

State Capacity and Taxation: A Comparative Analysis of Small-Scale Firms in Togo, Ghana and Benin*

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Abstract

The mobilization of tax revenue is crucial for economic and political development. The large informal sector in many African countries makes tax mobilization particularly challenging. To better understand the issue, we compare tax attitudes, experiences and outcomes of small-scale firms in Togo, Ghana and Benin. Using a data set of over 800 small-scale firms, we exploit the proximity of these three countries and this region's shared culture, geography and pre-colonial history to make cross-border comparisons of the tax and business environment. We find that, across a number of dimensions related to tax payments, firms in Benin and Togo behave similarly to each other while both differ substantially from Ghana. These findings cannot be explained by institutional quality since Benin and Ghana are similar, and perform much better than Togo, in terms of their level of democracy and the quality of institutions. We consider several interpretations and provide credence to the arguments that the very nature of the institutions and their legal origins along with the state capacity are the drivers. These results suggest that reforms should not focus only on improving the quality of the institutions but must also reconsider their very basic foundations.

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1 Introduction

Firms without official licenses or registration or even tax identification numbers regularly pay taxes in many developing countries in different ways. This observation stands in contrast to the common characterization of the informal sector as escaping or evading or beyond the reach of the law (La Porta and Shleifer 2016; Shneider and Williams 2013). Despite this participation in the tax system by informal firms, tax mobilization for many African countries remains low (Bonjean et. al. 2004) and low tax mobilization is a key hindrance to development (Besley and Persson 2013). In this paper, we undertake a comparative analysis to better understand the relationship between state capacity and voluntary compliance in taxation among small-scale firms in Togo, Ghana and Benin.

The public finance literature has well documented that voluntary compliance is extremely important for overall tax mobilization (Slemrod 1992; Fjeldstad and Semboja 2001). Tax mobilization in the informal sector, where information asymmetries and imperfect enforcement are likely to be particularly severe, is highly sensitive to voluntary actions. The sensitivity of tax revenue to pure voluntary compliance is conflated with the classic cost benefit assessment from the part of the taxpayer (Allingham and Sandmo 1972), which is linked with the extent to which the state is able to send credible enforcement signals. This dynamic may lead to a vicious cycle of low tax mobilization when state capacity is weak. Increased efforts to tax by the state could also result in negative attitudes toward taxation, resulting in decreased voluntary compliance (Fjeldstad and Semboja 2001). On net, tax mobilization might not improve, implying that the quality of governance might not as well. Little improvement in public services could then reinforce the view of the state as a grabbing hand. Thus, understanding whether more effective tax enforcement by the state will result in positive or negative attitudes toward taxation is crucial in determining whether a virtuous or vicious cycle will emerge.

To shed light on this question, we conducted a survey of small-scale firms in Togo, Ghana and Benin. We focus on small scale firms in part because it the subgroup for which voluntary compliance matters most, even in an environment where state

capacity is high. This is the case because the cost of audit and enforcement is likely to often outweigh the tax revenues recouped. We randomly sampled 871 firms within a 50 km diameter across four border towns (one on either side of each of Togo's borders). Restricting attention to small-scale firms located in this narrow geographic area gives several advantages. First, the particular history of this area yields a population that is relatively homogenous. Second, these firms operate on the margin of the formal sector and whose tax participation may be sensitive to both state action and the firm owners' beliefs, perceptions and experiences with the state. Third, from an econometric point of view, focusing on small-scale firms is attractive because there is a multitude of independent firms. Interestingly, firms in all three countries overwhelmingly hold the view that businesses should pay taxes.

On the basis of institutional quality, we might expect to find firms behaving more similar in Ghana and Benin compared to Togo. In fact, there are no statistical differences between the firms' responses in Benin and Togo on whether or not a firm has ever refused to pay the tax amount requested, whether or not a firm has ever been shut down for tax violations, and the effective tax rate that firms pay. Across these dimensions, firms in both of these countries differ substantially and have worse outcomes than firms in Ghana. Interestingly, firms in Benin have worse tax experiences than firms in Togo, and both of these firms have worse experiences than firms in Ghana. We employ several robustness checks. First, our results hold when we include more firm-specific controls. Second, the results also hold for alternative measures of revenue and tax participation. Third, the results hold qualitatively when we use an alternative estimation strategy based on proximity to the border.

Next, we investigate alternative channels of influence that may be correlated with differences in legal tradition. Ali et al. (2014), who use evidence from Afrobarometer, classify factors that influence tax compliance into seven categories: economic deterrence, fiscal exchange, political legitimacy, comparative treatment, the presence of substitutes for the state, and network effects. Our data allow us to address the first three of these factors and we find no evidence that these channels explain the cross-country differences.¹ There are three alternative interpretations of these cross-

¹In a recent review, Luttmer and Singhal (2014) listed similar mechanisms under intrinsic mo-

country differences. First, this pattern is consistent with the presence of a vicious cycle due to the civil law's heavier hand. Relative to Togo, Benin has greater state capacity but this translates into worse experiences and presumably less voluntary compliance. Second, local regulators may engage in less local capture in Togo than in Benin. Macro indicators of institutional quality do not account for local variation in the extraction of public resources (Reinnika and Svensson 2004). Regulators in Togo may face harsher punishment for corrupt practices than their counterparts in Benin due to the more autocratic nature of the political regime. Finally, firm owners themselves may induce differences in local tax experiences not captured by macro-level variables. Businesses in Togo may be better able to or more likely to discipline corrupt actions by tax authorities than in Benin, for example. While all three explanations may be at work, the evidence favors the first over the second and third explanations. The pattern of cross-country differences remains even after accounting for the firm's experience with local corruption and the firm owner's civic engagement and other personal characteristics.

Our findings speak to the debate on the importance of the colonial period for African development. On one side of the debate, the colonial period was essentially an aberration, a short-run, proximate cause of economic disparities on the continent, which will eventually give way to more fundamental causes, such as geography or ethnolinguistic factors. On the other side, the colonizers' impact can be seen through the positive and negative consequences of legal and administrative transplant. Our findings suggest that there are persistent differences tied to the legal tradition of the colonizer.

The organization of the paper is as follows: section 2 provides background information, section 3 describes the survey and data, section 4 presents the initial results demonstrating the differences across countries, section 5 shows that these differences are not explained by various channels suggested by the literature and section 6 discusses the results and concludes.

tivation, reciprocity, peer effects and social influences, culture, and information imperfections.

