TAXATION AS A SOCIAL CONTRACT

Public goods and collective action in Sub-Saharan Africa

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ABSTRACT

Increasing tax revenue is an important aspect of development policy as it is associated with sustainable economic development. This requires tax compliance, and to increase tax compliance it is vital to understand its determinants. According to the fiscal contract theory, people assent to pay taxes because they value what they gain from it. Because paying taxes implies giving up a part of your personal income for the benefit of your co-citizens, taxation becomes a classical collective action dilemma. Thus, not only the relationship with the state, but also the relationship between the citizens should be an important determinant of tax compliance. The main argument put forward in this paper is that a society that aims to increase tax compliance should be a socially cohesive society, and not only focusing on the state's role, but also on stimulating good relations between the citizens. Using data from the Afrobarometer survey round 5 (2011-2013), this paper performs a logistic regression analysis across 28 countries in Sub-Saharan Africa. The main finding is that the traditional approach to the fiscal contract matters the most. However, social cohesion does provide some explanatory power in the sense that social solidarity also increases tax compliance. There is also reason to believe that there are huge country differences.

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1 INTRODUCTION

Taxation is on the top of the development agenda. Raising domestic revenue through taxation is especially important to poor countries as they are prone to both the 'natural resources curse' and the 'aid dependency trap', and thus should emphasise extracting revenue in a sustainable manner. The full potential for tax collection in developing countries is far from reached, and is challenged by widespread tax evasion (Gupta & Tareq, 2008; International Monetary Fund, 2011).[1]

According to fiscal contract theorists, citizens consent to pay taxes because they receive public goods in return (Bräutigam et al., 2008; Levi, 1988; Schumpeter, 1991; Tilly, 1990). Despite the historical origin in Western Europe, the fiscal contract theory has also been used to explain the low level of tax compliance in developing countries. An established strand of research tests the fiscal contract theory in developing countries, and largely find that dissatisfaction with public services is associated with lower tax compliance(Ali et al., 2014; Bergman, 2002; D'Arcy, 2011; Daude et al., 2012). However, they explain far from the full picture, as they all focus on the state's *supply* of public services, and/ or the citizens' level of satisfaction with these services, and thus neglect the relations between the citizens.

As taxes finance public goods, it is a classical collective action problem (D'Arcy, 2011). When choosing to enter a social contractual relationship with the state, the citizens also consent to the same type of relationship with each other. Establishing the fiscal contract requires the citizens to agree to share a proportion of own wealth with their co-citizens in order to finance a welfare state. Hence, the fiscal contract is vertical; between the citizens and the state, but also horisontal; between the citizens (D'Arcy, 2011). The fulfilment of the former is theoretically straightforward; it requires the government to deliver public services. The fulfilment of the latter is not so straightforward; it requires

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[1]This Working Paper is based on my MA thesis, submitted in June 2016

collective action between the citizens, who must agree to share a portion of their own wealth with their co-citizens. This horistontal fiscal contract, namely that the citizens are able to coordinate their actions towards the ruler and demand public services, cannot be taken for granted.

This paper aims to explore factors that can explain this horisontal fiscal contract, presenting the following research question:

How do the relations between citizens matter for tax compliance?

The main argument put forward in this working paper is that a society that wants to succeed in establishing a fiscal contract must be socially cohesive, in addition to provide the necessary public goods. This is a society where the citizens solve the problem of collective action that taxation presents; citizens accept that a part of their personal income finances the well-being of their co-citizens. This requires high levels of social trust and having a common national identity without salient social cleavages. The government plays an important role in promoting these values by reducing the ethnic cleavages, promoting economic equality, in addition to providing the necessary public services.

This is of immediate relevance to Sub-Saharan Africa, where there is a large variation in the degree of tax capacity (Mkandawire, 2010). Figure 1 shows the percentage of tax compliant respondents in a number of African countries, revealing huge differences between the countries. Malawi has the smallest share of population being tax compliant, with only 28% percent. On the other side of the scale, in Mauritius, 74% of the population thinks it is wrong not to pay the taxes one owes to the government. At the same time, the provision of public services is poor, and the legitimacy deficit and fragmentation in many states makes it hard to establish a social contract (Englebert, 2000, pp. 71–122).

Introducing the concept of social cohesion allows for the inclusion of even more explanatory variables regarding the part of the fiscal contract between the citizens, such as social values and social solidarity. Moreover, by simultaneously investigating the "original fiscal contract", I am able to evaluate the relative importance of the different part of the complex

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puzzle that is the fiscal contract.

Tax compliance is paying the taxes you are supposed to pay, which is a result of both voluntary and involuntary compliance (Kirchler et al., 2008). Thus, as compliance is a result of both voluntarily obedience and coercion based obedience, it is often referred to as "quasi-voluntary" compliance (Levi, 1988). Tax evasion is to not pay the taxes you are supposed to pay, whereas tax avoidance is using legal means to reduce one's tax payments. Only the former is strictly illegal and subject to punishment (Shaw et al., 2010, p. 1104). According to the classic model of tax compliance, taxpayers pay only because they are subject to coercion (Allingham & Sandmo, 1972). A tax-paying individual is a rational actor that will consider a trade-off situation between the gain of evading taxes and the risk of punishment. In this case, tax compliance is simply deciding whether to obey by the law. However, the classical model fails to capture the whole concept of tax compliance as the real level of tax compliance is in fact higher than what this model predicts (Andreoni et al., 1998; Feld & Frey, 2007; Mascagni, 2014).

Tax compliance is important because it generates revenue for the state, but also because tax non-compliance is an expense in itself. Coercion in the form of monitoring and sanction is costly for the state (Fjeldstad & Heggstad, 2012; Timmons, 2005). Thus, not having to spend money and resources on coercive power will result in a cheaper and more efficient way for the government to collect taxes, hence more revenue. It is, however, difficult to distinguish between voluntary compliance and coercion (involuntary compliance), as "[c]onceptually, the importance of tax morale depends on the enforcement environment because tax morale and enforcement generally interact" (Luttmer and Singhal, 2014, p. 154).

