

Article

Between exclusion and calculating solidarity? Preferences for private versus public welfare provision and the size of the informal sector

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Abstract

This article examines how the informal sector, as a group of potential ‘free riders’ for public welfare goods, relates to individual social policy preferences in low- and middle-income countries. The exclusion hypothesis proposes that a large informal sector lowers the preferences from formal workers and the middle- and high-income groups for social services to be provided by the state, and raises these groups’ preferences for public welfare goods to become club goods. In contrast, the prospect hypothesis argues that formal workers, particularly the middle-income group, ally themselves to the informal sector to insure against the risk of future employment in informality. The study examines individual preferences for the provision of pensions and health care by either the state or private enterprises. The two competing hypotheses are tested with a hierarchical model using survey data from Latin America for 1995, 1998 and 2008. The findings offer support for the exclusion hypothesis.

Key words: Social policy, informal sector, preferences, income, Latin America, rational choice

JEL classification: O170 formal and informal sector, H4 publicly provided goods, O54 Latin America, Caribbean

1. Introduction

The research field on private versus public provision of welfare services is highly debated, especially with regard to the welfare systems of low- and middle-income economies.¹ While public welfare provision encompasses a redistributive rationale, privatization allocates

1 Scholarly work focused on the analysis of the utility of privatization, mainly in the field of economics (see [Boycko et al., 1996](#)), while others studied its distributive aspects ([Murillo, 2002](#); [Madrid, 2003](#)). In

provision of social services to the market, which follows a supply and demand logic. Hence preferring privatization of social benefits goes in line with turning one's back on social solidarity (see [Busemeyer and Iversen, 2014](#)). This article examines individual preferences for public versus private provision of social services in Latin America by testing two competing explanations, subsequently referred to as the exclusion and prospect hypotheses. The question is asked whether formal wage earners form welfare preferences based on a cost–benefit calculation and thus favor an exclusion of possible free riders—represented by the informal sector—or whether the decisive cleavage evolves instead around motives of calculating solidarity for a group of individuals to which formal workers can also easily belong. More broadly, does this rationale lead to cross-class alliances between different income groups in the general society?

When we consider [Rueda's \(2005, 2006\)](#) concept of labor market insiders and outsiders, which is derived from the composition of labor in industrialized societies, low- and middle-income countries are marked by a similar stratification within the labor market: formal and informal employment. [Rueda \(2006\)](#) emphasizes that welfare preferences vary between insiders and outsiders because their costs and gains differ. This thought is likely to hold for formal and informal wage earners as well. The informal sector is characterized by unregistered employment, tax avoidance, unofficial production of goods and services and a high degree of heterogeneity. Informal workers do not contribute to the public revenue or to the welfare system via direct taxation, which is one of the most salient forms of taxation, so that informal workers resemble the idea of 'outsiders' to the public system. In contrast to this, formally employed workers, the 'insiders', carry the tax burden and contribute to the welfare system by payroll tax. With regard to public welfare goods such as education, housing, basic welfare aid, health care subsidies or universalistic pension schemes, informal sector workers might be able to free ride on these goods. It has to be clarified though that free riding is not meant in the pure Olsonian sense here, as this would imply that informal workers deliberately choose informality to profit from public welfare goods. However, the reasons for informalization are manifold, so that free riding, as used in this article, merely refers to the option to profit from a good without contributing to it. Consequently, the costs of the public welfare system are tremendously higher for formal sector workers, and also for the general society as such, in particular for the middle- and high-income groups, compared with the costs for the informally employed. More precisely, from a cost–benefit perspective, I argue that the larger the share of the informally employed in the working population, the stronger the incentives will be for formally employed workers to favor a private welfare provider—and thus turn public welfare goods into club goods—which excludes free riders much more efficiently than does the state. Moreover, this logic should also be at work for the middle- and high-income groups,—which are not only composed of formal workers but also former formal workers (retirees), spouses of formal workers who engage in housekeeping and potential future formal workers (e.g. students)—who carry the largest share of the tax burden. This assumption will be referred to as the exclusion hypothesis.

As a competing theoretical claim, I contest this logic using the prospect hypothesis, which argues that formal workers, and the middle-income group as such, ally with the informal sector because the distance between informal and formal employment is marginal and

contrast to standard approaches on social policy privatization, this study aims at the analysis of the demand side of welfare policies.

because, in the long run, these individuals may also end up in the informal sector due to the instability of formal work and precarious labor markets. The argument draws on the theoretical contributions of [Moene and Wallerstein \(2001\)](#), who emphasize that insurance demand mediates the redistributive preferences that arise from income distribution in society; [Piketty \(1995\)](#), who accentuates the relevance of social mobility expectations; and [Lupu and Pontusson \(2011\)](#), who allude to the role of social affinity in this context. Calculating solidarity is understood here as a rational choice to maximize profit by maximizing the status of one's own group or a group that one can belong to in the near future. If the demand for insurance—including the future demand for it—is more salient than the fear of free riders, then the size of the informal sector should show a positive impact on the formally employed and the middle-income group. Which rationale is at work will be scrutinized based on preferences for the provision of pensions and health care—social policies with different degrees of progressivity and regressivity in terms of redistribution.

I chose Latin America as the region for my analysis because the area has a long history with welfare systems ([Mesa-Lago, 1990](#); [Haggard and Kaufman, 2008](#)) and because of the widespread adoption of privatization and welfare state reforms in past decades. Citizens of Latin American nations have therefore experienced sharp changes in social policies and are consequently more likely to have developed opinions on the issue of private versus public welfare.² Furthermore informal employment plays a prominent role in the structure of the labor market in all Latin American countries. I use a logistic hierarchical analysis that allows me to model country-level indicators as well as micro-level factors, using survey data from the Latinobarómetro (LAB) for 1995,³ 1998, and 2008. I start with a varying-intercept model on the full sample for the 1990s and 2008 to consider the argumentation in a broader theoretical context with regard to cross-class alliances between income groups before I employ the estimation model on the subset of formal wage earners for the last survey year. I find robust evidence that as the informal sector grows, the likelihood to prefer public welfare provision of health care over private provision decreases on average for formal workers and the society, with a constant negative effect over time. Findings for pension provider preferences are less straightforward, with an exclusion motive during the 1990s and a positive conditional effect on the middle-income group in 2008. However, because of the regressivity of social security in Latin America, assuming calculating solidarity here might be a fallacy. Nevertheless, the explanatory power of income group with respect to welfare-provider preferences is generally rather humble compared with the effect resulting from left ideology and satisfaction with privatization. Moreover, the analysis also reveals that formal and informal sector workers are less polarized in their provider preferences than expected.

The remainder is structured as follows. Section 2 presents a micro-level framework for social policy preferences that takes into consideration the provider preferences of different income groups and the size of the informal sector as a context effect. The competing hypotheses of exclusion and prospect are introduced. Descriptive statistics are discussed in Section 3. Subsequently, Section 4 presents the estimation model and data before Section 5 examines the results and robustness tests. Section 6 concludes.

2 For a similar thought see [Carnes and Mares \(2013\)](#).

3 As the LAB 1995 only covers eight Latin American countries, I apply a logistic regression with clustered standard errors.

2. Theoretical framework: social policy preferences in a stratified labor market

The labor market of low- and middle-income democracies can hardly be treated as a homogeneous entity, nor can social policy preferences be considered a function of unitary interests. Rueda (2005, p. 61) fueled the debate on policy preference research by introducing the concept of insiders and outsiders within the labor markets of industrialized democracies by analyzing party strategies based on the interests of ‘secure employment (insiders)’ and ‘those without (outsiders),’ respectively.⁴ In contrast to the labor markets of Western democracies, we can observe a different type of insider and outsider in developing countries. Here the structural divide revolves around formal and informal employment. Ideally, we would define those workers as informal wage earners who are ‘not recognized or protected under the legal and regulatory framework’ and who are facing ‘a high degree of vulnerability’ with regard to job security, representation or property rights (ILO, 2002, p. 3). Rueda (2005, 2006) illustrates the need to take into account structural differences of the labor market when studying welfare systems and public policy preferences as political parties vary in their response to the needs of these distinguishable groups. Hence, the question is if informal and formal workers occupy a similar position in the political economy of low- and middle-income countries and how they influence general support for the state as responsible provider of welfare services.

