

Opening the Black Box - Determinants of Tax Morale in Africa

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1 Introduction

A country’s ability to efficiently mobilize its national resources is a topic that has recently been gaining traction in the discussion surrounding development; it provides governments with the funds needed to “invest in development, relieve poverty and deliver public services directed toward the physical and social infrastructure required to enhance long term growth” (OECD 2013)

Ever since the Monterrey Consensus was adopted in 2002, in which countries recognized the importance of raising domestic revenues, development aid has been increasingly shifting from direct financial assistance to improving tax systems and national resource management. Unfortunately, up to this date, tax systems still attract relatively little international assistance and “estimates based on OECD data suggests that currently around 0.1% of Official Development Assistance (excluding IMF) goes to support the development of tax systems in developing countries (OECD 2015).

One malady plaguing developing countries is tax evasion and tax avoidance; whereby tax evasion “in general refers to illegal practices to escape from taxation”, whereas tax avoidance “in contrast, takes place within the legal context of the tax systems, that is individuals or firms take advantage of the tax code and exploit “loopholes”, i.e. engage in activities that are legal but run counter to the purpose of the tax law (GTZ 2011).

High levels of tax evasion lead to a misallocation of resources and hinder the ability of the government to invest in the provision of public goods. Therefore, understanding the rationale behind tax evaders becomes essential to national development and state building. Traditionally, the standard way to explain tax compliance has been the economics-of-crime approach, which assumes a rational taxpayer maximizing his or her utility by balancing the risk of detection and punishment with the benefit of tax evasion. Today, this approach is increasingly regarded as too narrow to fully explain tax compliance, and many argue for the need to include social factors, which are said to explain why people conform to paying taxes even in the absence of strong deterrence mechanisms. These social factors constitute and influence the individual’s “intrinsic motivation to pay taxes,” hereafter referred to as tax morale, by increasing moral costs of tax evasion and thus increasing tax compliance. This link has been increasingly studied and strong evidence has been established that tax morale influences individual tax compliance. **The majority of the studies focus on developed countries and only few studies investigate the determinants of tax morale in developing countries.** Since tax systems are embedded in national historical events and the cultural particularities, “the existence or creation of a universal and ‘objectively’ good system of taxation becomes implicitly impossible” (Nerre 2006) and highlights that tax culture is specific to regions and countries and influenced by the interaction of actors and cultural values. On the other hand, there might be universal values, such as condemning corruption and feelings of trust that have a direct influence on tax morale across cultural boundaries.

The purpose of this paper is to fill the existing gap in research by contributing a study of tax morale in African countries and to investigate whether the commonly identified determinants of tax morale also satisfactorily explain this sentiment in African countries. Therefore this paper will contribute to expanding the limited existing research in the field of tax morale by investigating a geographical area that has been largely neglected. The African Development Bank itself recognizes that tax morale and trust in public institutions are “issues impinging the continent’s development” (African Development Bank Group); this paper therefore aims to provide specific findings to African policymakers, which could be used to derive customized policy recommendations.

Our data comes from the Afrobarometer Survey, and our conceptual framework is based on the commonly identified determinants of tax morale. The paper is organized as follows: Chapter 2 provides a review of the literature, illustrating the conceptual evolution of tax morale and the commonly associated determinants of tax morale; chapter 3 describes the data and methodology, chapter 4 presents and discusses the results; and chapter 5 concludes the study.

2 Literature Review

This chapter reviews the most influential literature about tax morale. We briefly review Allingham and Sandmo's model of income tax evasion (1972) before discussing how the narrative of tax morale developed over time, how tax morale is defined, what factors are said to determine tax morale and why we make the case that these determinants need to be tested in the context of African countries.