This is why, in this working paper, it is primarily the concept of tax compliance that will be used when discussing why citizens consent to pay taxes. I assume that the tax-paying citizen will always have the level of probable punishment in mind. However, the aim here is not to describe what makes tax payers obey by the laws in the society, but

rather to which extent they support taxation, and because of this, consent to pay taxes without the government having to rely primarily on coercion. Here, tax compliance is the apprehension that paying taxes is the right thing to do. Thus, non-compliant behaviour is not necessarily illegal, but rather the perception that not paying taxes is not necessarily wrong.

The rest of this paper is strucured as follows: First, I outline the 'original fiscal contract theory', what I call the vertical fiscal contract. Next, I argue how the concept of social cohesion provides an understanding of the fulfilment of the horisontal fiscal contract, and present this in the context of Sub-Saharan Africa. In the third section I present the data, including a discussion on measuring tax compliance. Next, I present an initial analysis, following by a discussion of the preliminary findings, and some thoughs on how to move forward with the analysis. The conclusion sums up the main findings, which is that the state's role - thus the vertical fiscal contract - seems to matter the most for tax compliance. However, social cohesion can also explain tax compliance, in the form of social solidarity. Moreover, there is reason to believe that there are cross-country differences, and the next step should be to examine this theory and model on a country-level.

2 THEORY AND PREVIOUS RESEARCH

2.1 The Vertical Fiscal Contract

The comparative study of state formation in Western Europe done by Tilly (1990) provides the empirical foundation for the fiscal contract. According to the historical analysis of state building in Europe, modern states formed because of taxation. As the monarchs got involved in expensive warfare, they had to turn to the citizens for revenue (Schumpeter, 1991, p. 105). The demand for taxation from the monarchs was a way of proving its power: "For the ordinary citizen, the power to tax is the most familiar manifestation of the government's power to coerce" (Brennan and Buchanan, 1980, p. 8). The citizens met

FIGURE 1. TAX COMPLIANT ATTITUDES ACROSS SUB SAHARAN AFRICA
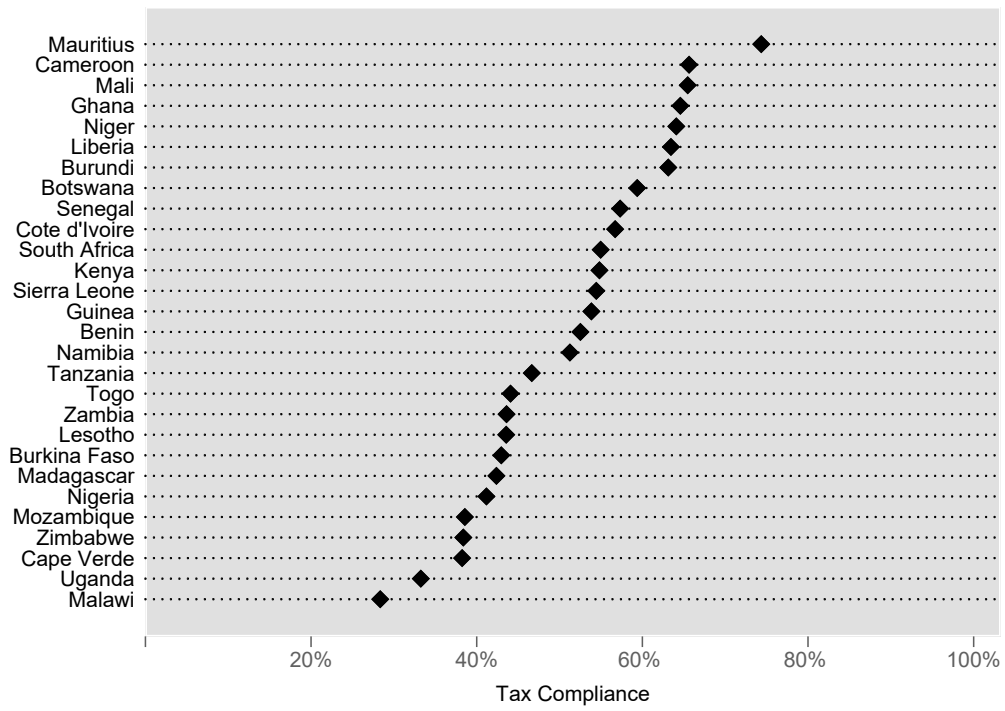
the government's demand for taxation with a demand for political influence, which is why "taxpayers rebelled or cooperated to the extent they felt some measure of membership in the community" (Bergman, 2002, p. 289). This resultet in the famous slogan 'no taxation without representation' from the American colonies' fight for independence from British rule (Gloppen & Rakner, 2002). Paying taxes became a mechanism through which the citizens themselves had certain power over the government (Brennan & Buchanan, 1980, p. 9).

The bargaining process around taxation that leads to political power for the citizens has the potential to "bolster the legitimacy of the state and enhance accountability between the state and its citizens" (Bräutigam, 2008, p. 1). The evidence of this was the rise of the different parliaments in modern Europe (Brennan & Buchanan, 1980, p. 9). Hence, "[c]ontrols over the sovereign have been exercised through constraints on the taxing authority" (Brennan and Buchanan, 1980, p. 9). D'Arcy (2011, p. 1) argues that "[w]hile voting may be the citizen's main action as a political actor - to determine who has access to power, paying tax is her primary political act as an economic actor and provides that which enables the state to exercise power". The citizens used their newly gained power to demand public goods. According to Schumpeter (1991), the process of demanding political influence in return for taxation, led to the development of a *tax state.* In a tax state, tax revenues finances public goods: "Taxes were no longer raised merely for the purposes for which the prince had asked them, but also for others" (Schumpeter, 1991, p. 107). Hence, "the legitimacy of taxation has been based on the welfare [...] provided by governments" (Bergman, 2002, p. 209). By offering public goods in return for tax revenue, the government can increase tax compliance among the citizens.

