



What Have We Learned About Tax Compliance in Africa?

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Governments' abilities to collect taxes depend on people's willingness to pay them. Encouraging tax compliance demands a careful understanding of how taxpayers think about and experience taxation. Knowledge about taxpayer attitudes and behaviour is essential when analysing opportunities and constraints for reform, and for the design and implementation of effective policy and administrative measures to enhance compliance.

Until recently, relatively little was known about taxpayers' views of taxation, taxpayer behaviour and the incidence of different taxes in Africa. This had to do with poor data, methodological challenges, and limited interest in the topic among researchers. From the beginning, ICTD's work in this area had two objectives. First, to learn more about tax compliance. Second, to help build research infrastructure so that African researchers could gradually do more of this work

themselves. The second objective has been achieved by two main means. One was by investing in a wider range of tax data through the Afrobarometer survey and the use of tax administrative data. The second was through joint research with and training of African researchers. ICTD's research on compliance has been developed in partnership with researchers from Africa, and in close dialogue with tax administrations and development agencies. The joint Rwanda Revenue Authority-ATAF-ICTD training seminars have also been important in building a small pool of younger African scholars working in the field.

The starting point and direction of ICTD's work

One of the first activities conducted by ICTD was a review study of existing tax compliance studies in Africa.¹ It assessed the analytical foundations, methodological

¹ Fjeldstad, O.-H., Schulz-Herzenberg, C. and Sjursen, I. (2012) *People's Views of Taxation in Africa: A Review of Research on Determinants of Tax Compliance*, ICTD Working Paper 8.

approaches and key findings of available studies, most of which were based on survey data: (a) business surveys, aiming to identify taxpaying behaviour and compliance costs for investors and entrepreneurs;² (b) country-specific citizen surveys, addressing people's views of the tax system, tax enforcement, trust in public institutions and service delivery;³ and (c) cross-country citizen surveys examining people's taxpaying attitudes.⁴ The review concluded that existing studies were limited, and only included scattered estimates of the distribution of tax burdens and some information on attitudes towards specific, usually local, government taxes. Few of the country-specific surveys had a large enough number of respondents and a sufficient range of variables to allow for rigorous quantitative testing of different theoretical explanations. The cross-country surveys included only a limited number of tax questions, and the empirical studies based on these surveys omitted some of the major theoretical explanations rooted in the literature.

Based on this review, an agenda for ICTD's research on tax compliance was suggested. Continued work should focus on enhancing our understanding of taxpayer experiences through a combination of survey, case study and experimental data. The review paper argued for greater use of public opinion survey data by pointing to the strengths of such

data, including their ability to capture a broad range of explanatory variables known only to taxpayers, such as their understanding of compliance requirements, relevant values and attitudes and perceptions of risks and benefits of non-compliance.

An obvious weakness with survey data is that it can be difficult to get honest answers about dishonest behavior – tax evasion or avoidance. Individuals tend to answer untruthfully when asked questions about sensitive issues such as their own tax payment. For this reason, recent survey-based studies use indirect measures of individuals' tax compliance attitude to avoid direct implication of wrongdoing by the respondents. This could, for instance, be an indirectly phrased question where respondents are asked to state whether they think that it is wrong for people not to pay taxes that they owe on their income.⁵ While some authors argue that obtaining reliable quantitative information about tax compliance behaviour is practically impossible, others maintain that application of appropriate survey methods and interview techniques comes a long way in reducing problems of strategic responses.⁶

While survey-based research may offer useful insights to the question of why people pay tax, it suffers from a major drawback: the attitudes that people reveal in surveys may not accurately reflect their actual behaviour when faced with the real consequences of tax evasion and

² Gauthier, B. and Reinikka, R. (2006) 'Shifting tax burdens through exemptions and evasion: an empirical investigation of Uganda', *Journal of African Economies* 15(3); Coolidge, J. and Ilic, D. (2009) *Tax compliance perceptions and formalization of small businesses in South Africa*, World Bank Policy Research Working Paper Series No. 4992, Washington DC: World Bank.