2 Contextual background

Independent, small-scale firms are widespread in West Africa. These firms consist of self-employed barbers, carpenters, tailors, motorcycle mechanics, welders, bakers, etc. Along with labor and materials, these firms require a physical workspace, a modest amount of physical assets and human capital to function.

While these firms are often lumped in the informal sector, they participate in the formal apparatus of the state. They pay official fees, obtain official licenses and even pay taxes that correspond to the scale of their economic activity. These firms are also important and vital members of the community. In addition to their economic activity and the services they provide, the owners of these firms serve as community leaders and important points of contact between the state and its citizens. Many of these firms take on apprentices, who pay for this service, and give an opportunity to develop human capital for those who probably have been directed out of formal schooling.

What types of taxes do these firms pay? As it is for any business owner across the globe, there is a variety of taxes and fees associated with running a business. The array of taxes to be paid by these firms is similar across Togo, Ghana and Benin. A given firm could pay a professional tax, publicity tax, housing tax, property tax and registration fees. For some of these taxes, particularly the professional tax, the informational burden of full compliance is very severe and insurmountable. These firms often do not have (nor are they required by law to have) formal accounting records. The documentation to establish the need to pay property taxes or publicity taxes also faces severe challenges.

The method of taxation is broadly similar across these countries. Based on information obtained from official documentation as well as our interviews with tax officials, each country essentially takes a dual approach to taxation of the informal sector. Each country's tax code officially recognizes these informal firms and obliges these firms to pay taxes on their economic activity just as any other firm. In Benin and Togo, there is even a formal definition of an informal firm. In Ghana, the definition is a bit more ad-hoc. However, in all cases, there is a clear rule that indicates

whether or not the firm is fully compliant with the tax code.²

In Togo and Benin, for the professional tax, informal firms are required to pay a percentage of their turnover.³ Firms are expected to voluntarily declare the amount of revenue and pay the taxes accordingly. In practice, though, the more common way to tax is for a tax collector to physically visit a firm, assess the expected amount of revenue the firm generates by taking into account the firm's assets and size, and then hand the firm a ticket instructing the firm to go pay a specific amount. In contrast, Ghana requires firms to pay taxes on its profits (if proper record keeping permits). In practice, however, taxes are collected very similarly to Benin and Togo, with somewhat more formalization. The tax code establishes a pre-paid procedure, known as the Tax Stamp system, whereby a firm pays each quarter a fixed fee. The amount of the fee depends upon the firm type and size, as determined by the scale of the turnover, roughly estimated using the firm's assets and the physical size of the shop. A firm that has evidence that it has paid the tax stamp is deemed in compliance with the tax officials. Interestingly, many of these small firms would not be required to pay any tax if they followed the normal system, and should be in line for a tax rebate on their pre-paid amounts. Several coordination problems have been reported between the national and local tax authorities who often send opposing messages to firms (Prischarde 2010).

3 Data Description and Empirical Specification

We randomly sampled 871 firms within a 50 km diameter in four border towns: Aflao in Ghana, Lomé and Aného in Togo and Grand Popo in Benin. Since all of these firms operate in the informal sector, they may or may not have an officially registered physical address. The only certain way to ensure equal probability of selection among the population of interest is to use shoe leather and sample on the

²The complexity of the rules in the books can in themselves influence the extent of compliance (Mascagni 2016).

³Beginning in 2016, Benin dramatically simplified its tax code for small enterprises. They also will start to distinguish between small and micro enterprises, the latter of which will pay a fixed fee depending on the scale of their revenue.

ground. We follow the sampling procedure of the Afrobarometer surveys. Using census tracts as enumeration areas, for each area/day, we randomly select a starting point on the map. Upon arriving at the starting point, the enumerators start from the nearest junction and select 5 businesses in each direction by counting businesses on both sides of the street and selecting every fifth business.

Despite the homogeneity in firm structure, we have a variety of firms in the sample. The largest categories are barber/hairdressers and tailor/seamstresses. We have more complete coverage in Togo, but the overall distribution of firms across types is similar across the three countries, reported in table 1. Due to budgetary restrictions and our plan to conduct a randomized controlled trial in Togo, we oversampled firms in Togo by a large margin.⁴

The survey questionnaire contained questions on firm and firm owner characteristics such as a complete description of assets, monthly expenditures and revenue. The most important component of the survey for the paper at hand is a series of questions on participation in and experiences with the tax system, both local and national. Additional components of the survey are questions on civic engagement and political participation.

The main dependent variables are dummy variables indicating whether a firm currently pays taxes, whether a firm has ever been shut down for tax noncompliance, and whether a firm has ever refused to pay taxes, and the continuous variables, the effective tax rate, which is calculated as the reported tax amount paid divided by a reconstructed measure of revenue, how unpredictable taxes are and an index summarizing negative tax experiences.

Given the lack of formal accounting for some firms, certain variables of interest would not be accurately measured if asked for directly. For example, firms with the same level of revenue, but differ in whether or not they keep formal accounts may report revenue differently. In addition, direct questions about revenue, especially for firms who may not be currently paying taxes, can be sensitive questions and firms may elect not to answer such questions. Instead of directly asking, we simulate

⁴We chose Togo, and specifically Lomé, as the location of the trial, because Togo had worse values for all of the institutional quality measures.

a firm's revenue in two ways (Mascagni 2016). First, we ask questions about the number of orders in the past month, the value of the minimum and maximum order, and the value of the two most recent orders and use this information to estimate a firm's revenue. These questions also give us an idea about revenue variability. Second, we replicate what the tax authorities do informally by taking calculating the expected revenue from a regression of the first measure of revenue on the firm's assets.

The index of negative tax experiences is constructed on the basis of whether tax officials are abusive, whether the firm perceives to have paid more than the law requires and whether the firm views the tax procedure as unfair

We consider several types of control variables: i) a basic set of controls, which are a firm's size and value of assets, whether a firm has electricity, the years of education of the firm owner, the marital status of the firm owner and ii) a set of firm-type fixed effects.

Firm owner characteristics and firm characteristics are also mostly similar across countries. Summary statistics are reported in table 2. About three quarters of the firm owners have access to electricity as they are all located in urban areas. While the firms are similar in terms of size, revenues, it is notable that much larger proportions have licenses in Ghana, reflecting the prevalence and the effectiveness of the vocational training programs in Ghana. The average schooling level of the firm owners is roughly primary school completion level in all three countries and they have on average around 3.5 dependents. A quarter of them consider themselves poor in Togo and Ghana and 39% reported the same in Benin.