A critical good worth paying extra attention to is security. Together with defence, law and order "is generally regarded as the state provided service par excellence" (Therkildsen and Semboja, 1995, p. 2). With a lack of security provided by the government, there is an increase in the number of private security actors, as the government competes against

FIGURE 2. THE FISCAL CONTRACT: VERTICAL AND HORISONTAL
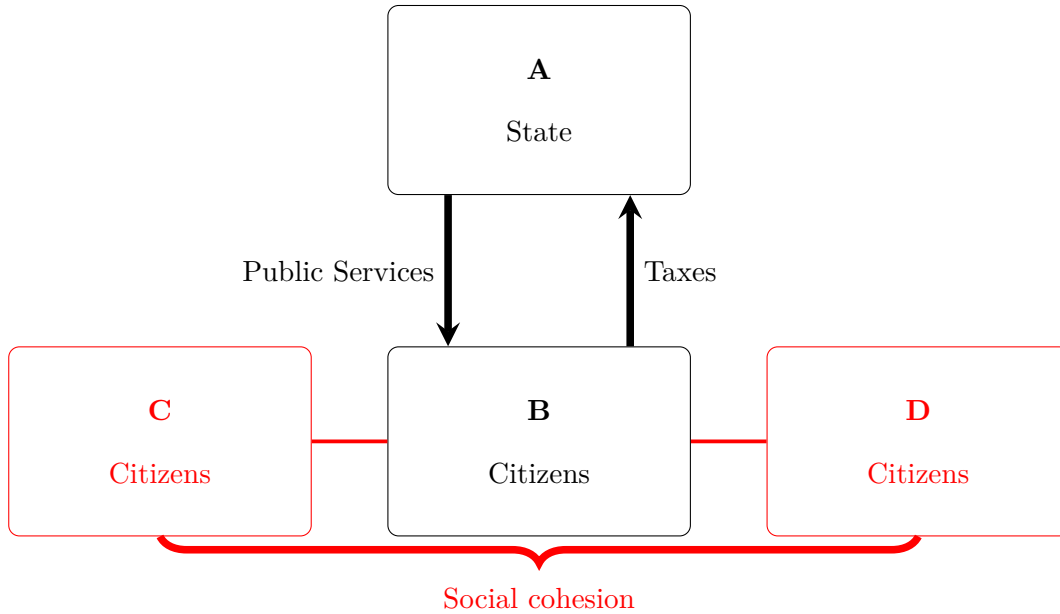
traditional rulers, religious leaders and insurgents in the provision of services: "Somewhat ironically and belying its nature as a pure public good, African citizens are increasingly resorting to private provision of security and safety services to palliate for these public deficiencies" (Van de Walle, 2003). Moreover, lack of intrastate security will hinder provision of other public services due to instability and uncertainty (Brinkerhoff et al., 2012).

A wide range of empirical research support the proposition that public goods leads to tax compliance, see e.g. Alm et al. (1992), Bergman (2002), Daude et al. (2012), D'Arcy (2011), and Ali et al. (2014). The latter also find that paying non-state actors in exchange for protection significantly reduces the probability of being tax compliant. This strand of theory and empirical research supports what I will term "the vertical fiscal contract", illustrated with box A and B in Figure 2. I will test this 'vertical fiscal contract', formulated with the following two hypotheses:

- H1a: The better the government's public services, the higher the tax compliance

- H1b: The more payment to non-state security actor, the lower the tax compliance

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2.2 The Horisontal Fiscal Contract

When studying the fiscal contract in the context of developing countries, why can this *horisontal fiscal contract* not be taken for granted? According to Migdal (1988), broadly speaking, the society in developing countries is not cohesive. Rather, it could be described "a mélange of social organizations" (Migdal, 1988, p. 28). Building on the understanding of the society as fragmented, Persson and Sjöstedt (2012) present a way of understanding lack of development by taking the focus away from the ruler, and focusing on the citizens.

Persson and Sjöstedt (2012) combine principal-agent theory and state-theory as an explanation of lack of good decisions from political leaders. In line with the political appliance of principal-agent theory, they depict the citizens as the principal, and the rulers as agents, which gives rise to an information asymmetry. Thus, the principal – the citizens – must also take part of the responsibility for a poor provision of public services. In states where there is a weak social contract, the agent will face multiple principals, who fail to coordinate their actions – monitoring the principal. However, "where a shared social contract exists, the state is thought of as an instrument of collective action rather than a resource to be appropriated" (Persson and Sjöstedt, 2012, p. 626). This social contract *between* the citizens is what I will call the *horisontal fiscal contract*, represented with boxes C, B and D in Figure 2.

I argue that social cohesion can help explain the horisontal fiscal contract. Central to the concept of social cohesion is the act of working together to make the society benefit common goals. Benard (2012, p. 108) defines cohesion as "the extent to which people invest personal resources (e.g., time, effort, or money) in a group's goals". According to Kearns and Forrest (2000, p. 1000) "a cohesive society is one in which dilemmas and problems can be easily solved by collective action". In a society with social cohesion, there is a mutual understanding of the gains from cooperation. Social cohesion is a much-debated issue, but following Kearns and Forrest (2000), the consent seems to be around social cohesion as a type of glue for society: The kernel of the concept is that a cohesive

society 'hangs together"; all the component parts somehow fit in and contribute to society's collective project and well-being; and conflict between societal groups, and disruptive behaviours, are largely absent or minimal. I follow the conceptualization by Forrest and Kearns (2001). With this as a backdrop, I outline the following elements of a *socially cohesive society*, that I view as essential to the *horisontal fiscal contract*:

2.2.1 Social Relations

Firstly, I argue that social trust and social capital are important factors for strengthening the horisontal fiscal contract. Trust is an important factor for generating cooperation and norms of reciprocity (Uslaner, 1999). In a trusting society, people will be more willing to take the risk of financing the public project, because the likelihood is big that their co-citizens will do the same. According to Uslaner (1999, p. 122), "trust as a moral resource leads us to look beyond our own kind". Trust causes people to care about the needs of others. Additionally, Uslaner (2000, p. 572) emphasizes 'moralistic trust', which is an important determinant for cooperating with people we do not know.