2.1 The informal sector

Why do we care about the informal sector? First, it is generally misleading to refer to *the* informal sector. Informal sector employment involves deliberate and voluntary choice to enter into informal structures, on the one hand, and involuntary entrapment in the shadow economy on the other. A large share of informal workers belongs to the low-income group (Portes and Sassen-Koob, 1987) and works, for example, as street vendors, construction laborers or family workers. However, informalization also occurs among high-income earners where the motives mainly evolve around deliberate tax evasion. As Roberts (2002, p. 22) emphasizes, ‘many informal workers occupy an ambiguous class position, participating in diversified economic activities that combine wage labor with petty entrepreneurship’. Informality therefore encompasses a large range of income levels and represents an extremely heterogeneous group.

Second, entering the informal sector does not appear to be a straightforward function of certain criteria, but a much more complex and even multi-causal decision in some cases. Factors that lead to informalization include the degree of regulations, tax evasion, preferences for autonomy and flexibility, fairness of tax law, surplus of labor, the degree of industrialization and survival (Gerxhani, 2004). Lower state capacity facilitates informalization (see Loayza and Rigolini, 2011 on the function of rule of law in this context), but the relationship is much more complex and multidimensional as research on informalization has shown (Djankov *et al.*, 2002). Due to the dominant size of the informal sector in Latin American societies, it is important to understand the twofold impact of the informal sector. For one, this socio-demographic group presents a valuable source of political support for parties and incumbents (see Thornton, 2000). For another, informal workers affect public revenue by evading taxes, which in turn influences the size of the public budget and consequently

4 The insider/outsider theory initially goes back to the influential work of Lindbeck and Snower (1986).

affects the available means to sustain a more or less generous welfare state (Loayza, 1996; Hatipoglu and Ozbek, 2011).

2.2 The exclusion hypothesis

Social policy preferences are an outcome of the trade-off between individual costs and benefits and the individual assessment of the need for insurance. Not only do workers of different income groups take into account the rate of income taxation, they also consider the likelihood of losing their jobs—which involves skill specificity (Iversen and Soskice, 2001) and risk exposure (Mares, 2005)—and the likelihood of sickness, disability and age, among other factors. The logic of redistribution matters when we think of welfare-provider preferences, since the public system is sustained by fiscal revenue, while social service privatization allocates costs to the individual. Thus, public welfare is more attractive for lower income groups, who are unable to afford costly schools and expensive medical care, and less attractive for high-income earners, who suffer from cost increases when the welfare state is more generous—a generosity that goes hand in hand with increased redistribution (see Meltzer and Richard, 1981). Opting out of this form of social solidarity might be an attractive option. Even though Latin American welfare states are rather regressive in nature and redistribute with an upward bias (see Lindert *et al.*, 2006), public welfare provision still involves redistributive elements while privatization transfers the opportunity of access to social services to the market rationale. Hence, the ‘choice’ between public or private welfare provision adheres to the approval or dismissal of redistribution to some part.

Considering the large degree of income inequality in Latin America and following the logic of Meltzer and Richard (1981), as further enhanced by Iversen and Soskice (2006) and recently by Busemeyer and Iversen (2014), it seems likely to see the following cross-class coalitions emerge. We would expect the middle-income group to ally with the low-income group regarding their welfare provider preference, in a simplified model with high rates of inequality. The rich benefit more from private insurance schemes than from public pension, for instance, particularly in societies with high income inequality and a redistributive social policy. Especially for the high-income earners, social services that are privatized, such as schools, hospitals and insurance, are likely to be more attractive than the public alternative, as public services go hand in hand with increased taxation, despite the upward bias in the Latin American system.

Adding a large informal sector to this calculation, I assume a shift within this preference structure. I propose the argument that *ceteris paribus* middle-income workers form cross-class alliances with the higher income group when the informal sector increases to escape the high costs that result from a generous public social safety system when the informal sector is considerably large. The impact on the high-income group, which already favors private welfare provision based on the rationale of redistribution, should additionally be reinforced by a large informal sector. The underlying logic builds on political economy theories of redistribution and social policy preferences, which argue that preferences are influenced by motives of exclusion (see Corneo and Grüner, 2002) or rivalry between social groups, as exhibited by the insider/outsider debate (Rueda, 2005). A growing informal sector reduces the number of contributors to the public budget and at the same time includes a considerable number of beneficiaries who are likely to pursue access to public welfare goods. Hence, I expect that conditional on a growing informal sector, formal wage earners and the middle-income group prefer welfare services as club goods instead of public goods. Additionally, for those individuals who are not affected by the redistributive rationale, because of the regressivity

of the welfare system, the public–private divide can also be a consequence of the problem pressure that arises by deprivation of scarce public resources, mirrored by the informal sector that potentially benefits from these goods without contributing. The exclusion mechanism can work along both of these lines, the first attributing to a redistributive rationale and the second adhering to fear of deprivation.

The preference change should mostly occur for social policies that are most progressive in nature and hence represent ‘real’ public goods, so that we need to differentiate between different social policies. The health care sector can be considered as most suitable for this category in Latin America. One might be inclined to add education to this category as well, but it contains a considerable upward bias as education policy in Latin America implies a lot of support for the third tier and less so for primary education that would be mostly beneficial for the poor and the informal sector. Moreover, education has a very clear positive impact on economic growth, the employment rate and democratic stability (see Glaeser *et al.*, 2004), and hence, increases well-being of the overall society, so that the exclusion rationale is less likely to apply for this social policy. Considering social security in the form of pensions, it presents to some extent a club good when entitlements are bound to formal employment. However, even though most Latin American systems are built on this Bismarckian style of insurance, welfare support for the elderly is more and more available in the form of noncontributory pensions in several Latin American states (see Arza, 2008; Social Security Agency, 2008; Carnes and Mares, 2014), giving ambiguity to this policy. Noncontributory social insurance schemes are financed by general tax so that a preference for public pensions could also adhere to the non-contributory aspect (see Carnes and Mares, 2014). The survey item used to study welfare provider preferences is not sensitive to this distinction, so we cannot differentiate between different types of public pension schemes. However, since the bulk of social insurance schemes in the 1990s is still contributory in nature, it is more likely that the public scheme is associated with the Bismarckian system. The same holds for the analysis of provider preferences in 2008. Because of the regressivity of social security, preferring public provision might therefore actually reflect the exclusion rationale as well, as more public goes in line with consolidating the club good character of pensions. The private option clearly illustrates exclusion by rejecting redistribution, being the most attractive exclusion option among high-income earners. The public pension option, on the other hand, can also express exclusion by being bound to formal employment. This could be the most attractive option for the middle-income group when exclusion is the dominant rationale, as the private option is more costly. This aspect needs to be kept in mind below.

Hypothesis 1: A large informal sector decreases the likelihood that formal wage earners (a) and middle- and high-income earners in general (b) will prefer to have the state provide health care services. For pensions, the informal sector should mostly decrease preferences for public provision of the high-income group (c).

Latin American countries finance their public budget by a tax mix, relying on a mix of indirect and direct taxation among other forms.⁵ Even though the rates of value added taxation (VAT) are considerably high, which is certainly also a consequence of the growing informal sector, income tax is an important source of public revenue as we see in Peru, Brazil or Colombia,

5 Acknowledging that the welfare system is based on a tax mix involving further forms of taxation than income tax and value added tax, the analysis represents a modest approach on the explanation of partial effects resulting only from income taxation.

where the share of direct taxation is more than 45%⁶ of the direct-indirect tax ratio. The discourse on tax salience and ‘fiscal illusion’, which dates back to the seminal work of Buchanan (1967), has revealed that indirect taxes are much less visible and recognized by the individual and therefore less salient. Formal wage earners contribute a considerable amount of money to the public budget via both income tax and VAT, compared with informal workers for whom only VAT, the less salient form of taxation, plays a role.⁷ Hence, the more salient income tax is presumably also a more relevant factor for social policy preferences than contributions based on VAT. As already pointed out, social policies can be financed via payroll tax to some extent such as contributory pensions, but there are also policies that are based on general tax revenue (e.g. noncontributory pensions). Moreover, as Lindert *et al.* (2006, p. 7) point out, many contribution-based pension systems in Latin America frequently run deficits that are compensated by general tax. For a more detailed discussion see Arza (2008) and Carnes and Mares (2014). Finally, the informal sector has presumably a lower productivity compared with the formal sector (see Loayza, 1996), so that formal workers add a significantly larger share to public revenue that is used to finance welfare policies.

2.3 The prospect hypothesis

The alternative hypothesis to the short-term cost–benefit logic of exclusion proposes a forward-looking perspective that induces a calculating ‘solidarity’ between informal and formal workers. However, solidarity is not understood in an altruistic, affective sense but as rational choice (see Baldwin, 1990). Individuals ally with other groups that are less well-off to raise their own status, their future status (see also Piketty, 1995 on social mobility and redistributive preferences) or at least diminish hazards that emanate from the status of the other group. Paskov and Dewilde (2012) call this concept of solidarity a ‘calculating solidarity’. Thus, maximizing one’s own status is not necessarily the main driver behind social policy preferences, but rather increasing the status of the entire social group one identifies with to pool the chances for benefit, as Lupu and Pontusson (2011) show for social policy preferences of the middle-income group in the OECD context.