Additional variables that we will use as candidate factors to explain the cross-country differences are: the number of visits by tax officials in the past year, a public goods index, a government performance index, a civic engagement index, a local corruption index, and whether the firmowner is a political party member. The public goods, government performance and local corruption indexes are constructed using a firmowner's perceptions reported on a 5-point scale of best to worst and then converted to a number between 0 and 1 by equally weighting each point. The civic engagement index tracks whether the firmowner participates in neighborhood

meetings, cleaning of public areas, contacted local authorities about a problem, etc.

3.1 Relationship between taxes and firm characteristics

Before turning to the main empirical specification, we explore the relationship between taxes and various firm characteristics. Since legal origin could influence many firm characteristics, we will give the main results without controlling for these characteristics. However, it is instructive to confirm in the data that these characteristics are related to taxes in the manner that we would expect. For this exercise, we pool firms from the three countries together. Table 3 presents the results of regressing various tax outcomes on firm characteristics such as capital stock, the number of employees, whether the firm has a business license, whether the firm has a sign, whether the firm has access to electricity and firm type fixed effects.

3.2 Empirical specification

To assess whether there are differences across countries, we employ the following regression framework:

$$y_i = \alpha + \gamma_1 * Ghana + \gamma_2 * Togo + \epsilon_i$$

where y is a dependent variable related to tax compliance, *Ghana* and *Togo* are dummy variables indicating a firm's country and ϵ is an idiosyncratic error term. The differences between Ghana and Benin, Togo and Benin and Togo and Ghana are given by γ_1 , γ_2 , and $\gamma_2 - \gamma_1$, respectively.

We view this exercise as descriptive and comparative. While country of origin is certainly external to these firms' decisions, we have less than ideal experimental control to be confident in the claim that legal origin is uncorrelated with unobservable variables that affect our dependent variables. We nevertheless think it is reasonable for our purposes to adopt the assumption of exogeneity. By design, these firms are similar, the geography is similar, the culture is similar, the pre-colonial history is similar. The idiosyncratic, unobservable factors that affect our dependent variables

should be exchangeable across firms, to the extent that they are homogenous, once we control for county of origin. In addition, a comparative analysis is a reasonable place to start investigating causal claims related to legal origins or state capacity. It is hard to imagine the experimental control necessary to have random assignment of a treatment of state capacity to provide robust counterfactual analysis.

To better understand the channels through which legal origin may affect tax participation and experiences, we follow La Porta et al. (2008) and run the following regression:

$$y_i = \alpha + \delta * Factor_i + \gamma_1 * Ghana + \gamma_2 * Togo + X_i\beta + \epsilon_i$$

where *Factor* is a candidate explanatory variable identified by Ali et al. (2014), *X* is a set of basic controls, and the remaining are as above. The factors that we consider are economic deterrence, fiscal exchange, and political legitimacy,⁵ If there is a direct effect of the candidate factor, given by δ , and the differences between countries is dramatically altered, then this factor is a channel of influence explaining the cross-country differences. The key dependent variables and potential channels of influence are listed in table 4.

4 Initial Results

In this section, we compare the three countries across firms' participation in tax payments and experiences with the tax system. In table 5, we see that firms in Ghana are less likely to have been shut down due to tax violations, more likely to be currently paying taxes, and have higher tax payments relative to firm turnover. Interestingly, firms in Ghana are equally likely to believe that firms should pay taxes but are less likely to have refused to pay taxes. Firms in Togo are indistinguishable from firms in Benin, statistically speaking, for each of those outcomes, with the

⁵There are three remaining factor that Ali et al. (2014) consider, the presence of non-state actors who are governance substitutes, comparative treatment and network effects. The first factor is not really important for our context and our data do not allow us to address the second and third factors.

exception of currently paying taxes. Firms in Togo are 11 percentage points less likely to be currently paying taxes but the statistical significance is only at the 10% level.

Since tax participation is a function of state capacity as well as voluntary action, we now turn to tax experiences as these should reflect more directly the state's actions toward firms. Across a variety of tax experiences, the results demonstrate a distinct advantage for firms in Ghana. In table 6, firms in Ghana view taxes as being more predictable and tax officials as being less abusive. They also are less likely to feel that they paid more than the law requires and perceive the tax procedure as being more fair. Surprisingly, firms in Togo, on average, have better tax experiences than firms in Benin for each of the above outcomes. The magnitudes of the coefficients suggest that Togo is more similar to Benin than to Ghana.

4.1 Cross-border Analysis

By design, we oversampled firms on either side of the borders with Togo. Due to budget constraints, all firms in our sample that are located in Ghana and Benin are near the border with Togo. Restricting attention to firms on either side of the border lessens the likelihood that confounding factors related to local geographical conditions and/or demographic features explain the differences we observe. This cross-border analysis also rules out the concern that firms in Lomé do not constitute a valid comparison group to firms located in the border towns of Benin and Ghana, which are both located away from the capitol. We thus compare firms in Togo located just on either side of the borders with Ghana and Benin. We note that this analysis leaves the comparison between firms in Ghana and Benin unchanged so we do not discuss it.

Table 7, which corresponds to table 5, shows that, among border firms, we see little difference between firms in Togo and Benin. If anything, we see a higher tax rate in Togo. Moving to the other border, border firms in Togo are less likely to currently pay taxes and pay a lower tax rate. However, we lose the difference for the outcome of having been shut down and ever refused to pay tax (although the

difference is positive and nearly significant at the 10% level).

Table 8, which corresponds to table 6, shows that the main findings are mostly robust, with the exception of tax unpredictability. Among the border firms of Benin and Togo, firms in Togo are less likely to report having paid more tax than law requires and that the tax procedure is unfair. Firms on the Togo side are also less likely to perceive tax officials abusive, but the coefficient does not reach statistical significance at the 10% level. For the Togo-Ghana border, the differences are preserved for all but tax unpredictability.

A different ordering for tax experiences than for tax participation is something of a puzzle and we will examine various explanations in the following section.

5 What may drive the observed differences?

In this section, we compare the three countries along key dimensions that may help explain the differences observed.

5.1 Macro evidence

The subsection seeks to answer the following question: what does Togo and Benin have in common that is different from Ghana and that may explain the diverging behavior on tax compliance? We argue that the key driving force is likely to be a combination of characteristics associated with the overall state capacity and the legal origin.