A high level of moralistic trust facilitates cooperation and compromising, and incentivizes people to invest in the community's benefit. Participation in community organisations is an important building block in a socially cohesive society because of the norms of reciprocity and cooperation it generates (Kearns & Forrest, 2000; Uslaner, 2000). Putnam (2000, p. 21) argues that "[c]ivic engagement and social capital entail mutual obligation and responsibility for action". Playing an active role in the society will form a norm of morality. Thus, civic participation is beneficial for overcoming the collective action problem, as "[n]etworks of community engagement foster sturdy norms of reciprocity: I'll do this for you now, in the expectation that you (or perhaps someone else) will return the favour" (Putnam, 2000, p. 20).

There is, to my knowledge, not much empirical research on the relations between social trust, and community participation, and tax compliance. Based primarily on theory, I

hypothesise:

- H2a: The more social trust between the citizens, the higher the tax compliance

- H2b: The more participation in community organisations, the higher the tax compliance

2.2.2 Common national identity

In Sub-Saharan Africa, there are more than 2000 ethnic groups with different languages, culture and traditions (Kimenyi, 2006). According to (Easterly & Levine, 1997, p. 1206), "[e]thnic diversity may increase polarization and thereby impede agreement about the provision of public goods". This is both because ethnic groups often have different preferences regarding the public goods, and because heterogeneity can reduce the ability for collective action. As claimed by Alesina et al. (1999, p. 1243), "[w]hen individuals have different preferences, they want to pull fewer resources together for public projects". The common identity found within ethnic groups creates predictability in the cooperation process, and information about and predictability in the action of others reduces the transaction costs of cooperation (Fearon & Laitin, 1996). That ethnic diversity is associated with lower provision of public good is supported by findings by Alesina et al. (1999), Alesina et al. (1999), Banerjee et al. (2005), and Miguel and Gugerty (2005).

The government can mitigate the negative effect ethnic diversity might have on tax compliance, by bridging the differences between the different ethnic groups. When citizen do not primarily identify with their ethnic group, but rather identify with the larger community, in this case, the nation, states will be able to work better: "states will work better if they are structured around cohesive population groups able to capitalize on their common interests and affinities" (Kaplan, 2009, p. 470). Miguel and Gugerty (2005) find that in Tanzania, ethnically diverse communities manage to raise fund for local public goods because of the Tanzanian nation-building approach. On the other hand, ethnically diverse

communities in a nearby Kenyan region do not succeed. It is not necessarily a question of cleavages, or the level of homogeneity, but rather how the different groups interact and form a national identity. Miguel (2004, p. 32) claims that "the Kenya-Tanzania comparison provides suggestive microeconomic evidence that serious nation-building reforms can successfully bridge social divisions and affect important economic outcomes, like public goods provision". This result in the following hypotheses:

- H3a: The larger degree of shared collective national identity, the higher the tax compliance

- H3b: The better the government works to reduce ethnic cleavages, the higher the tax compliance

2.2.3 Social solidarity

Kearns et al. (2014, p. 454) interpret social cohesion "as having a solidaristic foundation". In a socially cohesive society, there is a willingness to contribute to the needs of other. Moreover, "It involves the recognition of the needs of the co-citizens, an interest in their well-being and the willingness to provide assistance and to engage in collective action with one-sided benefits." (Kearns and Forrest, 2000, p. 999)

Forrest and Kearns (2001) emphasise the importance of a reduction wealth disparities. Economic inequality is damaging for a society because it reduces the feeling of being a part of a collective project – the society. Hence, assuming that paying taxes is to contribute to a collective project, large income differences should reduce tax compliance. In a society without economic inequality, the citizens have higher incentives to collective action. As claimed by Kawachi and Kennedy (1997, n.p), "a widening of the gap between rich and poor might result in damage to the social fabric". In Japan, Yamamura (2008) finds that economic inequality is associated with lower response rate in a collective action project. Similarly, Vigdor (2004) found that socioeconomic inequalities in counties in the U.S. lead to lower response rate in a collective action project.

Poverty causes people to be "excluded from the norms of society" (Dorling, 2010, p. 92). A case study from peri-urban Malawi finds that "poverty makes it hard for people to work together to solve collective problems. Looking for work and eking out a precarious living take a great deal of time and energy, leaving little to spare" (Booth & Cammack, 2013, p. 102). After undertaking field work in a squatter settlement in Peru, Brodrecht (2012) identifies several factors that explains the low level of collective action amongst the settlers, all related to poverty. Absence of governmental interference provoked an individualistic culture, where settlers had to seize what land they could, reducing attempts to work together. This lead to the following hypotheses:

- H4a: The better the government works to reduce economic inequalities, the higher the tax compliance

- H4b: The better the government works to prevent absolute poverty, the higher the tax compliance

3 DATA AND MEASUREMENT

The data in this paper is drawn from round 5 of the Afrobarometer (2011-2013)[2], a nationally representative dataset based on interviews with respondents [3] across a number of African countries. Afrobarometer employs the same standardized questionnaire for each country, making the dataset especially suitable for cross-country studies. My sample consists of 27 094 respondents from 28 African countries. The survey favours stable and democratic countries, as data is lacking from especially authoritarian countries and countries with civil war. Afrobarometer uses a clustered, stratified, multi-stage area probability sampling method. To correct for biases in the sampling method, I employ a probability weight that adjusts the sample distribution in each country to account for individual selection probabilities, as well as correcting each country to the same sample size (N=1200).