Formal and informal employment is very permeable and fragile (Perry *et al.*, 2007) in Latin America. Workers switch from one state to another rather frequently over their life cycle because the duration of job tenure is generally short in the region (Schneider and Karcher, 2010). The fact that formal workers may find themselves as free riders or beneficiaries of public services in a state of informality in the near future would speak in favor of preferences for public (noncontributory) welfare provision. To insure against future risk,⁸ it is rational for formal wage earners and the middle-income group as such to prefer public over private welfare provision when considering future employment in informality. Looking at the degree of polarization between formal and informal workers on welfare-provider preferences, I do not find a strong divide between these groups. Figure 1 shows the aggregated preferences

- 6 Calculations are based on IMF GFS data on VAT and income tax revenue for 2008. Only these two types of taxation are considered so that the numbers reflect an incomplete image of the ratio of direct and indirect tax (International Monetary Fund, 2012).
- 7 Even though it is less easy to avoid VAT than payroll tax, tax evasion of VAT is also present in the shadow economy since goods and services produced on the black market are not within reach of VAT.
- 8 Informality is more risky than formal employment, because it is usually accompanied with tenuous working contracts, low wages, high volatility, the lack of written contracts or labor protection and thus has poor long-term perspectives.

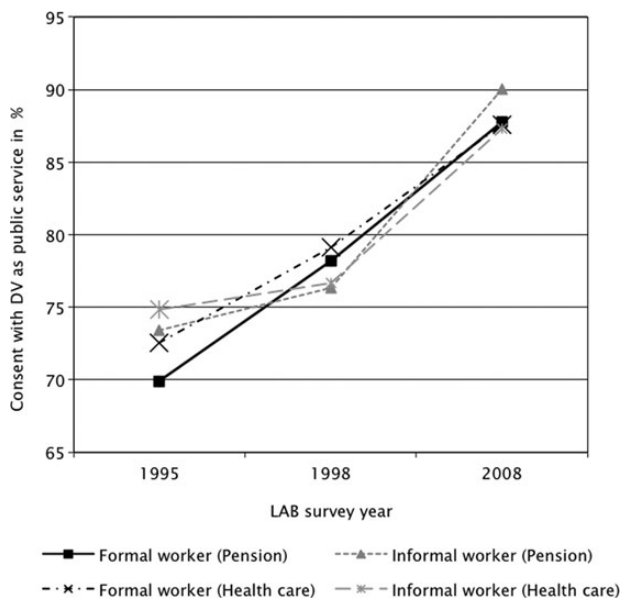


Figure 1. Polarization between informal and formal wage earners (LAB 1995, 1998, 2008, only countries included that participated in all survey years).

of informal (dashed gray lines) and formal wage earners (solid black lines) for public provision of pensions and health care.⁹ The distance between the equivalent observations shows the polarization, which is rather low.

Income inequality is very pronounced in Latin America (low- and middle-income groups are close to each other, the median is below the mean income) so that low- and middle-income groups should generally tend to ally.¹⁰ Formal and informal wage earners in these income groups represent the sector of society that not only profits from redistribution but also faces high risks so that an alliance becomes most likely. Solidarity should mostly occur for progressive social policies, which in this case is health care.

Hypothesis 2: A large informal sector increases the likelihood that the formally employed (a) and middle-income earners in general (b) will prefer to have the state provide health care services, owing to the proximity between formal and informal wage earners.

Finally, one could argue that the informal sector is only a consequence of weak state capacity so that it is actually the lack of governmental strength to provide social services that drive welfare provider preferences. But while I find empirical evidence for an impact of the informal sector on provider preferences in the empirical test, I do not detect context effects following

⁹ I use the category 'self-employment' without the additional specification 'informal' to differentiate between formal and informal worker for the LAB 1995 and 1998 as this information is not available for these survey years. Descriptive statistics of LAB 1995 and 1998 are provided as supplementary material.

¹⁰ I refer to the median voter theorem here (Meltzer and Richard, 1981). Finseraas (2009) illustrates how inequality influences redistributive preferences at the micro level.

from corruption, rule of law or the level of economic development¹¹—factors that approximate the capacity of the state.

3. Social policy in Latin America

Before moving to the empirical analysis of the proposed relationship, I briefly introduce key elements of the social system in Latin America. The welfare systems in Latin America exhibit an upward bias, favoring the already better off (Lindert *et al.*, 2006). The 1990s were marked by a period of rigorous privatization. Pension reforms were undertaken in almost every Latin American country during this time (Madrid, 2003; Mesa-Lago, 2009). However, the movement to privatize pensions decelerated towards the beginning of the early 2000s to the point that it has now reversed direction to some degree (see Carnes and Mares, 2013, 2014). A look at aggregated preferences for welfare providers by country reveals that approval of public pension provision rose from 72.99% in 1995 to 88.9% in 2008, in contrast to preferences for a private provider (as Figure 1 indicates as well). For health care, 75.8% preferred a public provider in 1995, rising toward 87.95% in 2008.¹²

Some countries (such as Bolivia) provide universalistic pension schemes or noncontributory pensions that are based on means tests (e.g. Argentina, Costa Rica, Chile, Brazil and Uruguay, see Barrientos and Lloyed-Sherlock, 2002), which are becoming more popular in recent years (Carnes and Mares, 2014). Health care and education systems also experienced significant changes during the neoliberal era of the 1990s, as the example of Chile shows. Initiatives for coverage expansion and more universal health programs are experiencing an increase in the past decade, but they still fall short of proclaimed goals (Lloyed-Sherlock, 2009). Figure 2 plots average public expenditures on social security and health care as share of GDP in Latin America over time, showing a positive trend in both social policy domains.

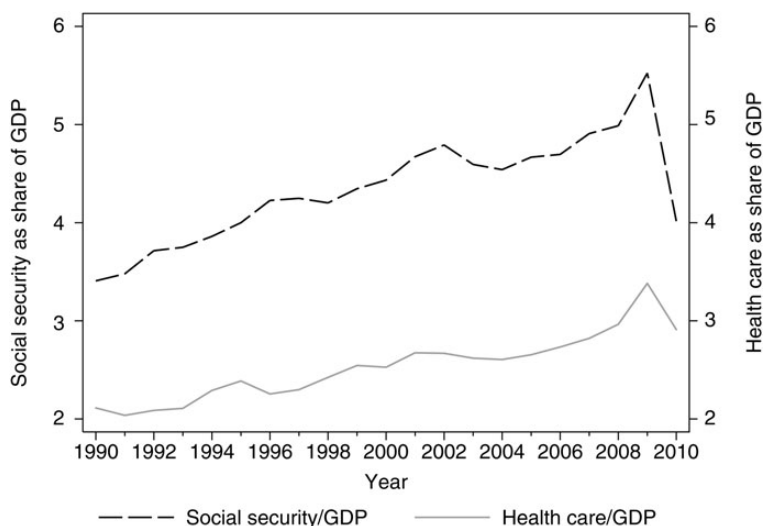
4. Statistical strategy, data and variables

As I am interested in social policy preferences at the micro level, I use survey data from the Latinobarómetro from 1995, 1998, and 2008,¹³ which contain the item on welfare provider preferences. The empirical investigation focuses on the 2008 LAB since this survey year finally contains an item that is sensitive to informal wage earners—information that has not been collected so far and is needed to distinguish between formal and informal workers. I apply a multilevel varying-intercept model to test the hypotheses of exclusion and prospect because the theoretical framework expects influence from both micro- and macro-level predictors. A hierarchical model enables the analysis of the effect of country-level indicators in contrast to the use of fixed effects (see Steenbergen and Jones, 2002; Gelman and Hill, 2007). In

11 Estimation tables are available as supplementary material. For the LAB 1995 I find a strong effect of rule of law, but I also find a very strong correlation between rule of law and the informal sector for this year.

12 My calculations based on the survey items p93stf and p93sta of LAB 1995 and 2008.

13 The 1998 and 2008 surveys cover 18 Latin American countries: Argentina, Bolivia, Brazil, Colombia, Costa Rica, Chile, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, Venezuela and Dominican Republic. Observations are lost due to missing data on social security (Nicaragua) and survey items, which have not been asked in all countries (Uruguay). The LAB 1995 covers Argentina, Brazil, Chile, Mexico, Paraguay, Peru, Uruguay and Venezuela.