1. *De jure institutions*

The colonial legacy has shaped the initial institutions in most African countries. In addition to different legal traditions, the French and the British system differed in the nature of the indirect rule during the colonial area. Michael Crowder(1964) documented how the British system sought to directly involve local leaders as partners with real powers whereas the French used them merely as intermediary and stripping them from previously vested powers. These contrasting styles of governance surely shaped the leadership available and

capacity to design and adapt institutions at independence. It may also have established a certain trusting relation between the people and the leaders that is more conducive to consistency between the de jure and the de facto institutions. Irrespective of those considerations, the institutions in Benin and Togo are build from the French institution while that of Ghana are modeled from the British. These different styles of social control are a candidate explanatory factor. We proceed to support this hypothesis by ruling out other potential explanations for the observed differences.

2. *Governance and Institutional quality*

One potential explanation of the observed differences could be that the formal institution in both Togo and Benin are weaker and ineffective relative to Ghana. For example, people are more likely to pay taxes to a government that is more accountable to them. However, as one can see in Table 9, we observe the opposite. In fact the quality of institutions is closer between Benin and Ghana and much better than Togo. While Ghana and Benin score respectively at 8 and 7 on the measure of Polity IV, Togo scores -2. Similarly, one observe significantly large gaps along the same grouping on the Freedom house index (38 and 28 versus 62) and the Mo-Ibrahim subindices on the rule of law. Finally, using the Afrobarometer Round 6 data (2013-2014), we find that while only 4% of Ghanaian and Beninese say that their country is not a democracy at all, it is 20% of Togolese that say the same. We conclude that institutional quality is not a plausible explanation for the observed differences.

An alternative explanation is that when state capacity is low, democracy works less well to limit local capture than more autocratic regimes since local regulators face less pressure from above. Reinikka and Svensson (2004) have shown that local capture of public resources can substantially alter the quality of public services. If local tax officials exhibit relatively less local capture than their counterparts in Benin, then this could offset some of the advantage Benin has in more macro level indicators of institutional quality.

3. *Social characteristics*

One possible explanation could be that the people in the different areas covered differ significantly in terms of their their customs, ethnicities and other characteristics that may influence their behavior. This is particularly unlikely because of several reasons. First, the connected area spanning through the four areas covered are ethnically similar. Historically, the independence leader of Togo thought that this area was so homogenous that it made sense to form a country called the Eweland. The idea was later abandoned for practical and political reasons. Second, our selection of the areas covered as shown in Figure 1 is designed to maximize homogeneity along social characteristics while still covering the different countries. Given the arbitrary nature of the borders, the people on both side of the border do share the same ethnicity. For example, the village of the first president of Togo is located in Benin. Similarly, the city covered in Ghana was part of Togo as was the western part of Ghana until the end of World War 1, when the French and the British defeated the Germans and split the then Togoland in two. In addition, evidence in the literature such as Ariel (2012) in Israel shows little effect of moral suasion, suggesting that high compliance may be reflective of the shadow of the law or other factors.

4. *Key theories in the literature*

The literature in political science has a large body of research covering the determinants of tax compliance. A recent paper used the Afrobarometer opinion polls to study respondents' attitude toward taxes in Kenya, Tanzania, Uganda, and South Africa (Ali, Fjeldstad, and Sjursen 2014).⁶ The paper grouped theories in the literature into the six categories below that we explore. It is important to keep in mind that while the Afrobarometer data represents all adults in the sample, most of whom are often not liable to pay taxes, our data are restricted to firm owners who are required to pay taxes.

⁶ Michelle D' Arcy (2011) used the same datasource and documented that the extent to which the same treat subgroups of the population differently matters significantly for the overall tax compliance.

(a) *Economic deterrence*

Table 10 shows a number of proxy variables that indicate the potential ability of the state to deter from tax evasion. As stated in the introduction, the level of resources available to the state may determine its ability to enforce the laws in the book and generate more tax revenues. Experimental evidence shows the sensitivity of payment to the probability of being audited, and that, deterrence is particularly effective in environments where taxpayers must self-report income, which in theory is the case in all of these three countries (Slemrod et al. 2001; Kleven et al. 2011; Carrillo et al. 2014; Del Carpio 2013; Mascagni et al. 2016). By comparing the income level of the three countries along with other proxies such as the poverty head count ratio, the ease of getting credit, registering property and paying taxes, we see support for this argument (Table 10) as Ghana consistently scored higher than Benin and Togo.⁷

- (b) *Fiscal exchange* By fiscal exchange, we refer to the satisfaction with public goods provision and the performance of the state. In a lab-in-the-field experiment, Cummings et al. (2009) analyzed the role of governance quality on compliance in Botswana and South Africa. The paper found evidence linking the quality of service delivery to compliance. We used the 2014 Afrobarometer survey data to look at the extent to which citizens in each of the three countries think that the government is doing a good job regarding the provision of various public services. If the fiscal exchange were a key driver, one would expect higher satisfaction in Ghana relative to Togo and Benin. However, as shown in Figure 6, the Ghanaian are the least satisfied with how the government is handling the economy, fighting crime, providing of education, health and sanitation services.

(c) *Political legitimacy*

⁷While we proxied state capacity by its ability to enforce the rules, increasing state capacity is not a one-way process as it also enables civil society parties to control the state (Moore 2013; Martin 2014). Other studies like Dwenger(2015) showed some evidence of intrinsic motivation to comply.

Attitude toward taxes may be antagonistic if taxpayers perceive a sense of illegitimacy of the leadership of the country. This may be the case irrespective of the quality of institutions and the political regime. For example, the perceived fairness of the political process and the extent of public corruption may affect tax moral independently of the overall quality of the institutions (Levi et al. 2009). Table 11 however, point to the opposite direction if political legitimacy was a major factor. The electoral process is perceived to be fairer in Togo and Benin than in Ghana and the same goes for the level trust in the president.

5.2 Micro evidence

In this subsection, we explore whether the presence of individual factors that affect tax compliance explain our results.

We focus on individual factors associated with economic deterrence, fiscal exchange and political legitimacy. We also present results using firm size and firm profits as explanatory factors. We first look at tax payments normalized by a firm's revenue in table 12 and then at an index that equally weights our four measures of tax experiences (higher numbers of the index imply a worse experience in table 13). We consistently see the same pattern.

For economic deterrence, we use a dummy variable indicating whether a firm has ever been shut down for tax violations and the number of visits by tax officials a firm has had. Economic deterrence should be associated positively with tax participation but may have a negative association with tax experiences. In tables 12 and 13, we observe exactly these direct effects. However, the observed differences across countries remains, suggesting that targeting economic deterrence is not a complete policy solution.