³ Fjeldstad, O. H. (2001) 'Taxation, coercion and donors. Local government tax enforcement in Tanzania', *The Journal of Modern African Studies* 39: 289-306; Fjeldstad, O.-H. (2004) 'What's trust got to do with it? Non-payment of service charges in local authorities in South Africa', *The Journal of Modern African Studies* 42: 539-562; Fjeldstad, O. H. and Semboja, J. (2001) 'Why people pay taxes: The case of the development levy in Tanzania', *World Development* 29: 2059-2074.

⁴ D'Arcy, M. (2011) *Why do citizens assent to pay tax? Legitimacy, taxation and the African state*, Afrobarometer Working Paper No. 126; Sacks, A. (2012) *Can donors and non-state actors undermine citizens' legitimating beliefs?*, World Bank Policy Research Working Paper No. 6158.

⁵ See Ali, M., Fjeldstad, O.-H. and Sjørusen, I.H. (2014) 'To Pay or Not to Pay? Citizen's Attitudes towards Taxation in Kenya, Uganda, Tanzania and South Africa', *World Development* 64: 828-42.

⁶ Reinikka, R. and Svensson, J. (2006) 'Using micro-surveys to measure and explain corruption', *World Development* 34: 359-370.

avoidance. Tax experiments using administrative data address this drawback by looking at real taxpayer behaviour rather than perceptions.⁷

This is done by conducting the study in a real-life setting: real taxpayers, filing real tax returns and interacting with the revenue authority rather than with researchers. Administrative data has become available only recently, thanks to the modernisation and digitalisation processes in revenue administrations across Africa. However, since tax returns only capture what is known by the tax administration, they do not allow the direct observation of tax evasion and avoidance. Experimental methods allow researchers to address this problem, but only partially. Taxpayers who are informal – not registered for tax purposes – are still missed by field tax experiments.

Effective use of administrative data requires a high degree of collaboration with the tax administration that originally compiles and maintains the data. Therefore, such studies have a built-in connection with policymakers, which is beneficial both to design relevant research projects and to make results useful for supporting policy.⁸ Application of experimental methods to analyse administrative data in Africa is pioneered by ICTD in collaboration with the African Tax Administration Forum (ATAF), Rwanda Revenue Authority and the Ethiopian Revenue and Customs Authority.⁹

Using administrative data has a huge potential to strengthen research on compliance and to inform policymaking and the revenue administration. Given the current limited capacity to design and implement experimental studies, and the fact that some revenue administrations are hesitant to share administrative data with researchers, it is likely that perception-based surveys will remain

an important method in studies of tax compliance, as also reflected in ICTD's research over the last five years.

Below we summarise what we have learned about tax compliance from some of the research conducted by ICTD over the last five years.

Cross-country surveys

Close collaboration with Afrobarometer has been an important way for ICTD to contribute to more data and knowledge about taxpayer attitudes in African countries. Afrobarometer collects data on public attitudes about democracy, governance, markets, taxation and civil society in more than thirty African countries. Nationally representative samples of individuals who are more than eighteen years old are selected in both rural and urban areas of the different countries. ICTD developed a series of questions around people's views on taxation, all rooted in theories about tax compliance, which were included in the Afrobarometer Round 5 survey, fielded in 2011 and 2012. Most of these questions were new and not included in the previous rounds of Afrobarometer. Because the questionnaires are similar across countries, the data allows for cross-country comparisons as well as

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⁷ Mascagni, G. (2016) *From the Lab to the Field: A Review of Tax Experiments*, ICTD Working Paper 46.

⁸ Ibid.

⁹ Ali, M., Shifa, S., Shimeles, A. and Woldeyes, F. (2015) *Information Technology and Fiscal Capacity in a Developing Country: Evidence from Ethiopia*, ICTD Working Paper 31; Mascagni, G., Monkam, N. and Nell, C. (forthcoming) *Keeping up with taxes: Tax compliance and progressivity in Rwanda*, ICTD Working Paper.

comparison across various political and social sub-groups, both within and across countries.