Source: Author's calculations based on CEPAL (2012).

Figure 2. Average public expenditures on social security and health care as share of GDP in Latin America, 1990–2010.

the first part of the analysis, I explore which factors influence welfare-provider preferences in the general society to test if the informal sector evokes exclusion motives among the middle- and high-income groups, pursuing the analysis for the LAB from 1995, 1998 and 2008. Subsequently, I test in how far the size of the informal sector influences welfare provider preferences for pensions and health care of average formal wage earners for the LAB 2008.

4.1 Dependent variable

The dependent variable is the respondent's preference of the state or the private sector to act as the welfare provider of pensions and health care. The LAB (2008) asks the respondent if these welfare benefits and services should 'mostly be in the hands of the state' or 'mostly in the hands of private companies' referring to 'health' (item p93sta) and 'pension schemes/social security' (item p93stf). The respondent can only choose between the answer categories 'state' (coded as 1), 'companies' (coded as 0) and 'do not know' (coded as missing). As mentioned in Section 3, respondents are largely in favor of the state as the main provider.¹⁴

4.2 Explanatory variables: size of the informal sector and income group

In addition to a range of other occupational categories (item s18a¹⁵), survey respondents are able to clearly indicate in the LAB (2008) that they are informal workers (in Spanish *ambulante*, which reflects the precarious employment status of the individual even stronger). I

14 The high rate of consent is normal with regard to items that inquire about welfare demand or public welfare provision as Dion and Birchfield (2010) emphasize.

15 Question s18: What type of employment do you have? (a) self-employed: professional = 1, business owner = 2, farmer/fisherman = 3, self-employed, informal = 4; (b) salaried employee: professional = 5, senior management = 6, middle management = 7, other = 8 (LAB, 2008).

identify formal wage earners by items s17a,¹⁶ which differentiates between employment, unemployment and other forms such as retirement, and s18, ‘type of employment’ (e.g. self-employed professional or business owner), where only those respondents who answered in the previous item that they were employed are asked to respond. I code all those respondents as formally employed who indicate they are salaried employees in either the public or private sector or are self-employed as professionals (management), business owners, and farmers/fishermen. Those who select the category ‘informal’ in s18 are coded as the informal counterparts. I chose this conservative way to identify respondents by strictly limiting the coding of informals to the category that explicitly asks for informal employment to reduce the risk of overestimating the informal sector. In this regard I follow the identification strategy of the World Bank researchers [Loayza and Rigolini \(2011\)](#), who illustrate with the application of several validity tests that the usage of the survey category self-employment performs well in identifying informal wage earners as ‘in most countries there is a strong association between self-employment and informal activity, as most self-employed workers tend to be low-skilled and unregistered workers’ ([Loayza and Rigolini, 2011](#), p. 1508). However, one needs to admit that informals who consider themselves as employees might not be captured with this strategy, but information on the employer (e.g. firm size) is not available. Nevertheless, this identification strategy focuses on informal workers who represent the most powerful labor market group among the informals—the self-employed—and hence the group that might illustrate a competitor to formal wage earners. Thus, even though the informal sector might be underestimated to some extent, I capture the most significant group for the mechanisms proposed. Comparing different identification strategies for the informal economy shows that there is no ideal measurement of this sector yet, which is based on clandestineness by its very definition, even though the ‘self-employment’ strategy scores well (see [Schneider and Enste, 2000](#)).

To measure the size of the informal sector (*informal*) at the macro level, I calculate the share of informal workers of the working population by country using the survey item (s18) that identifies informal wage earners as discussed. As informals cannot be identified in the LAB 1995 and 1998 I rely on an alternative measurement of the informal sector, making use of [CEPAL \(2014\)](#) data on urban, low-productivity workers (individuals working in micro enterprises, domestic employment or as ‘independent nonqualified’ workers) as share of the urban employed population.¹⁷ I chose the measure of the informal sector based on the LAB for the main analysis because it considers the entire working population and not just urban informality. Moreover, the LAB measure is particularly bound to informal workers while the informality measure of CEPAL focuses on low-productivity workers, which resembles a broader concept. An alternative measure of the informal sector is provided by [Schneider et al. \(2010\)](#), who calculate the share of the informal economy relative to GDP for a very large set of countries. This measure, however, does not fully cover the

16 Question s17a: What is your current employment situation? Self-employed (then go to s18), salaried employee in a state company, salaried employee in a private company, temporarily out of work, retired/pensioner, don't work/responsible for shopping and housework (LAB, 2008).

17 Estimation results for the analysis of 2008 with the CEPAL measure of the informal sector are available as supplementary material. The main findings regarding the full sample are substantively robust. The results for the subsample are less robust as the negative coefficient on the DV health care misses conventional levels of significance with a *P*-value of 0.21.

aspect of interest, that is, the amount of workers in the informal economy. Instead it considers the amount of wealth generated by the informal sector. Therefore, the analysis focuses on the measure of the informal sector based on the LAB and CEPAL as already explained.

At the micro level, I examine the impact of different income groups on welfare-provider preferences. As the LAB does not contain an item on household income, I measure personal income based on the possession of assets.¹⁸ Constructing asset indexes is a popular approach in health economics and demographic studies on developing countries to generate wealth measures, when household income data are unavailable or unreliable (see [Filmer and Pritchett, 2001](#); [Vyas and Kumaranayake, 2006](#)). The asset indicator has to be understood as long-term household status or as general wealth ([Filmer and Pritchett, 2001](#), p. 116). I apply a multiple correspondence analysis (MCA) based on asset ownership¹⁹ to capture the underlying wealth dimension of owning certain assets such as electricity, hot water or a television. Responses were given a 1 for owning the asset and 0 for not owning it, respectively. The first dimension of the MCA covers most variation within the variables, so I use the predicted values to generate income tertiles, identifying the poor, middle and affluent groups in society.²⁰ For theoretical precision I refer to wealth tertiles instead of income groups as the measure is based on asset information (lowest, middle and highest tertile).

4.3 Controls

In estimating the effects of wealth and the size of the informal sector, I also control for several covariates at both levels. As control variables at the micro level serve *age*, gender (*female*), years of *education*, *left ideology*, employment status (*unemployed*, *retired*, nonemployed serves as reference category, including housewives and students) and type of employment (*formal worker*, *informal worker*, nonemployed as reference category). I also hold constant people's *satisfaction with privatization* since individuals who experienced privatization of public utilities, for instance, and who are also satisfied with its functioning are more likely to favor private provision of social services as well. I control for *public health insurance* to bring in the welfare system's status quo. The dummy variable reflects the information that the respondent has public health insurance. *Employment uncertainty* is another central aspect for insurance preferences, as scholarly work in this domain has shown ([Piketty, 1995](#)). *Employment uncertainty* is operationalized

- 18 The LAB asks the respondents if they own any of the following items: color television, refrigerator/icebox/freezer, own home, computer, washing machine, fixed telephone, mobile phone, car, second or holiday home, running water, hot running water, sewage system, bathroom with shower, electricity. I code 'no answer' as no (instead of coding the category as missing, which would increase the reduction of observations) since it is more likely that a respondent does not answer the question when she does not possess the item. Differences that occur by this specification are marginal.
- 19 I test the reliability of the income measure by regressing the income tertiles on different survey items, such as item s2, which asks the respondent about her income satisfaction. Higher income predicts greater income satisfaction very well. The MCA income measure also positively correlates with s26, the perception of the interviewer on the socio-economic status of the respondent. For a discussion on the reliability of MCA compared to PCA and consumption data, see [Howe et al. \(2008\)](#).
- 20 If the respondent lives in either an urban or rural area needs to be considered for the wealth estimation, since the meaning of owning a certain asset (e.g. sewage system) is likely to vary between cities and the periphery. When I calculate the income index for rural and urban areas separately, the income index varies marginally. Yet the differences are so small that the analysis relies on the overall income index of the MCA.

by the respondent's perspective on her employment stability within the coming months (housewives, students and the retired are coded as 0; higher values indicate increased employment uncertainty). Furthermore, I include *urban* as control variable, which indicates that the respondent is located in an urban area of the country, so as to incorporate differences in social service provision between urban and rural areas.²¹

As the abundant literature on public opinion and the welfare state suggests (Brooks and Manza, 2007; Kenworthy and McCall, 2008; Finseraas, 2009), we have to consider reversed causality between social policies that are provided and public support or demand for the welfare system. Hence, I also add data on *social security* and *health care* expenditures from CEPAL (2012) to the equation, as the level of welfare provided by the state is likely to influence individual preferences for public welfare provision. I use per capita values to estimate the effect of the potentially available amount of the particular social service for each citizen. Additionally, I include the level of income inequality (*Gini coefficient*, taken from Solt, 2009) to hold constant the problem pressure that might follow from inequality.

