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**The Origins of Social Contracts:**

**Attitudes toward Taxation in Urban Nigeria\***

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## Abstract

How do social contracts come into being? This paper argues that norm adoption plays an important and neglected role in this process. Using novel data from urban Nigeria, we examine why individuals adopt norms favoring a citizen obligation to pay tax where state enforcement is weak. We find that public goods delivery by the state produces the willingness to pay tax, but community characteristics also have a strong and independent effect on both social contract norms and actual tax payment. Individuals are less likely to adopt pro-tax norms if they have access to community provision of security and other services. In conflict-prone communities, where “self-help” provision of club goods is less effective, individuals are more likely to adopt social contract norms. Finally, we show that social contract norms substantially boost tax payment. This paper has broad implications for literatures on state formation, taxation, clientelism, and public goods provision.

## 1. INTRODUCTION

Tax collection is more successful when based on voluntary compliance. Even in high-capacity states, taxpayers evade taxation far less than would be expected if individual decisions were driven by fear of detection (Alm, McClelland, & Schulze 1992; Andreoni et al 1998). In the developing world, enforcement-led compliance is even less likely. Tax collection institutions are underdeveloped, and increased tax enforcement and penalties for evasion have often had weak effects on overall tax revenues. In these contexts, voluntary compliance is likely to play an important role in expanding the tax revenue base, at least initially. But these are also places where social contract norms – the attitudes that underlie voluntary compliance – are unlikely to be well-established or widespread.

While voluntary compliance is an important component of successful tax regimes, there is little understanding of how norms favoring compliance emerge. The bulk of the literature on state-building and taxation presumes the slow evolution of a social contract between the state and critical economic actors (Bates and Lien 1985; Levi 1988; North 1990; Tilly 1990; Rosenthal 1998; Lieberman 2003). This social contract imposes obligations on both parties: citizens are expected to pay taxes, regardless of their degree of support for the sitting government; in exchange, states are expected to provide public goods. Coercion may be important in the early stages of state formation, when the state acts as little more than a “stationary bandit,” but states soon find that coercion alone cannot secure the compliance of mobile asset holders (Tilly 1985). From this perspective, it is repeated rounds of state-society bargaining – *not* the expansion of enforcement capacity – that produces the social contract that characterizes the successful tax regimes of today.

What is missing from this account is the place of individual attitudes. Critical economic actors may strike bargains with the state, but it is unclear how these bargains result in the spread of social contract attitudes to the general population. Which individuals are “first movers” in

terms of adopting a belief in the state's unconditional right to tax? Does the provision of public goods quickly produce pro-compliance beliefs and behavior? Further, if some groups are perceived to have privileged access to the state, would not members of other groups resist tax payment and reject social contract norms? In this paper, we examine why some individuals adopt attitudes favorable to the social contract on taxation. We argue that the emergence of social contract attitudes is driven partly by a fiscal exchange logic. Where taxpayers believe that the state will provide goods in exchange for taxes, they are more likely to adopt norms that support the social contract. But local incentives and institutions also shape individual attitudes toward taxation. We argue that social contract attitudes are less likely to emerge where local communities are able to effectively engage in "self-help" provision of club goods, which individuals may see as acceptable substitutes for state-provided services. Put simply, the adoption of social contract norms is driven by both supply of public goods and by objective demand for public goods.

This paper uses public opinion data from eleven Nigerian cities to investigate why individuals adopt attitudes about taxation that we see as consistent with a social contract orientation. Our dependent variable is respondents' expressed attitudes toward a citizen obligation to pay tax. The survey asked respondents to agree with one of two normative statements: "citizens should always pay their taxes, even if they disagree with the government" versus "citizens should only pay taxes if they believe in their government". We view the question as an indicator of underlying attitudes regarding the social contract: individuals who do not condition tax payment are more likely to see state-society relations as imposing obligations on citizens, whereas those who link tax payment to approval of government may also view state authority as conditional. We refer to agreement with statement A as unconditioned support for a citizen obligation to pay tax or, more abstractly, as support for the social contract.

The paper provides robust support for two independent drivers of individual-level social contract attitudes. Importantly, the paper also demonstrates that a social contract orientation has a significant, positive effect on actual tax payment, reinforcing our intuition that norms underlie voluntary compliance. We find that individuals are more likely to express social contract attitudes when they have concrete and positive experience of state delivery. Those who report improvements in services delivery, as well as those who are more satisfied with the government's use of tax revenue, are more likely to support the state's right to tax. Second, effective community provision of excludable or club goods reduces the likelihood that members of those communities will turn toward the state for provision of security, contract enforcement, or other public goods. We test this proposition using several proxies and find support for our underlying intuition. Individuals who view their communities as characterized by hostile communal relations, which would presumably make collective action more difficult, express higher degrees of support for the social contract. Those with access to informal institutions, including both informal savings clubs and vigilante security providers, express lower degrees of support for the social contract. We discuss these mechanisms in greater detail below. Finally, we demonstrate that social contract attitudes are an important determinant of actual tax payment behavior, and these attitudes mediate the effect of public goods provision on tax payment. That, it is only through its effect on social contract attitudes that an individual's positive experience of state public goods provision increases her actual tax payment behavior.

The contributions of this paper are three-fold. Empirically, we draw on a novel survey in urban Nigeria that is better suited than existing data to examining questions about attitudes toward taxation and tax compliance. Unlike much of the existing data on tax compliance and morale, this survey was conducted in an environment where we would not expect to find widespread or deep support for the social contract. Yet forty percent of our sample express some degree of support for a citizen obligation to pay tax. In terms of explaining variation in attitudes,

the paper shows that public goods provision increases support for the social contract, but one of the paper's unique contributions is the attention it draws to social context. We argue that the adoption of social contract norms and compliance with state demands are partly driven by individuals' perception of the availability of community-provided alternatives to state services, which we term club goods. This is a very different narrative for the emergence of social contracts than that found in much of the literature, which typically presumes that state demands for tax produce societal counter-demands. There instead exists evidence of an objective demand for the social contract in urban Nigeria, even when individuals lack past positive experience of state services delivery. Indeed, conflict and ethnic diversity – the factors often statistically associated with weaker public goods provision – can exist alongside popular support for ideas of citizen obligation to the state. This paper extends the logic of some of the literature on ethnicity and public goods provision (Habyarimana et al 2007, 2009) to the new question of norm emergence.

Thirdly, our null results have implications for the research on clientelism and membership in ruling coalitions. These results show that those who belong to winning coalitions – who are presumably also more likely to receive clientelistic benefits – are generally as likely to condition their acceptance of state authority as those more excluded from power. Coethnicity with state governor or president has no significant effect on tax attitudes, and expressed support for the president or his party is similarly insignificant. The expectation of material benefits from national winning coalition membership, should such expectations even exist, does not seem to increase respondents' support for the state's right to tax. Where there does exist some support for the effect of winning coalitions, it exists at the local – *not the national* – level. Thus, in some of our models, co-partisanship with one's state governor has a positive effect on social contract norms, although this effect is not as strong or robust as our other causal factors. Members of winning coalitions may be more tolerant of government corruption and may evaluate their

governments more favorably (Anderson & Tverdova 2003; Chang & Kerr 2009), but this does not seem to translate into support for government authority or the adoption of social contract norms within this group. Consistent with research on clientelism, there is no suggestion that clientelistic linkage serves as a pathway to “civic” attitudes, which might include the idea of citizen obligation to pay tax.

We proceed as follows: Section 2 reviews the literature on tax regimes and the problems with taxation in low-capacity regimes. Section 3 lays out three theoretical perspectives from which we derive our working hypotheses. Section 4 describes the data, measures and research design. We then turn to results and concluding remarks.

## **2. STATE FORMATION, TAXATION, & INDIVIDUAL ATTITUDES**

In studies of the formation of modern Western European states, the development of tax collection capacity proceeds in tandem with the increasing sophistication and societal penetration of states. The literature stresses the importance of iterated bargaining between states and societal actors (Bates & Lien 1985; Levi 1988; Tilly 1990; Rosenthal 1998). The outcome of this bargaining is the establishment of a mutually beneficial social contract, in which taxes are exchanged for both public goods and, possibly, representation. Studies of tax regimes in other settings have often adopted this framework, focusing on the evolution of consensual relations between tax-seeking states and tax-paying dominant classes (Lieberman 2003; Jones Luong & Weinthal 2004). At base, the historical institutionalist literature posits a simple exchange: individuals agree to pay taxes, and states agree to provide public goods.