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[2]For more information about Afrobarometer, data and questionnaires, please visit http://www.afrobarometer.org.

[3]Citizens of voting age, which is usually 18 years and older. The sampling universe excludes people living in areas experiencing natural disasters or armed conflicts, in addition to residents of institutions, national parks or game reserves.

The weight does not take into account regional effects such as colonial heritage that might influence tax compliance [4].

3.1   Dependent Variable: Tax Compliance

The dependent variable is tax compliance - the apprehension that paying taxes is the right thing to do. This is operationalised with the question where the respondents give their opinion of *other* people that are not paying taxes they owe on their income. The respondents states whether they think this action is 'wrong', 'wrong but understandable' or 'wrong and punishable'.

An ideal measurement of tax compliance on the macro level is the so-called tax gap; the gap between reported income taxes and what households actually owe (Andreoni et al., 1998). However, measuring this is almost impossible, due to lack of exact data. Alternatively, one could ask respondent directly about their own level of tax compliance, but also this is problematic. Firstly, there is a problem of validity. Posing a direct question about tax evasion can rather be a measure of the strength of the rule of law, and the level of punishment in each country, because cheating on taxes is illegal. Moreover, earlier, I argued in favour of a definition of tax compliance based on the concept of tax moral. This implies a variable that captures more than the actions of the respondents. The level of punishment for tax evasion and the strength of the rule of law in the respondent's country will cause a bias to this measurement. From this follows the second problem, which is that of reliability. Tax compliance being a sensitive topic in the sense that withholding taxes is illegal, might make it difficult to obtain a correct measure on tax compliance - a general problem for survey data (Kinsey, 1992). [5]

However, Reinikka and Svensson (2006, p. 365) argue that the formulation of the questions

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[4]Ali et al. (2018) find that there is a difference between former English and French colonies with regard to tax compliance, which my model will not be able to capture.

[5]There is, however, evidence that not paying taxes can be a form of resistance against the government. See, for instance, Scott (1985) who describes tax evasion as a 'weapon of the poor', where this will be regarded favourably by compatriots. However, as a protest against the government, also for this reason respondents would most likely underreport tax non-compliance. Especially in low-trust countries, including many African countries, this is especially important.

in the survey can to a certain extent bypass this bias. In their research on corruption they use an indirect question "to avoid implicating the respondent of wrongdoing". Ali et al. (2014) argue in favour of a - and employ - a similar indirectly phrased question to capture tax compliance.

Research conducted on tax compliance in other geographic regions relies on an indirect measurement of tax compliance, see e.g. Hug and Spörri (2011) and Lago-Peñas and Lago-Peñas (2010) for Europe, Torgler (2004) for Asia and Torgler (2005) for Latin-America. In contrast, earlier research on tax compliance in Sub Saharan Africa, see for instance Levi and Sacks (2009), D'Arcy (2011), and Sacks (2012) have relied on the statement '*The tax department always has the right to make people pay taxes*'. Even with an indirect formulation, respondents might be reluctant to reveal 'law breaking attitudes'. In this round of Afrobarometer Round 5 when asked who they think sent the interviewer, as many as around 36% answered the government, as opposed to around 12% answering research company, which strengthens this concern.

However, the Afrobarometer covers around 100 questions on a wide range of topics, which reduces the effect of framing, as opposed to a survey consisting only of questions on tax compliance (Torgler, 2005). Thus, it remains a better measurement for this conceptualisation of tax compliance for Sub Saharan Africa, and is an improvement to earlier research on tax compliance in this region, and, so far, to my knowledge, only used by Ali et al. (2014). For the analysis, I follow Ali et al. (2014) and construct a dichotomous variable of tax compliance, considering respondents as being tax compliant if they answer 'wrong', and non-compliant if they answers "wrong but understandable" or "wrong and punishable". Hence, the variable 'Tax compliant' takes the value 1 if the respondent believes that paying taxes is the right thing to do and 0 if the respondent believes that not paying taxes is not necessarily wrong. The distribution of the dependent variable - before and after dichotomisation - is shown in Figure 3, p. 25, in the appendix.

3.2 Independent Variables

Next, I include the following independent variables:

- **H1a: Satisfaction with public services** As fiscal contract theory concerns public
  services in general, I measure the respondent's overall satisfaction with the govern-
  ment's provision of security, health care, education, roads and electricity, on a scale
  from 1 "Very bad", to 4 "Very well". The drawback is that I am unable to test for
  the relative difference between the services. [6]

- **H1b: Protection payment** I follow Ali et al. (2014) and operationalise the state's
  provision of security is operationalised with a variable indication how frequent the
  respondent has been made to pay money to non-state actors in return for protection.
  The variable "Protection payment" is a scale taking the values from "Often", to 4
  Never.

- **H2a: Social trust** I follow Delhey and Newton (2005) and define social trust as the
  generalized trust in people we know, or do not know. "Social trust" is a dichotomous
  variable taking the value 1 if the respondent thinks that in general most people can
  be trusted, and 0 if the respondent do not agree with this statement.

- **H2b: Community participation** I measure the respondent's overall participation
  in community activities consisting of attendance at community meetings and joining
  with others to raise an issue during the past year (or would, if possible), on a scale
  from 1 "No, would never do this", to 5 "Yes, often".

- **H3a: Common national identity** I follow D'Arcy (2011) and construct a dummy
  set, measuring whether the respondent associates most with the ethnic identity, the
  national identity or equal between the two. This results in the following variables
  'Ethnic ID', 'National ID' and 'Equal ID', where the former is the reference category,

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[6]Both McLean (2007) and D'Arcy (2011) test only for health and education services, arguing that these are the most
central to a welfare state. The latter also finds that health matters most. Moreover, education is likely to matter most
for those with children in school age (Ali et al., 2014).

and the two latter is expected to correlate positively with tax compliance.