Last, we need to factor in corruption to consider fairness of public goods provision. I use a survey item from the LAB as a control in which respondents report their perception of the number of civil servants who are amenable to bribery and corruption (*corruption perception*). Since degrees of freedom are limited at the macro level, I restrict the number of macro controls included in the estimation to a minimum.²² Descriptive statistics are provided as supplementary material (Table A-C).

4.4 Model

I assume that context observations are not independent but cluster within countries so that the use of an OLS regression would be incorrect (Steenbergen and Jones, 2002). The subscript i (for $i = 1, \dots, n$) denotes the individual level, while j indicates the group-level unit, meaning countries, (for $j = 1, \dots, N$). The dependent variable (DV) is a dichotomous variable; therefore, I apply a logistic hierarchical model. I employ a likelihood-ratio test to test if a random-intercept random-slope model significantly differs from the varying-intercept model, leading to a better model fit. As the test is not significant, I use a varying-intercept model, allowing the intercept to vary between countries.²³ The use of cross-level interactions between individual- and country-level variables will illustrate if variation of the possible impact of the independent variable *wealth tertile* differs due to the mediating country-level characteristic of the size of the informal sector as proposed above. *Informal* is the conditional variable Z in this model. I use the notation as propagated in Gelman and Hill (2007). The group-level coefficients are expressed by γ , and σ_α represents the standard deviation of the

21 This variable contains several misclassifications in the LAB 1995 and 1998 so that it cannot be used in the analysis for these two survey years.

22 As a sensitivity test, I include additional macro-level variables, such as corruption measured by the Corruption Perception Index of Transparency International, rule of law (WGI, World Bank), and GDP per capita (WDI, World Bank) to consider state capacity. I also tested the model with only the macro variable of interest and stepwise inclusion of further macro variables, as specified. The results for the independent variables remain robust in both the full sample and the subsample. Estimation results are available as supplementary material.

23 The likelihood-ratio test for the DV *pension* rejects the use of a random-intercept random-slope model with a P -value of 0.66 (0.23) and for the DV *health care* with 0.40 (0.70) regarding the full sample (the subsample).

country-level errors. X is a vector of individual-level predictors, including control variables as discussed in Section 4.3. U presents a set of macro-level predictors.

$$\Pr(y_i = 1) = \text{logit}^{-1}(\alpha_j + \beta_1 X_i + \beta_2 \text{ wealth tertile}_i + \beta_3 \text{ wealth tertile}_i \times Z_j)$$

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

Based on the null model, I estimate an intra-class correlation coefficient ρ to explore how much of the variance of the DV is explained by the country level ($\rho_{DV1} = 0.07$, $\rho_{DV2} = 0.08$) (Snijders and Bosker, 1999, p. 224). The intra-class correlations indicate that the country level explains a considerable amount of variation of the dependent variables (e.g. for the DV *health care*, level two explains 8% of the variation), so that the use of a hierarchical model is statistically justified and necessary.²⁴ As Stegmueller (2013) illustrates, small sample sizes need to be treated with care in hierarchical models based on maximum likelihood and should not be overburdened with cross-level interactions and parameters at level 2, so that I keep these factors to a minimum (e.g. adding only one cross-level interaction at a time in Table 2). Sample sizes of 16 and 17 are still in a range where we can have confidence in the estimated effects as long as the model is carefully specified.

5. Results

5.1 Welfare provider preferences in the 1990s

As social policies in Latin America have been subject to intensive reforms during the past two decades and since individuals have been exposed to turbulent economic developments in this period, the effect of the informal sector on welfare provider preferences may differ over time, or may be driven by short-term context effects that cannot be captured with a singular cross-section. I therefore conduct the analysis for both the 1990s and 2008, when the LAB surveyed the welfare provider item. As the LAB 1995 only covers eight countries, logistic regression analyses with clustered standard errors are applied. For the 1998 LAB I make use of the hierarchical model as already specified. Because of the low number of cases of the 1995 survey, I put greater analytical emphasis on the 1998 analysis regarding the cross-level interactions. Table 1 shows the impact on welfare provider preferences of different wealth tertiles conditional on a growing informal sector for the entire society. The sample includes not only formal wage earners but also housewives, retirees and students, who might have contributed to the welfare system during their life cycle or who will do so in the future.²⁵

Table 1 provides solid support for the exclusion hypothesis. The informal sector yields negative effects on preferences for public health care provision in 1995 and 1998, independent of the individual's wealth status (M3 and M7). Likewise it decreases preferences for public pensions in 1998 (M5). I find cross-class coalitions as proposed in H1(b) for both social domains in the 1990s. The wealth tertiles are significantly different when we look at the distinction between the lowest and the highest tertiles as plotted in the marginal effects plots in

24 One has to acknowledge that most of the variation of individual-level data on attitudes or opinions is explained by micro-level factors, so that also an intra-class correlation of 8% is sufficient when working with public opinion data.

25 Of course, informal wage earners also reflect a part of the entire society, but the model controls for informal sector workers for the LAB 2008 (see Table 2).

Table 1. The size of the informal sector and provider preferences in Latin America for 1995 and 1998

	LAB 1995				LAB 1998			
	Pension		Health care		Pension		Health care	
	(M 1)	(M 2)	(M 3)	(M 4)	(M 5)	(M 6)	(M 7)	(M 8)
Micro predictors								
Middle tertile (ref: lowest tertile)	-0.463*** (0.139)	0.476 (0.321)	-0.363*** (0.072)	0.432 (0.009)	-0.054 (0.060)	0.496 (0.345)	-0.055 (0.060)	0.791** (0.340)
Highest tertile	-0.809*** (0.094)	0.057 (0.348)	-0.770*** (0.081)	-0.146 (0.010)	-0.203** (0.064)	0.844** (0.345)	-0.209** (0.064)	1.004*** (0.339)
Female	0.160*** (0.043)	0.160*** (0.044)	0.056 (0.062)	0.055 (0.062)	0.207*** (0.050)	0.208*** (0.050)	0.138** (0.050)	0.139*** (0.050)
Age	0.005* (0.002)	0.004** (0.002)	0.009* (0.004)	0.009** (0.004)	-0.004* (0.002)	-0.004** (0.002)	0.002 (0.002)	0.002 (0.002)
Education	-0.101*** (0.027)	-0.105*** (0.026)	0.003 (0.035)	0.001 (0.033)	-0.094*** (0.014)	-0.094*** (0.014)	-0.035* (0.014)	-0.035*** (0.014)
Empl. uncertainty	0.125 (0.139)	0.128 (0.138)	0.107 (0.087)	0.109 (0.089)	0.031* (0.012)	0.029** (0.012)	0.047*** (0.012)	0.046*** (0.012)
Left ideology	0.271 (0.184)	0.271 (0.183)	0.222 (0.178)	0.221 (0.177)	0.027 (0.056)	0.026 (0.056)	0.111+ (0.057)	0.110* (0.057)
Empl. status: (ref: nonempl.)								
Self-employed	-0.055 (0.066)	-0.054 (0.067)	-0.172* (0.075)	-0.173** (0.075)	0.083 (0.067)	0.078 (0.067)	0.063 (0.067)	0.060 (0.067)
Public employment	-0.039 (0.167)	-0.042 (0.166)	-0.108 (0.140)	-0.111 (0.138)	0.215* (0.090)	0.210** (0.090)	0.221* (0.093)	0.212** (0.093)
Private employment	-0.144+ (0.083)	-0.141* (0.083)	-0.251** (0.093)	-0.250*** (0.093)	-0.010 (0.070)	-0.012 (0.070)	-0.125+ (0.069)	-0.127* (0.069)
Unemployed	-0.192 (0.143)	-0.181 (0.140)	-0.174 (0.175)	-0.166 (0.177)	-0.099 (0.111)	-0.096 (0.111)	-0.108 (0.110)	-0.107 (0.110)
Retired	-0.010 (0.118)	-0.006 (0.119)	-0.315* (0.163)	-0.313* (0.164)	0.345** (0.125)	0.349*** (0.125)	0.203 (0.124)	0.205* (0.124)
Privatization satisfaction [†]					-0.165*** (0.012)	-0.164*** (0.012)	-0.168*** (0.012)	-0.167*** (0.012)
Corruption perception [†]					0.057*** (0.011)	0.057*** (0.011)	0.033** (0.012)	0.033*** (0.012)
Pub. health insurance [†]							0.099* (0.052)	0.111** (0.052)
Macro predictors								
Gini	0.036 (0.034)	0.034 (0.033)	0.016 (0.037)	0.014 (0.036)	0.008 (0.036)	0.007 (0.036)	-0.029 (0.031)	-0.031 (0.031)
Social security per capita [†]	0.165* (0.080)	0.165** (0.078)			0.037 (0.077)	0.035 (0.076)		
Health care per capita			0.044 (0.087)	0.047 (0.085)			-0.151* (0.072)	-0.155** (0.072)
Informal sector (CEPAL)	-0.019 (0.014)	-0.006 (0.015)	-0.024* (0.014)	-0.013 (0.013)	-0.030* (0.016)	-0.019 (0.017)	-0.027* (0.014)	-0.012 (0.015)