Using this survey data, ICTD researchers have examined factors determining citizens' tax compliance attitude in Kenya, Tanzania, Uganda and South Africa.¹⁰ Three key findings emerge: first, an increase in the perceived difficulty of evading taxes has a significant and positive correlation with the likelihood of having a tax-compliant attitude. Second, and as expected, tax compliance attitude is positively correlated with the provision of public services in all four countries. However, different types of public services matter in the different countries: in Kenya, it is government provision of electricity and roads; in Tanzania and Uganda provision of health and education services; and in South Africa it is policing. The different results from the four countries suggest that government expenditure may motivate compliance, and that governments can increase compliance by providing goods that citizens demand in a more efficient and accessible manner. Third, the study finds that tax knowledge and awareness of the tax system are positively correlated with tax compliance attitude. Respondents who perceive it as difficult to find out what taxes they are required to pay are less likely to have a tax-compliant attitude than those who perceive it as relatively easier. This indicates that improving taxpayer knowledge is a potential strategy to improve compliance.

Country-specific surveys

ICTD has also conducted several studies of tax compliance attitudes based on the theoretical frameworks outlined in the paper *People's views of taxation in Africa*.¹¹ One of these studies is a survey of business people's views of taxation

“ICTD researchers have examined factors determining citizens' tax compliance attitude in Kenya, Tanzania, Uganda and South Africa [and find that] an increase in the perceived difficulty of evading taxes has a significant and positive correlation with the likelihood of having a tax-compliant attitude.”

in Ethiopia.¹² The study surveys 500 business taxpayers residing in Addis Ababa. The sample of businesses was obtained by stratified sampling, meaning that the population of businesses was divided into groups by sector and size before the firms were randomly selected within each group. It is one of the first studies that examines taxpayers' views of taxation in Ethiopia. Tax compliance attitude is found to be positively correlated with the perceived probability of audit and satisfaction with the tax administration, and negatively correlated with perceptions of corruption in the tax administration. The importance of tax administrative practices for compliance mirror findings from the cross-country survey reported above. The study highlights some areas that need to be considered when addressing the problem of tax non-compliance in

¹⁰ Ali, M., Fjeldstad, O.-H. and Sjørnsen, I.H. (2014) 'To Pay or Not to Pay? Citizen's Attitudes towards Taxation in Kenya, Uganda, Tanzania and South Africa', *World Development* 64: 828-42.

¹¹ Fjeldstad, O.-H., Schulz-Herzenberg, C. and Sjørnsen, I. (2012) *People's Views of Taxation in Africa: A Review of Research on Determinants of Tax Compliance*, ICTD Working Paper 8.

¹² Yesegat, W. and Fjeldstad, O.-H. (2015) *Business people's views of paying taxes in Ethiopia*, ICTD Working Paper 43.

Ethiopia. In particular, the findings related to the tax administration signal the need to investigate administrative procedures and practices.

In another project, ICTD researchers implemented a survey of attitudes towards tax compliance at the local government level in Sierra Leone, which covered 2,100 taxpayers across seven district councils.¹³ The survey focuses on local government taxes. Three key findings appear from the research. First, and consistent with earlier research, the study finds clear associations between attitudes towards tax compliance and (a) trust in government, and (b) perceptions of fairness and reciprocity. Second, the study finds that local-level factors feature most critically in shaping attitudes towards taxation. Politically, trust in local chiefs is most pivotal in shaping attitudes towards taxation – despite many of those taxes being collected by district councils. Third, with respect to public services, the study finds that satisfaction with local government services – including garbage collection, street cleaning, public toilets and bus services – is important in shaping attitudes towards tax compliance. Collectively, these results thus speak to the critical role of local governance in shaping taxation and, more broadly, state-society relationships, thus offering new information to our understanding of the determinants of tax compliance.

Analysing tax administrative data

ICTD, in collaboration with revenue administrations in Africa, is increasingly involved in analysis of actual tax administrative data.

One of these studies examines the effects of the use of modern information technology to

enhance compliance and, thus, tax revenue. In recent years, several African countries have implemented electronic tax systems (ETS) to monitor tax compliance, such as electronic sales registry machines (ESRMs), but there is little evidence on the impact of this technology.¹⁴ In collaboration with the Ethiopian Revenue and Customs Authority (ERCA), the researchers use administrative data covering the entire set of taxpayers registered for Value Added Tax (VAT). Two major patterns were found in the data. First, the average amount of VAT paid by firms increases substantially after the adoption of ESRMs. Second, this effect is driven by firms that are more likely to evade taxes prior to ESRM use – suggesting that it has increased tax compliance among businesses that were likely to evade prior to the introduction of ESRMs. Analysis of trends in the lead-up to ESRM use suggests that these effects are unlikely to be explained by pre-existing differences between ESRM users and non-users. Thus, the evidence points to a positive contribution of the IT revolution to enhance tax compliance by strengthening administrative capacity. However, this conclusion comes with an important qualification. The study estimated the effect on firms that were already registered for VAT, which is a relatively small fraction of the firms in Ethiopia. If increased enforcement via ESRM use forces firms to operate underground – where the government cannot require them to use ESRMs – the revenue gains from ESRM use may be reduced due to increased informality. The extent to which increased enforcement through ESRM use leads to a higher level of informality is an agenda for future research.