For fiscal exchange, we use two indices, one that tracks a firm owner's perception of the quality of public goods with higher numbers indicating better quality and one that tracks the overall performance of the government, again with higher numbers indicating better performance. Both of these factors should be positively correlated

with participation and the experience with the tax system. Surprisingly, we find no relationship between tax participation and fiscal exchange in table 12. In contrast, in table 13, we observe the direct effect that we would expect, but again the observed differences across countries remains, suggesting that improvements in public service delivery is not a complete policy solution.

For political legitimacy, we use an index that captures the perceived level of corruption across all levels of government and one that focuses on only local officials (higher values indicating more corruption), an index that captures the firm owner's civic engagement and whether or not the firm owner belongs to a political party.

Both civic engagement and political party membership should be associated with increased participation but could be ambiguously related to tax experiences. In tables 12 and 13, we see no direct effects.

6 Discussion and Concluding Remarks

Taken together, these results resist a simple explanation. The pattern of cross-country differences is not consistent with the typical appeal to institutional quality. Cross-country differences in the distribution of individual determinants of taxation also do not explain the pattern. In this section, we discuss three plausible interpretations of the results, all related to state capacity and the interaction between the state and its citizens.

First, the evidence is consistent with legal origin proxying for difficult to observe factors associated with legal tradition that influence tax participation and experiences. According to Legal Origins Theory, a country's legal tradition can influence beliefs, experiences and perceptions concerning the role and functioning of the state (La Porta et al. 2008) and, consequently, how voluntary action affects the tax system. Legal Origins Theory contrasts two styles (ideal types) of the social control of business that can be linked to the the legal tradition of a country. On the one hand, there is the French Civil law tradition, represented by Togo and Benin, and, on the other hand, there is the British Common law tradition, represented by Ghana. Every legal system faces a trade-off of allowing the state to guard against market

failure or protect society from the abuse of political control. The civil law favors solving the problem of market failure whereas the common law prefers to solve the problem of the abuse of power. Regardless of which type is preferable from a social welfare point of view, one could argue that the civil law tradition is more likely to give rise to antagonistic attitudes toward and experiences with taxation by business than the common law tradition. This theory would explain why we see firms in Togo and Benin having worse tax participation and experiences than firms in Ghana. The theory could also explain why firms in Benin have worse experiences than firms in Togo. Benin, which has arguably more state capacity than Togo, may have a stronger grip on business activity, worsening tax experiences and voluntary compliance and leading to no greater tax participation on balance.

Second, local regulators may engage in less local capture in Togo than in Benin. Macro indicators of institutional quality do not always account for local variation in the extraction of public resources (Reinnika and Svensson 2004). Regulators in Togo may face harsher punishment for corrupt practices than their counterparts in Benin due to the more autocratic nature of the political regime. Third, firm owners themselves may induce differences in local tax experiences not captured by macro-level variables. Businesses in Togo may be better able to or more likely to discipline corrupt actions by tax authorities than in Benin, for example, due to their better ability to hide. Both of these explanations are not inconsistent with Legal Origins Theory, but they need not appeal to it. Since we do not have direct measures of local regulator behavior, we can not rule out these explanations. However, from the point of view of these explanations, one would expect the micro evidence on economic deterrence, local corruption or civic engagement to have more of a presence as channels of influence.

There are deep implications if Legal Origins Theory explains what we observe. Social scientists generally agree that institutions matter for a variety of social outcomes, but there is a large debate concerning which aspects of institutions matter most. For most economists, institutions are defined as a set of rules that govern behavior, and they matter to the extent that these rules are enforceable and affect individual behavior. In other words, the *de jure* rules matter only if they are opera-

tional as *de facto* rules. Institutions then can be represented as a single dimension, Q (enforcement times entitlement), and measures such as expropriation risk are viewed as good measures of the unidimensional institutional quality. The dependence of individual behavior on institutions is then represented by $F(Q; X)$ where X represents non-institutional factors.

In contrast, Legal Origins Theory argues that *de jure* rules influence which *de facto* rules emerge and stresses the importance of institutional diversity and historical differences in the evolution of institutions for understanding contemporary economic relationships. For example, if the interaction between the state and the citizen and/or subject determines how institutional quality affects economic outcomes (or the functionality of institutions), then the unidimensional representation of institutions would be violated. According to the comparative analysis in this paper, the unidimensional view of institutions appears to be flawed. Our evidence supports the notion that legal rules and their influence on the interaction between the state and business matter. However, we caution the reader to draw strong conclusions. In a different setting, Bubb (2013) finds that the enforcement of property rights in land does not differ for villages on either side of the border of Ghana and Cote D'Ivoire. Legal Origins Theory can resolve these contradictory findings. Property rights in land are complex and may have higher costs of legal transplant than the tax code and methods of taxation, implying that the civil or common law origins of a country's legal tradition has less of an impact. Clearly, more research is needed to establish whether bifurcation of the social control of business generated by these two legal traditions is a good theory for understanding the pattern of outcomes we observe across Togo, Ghana and Benin.