In the developing world, particularly in sub-Saharan Africa, such exchange relations have been slow to emerge. Many of these countries do not rely on direct taxation to finance their budgets; government bureaucracies usually have low monitoring and enforcement capacity; and states deliver fewer social services and public goods. In order to explain this state of affairs, scholars have generally offered macro-structural explanations, such as the availability of

alternative sources of government revenue, ethnic diversity, group inequality, or patterns of state formation (Alesina et al 1999; Ross 2001; Acemoglu et al 2001; Baldwin & Huber 2010). The resource curse literature is an example of the use of structural factors to explain political outcomes. The logic here is that state-society bargaining does not occur if states do not make extractive demands on their subjects, which is itself a function of states' natural resource profiles. Thus, where states have access to natural resources, especially oil, tax collection, political accountability, and demands for representative institutions all remain weak (Herb 2005; Ross 2011). In these kinds of structural accounts, the low-capacity-low-accountability character of these states is depicted as a trap from which it is difficult to devise means of escape. Where states do not (or cannot) rely on taxation, they have few incentives to (or cannot) deliver social services and develop ties of accountability with their populations. According to a different structural logic, cooperation across groups is more difficult if countries have high levels of ethnic diversity or group inequality, and politicians will win election by promising to provide private goods to their own constituencies. In these cases, states underprovide public goods and successfully resist demands for accountability, and individuals, presumably, do not adopt norms in support of paying taxes.

Both historical institutionalist and structuralist accounts see individual attitudes as primarily reactive. Citizens do not develop expectations of state delivery of public goods – and do not bargain for their delivery -- until they are asked to pay for such goods. Extractive demands *generate* individual preferences, which then generate collective action by society or by segments of society. Though these mechanisms are not spelled out, it would seem that norms of civic duty or individual preferences for state delivery emerge only as a result of interactions with state institutions. How these norms and expectations are internalized by diverse segments of the population is not examined.



It is therefore unsurprising that the literature on tax compliance, which draws on survey and experimental data, remains in near-complete isolation from these other literatures. The tax compliance research is firmly micro in its orientation, and it has identified several individual-level determinants of tax evasion and compliance (Alm, Jackson & McKee 1992; Andreoni et al 1998; Scholz & Lubell 1998; Alm et al 2006). In this literature, coercion plays a complicated role in explaining behavior, and scholars have increasingly privileged the importance of “tax morale”, which is an individual’s intrinsic motivation to pay tax. In explaining the individual attitudes that support tax payment, three factors are important: the existence of norms that reflect a social contract between state and society; trust in state institutions; and perceptions about the tax compliance of others. For the most part, however, the tax compliance literature studies the effects of such factors in high state capacity environments where tax morale is also already relatively high. These models shed little light on the mechanisms that produce widespread social contract attitudes in a given place, or, indeed, if the factors they identify have leverage in countries where social contract norms are less widespread than in the developed world.

### **3. INDIVIDUAL SOCIAL CONTRACT ATTITUDES**

This paper explains individual attitudes toward taxation in a context where both tax enforcement and social attitudes are still in the early stages of development. We argue that the adoption of pro-tax norms is important during the establishment of tax regimes, since these norms boost compliance and can offset weak collection or state enforcement capacity. Even in modern industrialized countries, enforcement is costly and has not been shown to have strong, uniform effects on compliance. In the developing world, states are even less able to directly deter tax evasion. In contexts of weak state penetration, the popular adoption of pro-compliance norms seems the most promising route to increased tax revenues and the first moves toward social contracts. But what drives the adoption of these norms?

We anchor our argument in three areas of research. Much of the existing literature on taxation is rooted in the logic of fiscal exchange, which holds that individuals become more likely to pay taxes following the receipt of state services. This paper assumes, however, that neither services delivery nor enforcement is sufficient to explain individual orientations to the state, including attitudes toward taxation. Thus, we also consider research on clientelism, risk-pooling, and public goods investment in the developing world. These distinct literatures suggest the importance of three different kinds of goods: private, club, and public. We base the three core hypotheses tested in this paper around the analytical distinction between these types of goods.

#### *Private goods*

In electoral regimes, core or electorally crucial constituencies are often granted greater access to state services and state spending (Dixit & Londregan 1996; Golden & Picci 2008; Weinstein 2011). In Africa, differential public investment is often organized on ethnic lines, and the effects of favoritism toward ruling coalition members can be seen in the distribution of roads (Burgess et al 2009), education and health spending (Franck & Rainer 2009), and the creation of new administrative districts (Green 2010). Across much of the developing world, including sub-Saharan Africa, clientelism is a winning strategy for politicians, and voters often expect – and even demand -- targeted redistribution over more general delivery of public goods (Wantchekon 2003, Lindberg 2003; Keefer 2007). For many African voters and politicians, elections are partly about the transformation of public finances into private goods. Membership in ethnic or partisan winning coalitions is often treated as an important determinant of individuals' access to resources, voting preferences, and political participation.

Can we link membership in winning coalitions to attitudes toward taxation and state revenue? Would likely “winners” in the game of clientelistic redistribution be more likely to pay taxes or support the state’s right to tax? Looking at taxation explicitly, there is some ambiguity

about how membership in ruling coalitions affects taxation. On the one hand, members of ruling coalitions might be more likely to support an expansion of the state and tax revenue, as they are likely to benefit from heavier state coffers. But these same individuals might think twice if the tax burden falls disproportionately on their shoulders, as Kasara (2007) suggests it does. She argues that African states more heavily tax their core constituencies – in this case, presidents’ co-ethnics – because they simply have greater extractive capacity when dealing with these groups. Greater tax burdens, however, need not be inconsistent with willingness to pay. In his study of tax policy in South Africa and Brazil, Lieberman (2003) shows that the group solidarities of the tax-paying classes play an important role in explaining the initial divergence in the tax collection capacity of the two countries. For Lieberman, individuals willingly pay taxes where they see state policy as benefiting a group to which they belong, even if they themselves will not be beneficiaries. Lieberman delves into how institutions shape the creation of cleavages and solidarities, but the relevant point here is the tie he makes between tax collection capacity and group interest. If we extend this to individual attitudes, we would expect a positive association between membership in winning coalitions and social contract attitudes.

Anderson and Tverdova (2003) provide an alternative mechanism linking ruling coalition membership and support for the state. In their analysis of the impact of corruption on evaluations of government performance, they find that political allegiances play an important mediating role in individuals’ evaluations. Supporters of incumbents are more likely to express trust in public officials and positive evaluations of government performance, regardless of the level of corruption (also, Chang & Kerr 2009). Thus, members of ruling coalitions may expect benefits for their own group, but they may also be more likely to feel that tax revenue will be well-used. Both these attitudes work in favor of pro-tax attitudes. On the other hand, those who do not belong to ruling coalitions may be unlikely to hold attitudes that favor the expansion of

state resources for two reasons: (1) they would be unlikely to reap the benefits of state capture of additional resources; and (2) they are simply less likely to trust government institutions.

Based on this discussion we derive our first hypothesis: *Individuals are more likely to believe in the state's right to tax when they support the ruling coalition or are members of ruling groups. (H1)*

### *Club goods*

A second mechanism focuses on the link between internal community attributes, access to group-delimited or club goods, and social contract norms. In Nigeria and in other low-capacity states, public goods are provided at suboptimal levels, and communities and individuals often engage in “self-help” provision of such goods. These efforts range from the forging of somewhat amorphous trade and trust networks to the collective provision of schools and roads to the creation of concrete non-state agents of order, such as ethnic militia and vigilante groups.

Access to these goods is almost always limited to those who contribute to their creation. Why are these kinds of club goods provided in some communities to a greater extent than in others?

The literature on risk-pooling, reaching back to James Scott's foundational work, suggests that individuals in the developing world are often embedded in networks based on both norms of reciprocity and more tangible enforcement mechanisms (Scott 1976; Fafchamps 1992). These networks are often premised on income transfers within the group, and they thereby serve as valuable protection against income shocks. Co-ethnicity is a strong basis for the creation and maintenance of these kinds of networks (Grimard 1997), as are religious co-affiliation and other kinds of social ties (Grief 1994; Cassar & Wydick 2010). While the bulk of the evidence for risk-pooling comes from rural settings, Cox and Jimenez (1998) show that reciprocal networks of cash transfers and mutual insurance exist in urban areas as well.