Continued

Table 1. *Continued*

	LAB 1995				LAB 1998			
	Pension		Health care		Pension		Health care	
	(M 1)	(M 2)	(M 3)	(M 4)	(M 5)	(M 6)	(M 7)	(M 8)
Cross-level interaction								
Middle tertile × informal (ref: lowest tertile)		−0.020*** (0.006)		−0.017* (0.405)		−0.011 (0.007)		−0.017** (0.007)
Highest tertile × informal		−0.018** (0.007)		−0.013 (0.394)		−0.021*** (0.007)		−0.024*** (0.007)
Constant	0.876 (1.476)	0.336 (1.446)	1.611 (1.765)	1.165 (1.677)	2.319 (1.676)	1.763 (1.676)	3.972* (1.623)	3.295** (1.633)
Random effects parameters								
Var (constant)					0.198 (0.073)	0.195 (0.072)	0.123 (0.046)	0.122 (0.046)
N (individual)	5121	5121	5121	5121	11 092	11 092	11 599	11 599
N (country)	8	8	8	8	16	16	17	17
χ ²					376.03	385.00	333.34	345.88
Ll	−2785.46	−2783.1	−2741.97	−2740.40	−5813.18	−5808.42	−5867.87	−5861.22
BIC	5630.71	5625.1	5543.72	5540.59	11803.33	11658.85	11922.91	11766.44

Notes: Information on privatization satisfaction, perception of corruption and the possession of public health insurance is not available in the LAB 1995. The analysis of the LAB 1995 is based on a logistic regression with clustered standard errors. Variables are grandmean standardized by two standard deviations (see [Gelman and Hill, 2007](#)), with the exception of variables that are already in the 0/1 or 0/100 range in all estimation tables. * $P < 0.10$, ** $P < 0.05$, *** $P < 0.01$, **** $P < 0.001$.

Sources: LAB 1995, 1998; [CEPAL \(2012\)](#); [Solt \(2009\)](#).

†Information is not available in the LAB 1995.

‡Information is missing for Nicaragua in the analysis of 1998.

Table 2. Logistic hierarchical regression on welfare provider preferences in [Latin America for 2008](#): full sample

	Pension			Health care		
	(M 9)	(M 10)	(M 11)	(M 12)	(M 13)	(M 14)
Micro predictors						
Lowest tertile	0.069 (0.077)	0.098 (0.078)		0.131 (0.082)	0.115 (0.083)	
Middle tertile	0.120* (0.064)	-0.492* (0.238)	0.062 (0.070)	0.099 (0.068)	0.465 (0.285)	-0.034 (0.074)
Highest tertile			0.321 (0.257)			-0.211 (0.295)
Female	0.062 (0.056)	0.065 (0.056)	0.062 (0.056)	-0.036 (0.059)	-0.037 (0.059)	-0.036 (0.059)
Age	0.008*** (0.002)	0.008*** (0.002)	0.008*** (0.002)	0.010*** (0.002)	0.010*** (0.002)	0.010*** (0.002)
Education	-0.066*** (0.018)	-0.067*** (0.018)	-0.066*** (0.018)	-0.050** (0.019)	-0.050** (0.019)	-0.050** (0.019)
Empl. status: (ref: nonempl.)						
Informal worker	-0.060 (0.121)	-0.060 (0.121)	-0.062 (0.121)	-0.078 (0.128)	-0.078 (0.128)	-0.077 (0.128)
Public employment	-0.092 (0.141)	-0.093 (0.141)	-0.095 (0.141)	-0.021 (0.152)	-0.022 (0.152)	-0.021 (0.152)
Private employment	-0.262* (0.126)	-0.258* (0.126)	-0.264* (0.126)	-0.246* (0.133)	-0.248* (0.133)	-0.246* (0.133)
Unemployed	-0.136 (0.197)	-0.135 (0.198)	-0.136 (0.198)	-0.082 (0.208)	-0.084 (0.208)	-0.083 (0.208)
Retired	-0.131 (0.140)	-0.126 (0.140)	-0.131 (0.140)	-0.442** (0.142)	-0.445** (0.142)	-0.442** (0.142)
Privatization satisfaction	-0.107*** (0.020)	-0.106*** (0.020)	-0.106*** (0.020)	-0.112*** (0.021)	-0.113*** (0.021)	-0.113*** (0.021)
Left ideology	0.243*** (0.069)	0.242*** (0.069)	0.240*** (0.069)	0.150* (0.071)	0.151* (0.071)	0.150* (0.071)
Empl. uncertainty	0.004 (0.028)	0.004 (0.028)	0.004 (0.028)	-0.007 (0.030)	-0.007 (0.030)	-0.007 (0.030)
Urban	-0.351*** (0.063)	-0.349*** (0.063)	-0.350*** (0.063)	-0.154* (0.065)	-0.155* (0.065)	-0.154* (0.065)
Corruption perception	-0.002 (0.013)	-0.001 (0.013)	-0.001 (0.013)	0.027* (0.014)	0.027* (0.014)	0.027* (0.014)
Public health insurance				0.265*** (0.061)	0.265*** (0.061)	0.265*** (0.061)
Macro predictors						
Gini	0.008 (0.037)	0.008 (0.037)	0.007 (0.037)	0.005 (0.028)	0.005 (0.028)	0.005 (0.028)
Social security per capita [†]	0.010 (0.064)	0.009 (0.064)	0.006 (0.064)			

Continued

Table 2. *Continued*

	Pension			Health care		
	(M 9)	(M 10)	(M 11)	(M 12)	(M 13)	(M 14)
Health care per capita				-0.139* (0.055)	-0.140* (0.055)	-0.138* (0.055)
Informal sector (LAB)	-0.029* (0.017)	-0.036* (0.017)	-0.024 (0.017)	-0.066*** (0.015)	-0.063*** (0.015)	-0.067*** (0.015)
Cross-level interactions						
Middle tertile × informal		0.020** (0.007)			-0.012 (0.009)	
Highest tertile × informal			-0.012 (0.008)			0.003 (0.009)
Constant	2.449 (1.693)	2.658 (1.697)	2.390 (1.691)	3.663** (1.323)	3.557** (1.326)	3.815** (1.326)
Random effects parameters						
Var (constant)	0.205 (0.077)	0.205 (0.077)	0.204 (0.077)	0.113 (0.045)	0.113 (0.045)	0.113 (0.045)
N (individual)	12 588	12 588	12 588	13 203	13 203	13 203
N (country)	16	16	16	17	17	17
χ^2	186.10	192.93	188.92	169.63	171.02	169.50
Ll	-5140.35	-5136.84	-5139.09	-4768.80	-4767.91	-4768.76
BIC	10469.51	10471.93	10476.42	9736.85	9744.57	9746.26

Notes: The analysis of the interaction between informal and the lowest tertile shows no significant effect. Results are available as supplementary material. * $P < 0.10$, ** $P < 0.05$, *** $P < 0.01$, **** $P < 0.001$.

Sources: LAB (2008); CEPAL (2012); Solt (2009).

†Information on social security is missing for Nicaragua.

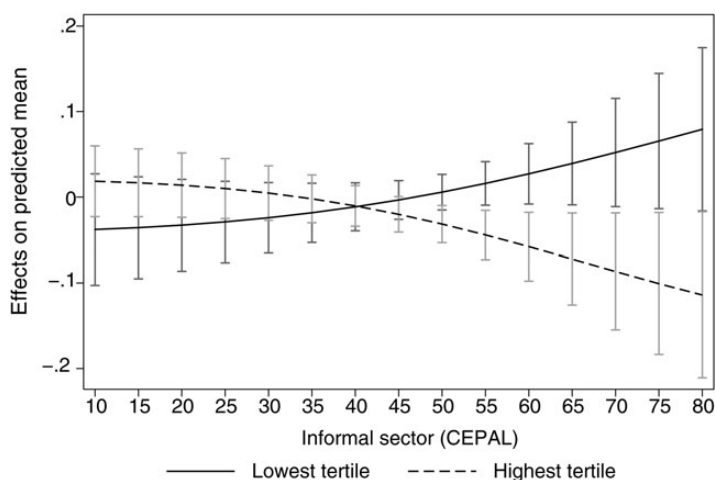


Figure 3. Average marginal effects for the lowest and the highest tertile at different values of *informal* for preferences for public pensions (Table 1 model 6).