- **H3b: Ethnic group treated unfair** I measure how the often the respondent feel the government is discriminating towards the respondent's ethnic group on a scale from 1 "Never", to 4 "Always".

- **H4a and b: Social solidarity** To measure the two dimensions of social solidarity, I employ two different variables where the respondent evaluate the government's performance on **(1) reducing the income gap in the society**, and **(2) on increasing the living standards for the poor**, on a scale from 1 "Very badly" to 4 "Very well".

- **Control variables:** I use the following control variables: (i) Tax deterrence, operationalised by the perceived difficulty to avoid taxes. This variable, I also assume to measure the trust that others are paying their taxes as well. (ii) political trust, measured with a scale consisting of a scale measuring the respondent's trust in trust in president/ prime minister, trust in the parliament/ national assembly and trust in the courts of law. (iii) Level of perceived corruption amongst tax officials. (iv) Tax knowledge, in order to avoid a possible spurious effect of human capital. Lastly, I include several socio-demographic control variables: Gender, age, urban/ rural, education, if the respondent has a job or not, and wealth.

4 ANALYSIS

4.1 Descriptive statistics

Firstly, descriptive statistics of the variables is presented in Table 1.

TABLE 1. SUMMARY STATISTICS

Variable	Mean	Std. Dev.	Min.	Max.	N
Tax compliance attitude	0.508	0.5	0	1	27094
Satisfaction public services	2.394	0.690	1	4	27094
Difficulty to avoid taxes	3.173	0.781	1	4	27094
Political trust	2.765	0.86	1	4	27094
Corruption tax officials	2.453	0.854	1	4	27094
Tax knowledge dummy	0.833	0.373	0	1	27094
Female	0.466	0.499	0	1	27094
Age	36.757	13.944	18	100	27094
Education	4.344	2.068	1	10	27094
Urban	0.389	0.487	0	1	27094
Job	0.36	0.48	0	1	27094
Wealth	0.791	0.406	0	1	27094

4.2 Logistic analysis

I estimate the probability of a respondent having a tax compliant attitude, given the values on the different explanatory variables with the following logit model:

$$L_{Tax\ Compliant} = \alpha + \beta_{X1} + \gamma_{X2} + \delta_{X3} + \zeta_{X4} + \eta D_1 + \epsilon_i \tag{1}$$

Where X_1 expresses the independent variables for the provision of public goods, $X2$ expresses the independent variables on citizen-citizen relations, $X3$ represents the attitude control variables and $X4$ represents the socio-demographic control variables, and ϵ is the error term. D_1 represents a dummy set for all countries in the analysis, taking 28 values, included in order to correct for country-specific differences. Table 4 in the appendix shows the marginal effects for this model. Logit coefficients and test statistics are also reported

in the appendix; in Table 5 on page 28.

First, in Model 1, I include the two variables measuring 'the vertical fiscal contract'. Both *satisfaction with public services* and *protection payment* have a significant impact on tax compliance; the former having the expected positive effect, and the latter the expected negative effect. Next, in model 2, I test H2a and H2b by adding the variables measuring *social trust* and *participation in community activites*. The latter is not significant, whereas social trust has an unexpected negative effect, significant on a 0.01 level. In model 3, testing H3a and H3b, I add both the dummy set measuring the respondents *national vs. ethnic group identification*, and the variable measuring *unfair treatment by the governent* based on ethnicity. The results show that - unexpectedly - it seems that those identifying with their nationality has a lower probability of being tax compliant compared to those who identify strongest with their ethnic group. Finally, in model 4, I test H4a and H4b by adding the variables measuring the perception of the government's performance in *reducing poverty*, and *narrowing the income gap*. The result is an expected significant positive effect of the government reducing poverty, whereas the effect of reduction in income inequality is not significant. However, this model has a problem with multicollinearity, as shown by the Variance Inflation Factors in Table 3 on p. 26 in the appendix. This seems to be mainly problematic for the variables measuring the state's role, such as the satisfaction with public services, reducing poverty, and political trust, which all have extremely high values of VIF. The consequence is that the results might be less reliable, which should be kept in mind in the discussion that follows.

The control variables remain largely significant, demonstrating that political trust has a positive impact on tax compliance, wheras corruption among tax officals reduces the probability of tax compliance. Citizens who express tax compliant attitudes are most likely male, older, and educated. There seems to be no significant difference between urban and rural areas, but being employed has a negative effect. Next, the more difficult to avoid paying taxes, the higher probability of having a tax compliant attitude. Finally,

knowledge about taxes seems to be an important driver for tax compliant attitudes.

4.3   Discussion

Based on the results in model 4 (Table 4), I confirm H1a, that the better the government provides public services, the higher the tax compliance, on a 0.001 level of significance. A 1 unit increase in the level of satisfaction with public services causes a 2.6 percentage point increase in the probability of tax compliant attitude. I can also keep H1b, that the more the individuals pay non-state actors for protection, the lower the tax compliance, on a 0.001 level of significance. A 1 unit increanse in how often an individual pays for protection reduces the probability of being tax compliant with 5.26 percentage points. A 1 unit increase satisfaction with the government's work to reduce poverty increases the probability of expressing a tax compliant attitude with 2.26 percentage points. The findings provide empirical support to the fiscal contract theory presented by Tilly (1990), Levi (1988), and Schumpeter (1991). It also confirms earlier cross-country findings from Ali et al. (2014) and D'Arcy (2011).