Another study analyses the effective tax burden (ETR) on Ethiopian firms.¹⁵ It is based on

¹³ Jibao, S. and Prichard, W. (forthcoming) *Taxpayer Perceptions and Governance in District Councils in Sierra Leone*, ICTD Working Paper.

¹⁴ Ali, M., Shifa, S., Shimeles, A. and Woldeyes, F. (2015) *Information Technology and Fiscal Capacity in a Developing Country: Evidence from Ethiopia*, ICTD Working Paper 31.

¹⁵ Mascagni, G. and Mengistu, A. (2016) *Corporate effective tax rates in Ethiopia: Evidence from firm level data*. ICTD Working Paper 48.

administrative data from corporate tax returns for two years, 2012/13 and 2013/14. The dataset for all corporate taxpayers in Ethiopia was obtained from the tax records of ERCA. Two hypotheses are tested. The first one tests whether large firms are able to exploit the tax code better than small firms, thus benefiting from lower tax burdens. The results confirm this hypothesis, but show a non-linear relation between effective tax rate and size. While small firms face the highest tax burden, the largest firms still pay more than middle-sized firms. It is this latter group that benefits from lower tax burdens. The U-shape that emerges from the Ethiopian data is at odds with other results in the literature, including those of Gauthier and Reinikka.¹⁶ This U-shape can be interpreted as both small and large firms facing constraints in minimising their taxes, although their constraints are fundamentally different. Small firms do not have the capacity and resources to fully exploit the tax system, and their compliance costs are relatively high. Therefore, they lose out. Large firms on the other hand are highly visible and more easily targeted by the revenue authority. Therefore, they cannot easily apply aggressive tax minimising strategies. The second hypothesis is that smaller firms are less compliant, which is confirmed by the study. The evidence indicates that this may be due to the lower use of withholding procedures amongst smaller firms in Ethiopia, although this conclusion should be taken with caution since the result does not stand the test of statistical significance in a multivariate regression framework. Two additional results of particular relevance for policy emerges from this study. First, the current tax system in Ethiopia seems to have the unintended effect of penalising small firms more due to high compliance costs. Measures to simplify their reporting requirements may help in reducing this burden. Second, the manufacturing sector seems to be taxed relatively more than other sectors.

Both these results have important implications for the Ethiopian government's broader growth and structural transformation strategy.

Experimental studies

Recently, several economic experiments on taxation have been pioneered by ICTD. An ongoing project in Rwanda, led by ICTD researcher Giulia Mascagni in collaboration with the Rwanda Revenue Authority (RRA) and the African Tax Administration Forum (ATAF), uses data from anonymised tax returns filed by taxpayers. It is one of the first research projects that uses administrative data from tax returns in an African context. The research design is based on the principle of randomisation and therefore allows a rigorous identification of the effects of various determinants of compliance. The population of taxpayers is divided into two groups that are comparable in terms of relevant characteristics such as location, income level, type of taxes paid, type of taxpayer (corporate/individual). One of these two groups represents the control group, while the other (or others) is 'treated' with the intervention that is being studied.

In this experiment, the intervention is a message (sent by physical letter, email, and SMS to different groups of taxpayers) that the RRA sends to taxpayers, that underlines a specific determinant of compliance, such as the possibility of being audited (i.e. deterrence) or information about the moral or social importance of taxpaying (i.e. moral or social appeal). By analysing the changes in reported income in the two groups before and after the treatment (i.e. the message), the researchers can draw conclusions about the effects of these messages on compliance. In this case, the difference between the changes in reported income in the control group and treatment group is taken as indicative of changes in compliance.

¹⁶ Gauthier, B. and Reinikka, R. (2006) 'Shifting tax burdens through exemptions and evasion: an empirical investigation of Uganda', *Journal of African Economies* 15(3).