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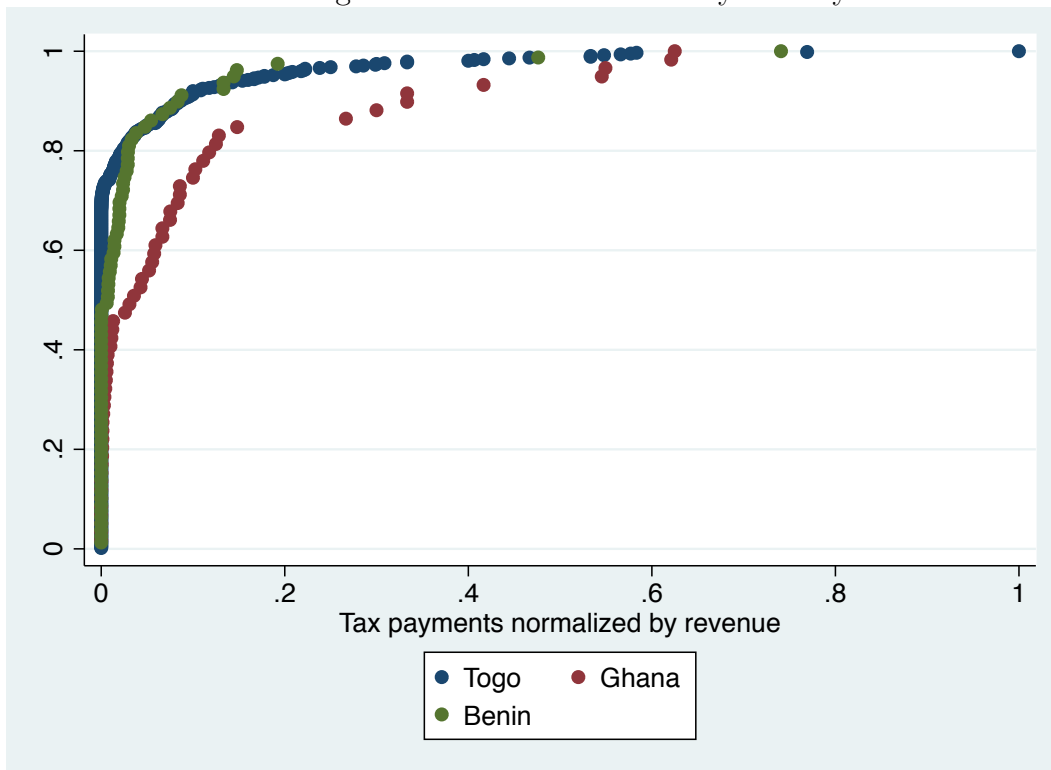
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Figures

Figure 1: Geographic areas covered



Figure 2: Effective tax rates by country



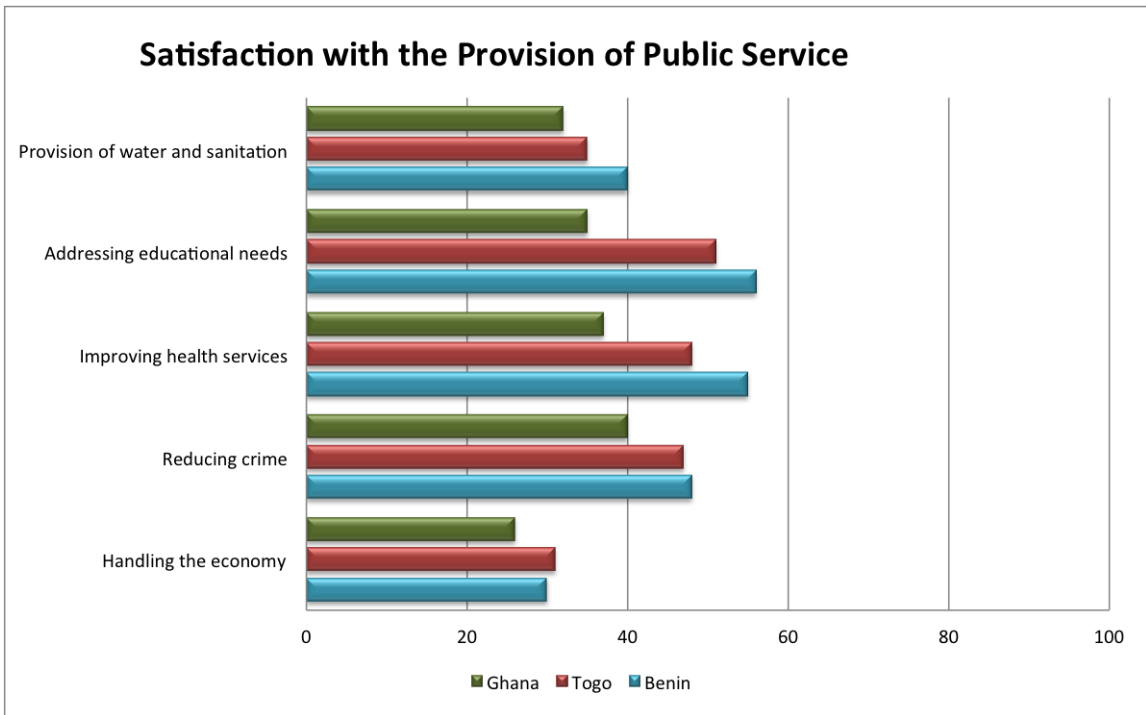


Figure 3: Percentage of population who strongly agree or agree that the government is doing a good job with the public provision of the services listed. - Based on the 2014 Afrobarometer survey data.

Tables

Table 1: Firm Types across Countries in Small Private Enterprise Survey

	Togo	Ghana	Benin
Tailor / Sewing	205 (28%)	22 (32%)	18 (23%)
Embroidery	22 (3%)	1 (1%)	1 (1%)
Barber	84 (12%)	6 (9%)	15 (19%)
Hairdressing	139 (20%)	21 (31%)	22 (28%)
Upholsterer / mattress	18 (3%)	1 (1%)	3 (4%)
Carpenter	34 (5%)	5 (7%)	4 (5%)
Aluminium joiner	13 (2%)	2 (3%)	
Mechanics (car / motorcycle)	71 (9%)	4 (6%)	7 (9%)
Electrician (car / motorcycle)	5 (1%)		2 (3%)
Painter (car / motorcycle)	2 (<1%)		
Mason / Bricklayer / Builder	7 (1%)		
Electrician (building)	7 (1%)		
Painter (building)	3 (1%)		
Welder	6 (1%)	3 (4%)	
Arc welder	25 (3%)		1 (1%)
Electronic technician / Repair radio	14 (2%)	1 (1%)	2 (3%)
Scrap dealer	3 (<1%)		
Vulcanizer	39 (5%)	1 (1%)	5 (6%)
Shoemaker	25 (3%)	1 (1%)	
Bakery (traditional)	1 (<1%)		

Table 2: Firm Characteristics by Country

Variable	Togo			Ghana			Benin		
	Mean	Std. Dev.	N	Mean	Std. Dev.	N	Mean	Std. Dev.	N
<i>Firm characteristics</i>									
Assets (in logs)	12.46	0.96	722	12.46	0.95	68	12.31	0.78	80
Monthly revenue (in logs)	10.26	1.69	640	9.96	1.47	62	10.55	1.36	80
Monthly expenditure (in logs)	10.72	1.11	711	10.83	1.18	67	11.16	0.85	80
Firm size	1.24	0.98	721	1.59	1.78	68	1.03	0.16	80
Firm has a license	0.08	0.26	722	0.69	0.47	68	0.03	0.16	80
Firm has visible signage	0.41	0.49	709	0.4	0.49	65	0.56	0.50	80
Firm has access to electricity	0.72	0.45	722	0.78	0.42	67	0.75	0.43	80
<i>Firm owner characteristics</i>									
Female	0.38	0.49	723	0.56	0.5	68	0.36	0.49	80
Married	0.63	0.48	723	0.71	0.46	68	0.70	0.46	80
Number of dependents	3.54	3.09	716	3.32	2.02	68	3.77	3	79
Poor (self-assessed)	0.26	0.44	710	0.22	0.42	67	0.19	0.39	80
Education (in years)	6.43	3.19	722	8.20	1.85	65	5.59	3.28	80