2.1 The Conceptual Evolution of Tax Morale

In 1972, Allingham and Sandmo presented a formal model explaining tax evasion as negatively correlated with the probability of detection and the degree of punishment. According to their model, rational individuals should report virtually no income. Their model turned out to have little explanatory power and failed to account for the high degree of tax compliance in some countries, despite their low level of deterrence. This puzzle of tax compliance is only solvable using alternative theories, empirical findings, and calls for the need to consider other non-economic factors, including psychological, moral and social. Shortly after Allingham and Sandmo published their model, which was influenced by the economics-of-crime approach, Spicer and Lundstedt (1976) acknowledged that the decision of tax compliance is not solely based on sanctions but also on attitudes and norms. Tax compliance is thus “not only a function of opportunity, tax rates, probability of detection and so on, but of each individual's willingness to comply, shaped by tax morale” (Torgler 2007, 77). Tax morale is often defined as “the existence of an intrinsic motivation to pay taxes” (Cummings et al. 2009; Torgler 2005; Torgler and Schneider 2009). Over the years several studies shed light on tax morale and find strong evidence that tax morale indeed influences tax compliance (Alm and Torgler 2006; Dulleck et al. 2012; Maciejovsky, Schwarzenberger, and Kirchler 2012; Molero and Pujol 2012). Tax compliance therefore seems to be not explainable solely by the level of enforcement, but partially by tax morale. What factors then determine tax morale?

2.2 Determinants of Tax Morale

Currently, tax morale remains the underdog in explaining tax compliance and “most studies treat ‘tax morale’ as a black box without discussing or even considering how it might arise or how it might be maintained” (Feld and Frey 2002). Not surprisingly then, the analysis of tax morale as a dependent variable remains a rather novel topic in tax compliance literature. The relatively few studies aiming to determine what influences tax morale find that factors such as trust in government, the level of corruption, interactions with other taxpayers and tax administrators, tax burden, perception about benefits of public spending, social norms, detection, and punishment all determine tax morale and hence influence tax compliance. Trust in government and/or government officials is one of the classic factors said to influence the tax compliance behavior of individuals (Torgler 2002; Torgler 2003; Torgler and Schneider 2009). If people have no faith that their taxes are being fairly collected and spent, their desire to comply with applicable taxes is lowered. Similarly, corruption undermines tax morale by promoting a feeling of tax injustice; leading individuals to feel entitled to evade the taxes of an unfair system. Related to this feeling of injustice are interactions between taxpayers, which subsequently further influence and potentially erode or increase tax morale. Individuals who know of someone avoiding their taxes are found to have lower tax morale than others (Torgler 2005), whereas the knowledge that others are paying their taxes correspondingly can increase tax morale. This suggests that there might be a “positive snowball effect” (Frey and Torgler 2007; Lewis 1982), whereby taxpayers' tax morale increases if they perceive others to be more compliant. Tax administrators also form an important figure in determining tax morale; when tax officials treat individuals with respect, their tax morale is enhanced (Bohnet and Frey 1994; Feld and Frey 2003). In addition, the perception of the tax burden seems to have an impact on tax morale: according to a study concerning Latin America (Torgler 2005), over 46 percent of respondents stated a high tax burden to be a reason for tax evasion. Based on the author's findings, self-employed individuals are especially prone to developing anti-tax feelings, as taxes are typically more visible to them and affect them more directly, which results in lower tax morale. At the same time, individuals' tax morale might also be influenced by their perception of received benefits, in the form of public goods and services. Torgler

suggests that there is a direct input-output relation, where individuals compare money paid with benefits received. An additional relevant factor can be fiscal knowledge, which increases tax morale by influencing the perception of received benefits. Better-educated taxpayers are more knowledgeable about tax law and fiscal connections, and ultimately may be better equipped to see the connection between paying taxes and receiving benefits (Lewis 1982). Furthermore, strongly established social norms (Ajzen and Fishbein 1980; Lewis 1982) play a big role in determining the change of tax morale over time. Social dynamics- such as taxpayer interaction- become customary in the long-term, resulting in attitudes that become social norms. Consequently, what becomes central to complying with official laws is not the regulation in itself, but the justification for doing so. When a social norm dictates that allocating tax money into personal projects is morally acceptable, as opposed to giving it to the tax administration, the aforementioned ‘positive snowball effect’ might not be so easy to attain. Traxler (2010) finds that conditional cooperation is a characteristic inherent in taxpayers, in the sense that they condition their compliance to the behavior of the larger group. Traxler and Winter (2009) provide evidence of the existence of social sanctions, for example for an individual who cheats on their taxes when complying is the norm. If this is the case, the logical implication is that there is a need to realign social norms with tax regulations.