Figures 3 and 4 for pensions and health care, while the middle and highest tertile are not significantly different from each other (both are downward sloping).²⁶ The lowest tertile favors the state as responsible provider of health care and pensions conditional on a growing informal sector, while individuals opt for the private solution with increasing wealth in such a case. But the groups are only significantly different at higher values of the informal sector.

5.2 Welfare provider preferences in 2008

When we look at the full sample for 2008 (Table 2) the impact of the informal sector is again negative for both pensions and health care (M9 and M12). The informal sector reduces preferences for the state as responsible provider of pensions and health care in the general society, with the latter effect receiving the most robust results.

The interaction term including the middle tertile shows, however, a positive slope in model 10 (Table 2) for preferences on pensions. This is illustrated in the marginal effects plot in Figure 5, which displays the average change. Conditional on a large informal sector, individuals in the middle tertile have a positive likelihood to prefer public to private pension provision at the 1% level of significance. This finding reverses H1(b), which assumed an exclusion motive of the middle-income group toward informal workers. The calculating solidarity motive of the middle-income group toward informal workers. The calculating solidarity motive of the middle tertile seems to hold as proposed in the prospect hypothesis. But the positive slope also alludes to the exclusion rationale of preferring a public pension that is bound to entitlements based on formal employment. As already discussed, a contributory public pension system represents a club good. For the high-income group, I find a negative effect (see Table 2, model 11 and Figure 6 with 95% confidence intervals), which alludes to the exclusion mechanism H1(c), but the coefficient narrowly misses significance by a *P*-value of 0.11

26 Changes in probability are calculated on the fixed part of the model and based on averages of the covariates as several dummy variables are included so that holding variables at mean is not reasonable.

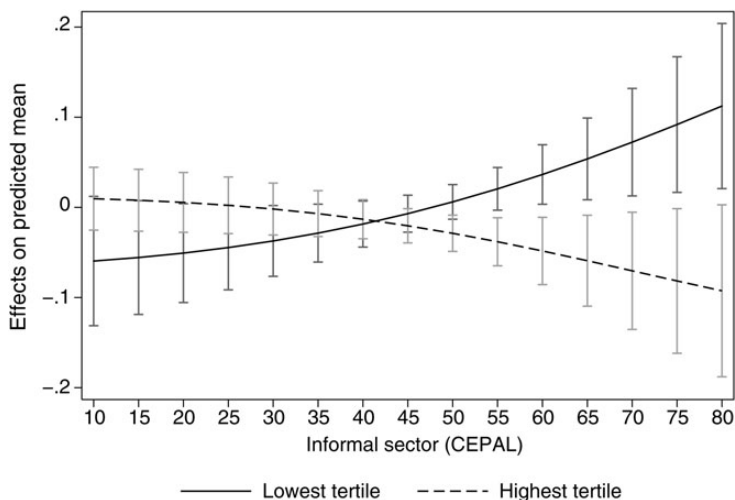


Figure 4. Average marginal effects for the lowest and the highest tertile at different values of *informal* for preferences for public health care (Table 1 model 8).

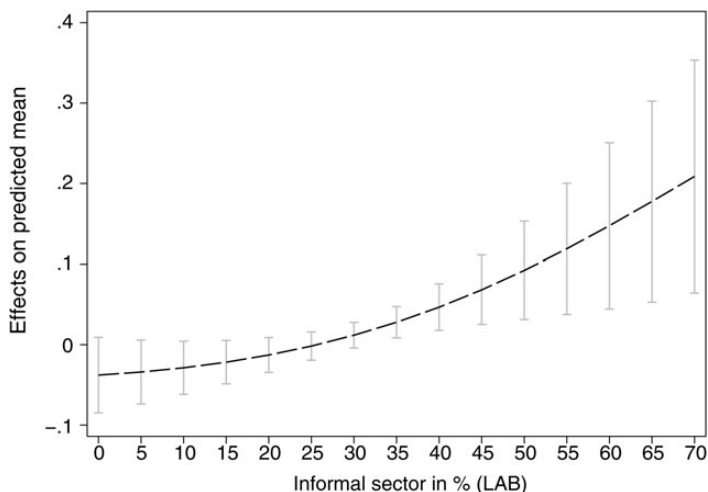


Figure 5. Average marginal effects for the middle tertile at different values of *informal* for preferences for public pensions (Table 2 model 10).

as can be seen in Figure 6. However, for health care I find no significant cross-level interaction effect in contrast to the findings for the 1990s. The negative effect of the informal sector on public health care preferences is not mediated by the wealth status of the individual anymore, but holds for the average individual.

Turning to micro-level predictors, individuals are driven by *left ideology* and *satisfaction with privatization*. While the former increases the likelihood of preferring public welfare provision for pensions (models 9–11) and for health care (models 12–14), the latter decreases this likelihood at the highest level of significance. The direction of the coefficients is very much in

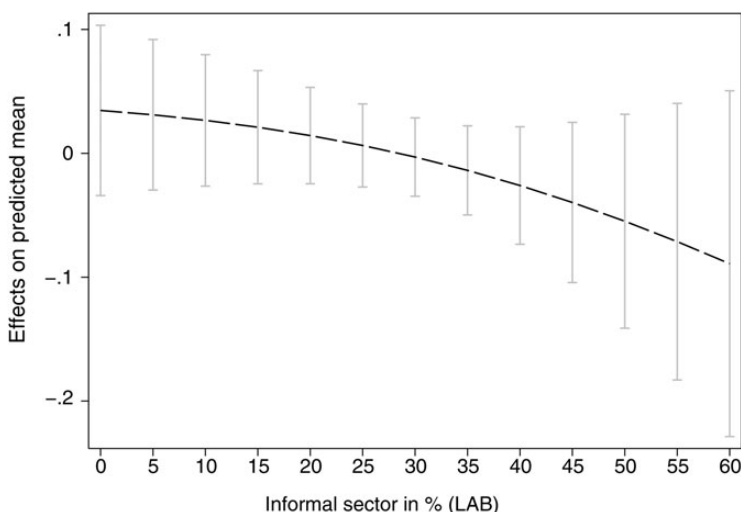


Figure 6. Average marginal effects for the highest tertile at different values of *informal* for preferences for public pensions (Table 2 model 11).

line with theoretical expectations. *Education* also exerts a negative effect on preferences for public pensions and health care. This is not surprising as we can expect that individuals who are better educated have a higher income and thus prefer to take care of themselves instead of paying more contributions. These factors also strongly predict welfare provider preferences of the formal worker group (see Table 3).

5.3 Formal workers and the informal sector

Finally, taking into account the insider/outsider debate, Table 3 displays logistic coefficients for the analysis of the subset of formal wage earners (M15 and 16) for 2008, testing hypothesis H1(a), which suggests a negative effect of the informal sector on formal workers' provider preferences in general. Indeed, a unit increase in the share of informal sector workers relative to the working population decreases the likelihood that formal wage earners prefer public health care at the 1% level of significance (model 16), supporting H1(a).

I plot the incidence rate (predicted probabilities) of the dependent variable preferences for public health care provision for the informal sector in Figure 7 (with 95% confidence intervals). The slope is steeply declining, illustrating the negative impact. When the informal sector amounts to 50% of the population, the likelihood of preferring public health care provision declines to 67%. The effect is not significant for pension provider preferences. Hence for health care, the more progressive of the two welfare policies, the informal sector on average lowers the preferences of formal wage earners for public provision. This finding again supports the exclusion hypothesis. The effect is robust to the inclusion of further controls at the macro level (see supplementary material).²⁷ It is striking that wealth status does not exert a stronger influence on the welfare provider preferences of formal wage earners.

27 The effect is however less robust when I use an alternative measure of the informal sector (CEPAL data). The coefficient is still negative but not significant anymore.