Next, I hypothesized that the more the government works to prevent absolute poverty, the higher the tax compliance (H4b), which my findings confirm. The solidaristic foundation of social cohesion as presented by Kearns et al. (2014) does seem to explain a part of the variation in tax compliance. In a socially cohesive society, the citizens willingly spend a portion of their own income to help others. A government striving to increase tax compliance can promote these values by reducing the level of absolute poverty in the society. Moreover, this supports the theory of Levi (1988), that the government can have an impact on the citizens' tax compliance by coordinating them. However, improving living standards of the poor do not necessarily mean reducing cleavages per se, as it says nothing about how the government should act towards the richer groups in the society. This variable does not say anything about the initial level of the government's attempt to fight poverty in the community. One possible error in this type of measurement is

TABLE 2. SUMMARY OF HYPOTHESES

H1a: The better the government's public services, the higher the tax compliance	+
H1b: The more payment to non-state security actor, the lower the tax compliance	+
H2a: The more social trust between the citizens, the higher the tax compliance	-
H2b: The more participation in community organisations, the higher the tax compliance	-
H3a: The larger degree of shared collective national identity, the higher the tax compliance.	-
H3b: The better the government works to reduce ethnic cleavages, the higher the tx compliance.	-
H4a: The better the government works to reduce economic inequalities, the higher the tax compliance.	-
H4b: The better the government works to prevent absolute poverty, the higher the tax compliance.	+

that it could be rather selfish. Even though the government is not really investing in improving the living conditions for the poor, it might be that in the respondent's view, this is 'enough'. Finally, this variable can to a certain extent capture the same as the variable measuring satifaction with public services, as a welfare state could be a tool to reduce poverty. Thus, it might be that in fact, this variable is better suited to measure the vertical fiscal contract, as it asks about the citizens attitudes towards the state, not towards each other.

5 ANALYSIS - NEXT STEPS

The analysis could be improved in several ways. Firstly, the binary logistic analysis should include a robustness check with an ordered logit model, considering the nature of the original dependent variable. Next, the aim is to make this into a multilevel model. In that way, I will be able to control for country specific factors such as GDP, QoG, and tax to GDP ratio. Moreover, it will be a further contribution as this as not been done before using these variables, to my knowledge. There is reason to believe that country matters specific factors matter, and that these should be accounted for, a concern that is strengthened by looking at the country dummies which are largely significant (full model with country dummies not shown here - available upon request).

6 CONCLUDING REMARKS

This paper set out to answer the following question: How do the relations between citizens matter for tax compliance?? The main findings in this paper are that (i) the more satisfaction with public services, the higher the tax compliance, (ii) paying non-state actors for security reduces tax compliance, and (iii) a government that works to reduce absolute poverty increases tax compliance. Table 2 presents a summary of the hypotheses. This leads me to the conclusion that the prerequisites in the society for tax compliance is mainly a welfare state - thus the state's role - , rather than the concepts directly related to social cohesion. Introducing social cohesion as a theoretical framework did not yield empirical results that increased the understanding of tax compliance in Sub-Saharan Africa. The vertical contract appears to be more important than the hypothesised horisontal fiscal contract. However, it is too early to eliminate this argument altogether, especially as, limited by time and scope, I have not emphasized enough the institutional factors. More thorough analysis is needed to fully understand the complexity of the fiscal contract.

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Appendices

FIGURE 3. DISTRIBUTION OF DV: DICHOTOMOUS AND ORDINAL

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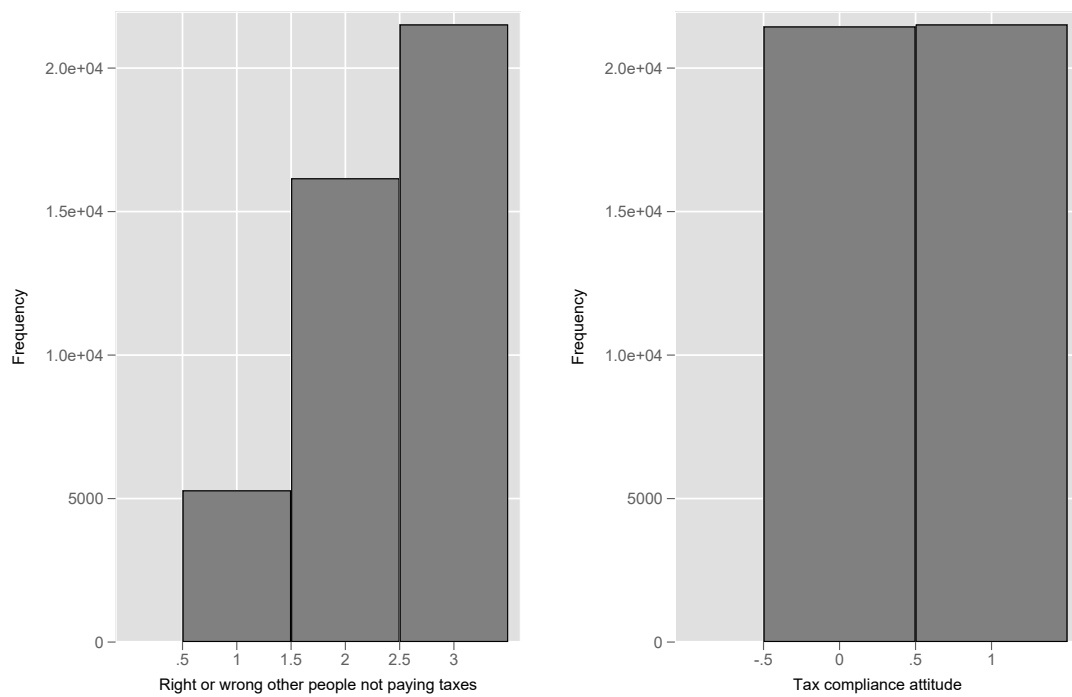
TABLE 3. VARIANCE INFLATION FACTORS FOR MODEL 4