2.3 Tax Morale in Africa

Measuring tax evasion is a complex endeavor and while there are several methods available for attempting to measure tax evasion, using audited returns, traces of true income, and measures of traces of compliance, all of them face the same problem: tax evasion is an informal economic activity and “unlike invisible phenomena in the natural sciences, these invisible social science phenomena are hard to measure because of choices made by individuals” (Slemrod and Weber 2012, 25). All of these methods face measurement problems, “that arise not by chance, but because of the nature of the subject matter” (p. 50). That said, to give a point of reference to illustrate the widespread dimension of tax evasion, estimates for South Africa state that households fail to declare up to 30% of the income (ADCORP). In recent years, especially in the aftermath of the global financial crisis the focus has been on tax evasion of cooperations and estimates about private tax evasion is almost non existent. By shifting the focus on to individuals, this paper by no means wants to shift the blame away from multinationals; it rather complements the current debate about taxes, obligation, values and sentiments by including the everyday citizen into this dialogue and quest for morale behavior. **write a few more lines about relevance**

3 Opening the black box

This study seeks to analyse the determinants of tax morale in Africa. The following chapter provides a comprehensive explanation of the process of how we seek to open the black box of tax morale. It illustrates how the central question of this study and how we went about conducting the analysis by focusing on the data that was used, the operationalization of the relevant variables and the choice of the research design.

3.1 The Research Question

The central question of this study is: Do commonly identified determinants of tax morale also explain this sentiment in African countries? In other words, we want to test, whether factors that have been found to influence tax morale in previous studies for other countries and regions of the world also hold for the African context. By answering this question, we will not only provide some more insight on tax morale in African countries, but we will furthermore also shed some light on the question whether there are factors that shape tax morale across national borders. With this approach we reside with Torgler and believe that it “is important to analyse the determinants that influence tax morale in developing countries as the environment is different from developed countries”, while on the other hand acknowledging that “some effects might be independent of cultural environments” (Torgler 2005, 2). In section 2.2 we have already described a variety of factors that have been found to be determinants of tax morale. These include trust in government, the

level of corruption, interactions with other taxpayers and tax administrators, tax burden, detection, and punishment. Tax morale can thus be conceptualized as a function of these determinants:

$$\begin{aligned} TaxMorale_i = & \alpha_i + \beta_1 TrustinGovernment/PublicOfficials_i + \beta_2 LevelofCorruption_i \\ & + \beta_3 interactionswithothertaxpayers_i + \beta_4 selfemployed_i \\ & + \beta_5 detectionandpunishment_i + \epsilon_i \end{aligned} \quad (1)$$

If these are in fact factors that universally influence the intrinsic motivation to pay taxes, we should be able to find them to have significant effects on tax morale in Africa as well. If we are, however, unable to find significant effects, then this would be an indicator that specific cultural, regional or even national characteristics play a crucial role for tax morale in Africa. Our hypothesis therefore is:

H₁: Determinants of tax morale identified from the literature also have a significant effects on tax morale in Africa.

3.2 The Data

Our definition of tax morale as an intrinsic motivation to pay taxes indicates that we are looking at an individual level phenomenon. Consequently the level of analysis also has to be on the individual level. We have therefore decided to look at survey data, more specifically, at the Afrobarometer Survey, which provides data on attitudes of citizens on political, economic, and social issues (“Afrobarometer”). The main reason why we have decided to use the Afrobarometer for our analysis (instead of other data sources such as for example the World Value Survey) is that it includes a question on tax morale that has been the same and has been asked in the past three rounds of the survey, which enables us to also take into account changes over time. And, secondly, the Afrobarometer includes a total of 34 countries out of which 18 countries can be observed at three different points in time¹ which offers us insight into a relatively large amount of different countries from the continent and therefore also into the question whether national contexts play an important role for tax morale.