Table 3. Logistic hierarchical regression for welfare provider preferences in Latin America for 2008: formal worker sample

	Pension (M 15)	Health care (M 16)
Micro predictors		
Lowest tertile (ref: highest tertile)	0.041 (0.123)	-0.016 (0.132)
Middle tertile	-0.064 (0.095)	-0.010 (0.103)
Female	0.003 (0.080)	-0.119 (0.085)
Education	-0.076** (0.026)	-0.059* (0.028)
Age	0.009** (0.003)	0.010** (0.003)
Privatization satisfaction	-0.130*** (0.032)	-0.126*** (0.034)
Left ideology	0.385*** (0.108)	0.252* (0.112)
Empl. uncertainty	0.017 (0.034)	-0.002 (0.036)
Urban	-0.461*** (0.095)	-0.285** (0.101)
Corruption perception	0.006 (0.020)	0.024 (0.021)
Public health insurance		0.268** (0.091)
Macro predictors		
Health care per capita		-0.131* (0.073)
Social security per capita [†]	0.013 (0.087)	
Gini	-0.011 (0.050)	-0.009 (0.038)
Informal sector (LAB)	-0.021 (0.023)	-0.062** (0.020)
Constant	3.085 (2.278)	4.236* (1.763)
Random effects parameters		
Var (constant)	0.365 (0.144)	0.193 (0.082)
N (individual)	5258	5517
N (country)	16	17
χ^2	100.71	83.97
Ll	-2239.39	-2032.54
BIC	4607.29	4202.93

Sources: LAB (2008); CEPAL (2012); Solt (2009).

[†]Information on social security is missing for Nicaragua.

* $P < 0.10$, ** $P < 0.05$, *** $P < 0.01$, **** $P < 0.001$.

Moreover, in contrast to expectations, formal and informal sector workers do not appear decisively polarized in their provider preferences (as shown in Figure 2 and further supported in Table 2). Only formal workers in the private sector have significantly lower preferences for state responsibility for health care and pension provision in 2008 (Table 2 models 9–14).

5.4 Discussion

The analysis of the full sample and the subgroup provides support for the exclusion rationale. The informal sector decreases the preferences of formal workers and the average individual for the state as provider of health care. Although social policies in Latin America underwent significant changes over the timeframe considered, from a period of heavy privatization in the 1990s to increased renationalization and a stronger turn toward the state in the early 2000s, the negative effect of the informal sector persists across different points in time. Cross-class alliances between the middle tertile and the rich works against the informal sector in the 1990s by opting for private pensions and health care, as models 2, 4, 6 and 8

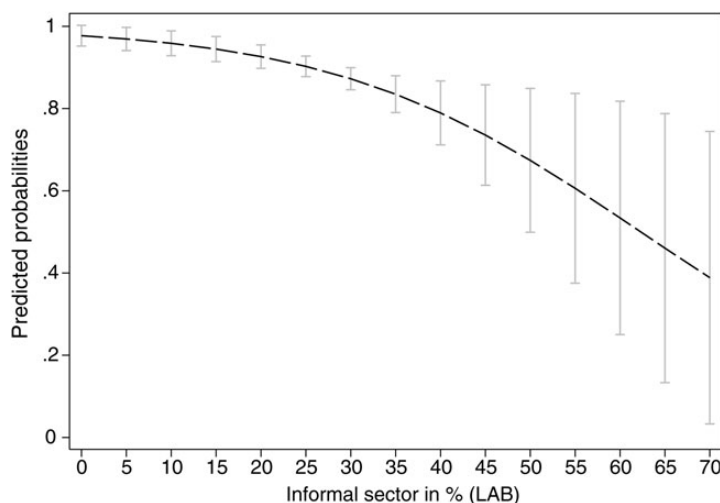


Figure 7. Predictive margins of *informal* for preferences for public health care (Table 3 model 16).

show. The informal sector induces exclusionary motives for both social policy domains in society overall (models 3, 5 and 7), but the effect is most robust regarding the negative effect of the informal sector on health care, which is the more progressive of the two policies examined. Interestingly, the negative impact of informality appears to decline when we compare the effects from the 1990s to the ones from 2008. Additionally, the informal sector becomes much less of a polarizing factor among the wealth groups in the early 2000s. The informal sector does not appear to influence cross-class alliances for preferences on health care provision in 2008, in contrast to expectations, as we find a negative impact of the informal sector independent of the individual's wealth status. Moreover, findings on pension provider preferences for 2008 are ambiguous. They suggest that a large informal sector leads to cross-class alliances between the middle tertile and the informal sector in preferring public provision of pensions. But without being able to clearly differentiate between contributory and noncontributory pension schemes, it is not possible to clearly interpret this finding as evidence in favor of the prospect hypothesis. The rich display a constant exclusionary motive for public pensions conditional on a large informal sector, even though the strength of the effect declines over time. The decreasing impact of the overall effect of the informal sector and the rising ambiguity of the cross-level interactions might be attributed to changes within the structure of the labor market. As Barrientos (2009, p. 96) emphasizes, formal employment suffered the loss of its previous 'premium status' in the past decade, rendering formal and informal workers increasingly indistinguishable. Changes in labor market protection and increasing access to noncontributory welfare programs blur the lines between formal and informal labor so that changes to the minimum wage, firing costs and wage differentials could be fruitfully addressed in future research on provider preferences. Additionally, as privatization was in many cases not followed by the expected returns (see Carnes and Mares, 2013) the private option might not necessarily be conceived as viable solution at the individual level anymore, despite discontent with the public option. Since the performance of the state usually also suffers from shortcomings, the 'choice' between public and private

options then loses its overall decisiveness for the individual and is more strongly driven by ideological belief about the role of the state than personal income considerations. Further tests on concrete social services (distinguishing between noncontributory and employment-related pensions), calculating solidarity, risk aversion regarding future employment in informality and rivalry are needed to examine the causal mechanism of the proposed hypotheses.

6. Conclusion

This study of welfare provider preferences contributes to the understanding of the structure of public support for the state as the responsible entity for welfare goods provision in a context of less developed democracies. The analysis has shown that the informal sector matters for the welfare provider preferences both of the formally employed and of the general public in Latin America. The study suggests that in low- and middle-income countries, labor markets are characterized by a similar divide to that between insiders and outsiders in advanced industrial economies (Rueda, 2006)—a divide between formal and informal employment. I proposed the exclusion hypothesis that draws on a cost–benefit logic. While formal workers contribute to social safety nets by means of direct taxation, informal wage earners are possibly able to benefit from public welfare goods without contributing the same share to the welfare system and are therefore perceived as free riders, leading to a decline in preferences for a public provider. For the social policy domain of health care I find exclusionary motives among formal workers in particular and the society in general across time. However, both labor market groups appear to be much less polarized than expected, a result that may be explained by the diminishing premium status attached to formal employment in Latin America (Barrientos, 2009). Regarding the provision of pensions, the findings paint a more ambiguous picture. While the informal sector fueled exclusionary motives in the late 1990s (and constantly over time among the rich), a decade later, we can observe a turn toward a more encompassing rationale with the middle tertile preferring public provision of pensions. If this means exclusion in the form of consolidating the club good character of the contributory pension system, or if it adheres to a demand for increased noncontributory insurance as Carnes and Mares (2014) recently discussed and thus, alludes to the prospect hypothesis, is object to future research. An increasing demand for noncontributory pensions conditional on a growing informal sector among middle-income earners would be an important factor for pension reforms in the region.

Three insights emerge from the results of this article. First, it is important to recognize the influence of the distinctive labor market composition of low- and middle-income countries in the analysis of individual welfare preferences. The analysis revealed that the informal sector induces individuals to turn away from the state as the responsible entity for welfare provision. Crucially, this process is more and more independent of individual wealth status, pointing to the existence of a new societal coalition. Second, the informal sector influences most severely preferences on health care, the more progressive of the two policies examined. The existence of an exclusion rationale in this policy field is particularly harmful, as universal health care provision is central to poverty reduction and the abatement of income inequality. The analysis therefore identifies a possible obstacle to a more universal welfare system in the region in the long run. Third, income (or more precisely, wealth status) appears to influence welfare provider preferences less than left ideology and privatization satisfaction. The declining effect of

wealth supports Roberts's (2002) claim on the diminishing role of class as a decisive cleavage in the Latin American society. The individual motives that have been highlighted by this analysis would benefit from further research. Qualitative research is needed to unravel the motives that drive the exclusion effect at the individual level and identify the causal mechanism at work, which might include fear of deprivation because of resource scarcity, social rivalry or a general mounting distrust in fiscal policy due to the failure of the social contract between taxpayers and the state. By spelling out the influence of labor market composition on welfare preferences, this study takes a first step toward the development of a more fine-grained understanding of the impact of the informal sector on welfare states and social cohesion in low- and middle-income economies.

Supplementary material

Supplementary material is available at SOCECO online.

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