Table 3: Taxes and firm characteristics

Dep. Var.=	Pays taxes				Tax amount paid (in logs)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Assets (in logs)	0.099 (0.018)***	0.083 (0.017)***	0.073 (0.017)***	0.076 (0.020)***	0.019 (0.138)	-0.063 (0.136)	-0.121 (0.138)	-0.130 (0.173)
Female		0.019 (0.035)	-0.017 (0.037)	-0.097 (0.057)*		-0.194 (0.243)	-0.330 (0.272)	-0.676 (0.387)*
Married		0.082 (0.038)**	0.066 (0.037)*	0.049 (0.038)		0.854 (0.269)***	0.839 (0.276)***	0.790 (0.284)***
Dependents		0.021 (0.006)***	0.018 (0.006)***	0.016 (0.006)***		0.029 (0.038)	0.022 (0.039)	0.000 (0.040)
Education		0.012 (0.005)**	0.006 (0.005)	0.004 (0.005)		-0.038 (0.038)	-0.059 (0.040)	-0.081 (0.040)**
Poor (self-reported)		-0.173 (0.039)***	-0.144 (0.038)***	-0.144 (0.039)***		-0.980 (0.295)***	-0.970 (0.297)***	-1.019 (0.302)***
Firm size			0.010 (0.016)	0.021 (0.018)			0.159 (0.115)	0.120 (0.119)
Has signage			-0.020 (0.036)	-0.012 (0.040)			-0.033 (0.255)	0.162 (0.271)
Has license			0.246 (0.053)***	0.234 (0.053)***			0.196 (0.297)	0.167 (0.298)
Has electricity			0.182 (0.039)***	0.137 (0.048)***			0.596 (0.303)*	0.629 (0.363)*
Firm-type fixed effects	No	No	No	Yes	No	No	No	Yes
R^2	0.04	0.10	0.14	0.17	0.00	0.08	0.10	0.17
N	870	844	826	826	345	340	328	328

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Table 4: Summary statistics

Variable	Mean	Std. Dev.	Min.	Max.	N
<i>Dependent variables</i>					
Firm has been closed for tax nonpayment	0.12	0.32	0	1	863
Currently pays taxes	0.48	0.5	0	1	871
Tax amount paid (in CFAs)	1881.24	6858.09	0	87750	870
Believes people should pay taxes	0.89	0.31	0	1	860
Has refused to pay taxes	0.41	0.49	0	1	407
Tax unpredictability	0.69	0.3	0.25	1	543
Tax officials are abusive	0.70	0.46	0	1	453
Paid more taxes than law requires	0.73	0.45	0	1	353
Tax procedure is unfair	0.63	0.48	0	1	405
Tax experience index	0.70	0.35	0	1	480
<i>Channels of influence</i>					
Number of visits by tax officials in past year	0.74	0.99	0	4	792
Public goods index	0.47	0.21	0	1	854
Performance index	0.49	0.22	0.1	1	778
Civic engagement index	0.1	0.16	0	0.88	871
Corruption index	0.57	0.23	0.02	1	737
Political party member	0.12	0.32	0	1	871

Table 5: Tax outcomes across countries

	I	II	III	IV	V
Togo	-0.06 (0.04)	-0.11 (0.06)*	-0.01 (0.01)	0.00 (0.04)	0.08 (0.08)
Ghana	-0.12 (0.05)**	0.17 (0.08)**	0.06 (0.02)***	0.05 (0.05)	-0.24 (0.09)***
Constant	0.18 (0.04)*** (0.04)***	0.55 (0.06)*** (0.06)***	0.04 (0.01)*** (0.01)***	0.89 (0.04)*** (0.04)***	0.38 (0.08)*** (0.08)***
$\beta_{Togo} - \beta_{Ghana}$	0.06 (0.03)*	-0.28 (0.06)***	-0.07 (0.02)***	-0.05 (0.03)*	0.32 (0.06)***
R^2	0.01	0.02	0.04	0.00	0.04
N	863	871	760	860	407

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

I=Ever shut down due to tax violations, II=Currently pays taxes, III=Tax rate, IV=Should pay taxes, V=Ever refused to pay taxes

Table 6: Tax experiences across countries

	I	II	III	IV
Togo	-0.10 (0.04)**	-0.11 (0.06)**	-0.16 (0.05)***	-0.22 (0.06)***
Ghana	-0.33 (0.11)***	-0.57 (0.08)***	-0.50 (0.09)***	-0.51 (0.09)***
Constant	0.69 (0.04)***	0.85 (0.05)***	0.90 (0.05)***	0.86 (0.05)***
$\beta_{Togo} - \beta_{Ghana}$	0.191 (0.078)**	0.472 (0.072)***	0.336 (0.085)***	0.286 (0.075)***
R^2	0.02	0.10	0.07	0.07
N	543	453	353	405

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

I=Tax unpredictability, II=Tax officials are abusive, III = Paid more tax than law requires, IV = Tax procedure is unfair

Table 7: Tax outcomes across countries: Border refinement

	I	II	III	IV	V
Togo's border with Benin	-0.002 (0.061)	0.125 (0.077)	0.032 (0.019)*	0.050 (0.045)	0.082 (0.102)
Togo's border with Ghana	-0.122 (0.051)**	-0.257 (0.077)***	-0.024 (0.013)*	0.044 (0.046)	-0.063 (0.125)
Ghana	-0.118 (0.052)**	0.171 (0.078)**	0.062 (0.024)***	0.054 (0.046)	-0.238 (0.091)***
Non-border Togo	-0.060 (0.045)	-0.119 (0.060)**	-0.011 (0.012)	-0.013 (0.038)	0.090 (0.082)
Constant	0.177 (0.043)***	0.550 (0.056)***	0.037 (0.012)***	0.887 (0.035)***	0.381 (0.075)***
$\beta_{TogoborderGhana} - \beta_{Ghana}$	-0.004 (0.04)	-0.43 (0.08)***	-0.09 (0.02)***	-0.01 (0.04)	0.18 (0.12)
R^2	0.01	0.05	0.05	0.01	0.05
N	863	871	760	860	407