The benefits of socially-embedded networks extend beyond income insurance for the poor. These networks are powerful resources for organizing and policing collective action.

Community cohesion and norms of reciprocity make it easier to enforce contributions to community goods (Habayarimana et al 2009). Conversely, where communities are sharply divided, individuals may shy away from investing in public goods from which their rivals cannot be excluded, as Miguel's study of school investment in Kenyan versus Tanzanian villages eloquently shows (2004). Individuals are more likely to self-segregate and construct closed networks of exchange where information is poor, as we might presume it to be in communities characterized by diversity or by distrust (Geertz 1978; Grief 1994). Community-provided club goods can be seen as stable and beneficial to those who belong, but they are far from societally optimal.

Club goods may shape social contract attitudes through two different mechanisms. Individuals who have access to community-provided club goods are less likely to demand that the state provide public goods. Thus, community-provided insurance networks can reduce demand on the state to provide unemployment insurance or social security, while vigilante or community policing reduces citizen reliance on state police and security forces. Put differently, effective club goods provision can crowd out investment in public goods, of which we see attitudes toward taxation as an indicator. Secondly, negative experiences with the state and positive experiences with investment in club goods reinforce one another. In Nigeria, scholars have often pointed to the prioritization of "primordial publics" over the civic realm in order to explain high levels of corruption and government mismanagement (Ekeh 1975; Lewis 1996). Public officials' investment in club goods provision produces a corrupt and predatory state that is incapable of providing security or mediating group conflicts, which in turn reinforces individuals' decisions to invest in alternative authority structures, such as ethnic groups, market associations, or even militia.

Our second hypothesis flows from the posited inverse relationship between a community's success at provision of club goods and its residents' willingness to invest in non-excludable

public goods: *Individuals are less likely to support the state's right to tax if they live in communities that effectively engage in "self-help" provision of club goods.* (H<sub>2</sub>)

### *Public goods*

The final mechanism examined in this paper is the straight-forward fiscal exchange thesis that underlies much of the work on taxation (see Timmons 2005 for a review). According to this mechanism, individuals who directly benefit from state services are more likely to support the state's right to tax. This may be because individuals expect that their investment in the form of tax payment will be returned to them via government spending. Evidence of public goods provision may also create greater trust in government institutions and greater belief in the procedural fairness of government decisions, both of which scholars have found to be positively associated with tax morale (Alm et al 2006).

It is important to explain the difference between this third hypothesis and our first. Some degree of endogeneity may be at work: those who are supporters of incumbents tend to evaluate the government's performance more positively. But, conceptually, these two factors are distinct mechanisms. With regard to the first, the "winning coalitions" thesis, individuals express positive orientations toward the state and state power because they see this power as wielded selectively. Those who perceive themselves as cut out of spoils distribution are unlikely to support increases in state capacity or revenue, as they will not benefit from the expansion of state resources. In contrast, H<sub>3</sub> suggests that norms involving taxation arise out of a much more straightforward taxes-for-services exchange relationship between society and the state. Individuals support taxation where they see evidence that the state will use revenues for public goods provision, which is distinct from patronage or clientelistic redistribution.

Our third hypothesis follows: *Individuals with positive evaluations of government performance are more likely to support the state's right to tax.* (H<sub>3</sub>)

#### 4. DATA AND EMPIRICAL DESIGN

We use data from a survey conducted in eleven Nigerian cities in December 2010 (N=2750). A city-representative sample was selected using a stratified, clustered sampling procedure; individual informants were selected using a random-walk protocol from GIS-selected starting points. Gender parity was imposed. The cities are drawn from each of the three zones into which Nigeria is often divided, and they vary in terms of demographics, politics, and riot-proneness. There are three northern cities (Bauchi, Kano, Sokoto), three middle belt cities (Jos, Kaduna, Lafia), and five cities in southeastern and southwestern Nigeria (Ibadan, Lagos, Aba, Enugu, and Onitsha). In many cases, paired comparison guided our selection. For instance, Lafia and Jos are similar with respect to the structure of local grievances and demographics, but they vary in terms of riot-proneness.

Nigeria is a good testing ground for our theory. First, this is a context in which we would expect social contract attitudes to be especially unlikely to emerge. The oil boom of the late 1970s generated an increasingly corrupt and predatory state, and oil still accounts for about 80 percent of budget revenues. State governments are heavily dependent on federal transfers, and the tax collection infrastructure is weak, even by African standards. Indeed, Nigeria is often seen as an exemplar of the resource curse (Lewis 1996; Sala-i-Martin & Subramanian 2003). Both the rule of law and services delivery were largely ignored until the beginning of the transition to multi-party democracy in 1998/1999. This has fostered a large informal economy and a do-it-yourself public attitude toward infrastructure and contract enforcement on the part of communities and individuals. In addition, communal riots are common in several cities, a religiously-marked division between North and South has periodically threatened the survival of the state, and the explosion of criminal activity since 1990 has encouraged the formation of ethnic militia to provide community policing (Author, forthcoming). Distrust of government institutions and of other Nigerians is widespread (Lewis 2006).

Secondly, significant changes in taxation and services delivery have occurred in *some* Nigerian states over the past ten years. This creates interesting variation across the cities sampled. In the most striking example of tax reform in Nigeria, Lagos State was able to increase its tax revenue more than ten fold between 2003 and 2007. This was partly fueled by the need to raise revenue. In a surprising test of the durability of the resource curse, federal transfers to Lagos State were suspended in 2003, over a bureaucratic dispute, and the state government responded by stating that it would fund itself via tax revenues. Dramatic improvements in revenue collection coincided with visible expansion of social services, even in slums and marginal areas. Public attitudes toward the government and toward taxation have also altered quickly. Lagosians express higher degrees of government approval and greater support for tax payment than other Nigerians. Developments in Lagos State suggest that virtuous cycles of taxation and services delivery can be established, even in unlikely contexts.

In addition to the suitability of the case, the survey data allows us to examine questions for which existing data is ill-suited. Though the Afrobarometer has started collecting some data on taxation, the World Values Survey (WVS) has traditionally been the data source used by those interested in tax compliance. WVS questions sometimes convey normative commitments or prompting, and they are therefore likely to produce over-reporting of tax morale. Our data includes more detailed and less biased measures of attitudes toward taxation, and it also allows us to construct a novel and more reliable measure of tax payment. The urban focus of our survey is also a strength. Social contract attitudes are likely to emerge first in urban settings. Urban-dwellers are more likely to have experienced repeated interactions with the state, and they also navigate a more complex and diverse social world than residents of rural areas. Yet we still know fairly little about the political attitudes of this population.



#### **4.1 Support for the Social Contract**

Our measure of social contract attitudes captures individuals' attitudes toward citizen obligation to pay tax. Individuals are asked to agree with one of the following two statements: (A) citizens should always pay their taxes, even if they disagree with the government; (B) citizens should only pay taxes if they believe in the government. We retain the full 4-point scale of responses, ranging from "strongly agree with statement B" (value 1) to "strongly agree with statement A" (value 4). Roughly 42 percent of the sample agreed with statement A to some extent. Patterns of responses, however, vary significantly across cities. Figure 1 shows city-level means for the variable, with bars representing 95% confidence intervals around the means. The solid line represents the global mean for the sample. Differences in means are significant across cities, and particular cities (Lagos, Ibadan, Bauchi, Jos) serve as interesting outliers.

[Figure 1 about here]

The variation does not seem associated with the effectiveness of the tax collection apparatus, the capacity of which is low across Nigeria. There also seems to be no correlation between a state's level of budgetary tax dependence and social contract attitudes or tax compliance. For instance, both Lagos and Oyo States rely on tax revenue to fund state budgets to a much greater extent than other states; however, they lie on opposite ends of the spectrum in terms of residents' reporting of tax payment. Using the tax payment measure we discuss below, 74 percent of respondents in Lagos report that they pay taxes, while only 40 percent of Ibadan (in Oyo state) residents answer similarly. The two cities also lie at opposite ends of the spectrum in terms of mean social contract attitudes. Among those states with mid- or intermediate levels of tax dependence, there is similar variation. In Kaduna, only 44 percent of respondents report tax payment, while a surprisingly high 70 percent of Lafia residents report tax payment. It does not seem likely that variation is simply capturing differences in state investment in tax collection.