	VIF
Satisfaction public services	19.64
Protection payment	5.58
Most people can be trusted	1.38
Community participation	9.54
Equal ID	4.93
National ID	6.15
Ethnic group treated unfair by govt	4.76
Govt reducing poverty	10.38
Govt narrowing income gap	9.09
Difficulty to avoid taxes	16.66
Political trust	14.33
Corruption tax officials	9.98
Tax knowledge dummy	7.08
Female	1.98
Age	8.79
Education	7.42
Urban	2.08
Job	1.79
Wealth	5.38

TABLE 4. LOGISTIC REGRESSION - MARGINAL EFFECTS

	(1)	(2)	(3)	(4)
Satisfaction public services	0.0346***	0.0350***	0.0377***	0.0260***
	(0.00570)	(0.00575)	(0.00593)	(0.00655)
Protection payment	-0.0515***	-0.0507***	-0.0508***	-0.0526***
	(0.00654)	(0.00662)	(0.00684)	(0.00696)
Most people can be trusted		-0.0287**	-0.0274**	-0.0309**
		(0.00944)	(0.00968)	(0.00979)
Community participation		0.000691	0.000799	0.0000662
		(0.00326)	(0.00336)	(0.00340)
Equal ID			0.00144	0.0000115
			(0.0127)	(0.0129)
National ID			-0.0254*	-0.0236
			(0.0127)	(0.0129)
Ethnic group treated unfair by govt			0.000236	0.00129
			(0.00419)	(0.00423)
Govt reducing poverty				0.0226***
				(0.00539)
Govt narrowing income gap				0.00337
				(0.00545)
Difficulty to avoid taxes	0.0220***	0.0214***	0.0217***	0.0236***
	(0.00461)	(0.00464)	(0.00477)	(0.00483)
Political trust	0.0223***	0.0243***	0.0226***	0.0180***
	(0.00453)	(0.00460)	(0.00478)	(0.00492)
Corruption tax officials	-0.0192***	-0.0205***	-0.0222***	-0.0213***
	(0.00436)	(0.00440)	(0.00453)	(0.00460)
Tax knowledge dummy	0.158***	0.158***	0.158***	0.156***
	(0.0102)	(0.0103)	(0.0105)	(0.0107)
Female	-0.0196**	-0.0190**	-0.0169*	-0.0152*
	(0.00722)	(0.00732)	(0.00756)	(0.00765)
Age	0.000978***	0.00103***	0.00110***	0.00115***
	(0.000263)	(0.000267)	(0.000276)	(0.000279)
Education	0.0133***	0.0135***	0.0139***	0.0137***
	(0.00210)	(0.00212)	(0.00220)	(0.00223)
Urban	0.00969	0.00741	0.0109	0.0124
	(0.00785)	(0.00805)	(0.00831)	(0.00841)
Job	-0.0300***	-0.0321***	-0.0337***	-0.0344***
	(0.00796)	(0.00804)	(0.00830)	(0.00839)
Wealth	0.0183*	0.0156	0.0142	0.0132
	(0.00915)	(0.00925)	(0.00951)	(0.00962)
Observations	29766	29307	27709	27094

Standard errors in parentheses

$* \ p < 0.05$, $** \ p < 0.01$, $*** \ p < 0.001$

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TABLE 5. LOGISTIC REGRESSION

	(1)	(2)	(3)	(4)
Satisfaction public services	0.139***	0.140***	0.151***	0.104***
	(0.0229)	(0.0231)	(0.0238)	(0.0263)
Protection payment	-0.206***	-0.203***	-0.204***	-0.211***
	(0.0262)	(0.0265)	(0.0274)	(0.0279)
Most people can be trusted		-0.115**	-0.110**	-0.124**
		(0.0378)	(0.0388)	(0.0393)
Community participation		0.00277	0.00320	0.000265
		(0.0131)	(0.0135)	(0.0136)
Equal ID			0.00578	0.0000461
			(0.0513)	(0.0519)
National ID			-0.102*	-0.0946
			(0.0512)	(0.0519)
Ethnic group treated unfair by govt			0.000949	0.00516
			(0.0168)	(0.0170)
Govt reducing poverty				0.0906***
				(0.0216)
Govt narrowing income gap				0.0135
				(0.0218)
Constant	-1.218***	-1.232***	-1.215***	-1.355***
	(0.182)	(0.186)	(0.201)	(0.204)
Difficulty to avoid taxes	0.0883***	0.0859***	0.0869***	0.0947***
	(0.0185)	(0.0186)	(0.0191)	(0.0194)
Political trust	0.0893***	0.0975***	0.0905***	0.0720***
	(0.0182)	(0.0185)	(0.0192)	(0.0197)
Corruption tax officials	-0.0769***	-0.0820***	-0.0890***	-0.0856***
	(0.0175)	(0.0176)	(0.0182)	(0.0184)
Tax knowledge dummy	0.634***	0.634***	0.632***	0.626***
	(0.0407)	(0.0411)	(0.0422)	(0.0427)
Female	-0.0787**	-0.0762**	-0.0679*	-0.0608*
	(0.0289)	(0.0293)	(0.0303)	(0.0307)
Age	0.00392***	0.00414***	0.00443***	0.00460***
	(0.00105)	(0.00107)	(0.00111)	(0.00112)
Education	0.0534***	0.0543***	0.0559***	0.0551***
	(0.00842)	(0.00852)	(0.00884)	(0.00894)
Urban	0.0389	0.0297	0.0438	0.0497
	(0.0315)	(0.0323)	(0.0333)	(0.0337)
Job	-0.120***	-0.129***	-0.135***	-0.138***
	(0.0319)	(0.0322)	(0.0333)	(0.0336)
Wealth	0.0733*	0.0624	0.0568	0.0531
	(0.0367)	(0.0371)	(0.0381)	(0.0386)
N	29766	29307	27709	27094
Pseudo R2	0.0555	0.0559	0.0562	0.0571
Wald test	1685.14***	1664.04***	1575.03***	1570.22***

Standard errors in parentheses; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; All models run with country fixed effects