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

I=Ever shut down due to tax violations, II=Currently pay taxes, III=Tax rate, IV=Should pay taxes, V=Ever refused to pay taxes

Table 8: Tax experiences across countries: Border refinement

	I	II	III	IV
Togo's border with Benin	0.014 (0.051)	-0.119 (0.079)	-0.152 (0.076)**	-0.308 (0.086)***
Togo's border with Ghana	-0.264 (0.062)***	0.114 (0.064)*	-0.113 (0.105)	-0.136 (0.109)
Ghana	-0.328 (0.109)***	-0.573 (0.084)***	-0.497 (0.094)***	-0.509 (0.087)***
Non-border Togo	-0.098 (0.042)**	-0.128 (0.057)**	-0.167 (0.056)***	-0.205 (0.061)***
Constant	0.692 (0.035)***	0.846 (0.050)***	0.902 (0.047)***	0.864 (0.052)***
$\beta_{TogoborderGhana} - \beta_{Ghana}$	0.06 (0.115)	0.69 (0.078)***	0.38 (0.124)***	0.37 (0.118)***
R^2	0.05	0.12	0.07	0.07
N	543	453	353	405

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

I=Tax unpredictability, II=Tax officials are abusive, III = Paid more tax than law requires, IV = Tax procedure is unfair

Table 9: Comparison of the quality of institutions in Togo, Ghana and Benin

	Togo	Ghana	Benin
Polity IV	-2	8	7
CPIA Ranking 2014	29	16	10
Democracy index	3.5	6.3	5.7
Freedom House Index	62	38	28
Mo-Ibrahim Index (Rule of law)	51	85	68
Not a democracy (Afrobarometer 2014)++	20	4	4
Pre-colonial Ethnic Institutions	3	3	4

++Percent of people who responded that the country is not a democracy at all

Table 10: Proxies for the capacity for economic deterrence

	Togo	Ghana	Benin
GDP per capita PPP	1428	4090	1865
GDP PPP \$bl	10.7	115.1	23
Aid as % GNI in 2014	5.1	3.1	6.3
DB - Getting credit (Rank)	133	42	133
DB - Registering properties (Rank)	182	77	172
DB - Paying taxes (Rank)	163	106	179
Poverty Head count - International	54	25	53

Table 11: Proxies for political legitimacy

	Togo	Ghana	Benin
Trust the president	54	40	47
Fairness of last National Election	60	47	66
Corruption - tax officials	49	52	52
Trust army	43	55	57

Table 12: Tax payments across individuals: Channels

	I	II	III	IV	V	VI	VII	VIII	IX	X
Ever shut down for tax violations	0.03 (0.01)*									0.00 (0.01)
Number of visits by tax officials		0.01 (0.004)**								0.01 (0.005)**
Public goods index			0.02 (0.01)							0.01 (0.02)
Govt. performance index				0.01 (0.02)						0.01 (0.02)
Civic engagement index					0.01 (0.02)					0.01 (0.03)
Corruption index						0.01 (0.01)				0.00 (0.02)
Political party member							-0.01 (0.01)			-0.01 (0.02)
Firm size								-0.00 (0.00)		-0.00 (0.005)
Firm profit									-0.00 (0.00)***	-0.00 (0.00)*
Togo	-0.00 (0.01)	-0.01 (0.01)	0.00 (0.01)	0.00 (0.02)	-0.00 (0.01)	0.00 (0.02)	-0.00 (0.01)	-0.01 (0.01)	-0.01 (0.01)	0.01 (0.02)
Ghana	0.09 (0.03)***	0.08 (0.03)***	0.07 (0.03)***	0.09 (0.03)***	0.08 (0.03)***	0.09 (0.03)***	0.09 (0.03)***	0.08 (0.03)***	0.08 (0.03)***	0.09 (0.03)***
$\beta_{Togo} - \beta_{Ghana}$	-0.089 (0.022)***	-0.091 (0.025)***	-0.075 (0.023)***	-0.088 (0.024)***	-0.086 (0.022)***	-0.091 (0.023)***	-0.092 (0.022)***	-0.090 (0.023)***	-0.089 (0.022)***	-0.081 (0.028)***
R^2	0.10	0.12	0.08	0.10	0.09	0.10	0.09	0.09	0.10	0.13
N	765	707	758	690	771	658	771	769	771	563

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Table 13: Tax experiences across individuals: Channels

	I	II	III	IV	V	VI	VII	VIII	IX	X	
Ever shut down for tax violations	0.02 (0.05)									0.01 (0.02)	
Number of visits by tax officials		0.04 (0.02)**								0.04 (0.02)*	
Public goods index			-0.29 (0.10)***							-0.20 (0.14)	
Govt. performance index				-0.24 (0.09)***						-0.28 (0.09)***	
Civic engagement					-0.01 (0.12)					0.07 (0.12)	
Corruption index						0.02 (0.09)				-0.06 (0.10)	
Political party member							0.01 (0.06)			0.08 (0.06)	
Firm size								-0.02 (0.02)		-0.04 (0.03)	
Firm profit									0.00 (0.00)**	0.00 (0.00)**	
Togo	-0.12 (0.06)**	-0.13 (0.06)**	-0.16 (0.06)**	-0.15 (0.05)***	-0.12 (0.06)**	-0.12 (0.06)***	-0.12 (0.06)**	-0.12 (0.06)**	-0.12 (0.06)**	-0.12 (0.06)**	-0.16 (0.06)**
Ghana	-0.44 (0.08)***	-0.48 (0.08)***	-0.43 (0.09)***	-0.46 (0.08)***	-0.44 (0.09)***	-0.43 (0.08)***	-0.45 (0.09)***	-0.44 (0.08)***	-0.43 (0.08)***	-0.43 (0.08)***	-0.50 (0.10)***
$\beta_{Togo} - \beta_{Ghana}$	0.323 (0.064)***	0.354 (0.062)***	0.279 (0.069)***	0.311 (0.064)***	0.323 (0.073)***	0.309 (0.064)***	0.330 (0.073)***	0.318 (0.065)***	0.307 (0.065)***	0.347 (0.085)***	
R^2	0.14	0.15	0.14	0.16	0.14	0.15	0.14	0.14	0.14	0.20	
N	469	453	461	441	471	422	471	471	468	376	

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$