Nor does variation seem to be driven by differences in services delivery performance. Lagosians express attitudes favoring the social contract to a greater extent than their counterparts in other cities, which is unsurprising given expansion of services. Other outliers are more difficult to explain. Jos, for instance, is the most riot-prone of the cities surveyed. During our survey, conflict broke out in a village near Jos, resulting in several deaths, and residents feared that riots would erupt within the city. Put simply, this is a low-trust environment, and the Nigerian state has failed to provide even basic security to residents. Ibadan, on the other hand, is a fairly homogenous city, with Yorubas composing 88 percent of the population, and it has never experienced ethnic or religious riots. As Figure 1 shows, these two cities are strong outliers with regard to attitudes toward taxation. The battle-scarred residents of Jos express much *stronger* approval of citizens' unconditional obligation to pay tax, while the residents of Ibadan have a much lower mean social contract orientation.

Jos and Ibadan suggest that conflict and trust may work in the opposite direction than we would expect: those with the greatest degree of insecurity may support the social contract, simply because these individuals have a concrete need for stronger states. On the other hand, as suggested above, more homogenous or less conflictual communities may be able to solve collective action problems and engage in "self-help" provision of club goods to their members without the assistance of the state.

## **4.2 Independent Variables**

We use three binary variables to capture  $H_1$  or individual membership in ruling coalitions. A first is whether the individual was a co-partisan of sitting President Goodluck Jonathan or expressed the intention to vote for him in the then-upcoming 2011 elections. The second is whether the respondent shared partisanship with the sitting governor of his or her state. Expressed partisanship is stronger in Africa's cities than in rural areas, but those who express a partisan identity still compose only 55 percent of our sample. Many Africanists argue that

ethnicity, not partisanship, determines membership in ruling coalitions. We therefore include a variable that equals 1 for respondents that share the same ethnicity as the state governor and zero for all other respondents.<sup>1</sup> We have a fairly small number of the President's coethnics in the dataset, given the small size of his ethnic group, but Igbos, another southeastern tribe, are typically perceived as beneficiaries of Jonathan's rule. Significance for Igbo ethnicity in our results might therefore be considered support for the ruling coalition hypothesis.

To test our second hypothesis, we use several rough proxies for the ability of an individual's community to provide club goods to its own members. Our first measure focuses on an individual's perceived level of conflict within her own community, since we assume that conflictual communities are less effective at club goods provision. Individuals are asked to characterize the relationship between different ethnic and religious groups in their city. Responses are on a 5-point scale ranging from "very hostile" (coded as 1) to "very cordial" (coded as 5). Since this is obviously not a perfect measure of club goods provision, we also use measures of individual participation in or support for groups that provide excludable goods. A second measure is a dummy variable that takes the value 1 if the individual relies on informal savings clubs to safeguard the bulk of their savings. About 8% of our sample report using these savings clubs, though that constitutes 22 percent of those who are actively saving money. A third measure addresses the reliance of individuals on non-state actors for security provision: the variable takes on a value of 1 for individuals who report that they would find vigilante groups most helpful in solving a theft. About 7 percent of our sample reported that they would turn first to a vigilante group. We expect less support for the social contract from individuals living in

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<sup>1</sup> In the eleven states in which our cities are located, there are three Hausa governors, two Yoruba, three Igbos, one Jukun, and two governors from much smaller ethnic minorities.

harmonious communities, those who invest their savings with fellow members of their social networks, and those who see vigilante groups as potentially effective security enforcers.

For our third hypothesis we use two measures of government performance. These questions point respondents toward evaluations of their state government, as state governments in Nigeria are more visibly involved in the provision of services. The first of these indicators is expressed satisfaction with how the current state administration has spent tax revenue. Approximately 38 percent of our sample reported that they were very or somewhat satisfied with the way in which their state government had used tax revenue. We also use an additive measure of concrete public goods provision. Respondents are asked about seven different public goods that may have been built in their communities (e.g., a hospital, school, police post, water infrastructure, market stall). Using these responses, an index of public goods provision was constructed with a maximum of seven and a minimum of zero public goods provided. About 73 percent of the sample reported the construction or provision of at least one new public good by the sitting state government; 23 percent of the sample reported the provision of four or more public goods.

In addition to our key variables, we use standard controls, including respondent's age, gender, education, ethnicity, religion and religiosity, the respondent's status as indigenous to her state of residence, a measure of food deprivation, and a measure of household asset ownership that we use as an index of wealth. Occupation was recoded to produce usable "class-like" categories, such as informal sector employment, unskilled formal sector employment, and white-collar professional status. We also include the following variables: a measure of an individual's interest in politics, where responses range on a four-point range from "not at all interested" (1) to "very interested" (4); a measure of individuals' reported meeting with a government official or representative in the prior year in order to raise a problem or issue, ranging from never (1) to often (4); and a binary measure of whether respondents report paying a bribe to or being asked for a bribe by a government official at any point in the prior year.

These variables are included because they presumably capture different aspects of an individual's orientation toward the state.

### **4.3 Research Design**

Due to the ordinal nature of our dependent variable, the statistical analysis relies on ordered logistic models with city fixed effects.<sup>2</sup> As a robustness check, we also incorporate city-level factors via multi-level estimation techniques that explore nested data (Rabe-Hesketh and Skrondal 2008). This latter approach recognizes the hierarchical structure of that data, correcting potentially underestimated standard errors of regression coefficients.

## **5. Results**

In discussing the statistical estimations, we first assess the direction of effects, statistical significance, and coefficient robustness. We then compare the substantive effects of the coefficients identified as significant in the estimations. Table 1 shows the results from ordered logit estimations, testing our hypotheses H1, H2 and H3 separately and then combining the key independent variables in a full model (Model 4). In this set of results, the dependent variable is individual attitude towards taxation with higher values showing a more favourable attitude towards a broad social contract on taxation (agreement with the statement that “citizens should always pay their taxes, even if they disagree with the government”).

[Table 1 about here]

Several findings stand out. Only one of our operationalizations of the “private goods” hypothesis H1 is supported by the estimations. That is, there is weak support for the idea that membership in winning coalitions affects individual attitudes toward taxation. Sharing a partisan

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<sup>2</sup> Our results are robust when we collapse the four-level dependent variable into a binary variable grouping support for statement A versus support for statement B and use binary logit models with city fixed effects.

identity with the governor of the respondent's state of residence strongly increases individual support for the state's right to tax (Model 1). However, in the full model, which includes variables operationalizing H2 and H3, the coefficient associated with shared partisanship with the governor becomes smaller and loses its significance. Being a co-partisan of the president, a co-ethnic of the president, or a member of an allied ethnic group has no significant effect on social contract attitudes across any of our models. State setting is a more important influence on tax attitudes than an individual's position vis-à-vis national ruling coalitions.

All variables testing our second hypothesis, which relates to community club goods provision, receive some support from the estimations. An individual's estimation of the quality of communal relations has a significant negative effect on social contract attitudes. Individuals who assess communal relations in their local area as cordial or very cordial are more likely to express attitudes that condition the citizen's obligation to pay tax. The negative effect of harmonious community relations is robust both in Model 2 and the in the full model (Model 4). But how well does individual assessment of community harmony capture actual conflict? As an additional check on this measure, we asked respondents how often ethnic and religious conflict in their community had resulted in loss of life or destruction of property. There was a high rate of refusal to this question, causing us to lose 500 observations; however, the aggregated frequency of reported ethnic and religious clashes reinforces the reliability of individuals' assessments of community harmony and our posited relationship between conflict and tax attitudes. Individuals who report rioting in their communities are more likely to support citizens' unconditioned obligation to pay tax. Being a member of a savings club also has a negative effect on social contract attitudes, though this variable only reaches conventional levels of statistical significance in the full model (Model 4). Respondents who hold a favourable view of vigilante groups are also less likely to express social contract attitudes. The variable's negative and statistically significant effect is robust in the full model (Model 4). Overall, there is strong

support for the idea that individual access to club goods reduces the adoption of norms favoring citizen obligation to the state.