The data is publicly available on the website of the Afrobarometer www.afrobarometer.org. For this analysis we have downloaded the three datasets for the third, fourth, and fifth round of the survey and merged them into a single dataset containing information from respondents at three different points in time. It should be noted however, that the Afrobarometer is not a panel study which means that the respondents from the different years were not the same individuals. All survey interviews are conducted face-to-face by interviewers who usually have a first class degree in social science and who receive training by national partners during a five-day training workshop which includes the familiarisation with the survey in national and local languages, sampling protocol and field practice. The interviews usually are conducted within 48 hours after the training (“Afrobarometer”).

3.2.1 Tax Morale in the Afrobarometer

We operationalize our dependent variable tax morale with a question that appears in the same wording in all three rounds of the Afrobarometer survey. Respondents are asked to state their agreement or disagreement with the statement “The tax department always has the right to make people pay taxes”. Respondents are offered 5 different options ranging from “strongly disagree” to “strongly agree”. Figure 1 illustrates the distribution of how respondents answered this question. As can be seen, the vast majority of respondents agrees or even strongly agrees with the statement. If we take a closer look at the individual countries, we can see that there is, however, some variation with regard to the level of tax morale. Figure 2 shows how respondents answered this question on average in the different countries under study.

¹This study focuses on rounds three to five of the Afrobarometer. The third round was conducted in 18 countries between 2005 and 2006. All of these 18 countries are represented in the following rounds as well. The fourth round comprised 20 countries and was conducted between 2008 and 2010, and the fifth round was conducted between 2011 and 2013 in 34 countries. The sixth round of the Afrobarometer was conducted between 2014 and 2015, but was not available for analysis yet, which is why it was not considered in this analysis. In total our dataset contains 104,697 observations.

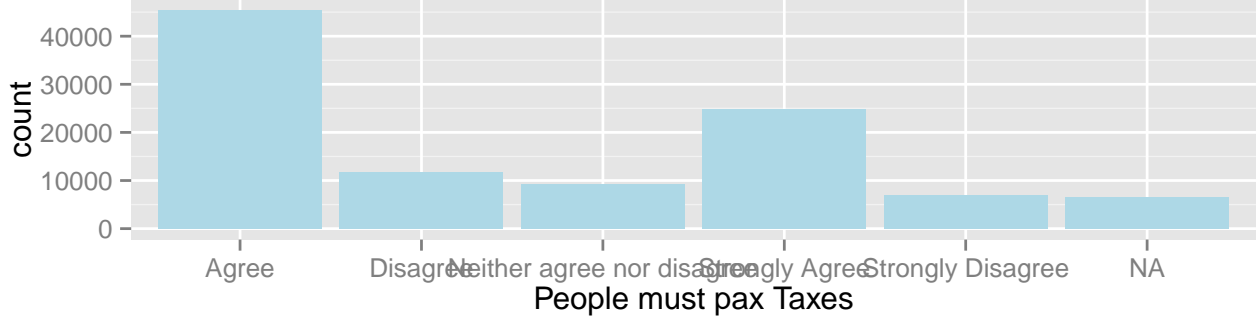


Figure 1: Summary Statistics of Dependent Variable: The tax department always has the right to make people pay taxes

This seemingly high level of tax morale in Africa might be related to the rather technical phrasing of the statement which only refers to the right of the tax department to do its job. It can be argued however, that agreeing to the statement does not necessarily exclude respondents to think that there are nevertheless “valid” reasons for not paying taxes. The fifth round of the Afrobarometer contains two questions that could be informative in this context. One of them asks respondents, how often they think people avoid paying taxes. Of those who answered this question^[2], one third (33.7%) says people never and almost another third (32.2%) says they rarely avoid paying taxes. This seems to be an indicator that people at least perceive tax morale to be relatively high. However, the fifth round also contains a question that directly asks what respondents think is the main reason for why people avoid paying taxes. For this question, only about 6% of those who answered, chose the option “people don’t avoid paying”. The majority of respondents says that the main reason for avoiding to pay taxes is that people cannot afford to pay them (34.8%) or that they are too high (20.6%).

