policy and capacity to provide can be a distinct part of the explanation for the persistent informal sector.

The contribution of the analysis is twofold. First, it finds support for the intuition that informal labor is to some degree a “vote” against the state. Mistrusting the state to be a reliable provider, a dysfunctional institutional framework, and an elitist welfare state increase the likelihood of informality. Second, to understand the development and growth of the informal sector, the analysis proposed that we need to distinguish voluntary from involuntary informality. As recent work from Baker & Velasco-Guachalla (2018) and Berens (2015b) has shown, there is little empirical evidence of a cleavage between informal and formal sector workers – both groups have similar social policy preferences. Some of this missing evidence for dualization might be related to the treatment of informal sector workers as a homogenous group. However, findings confirm that individuals across the board take the welfare state structure and institutional quality into account.

To reduce the informal sector, it is important to reform rules and regulations which are certainly decisive barriers to the formal labor market (De Soto 1989; Loayza 1996; Johnson et al. 1998; Djankov et al. 2002). But, challenging existing accounts of informality, the analysis shows that, in order to counter individuals' endeavors to work informally, a strategy based on positive incentives is required, increasing the utility to them of formal employment. This involves a welfare state that accepts fragmented employment histories without punishing the individual by loss of eligibility (see Levy 2008). Moreover, governments need to reliably provide income security via universal social insurance and welfare services that are not undermined by corruption, clientelism, or mismanagement, so that individuals have an incentive to opt for the formal labor

market. While the well educated might be more likely to enter informality when welfare programs become more generous toward lower-income groups, the size of the effect is not sufficient to pose a threat. In contrast, an elitist social policy incentivizes the average individual to be informal, so more inclusive welfare benefits could effectively convince this group to enter or remain in the formal sector.

Research on informalization as applied here is, however, limited so far by the lack of observations over time so that we cannot study the actual point of transition. Ideally, we need panel data observing individuals over a longer period of their employment history, so that we can study the decision-making process and also multiple transitions between the formal and informal labor markets during the individual's life cycle. These are important requirements for future research and data-collection efforts.

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Notes

¹ Public goods provision also encompasses a political dimension: how parties design and implement social policies. But I refrain from focusing directly on party performance, because what matters is governmental performance on public goods provision over the long term. I therefore make use of social policy output measures.

² I would like to thank an anonymous reviewer for this thought.

³ Panel surveys are still rare in Latin America and the few existing ones, such as the Mexican Election Panel Studies or the Argentine Panel Election Study (APES), are not sufficiently equipped to study the proposed argument.

⁴ The pooled LAPOP 2008 and 2010 survey sample covers the following countries: MEX, GTM, ELS, HDN, NIC, CRI, PAN, COL, ECU, BOL, PER, PAR, CHL, URY,

BRA, VEN, ARG, RDO, HIT, JAM, GUY, TTP, BLZ and SUR.

⁵ I use the health insurance item since it appears in both waves. Information on the respondent's possession of a pension plan (*pen1*) was only surveyed in 2010. In order to rule out misclassification of informality, I re-estimate the models with the DV based on the identification of informal workers by the lack of a pension plan. The results for the individual-level variables remain robust; the interaction terms for *high edu* and *SI benefits Q5* and *high edu* and *institutional quality* are, however, not significant in these specifications (see Table S7 in the online supplement).

⁶ LAPOP asks: "Do you have health insurance through your employer?" (*ocup1c*) in 2008. The item changed slightly in 2010 with an additional question (*sal2*) on type of health insurance plan. I exclude the self-employed who have a private insurance plan.

⁷ To test the robustness of the model, I also test informal versus the non-informal working population, excluding the non-employed. The findings remain substantially unchanged and are available in the supplementary material (Table S6).

⁸ Respondents are not asked about their previous employment status, so we cannot identify previous employment in either the formal or informal sector.

⁹ The intra-class coefficient (ICC) is 0.21.

¹⁰ The operationalization is discussed in Section 5.3.

¹¹ The benefit incidence measures the "[p]ercentage of benefits going to each group/quintile of the post-transfer (or pre-transfer) welfare distribution relative to the total benefits going to the population" (World Bank, ASPIRE 2018). I use the post-transfer values.

¹² In order to test the interaction between the well-educated group and *SI benefit Q5* and *SA benefit Q1*, I also control for benefits received by either the lowest or highest quintile in the alternative program, to take the overall generosity of the welfare state into account.

¹³ For a discussion on data quality of the WGI see Langbein & Knack (2010).

¹⁴ I include information on trust in the legislature, the government, the justice system, political parties, the local/municipal government, the armed forces, the national police, the prime minister/president, and the Supreme Court.

¹⁵ The institutional trust indicator is missing for SUR, HIT, PAN and CRI.

¹⁶ The correlation between the public goods dissatisfaction variable and satisfaction about services provided at the municipality level is -0.19.

¹⁷ LAPOP does not survey tax morale. Tax morale also accounts for the size of the informal sector, as the academic debate has shown (Torgler 2005; Saavedra & Tommasi 2007). Controlling for tax morale in the LAB estimations does not alter the main findings. Estimation results based on LAB data are provided in the supplement, Table S9.

¹⁸ The plot is based on AMEs for the predicted probabilities of education, showing the incidence rate for informal self-employment at different levels of education.

¹⁹ The likelihood of becoming an informal self-employed worker is higher at very low levels of education (complete primary education), close to 30%, but steadily decreases so that more years of education reduce the likelihood. Without the squared term for education, years of education yield a strong negative coefficient and predicted probabilities show that the likelihood of informality steadily declines with each additional year of schooling.

²⁰ To test the robustness of the cut-off point, and in order to rule out arbitrariness, I test a higher (15 and more years of education) and a lower cut-off point (12 and more years of education) as well. The effects for the independent variables remain robust for 15 years of schooling and above. The effect for the interaction term between *high edu* and *SI benefit Q5* is, however, not significant for the 12-years specification, confirming the effect is driven by very high levels of education (see supplement, Tables S4 and S5).

²¹ The independent variables *institutional quality*, *SI benefits Q5* and *SA benefits Q1* have to be tested in separate models as they are correlated. Moreover, while it is important to control for further context effects, free parameters are very limited because of the low number of observations at level 2.

²² See supplement, Table S2. *Trade openness* is measured as (imports + exports)/GDP.

²³ Confidence in the government goes with a lower likelihood of being an informal sector worker, whereas dissatisfaction with public services (especially hospitals) increases the odds of informality (Table S9). Again, the interaction terms with the exit seekers do not yield significant results for the individual-level variables. The welfare generosity measures follow the same pattern (see Figure S4), but as the LAB only covers 18 Latin American states and missing observations for some country-years leads to an N of 16, findings from the hierarchical models need to be treated with caution. The interaction term between *high edu* and *SI benefit Q5* also shows the same pattern, but narrowly misses conventional levels of significance (see Figure S5 in the supplement).

²⁴ Only a reduced set of questions was repeated in the second wave of BEPS, so the measurement of social policy satisfaction and institutional quality is limited.