Both variables operationalizing our “public goods” hypothesis (H3) achieve statistical significance. Increased satisfaction with the manner in which the state administration has spent tax revenue raises the chances that individuals will express unconditioned support for tax payment. Respondents are also less likely to condition their attitude toward taxation when they report a higher number of public projects (hospitals, schools, roads, etc) in their community of residence. Both indicators of public spending are statistically significant in Model 3 and in the full model. Other measures of individual contact with the state also have strong and significant effects on attitudes toward taxation. Reporting of having paid or been solicited for a bribe is found to be strongly and positively associated with pro-tax attitudes. This may seem counter-intuitive; however, we assert that any contact with the state -- even if that contact is predatory -- might increase an individual’s orientation toward the state as a locus for claims-making, as Tilly (1985, 1990) suggests. There is also another potential explanation of this association, which is that experience with bribery serves as a proxy for state monitoring or enforcement in a given area. Individuals simply may be more likely to be solicited for bribes where the state has greater bureaucratic (albeit corrupt bureaucratic) presence and reach. This interpretation would seem to be supported by our finding on the effects of state-directed evictions reported in Table 2 and discussed below. Far less robust as a measure of state contact is the effect of meeting with state representatives. This shows up as significant and in the expected direction (meeting with a representative increases unconditioned support for taxation) in one of our models, but it is not significant in other models. In our model of actual tax payment, discussed below, this proxy for state contact plays a more important role.

Basic demographic controls have neither significant nor substantial effects on attitudes toward taxation. Education, age, gender, socioeconomic status, religion, and religiosity do not

achieve significance. We do not report ethnicity in Table 1, but we do find some evidence of significant but less robust effects of some ethnic identities. Hausa ethnic identity is positively associated with social contract attitudes in some specifications of the model, which may be due to a pre-colonial history of stronger, more centralized states in the areas of Northern Nigeria where Hausa reside. Igbo identity is negatively associated with social contract attitudes but lacks statistical significance. This would, once again, suggest that being part of a presidential ruling coalition has little or no effect on social contract attitudes. We also found that interest in politics and public affairs, included here as a control, is significantly associated with lower levels of support for social contract attitudes.

Our main findings are robust to the inclusion of a variety of additional variables and to alternative specifications of the model. Table 2 shows that our key, statistically significant variables retain their significance after adding additional variables to our preferred full model. As a further robustness check, models in Table A2 in the supplementary material present the results from multi-level ordered logit regressions. In these models we include the individual level variables from Model 4 and city level variables. Ideally, city- or state-level data from other sources should be used for these estimations; unfortunately, Nigeria, as might be expected, suffers from a paucity of public data. We therefore use city-level aggregations of survey responses for level-two variables, including trust attitudes vis-à-vis the governor and the president, perception of ethnic and religious conflict, and individual experiences of eviction, electoral intimidation and crime. The intuition here is that, even if an individual does not share these attitudes, living in an environment characterized by lower levels of trust or higher perceived insecurity have an independent effect on individual attitudes. The multilevel specifications show that the results of the fixed effects full model in Table 1 hold. Besides the robustness of our key variables of interest, the multilevel analysis does not yield other substantively important results. For the specific city level variables we look at, there is little



evidence that they operate above and beyond individual level effects.

The results in Table 2 also provide some additional support for our causal hypotheses by including additional variables that may serve as proxies for these concepts. The first two models in Table 2 add alternative evaluations of government: perception of the fairness of elections; trust in the governor; and trust in the president. The third model includes additional measures of engagement: attendance of community meetings (48.7 percent of the sample); reported likelihood of reporting a crime of theft to the police (58 percent); and reported voting in the last election (68 percent). The fourth model includes variables that capture individuals' feelings about their personal security: evaluation of the prevalence of electoral intimidation in the community of residence; direct experience of crime in the last year; and direct experience with state-sponsored clearances of illegal structures (either lost property or lost residence). The final model includes measures of political minority status in one's city of residence.<sup>3</sup> The intuition in this last model is that sharing the political preferences of one's neighbors may boost one's belief that a social contract exists between state and society. We tested indigeneity – whether an individual would be considered a “stranger” or a native in her place of residence – as a control in the original models, where it was found to be insignificant. This captures a different form of minority status.

[Table 2 about here]

Some of these variables are directly related to our primary hypotheses, and the results in Table 2 tend to support our hypotheses. In model 7, reported attendance of community meetings, which we might see as involvement in neighbourhood civic life, reduces respondents' support for a social contract on taxation. It is possible that individuals who participate in neighbourhood

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<sup>3</sup> An indicator for ethnic minority at the city level is correlated at -0.96 with the co-ethnicity of the state governor and is not included.

civic life have greater access to networks or institutions that provide club goods, as in H2. In model 8, two measures of personal insecurity – perceptions of the prevalence of electoral intimidation and direct experience with state clearances – have significant, positive effects on social contract orientation. Particularly regarding evictions, this finding seems similar to that reported above regarding the positive effect of experience of corruption on social contract attitudes. We posit above that this is because any contact with the state (even negative contact) tends to produce a general orientation toward the state on the part of individuals. A more voluntary measure of state contact, the willingness to report crime to the police, does not achieve significance.

In our full model in Table 1, we found that individual's level of interest in politics and public affairs was negatively associated with social contract attitudes. Because the direction of this effect was somewhat unexpected, we examined additional measures of individual orientation toward the state in the robustness tests. Rather than focusing narrowly on government performance, individuals may rely on more general attitudes toward the state or toward government institutions. Some measures of this dimension attain statistical significance. Perception of fairness of elections increases support for a social contract on taxation. The trust variables also achieve statistical significance, but the effect of trust is not uniform. Trust in the governor increases unconditioned support, while trust in the president reduces it. Finally, in Model 9, we test to what extent attitudes are driven by partisan minority status in the 11 cities surveyed. While not entirely robust, we have already shown some evidence that sharing a partisan identity with the state governor tends to increase support for citizen obligation to pay tax. The additional results suggest that the positive association between co-partisanship with the governor and social contract attitudes is driven less by the positive benefit of being in the governor's coalition than by the negative effect of not being in the governor's coalition. Individuals who expressed a different partisanship from the majority of their fellow city

residents (vis-a-vis the governor) were much less likely to express unconditioned support for citizen obligation to pay tax. On the other hand, having a different partisan orientation toward the president than one's neighbors has no effect on attitudes toward taxation.

So far, we have discussed the direction and robustness of our estimates. With logit models, the size of effects cannot be directly inferred from model coefficients. Table 3 presents predicted probabilities and average marginal effects for the statistically significant variables in our models from Table 1. The probabilities and effects are computed for meaningful values of each of the variables, keeping the remaining covariates at their observed values and then averaging across respondents.

[Table 3 about here]

The variables that test our core theoretical hypotheses have respectable marginal effects. Being co-partisan with the governor increases the chance that a respondent will support express unconditioned support for citizen obligation to pay tax ("citizens should always pay their taxes, even if they disagree with the government") by about 11%. The substantive effects of our other causal variables are even more substantial. Comparing individuals that live in cordial versus hostile communities, residents of harmonious communities have about a 29% lower likelihood of agreement with a citizen's obligation to pay tax. Being a member of a savings club and supporting vigilante group protection reduce the chances of agreement with unconditional taxation by 18% and 28.5%, respectively. Finally, more satisfaction with the revenue spending of the state (a move from 1 to 3) and more public good projects in a community (a move from 0 to 3) increase the likelihood of social contract orientations by 36 and 24 percent, respectively. These substantive effects are large and on par with the effects of the small number of other variables that show up as statistically significant. Reporting contact with bribery (move from 0 to 1), which we see as a proxy for state contact, increases the probability of a respondent being favourable to a broad social contract by 20%. The same positive attitude is reduced by 7% by a

move from no interest in politics to being somewhat interested in politics. Also, being a member of the Hausa ethnic group increases the likelihood of agreement with a social contract in taxation by about 32%.

### **5.1 Attitudes and Actual Behavior: Who Pays Taxes?**

Finally, we turn to the important question of whether social contract norms actually have concrete effects on tax compliance. We find that some of the factors driving social contract attitudes also underlie individual tax payment, and we also establish that social contract attitudes have an independent effect on tax compliance. Results of the tax payment model are presented in Table 4. Before we discuss the findings, it is important to comment on the construction of our behavioral variable, since individuals have incentives to conceal tax evasion. Because of these incentives, explicit questioning about tax payment can result in over-reporting of tax compliance. It may also generate some degree of respondent suspicion and hostility toward enumerators, which can corrupt responses to other questions as well. In high-corruption, low-capacity states like Nigeria, the costs of detection are lower and norms against tax evasion are weaker. Individuals in these settings may be substantially more likely to truthfully report tax payment than those in high-enforcement contexts, but the potential costs of direct questioning still outweigh the value of data collected.