If the treated group increases reported income more than the control group, this difference can be attributed to a change in compliance due to the message. Thus, conclusions can be drawn about evasion/avoidance even if the actual extent of under-reported income cannot be observed. Existing studies from Western countries show that changes in information to taxpayers can affect compliance. The ongoing econometric analysis will shed light on whether this is the case in Rwanda as well, and will quantify the effects of the various messages on compliance. From a policy perspective, this research can be seen as an evaluation of the effectiveness of communication strategies implemented by the Rwanda Revenue Authority in order to increase compliance. On this basis the study will offer specific recommendations to the RRA, and may also provide useful lessons learned for other countries.

In Tanzania, ICTD researchers have conducted a randomised field survey experiment to study the effects of expectations about petro-revenue in Tanzania.¹⁷ First, the study investigates whether and how expectations about future gas revenues affect citizens' attitudes towards taxation and corruption, and trust in the government. Second, it explores whether content, contextualisation and visualisation of information can modify petro-expectations in ways that are favourable to social and economic development. The study also investigates whether and how expectations affect citizens' corruption and trust behaviour. The results from the survey experiment, covering 3,000 respondents, show that low willingness to pay tax is a significant challenge. Focus group discussions indicate that high tax rates, poor public services and lack of awareness on taxation and public spending are important factors in explaining the low willingness to pay. Expectations about future gas revenues do not affect willingness to pay tax, but cause respondents to

expect more corruption in the future. The study shows that information and the way it is framed matter for people's perceptions of the effects of future gas revenues. These findings suggest that enhancing tax compliance requires a combination of approaches, including: (a) administrative measures such as simplifying tax payment and providing taxpayers with information about the purpose and use of tax payments; and (b) policy measures to build more accountable state-citizen relations around taxation, including better links between tax payment and public service provision.

Further research on tax compliance

The work conducted by ICTD over the last five years has established a strong base for future policy-oriented research on tax compliance. This has been achieved by: (a) training African researchers; (b) getting revenue administrations engaged in the topic and willing to co-operate with researchers; and (c) by pioneering new research methodologies in African contexts.

At least three considerations for further work emerge from ICTD's work. First, adoption of more standardised methods across studies would benefit both the research and capacity building objectives. Although research design needs to take the context into account, researchers should make greater efforts to achieve comparability across countries. Perception-based surveys will remain an important method in studies of tax compliance, partly because administrative data only captures what is known by the revenue administration, and thus excludes the informal sector, which in most African countries constitutes a substantial share of the economy. However, large-scale field experiments using administrative data have potential to strengthen policy relevance

¹⁷ Cappelen, A., Fjeldstad, O.-H., Mmari, D., Sjørusen, I.H. and Tungodden, B. (2016) 'Managing the resource curse: A survey experiment on expectations about gas revenues in Tanzania.' Paper prepared for the *CSAE Conference Economic Development in Africa* (22-23 March), Oxford University.

and impacts of the research, since they are embedded in real taxpaying situations and are implemented in collaboration with tax officers.¹⁸

Second, there are a number of practical issues that are perceived to matter for compliance, but there is lack of rigorous evidence. For example, we know that complexity and compliance costs are important constraints for taxpayers, particularly in low-income countries. However, there is still relatively little evidence on what tax administrations can do to address them.

Third, for an improved understanding of tax compliance behaviour, there is a need for a more thorough examination of the concept of fiscal exchange – the contractual relationship between taxpayers and the government. A cross-cutting

finding that derives from the survey-based research reported above is that poor service delivery, in the taxpayers' view, may legitimise tax evasion and avoidance. In this context, it is relevant to analyse if – and when – earmarking of specific tax revenue to specific expenditure is required to enhance compliance. In this perspective, it is also relevant to examine how payment to non-state actors for the provision of services and infrastructure may be correlated with people's tax compliance behaviour, whether these services are in the form of private schools, health services, security or community self-help projects. Critical factors here are citizens' perceptions about the role of the state, how the tax law is administered, and perceptions about enforcement and government trustworthiness.

¹⁸ Mascagni, G. (2016) 'From the Lab to the Field: A Review of Tax Experiments.' ICTD Working Paper 46.

Further reading

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Credits

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