Consequently, our survey did not directly ask respondents if they paid taxes. Instead, the survey included a series of questions regarding taxation. After asking if the respondent was aware of reforms to tax collection in their state of residence, she was asked if she currently paid more taxes and levies than she had three years previously. This was a simple yes/no question, but, surprisingly, more than 42 percent of respondents volunteered that they did not pay taxes. We use this volunteered response to construct a binary measure of tax payment. Those who reported that their taxes increased or decreased were presumed to have paid taxes, while those

that volunteered non-payment were coded as non-payers. Our findings are robust to an alternative coding of this variable, as shown in Table 5.<sup>4</sup>

Results in Table 4 are derived from logistic models with city-fixed effects. Of the factors that achieve significance in our earlier model of social contract attitudes, only two of these have consistent and robust independent effects on actual tax payment. Our club goods proxy – more harmonious community relations – reduces the likelihood of tax payment. We posit that this is due to the same substitution effect earlier hypothesized to explain attitudes: residents of areas where there exists effective community provision of club goods are less likely to pay taxes, as they do not look to the state for provision of public goods. However, being in a savings club or supporting vigilante group protection are not statistically significant. The other two core hypotheses from above do not have robust direct effects on tax payment. Co-partisanship with either state governor or president has no effect on tax payment. Sharing ethnicity with one’s governor appears to reduce tax payment, although not across all models. Importantly, measures of public goods provision perform weakly in explaining actual tax payment. Satisfaction with revenue spending does not boost tax payment. Experience with concrete public goods provision is inconsistently significant and is signed in an unexpected direction once social contract attitudes are included in the model.

Overall, it seems that public goods delivery does not directly boost the likelihood of tax payment, but other proxies for direct contact with the state have strong, positive effects on tax payment. Direct contact with official corruption is significantly and positively associated with tax payment, as it was for social contract attitudes. Another measure of contact with the state –

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<sup>4</sup> Because the answer “No, I do not pay more taxes and levies than three years ago” can also be construed as “no I do not pay taxes, but I also did not pay in the past”, we also code our variable as a 1 only if the respondent volunteered that he/she pays more now than in the past (Model 12).

meeting with a government officials to “raise a problem in the community” – is also significantly and positively associated with tax payment, though the size of that effect is smaller than for contact with corruption. As mentioned above, this meeting measure had no significant effect on individual social contract attitudes. The results for bribery and meetings with officials may be consistent with either of the mechanisms posited above. That is, state contact may be increasing individuals’ orientation to the state *and* individual tax payment, or bribe solicitation and meeting with government representatives might serve as proxies for state enforcement capacity.

[Table 4 about here]

Our key finding here, reported in models two and three, is that contract attitudes have a significant effect on tax payment. Those who express unconditioned agreement with a citizen obligation to pay taxes (“citizens should always pay tax, even if they disagree with the government”) are actually more likely to pay tax. The variable has an important substantive effect too: a change from strongly supporting statement B (“citizens should only pay taxes if they believe in the government”) to strongly supporting statement A (“citizens should always pay their taxes, even if they disagree with the government”) increases the predicted probability of tax payment by 26.4%. As noted above, satisfaction with revenue spending and more public goods projects in respondent’s community does not increase likelihood of tax payment. It is not that the fiscal contract has no effect on actual tax compliance; instead, state delivery of services enhances the state’s ability to tax *through* its effect on attitudes. Thus, state delivery of services produces attitudes consistent with a social contract orientation, and these attitudes make individuals more likely to pay taxes. This finding underlines the importance of examining shifts in social norms alongside more concrete improvements in state delivery of services and state enforcement capacity.

## 6 Conclusion

Our findings have several implications for those who are interested in the development of state capacity and accountability in weak states in the developing world. Most simply, we show that social contract orientations exist even in contexts like Nigeria, where resource curse and predatory state dynamics are presumed to prevent their emergence. Attitudes supporting citizens' obligation to pay tax are not general: only about 40 percent of our urban sample express such views, and these attitudes are likely to be far more rare in rural contexts. Our data supports the emphasis on services provision that underlies many neo-institutional economic explanations of state formation (e.g., North 1990; Grief 1994). Individuals are more likely to support the state's right to tax if they have received concrete benefits from the state and view the state as efficient in its use of tax revenues. More controversially, we show that state contact need not be benevolent in order to change individual orientations toward the state. Urban Nigerians who have been solicited for bribes – and those who have suffered due to state-sponsored destruction of illegal structures – are more likely to express unconditioned support for a citizen obligation to pay taxes than those who lacked these negative experiences of state contact. To our knowledge, this is the first direct evidence for the link Tilly poses between state extortion and societal acceptance of state authority.

An even more complicated story is suggested by our findings about the effect of social context on attitudes toward taxation. We find that the character of community relations has a direct impact on the adoption of social contract norms. When individuals live in areas that are able to solve problems of security and contracting on their own, without recourse to the state, these individuals are much more likely to condition citizens' obligation to pay taxes. This finding suggests the importance of a factor neglected by the resource curse literature, which assumes that the need for tax revenue will produce state actions that yield societal compliance. We instead suggest that communities may construct substitutes for state services provision in the

absence of the state, and these substitutes can serve as a potentially durable impediment to the adoption of social contract attitudes. Ethnic diversity may be statistically associated with weaker public goods delivery (Alesina et al 1999), but these contexts may be more propitious for the spread of social contract norms than communities characterized by greater cohesion and effective collective action. In terms of policy implications, states would be well-served by providing alternatives to existing club goods providers. For instance, strengthening or extending the reach of formal bank services may reduce residents' reliance on informal savings clubs. Put simply, the emergence of social contracts is a reciprocal process of extending state services while prompting citizens to lessen their reliance on non-state providers of club goods.



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Figures and Tables

Figure 1: Unconditioned Support for Citizen Obligation to Pay Tax across Nigerian Cities

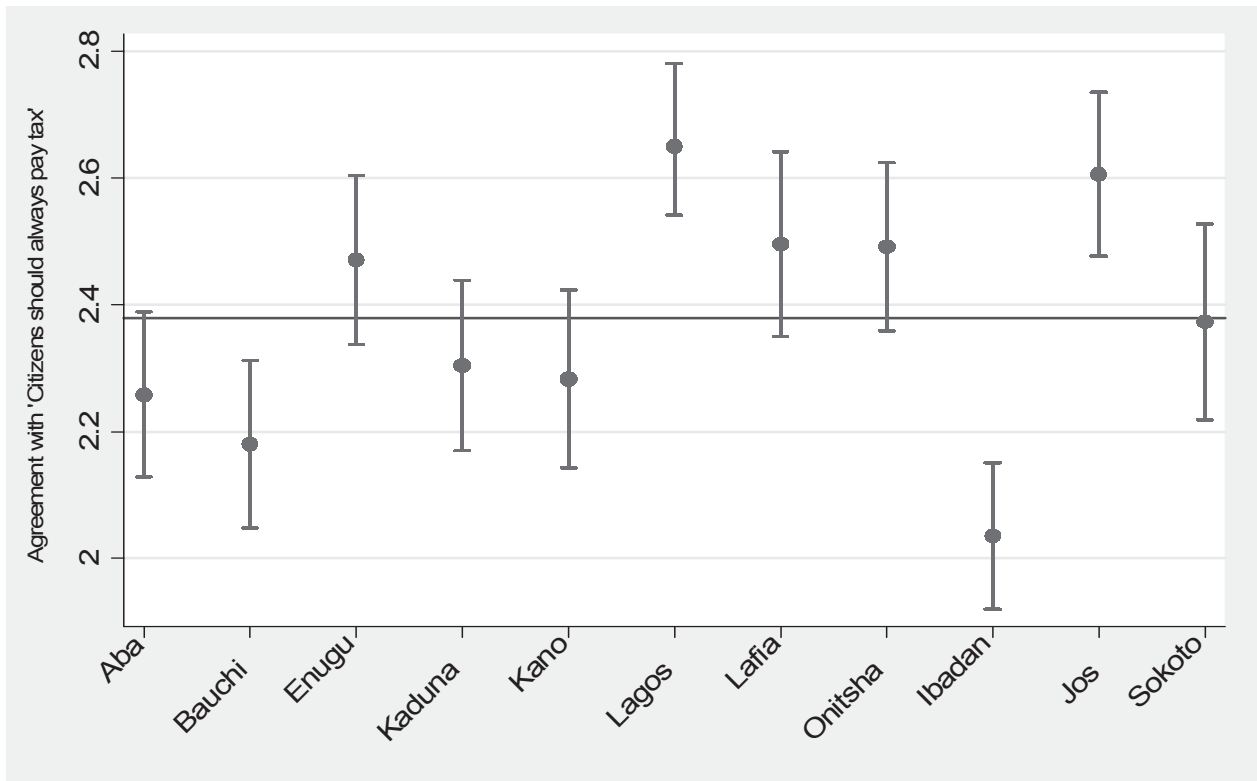


Table 1. Ordered logit model of individual level determinants of attitudes toward taxation

		Private Goods	Club Goods	Public Goods	Full model
		Model 1	Model 2	Model 3	Model 4
H1	Co-partisan with state governor	0.178 (0.093)*			0.137 (0.100)
	Co-ethnic with state governor	-0.023 (0.125)			0.153 (0.141)
	Co-partisan with the president	0.032 (0.091)			0.048 (0.096)
H2	Community relations		-0.214 (0.036)***		-0.227 (0.038)***
	Member of saving club		-0.206 (0.132)		-0.283 (0.137)**
	Agree with vigilante group protection		-0.386 (0.146)***		-0.428 (0.155)***
H3	Satisfaction with revenue spending			0.192 (0.049)***	0.201 (0.053)***
	Specific spending on public goods in individual's state			0.102 (0.024)***	0.094 (0.026)***
	Met with government official or representative	0.089 (0.057)	0.138 (0.060)**	0.067 (0.062)	0.110 (0.066)*
	Food deprivation	-0.081 (0.042)*	-0.049 (0.043)	-0.067 (0.045)	-0.038 (0.046)
	Religiosity	-0.010 (0.031)	0.006 (0.032)	-0.007 (0.031)	0.005 (0.033)
	Direct contact with corruption	0.377 (0.092)***	0.258 (0.096)***	0.372 (0.094)***	0.249 (0.098)**
	Assets	-0.045 (0.044)	-0.065 (0.045)	-0.053 (0.047)	-0.043 (0.049)
	Interest in politics	-0.116 (0.040)***	-0.053 (0.042)	-0.112 (0.042)***	-0.046 (0.045)
	Adjusted R2	0.024	0.033	0.028	0.038
	Observations	2,267	2,155	2,115	1,946

Note: Robust standard errors in parentheses; \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.10$ . Models include city fixed effects; controls for the individual's ethnic group, gender, religion, indigeneity, age, occupation and education. The dependent variable takes higher values for unconditioned support for the state's right to tax.

Table 2. Ordered logit model of individual level determinants of attitudes toward taxation  
Robustness checks

	Perception of elections	Trust	Community and national engagement	Insecurity	City level minority status
	Model 5	Model 6	Model 7	Model 8	Model 9
Co-partisan with state governor	0.103 (0.101)	0.137 (0.101)	0.129 (0.104)	0.125 (0.100)	0.148 (0.101)
Co-ethnic with state governor	0.161 (0.142)	0.136 (0.142)	0.164 (0.141)	0.151 (0.140)	0.144 (0.143)
Co-partisan with the president	0.040 (0.097)	0.060 (0.098)	0.060 (0.100)	-0.054 (0.105)	0.030 (0.098)
Community relations	-0.222 (0.038)***	-0.205 (0.039)***	-0.204 (0.040)***	-0.226 (0.038)***	-0.140 (0.041)***
Member of saving club	-0.290 (0.138)**	-0.252 (0.140)*	-0.357 (0.150)**	-0.288 (0.137)**	-0.314 (0.136)**
Agree with vigilante group protection	-0.441 (0.157)***	-0.348 (0.158)**	-0.450 (0.173)***	-0.427 (0.156)***	-0.300 (0.158)*
Satisfaction with revenue spending	0.204 (0.053)***	0.180 (0.054)***	0.223 (0.056)***	0.197 (0.053)***	0.222 (0.053)***
Specific spending on public goods in individual's state	0.100 (0.027)***	0.096 (0.027)***	0.100 (0.028)***	0.096 (0.026)***	0.081 (0.027)***
Perception of elections (unfair to fair)	0.087 (0.044)**				
Trust in governor		0.223 (0.052)***			
Trust in president		-0.195 (0.053)***			
Attendance of community meetings			-0.162 (0.047)***		
Would report theft to police			-0.054 (0.094)		
Voted in last election			-0.019 (0.098)		
Evicted				0.379 (0.111)***	
Subject to electoral intimidation				0.409 (0.106)***	
Subject to crime				0.182 (0.110)*	
Partisan minority at city level - governor					-0.282 (0.107)***
Partisan minority at city level - president					0.031 (0.099)
Adjusted R2	0.04	0.043	0.041	0.046	0.039
Observations	1,895	1,932	1,748	1,934	1,946

Note: Robust standard errors in parentheses; \*\*\* p<0.01, \*\*p<0.05, \*p=<0.10. All control variables are included in the estimations. The dependent variable takes higher values for unconditioned support for the state's right to tax.

Table 3. Substantive effects – Average Marginal Effects of Independent Variables

		<b>Strongly agree with statement A: Citizens should always pay their taxes, even if they disagree with the government</b>	<b>Strongly agree with statement B: Citizens should only pay taxes if they believe in the government</b>
		<b>Predicted Probability (p)</b>	
<b>Model 4 – Table 1: Key variables</b>			
Co-partisan with state governor (range 0 to 1)	0 (no)	0.185	0.253
	1 (yes)	0.205	0.230
	% Change in p (X: 0 to 1)	10.81%	-9.09%
Community relations (range 1 to 5)	2 (hostile)	0.237	0.191
	4 (cordial)	0.168	0.268
	% Change in p (X: 2 to 4)	-29.11%	40.3%
Member of saving club (range 0 to 1)	0 (no)	0.199	0.236
	1 (yes)	0.160	0.288
	% Change in p (X: 0 to 1)	-18.09%	19.41%
Agree with vigilante group protection (range 0 to 1)	0 (no)	0.20	0.234
	1 (yes)	0.143	0.314
	% Change in p (X: 0 to 1)	-28.5%	34.1%
Satisfaction with revenue spending (range 1 to 4)	1 (not at all satisfied)	0.159	0.286
	3 (somewhat satisfied)	0.216	0.214
	% Change in p (X: 1 to 3)	35.85%	-25.17%
Specific spending on public goods in individual's state (range 0 to 7)	0 (none)	0.165	0.275
	3 (3 distinct projects)	0.205	0.225
	% Change in p (X: 0 to 3)	24.24%	-18.18%
<b>Model 4 – Table 1: Other statistically significant variables</b>			
Direct contact with corruption (range 0 to 1)	0 (no)	0.185	0.254
	1 (yes)	0.222	0.211
	% Change in p (X: 0 to 1)	20%	-16.9%
Interest in politics (range 1 to 4)	1 (not at all interested)	0.207	0.228
	3 (somewhat interested)	0.193	0.243
	% Change in p (X: 1 to 3)	-6.76%	6.57 %
Hausa	0 (no)	0.181	0.259
	1 (yes)	0.241	0.197
	% Change in p (X: 0 to 1)	31.87%	-23.94%



Table 4. Logit model of individual level determinants of tax payment

	Individual level variables	Attitude toward tax- payment	Alternative coding of tax payment
	Model 10	Model 11	Model 12
Co-partisan with state governor	0.024 (0.123)	-0.027 (0.129)	0.066 (0.126)
Co-ethnic with state governor	-0.669 (0.204)***	-0.760 (0.212)***	-0.185 (0.198)
Co-partisan with the president	-0.101 (0.118)	-0.113 (0.123)	0.098 (0.122)
Community relations	-0.202 (0.049)***	-0.178 (0.051)***	-0.109 (0.048)**
Member of saving club	0.003 (0.184)	0.020 (0.190)	-0.104 (0.207)
Agree with vigilante group protection	-0.222 (0.202)	-0.106 (0.214)	0.105 (0.214)
Satisfaction with revenue spending	0.049 (0.059)	0.026 (0.062)	-0.026 (0.062)
Specific spending on public goods in individual's state	0.064 (0.029)**	0.049 (0.030)	-0.057 (0.032)*
Met with government official or representative	0.176 (0.079)**	0.221 (0.084)***	0.339 (0.078)***
Food deprivation	-0.046 (0.055)	-0.002 (0.058)	0.086 (0.058)
Religiosity	-0.004 (0.037)	0.001 (0.038)	0.000 (0.041)
Direct contact with corruption	0.439 (0.115)***	0.410 (0.119)***	0.376 (0.117)***
Assets	0.024 (0.059)	0.014 (0.062)	0.161 (0.062)***
Interest in politics	0.012 (0.051)	0.003 (0.053)	0.126 (0.052)**
Attitude toward tax-payment		0.236 (0.052)***	0.103 (0.053)*
Adjusted R2	0.12	0.13	0.09
	1,980	1,887	1,887

Substantive effects for the statistically significant variables – Use Model 2 above

	Value of independent variable	Predicted probability of tax payment (p)	% Change in p
Co-ethnic with state governor	0 (no)	0.70	- 21.4%
	1 (yes)	0.55	
Community relations (range 1 - 5)	2 (hostile)	0.64	-10.9%
	4 (cordial)	0.57	
Attitude toward tax-payment (range 1 - 4)	1	0.53	26.4%
	4 (contract)	0.67	
Met with government official or representative (dichotomous 0 - 1 )	0 (no)	0.58	8.6%
	1 (yes)	0.63	
Direct contact with corruption (dichotomous 0-1)	0 (no)	0.57	14%
	1 (yes)	0.65	

Note: Robust standard errors in parentheses; \*\*\* p<0.01, \*\*p<0.05, \*p=<0.10. Models include city fixed effects; controls for the individual's ethnic group, gender, indigeneity, religion, age, occupation and education. The dependent variable takes the value of 1 if individual is paying taxes and 0 if individual is not paying taxes.

## Supplementary Material

Table A1. Summary statistics

<b>Variable</b>	<b>Obs</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>Min</b>	<b>Max</b>
Attitude toward taxation	2575	2.38	1.06	1	4
Tax payment	2611	0.55	0.50	0	1
Tax payment - alternative coding	2611	0.30	0.46	0	1
Co-partisan with state governor	2750	0.54	0.50	0	1
Co-ethnic with state governor	2695	0.67	0.47	0	1
Co-partisan with the president	2750	0.57	0.50	0	1
Community relations	2697	3.27	1.21	1	5
Member of saving club	2710	0.08	0.27	0	1
Agree with vigilante group protection	2623	0.07	0.26	0	1
Satisfaction with revenue spending	2482	2.27	0.95	1	4
Specific spending on public goods in individual's state	2750	2.14	1.92	0	7
Met with government official or representative	2722	0.31	0.70	0	3
Food deprivation	2738	1.73	0.98	1	5
Religiosity	2706	5.00	1.40	1	6
Direct contact with corruption	2728	0.29	0.46	0	1
Assets	2646	2.32	0.96	0	4
Interest in politics	2733	2.54	1.05	1	4
Age	2733	3.09	1.34	1	7
Education	2739	6.21	2.21	0	12
Gender	2750	1.5	0.5	1	2
Hausa	2750	0.30	0.46	0	1
Yoruba	2750	0.17	0.38	0	1
Igbo	2750	0.33	0.47	0	1
Indigenous to state	2733	0.60	0.49	0	1
Catholic	2723	0.17	0.38	0	1
Protestant	2723	0.24	0.43	0	1
No religion	2723	0.04	0.20	0	1
Other form of Christian	2723	0.14	0.35	0	1
Traditional religion	2723	0.10	0.30	0	1
Perception of fairness of elections	2624	2.02	1.02	1	4
Trust in state governor	2720	2.28	1.04	1	4
Trust in the president	2717	2.62	1.06	1	4
Attendance of community meetings	2737	1.93	1.08	1	4
Would report crime to police	2711	0.59	0.49	0	1
Voted	2459	0.68	0.47	0	1
Partisan minority in the city (governor)	2750	0.30	0.46	0	1
Partisan minority in the city (president)	2750	0.37	0.48	0	1
Subject to eviction	2750	0.29	0.45	0	1
Subject to electoral intimidation	2750	0.25	0.43	0	1
Subject to crime	2723	0.25	0.43	0	1

Table A2. Multilevel estimations of determinants of attitudes toward taxation

		City level trust	City level perception of violence	City level intimidation and crime
		Model 13	Model 14	Model 15
Key individual level variables	Co-partisan with state governor	0.120 (0.096)	0.129 (0.097)	0.103 (0.093)
	Co-ethnic with state governor	0.250 (0.140)*	0.195 (0.131)	0.312 (0.139)**
	Co-partisan with the president	0.058 (0.096)	0.052 (0.096)	0.043 (0.096)
	Community relations	-0.224 (0.037)***	-0.223 (0.038)***	-0.197 (0.037)***
	Member of saving club	-0.310 (0.152)**	-0.306 (0.152)**	-0.328 (0.151)**
	Agree with vigilante group protection	-0.389 (0.162)**	-0.404 (0.161)**	-0.407 (0.161)**
	Satisfaction with revenue spending	0.203 (0.049)***	0.206 (0.049)***	0.186 (0.048)***
	Specific spending on public goods in individual's state	0.088 (0.024)***	0.090 (0.024)***	0.085 (0.024)***
	City level variables	Average level of trust in the governor	-0.007 (0.214)	
Average level of trust in the president		-0.262 (0.263)		
Average perception of ethnic and religious conflict prevalence			0.009 (0.030)	
Percent of respondents experiencing forced evictions				0.822 (0.878)
Percent of respondents experiencing electoral intimidation				1.290 (1.335)
Percent of respondents subject to crime				-0.307 (0.678)
Log Likelihood		-2582.4	-2588.1	-2588.5
City level variance	0.003 (0.009)	0.027 (0.027)	0.04 (0.03)	
Observations	1,946	1,946	1,946	

Note: Robust standard errors in parentheses; \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.10$ . All control variables are included in the estimations (no city fixed effects). The dependent variable takes the value of 4 if individual respondents agree strongly with statement A (citizens should always pay their taxes, even if they disagree with the government); value of 3 if individual respondents agree with statement A; value of 2 if individual respondents agree with statement B (citizens should only pay taxes if they believe in the government); value of 1 if individual respondents agree strongly with statement B.

Table A3. Survey questions and answer options for key variables

Variable	Question Text	Answer Option
Individuals' attitude on the state's unconditional right to tax	And what about the following two statements – which better expresses your own view?	A. Citizens should always pay their taxes, even if they disagree with the government. B. Citizens should only pay taxes if they believe in their government. 1. Agree Very Strongly With A 2. Agree With A 3. Agree With B 4. Agree Very Strongly With B 5. Agree with Neither
Tax payment	Compared to three years ago, are you paying more taxes and levies now than you were in the past?	1. Yes 2. No 3. I don't pay taxes [not read]
Community relations	How would you describe the relationship between ethnic and religious groups in this city?	5. Very cordial 4. Cordial 3. Neutral 2. Hostile 1. Very hostile
Respondent's reliance on informal savings clubs to safeguard the bulk of their savings	Do you keep the bulk of your money in a bank, in a savings club, or neither?	1. Bank 2. Savings club / rotating credit scheme 3. Both 4. I don't use either of these options for saving
Efficiency of vigilante groups	Who do you think would be most helpful in solving this crime?	1. A chief or a traditional leader 2. A local community leader 3. A representative or elected official 4. The police 5. A friend or member of the family 6. A vigilante group 7. Other security forces (army, civil defense, etc)
Satisfaction with revenue spending	Here in ___ State, how satisfied are you with the way that the current administration has spent tax revenue?	4. Very satisfied 3. Somewhat satisfied 2. Not very satisfied 1. Not at all satisfied
Specific spending on public goods in individual's state	Has the current administration in _____ State built any of the following here in your community?	Hospital or clinic Primary or secondary school Pipes for water Boreholes Road Police post Market stalls 1. Yes 2. No