3.2.2 Data on the Determinants of Tax Morale

As described earlier, we consider tax morale to be a function of trust in government, the level of corruption, interactions with other taxpayers and tax administrators, tax burden, detection, and punishment:

$$\begin{aligned}
 TaxMorale_i = & \alpha_i + \beta_1 TrustinGovernment/PublicOfficials_i + \beta_2 LevelofCorruption_i \\
 & + \beta_3 interactionswithothertaxpayers_i + \beta_4 selfemployed_i \\
 & + \beta_5 detectionandpunishment_i + \epsilon_i
 \end{aligned} \tag{2}$$

In order to test our hypothesis (*H₁: Determinants of tax morale identified from the literature also have a significant effect on tax morale in Africa*) we need to identify corresponding questions from the Afrobarometer that can be used to operationalize these potential determinants. The survey includes a variety of different questions regarding the level of trust of respondents in their government as well as regarding the perceived level of corruption. They relate to different representatives of the government such as the prime minister or the president, the parliament or the tax authorities. However, not all of them are available for each round. For our main model we want to take into account as many countries as possible and also all three points in time, which is why we decided to use the questions on the level of trust in the president or the prime minister as a key leadership figure as well as on the perceived level of corruption of the office of the president for our analysis. With regards to *Interactionswithothertaxpayers_i* we will use the afore mentioned question on how often respondents think people avoid paying taxes. As this question was only asked in the fifth round, we cannot include the variable in the main model, but we will run an additional model that only looks at the respondents of the fifth round. The variable *selfemployed_i* relates to the idea that self-employed individuals are especially prone to developing anti-tax feelings as taxes are typically more visible to them and affect them more directly. The fifth round of the Afrobarometer contains a question asking the respondent whether they are self-employed and if so whether they are required to pay taxes on the earnings from their business. Data

on detection and punishment only exists in the third round of the survey. Respondents are asked how likely they think it would be that authorities enforce the law if they did not pay their taxes. Again, the variable cannot be included in the main model, but we will conduct a sub-analysis of just the respondents in that round where we will include this variable. Additionally, we will include a number of control variables in our model such as the respondents' current living conditions, gender, age, and being religious.

3.3 The Research Design

3.4 Analysis Procedure

A regression analysis is used to investigate the determinants of tax morale in African countries, using R Studio (R Core Team 2015; Hlavac 2015; Xie 2015) . Since our dependent variable is measured from “Strongly Disagree”, “Disagree”, “Neither Agree or Disagree”, “Agree”, “Strongly Agree”, we believe that the “distances” between these five points are not equal, an OLS regression in this case is problematic because the assumptions of OLS are violated when used with a non-interval outcome variable. Instead, we opted for an ordinal logistic regression.

In order to use an ordinal logistic regression the following four assumptions need to hold:

1. The dependent variable is measured at the ordinal level.
2. One or more independent variables that are continuous, ordinal, or categorical
3. There is no multicollinearity
4. Ordinal odds

As indicated above, the first assumption holds true; our tax morale variable is measured at the ordinal level. The second assumption also holds true; all of our independent variables, are continuous, ordinal or categorical. To test for multicollinearity, we applied the variance inflation factor; the result are shown in the table below. Since all numbers except year are very close to 1, we can assert that there is no multicollinearity. **needed to transform independent variables into numerical ones - is this an issue?**

Variables	VIF
Country	1.06
TrustPresident	1.01
CorruptionTax	1.19
CorruptionParliament	1.20
SelfEmployedTax	1.04
AvoidHowOften	1.02
Religion	1.01
Gender	1.02
LivingConditions	1.01
Age	1.02

We also created a simply correlation matrix to test for multicollinearity, whose results are depicted in the figure below. As a rule of thumb, any correlation with a value of .5 and above will present multicollinearity, when 1 is perfect correlation. As seen in the correlation matrix, not a singly correlation yields a value above .5. The highest correlation, between country and paying taxes as a self-employed person is only -.015, far from close to a high, multicollinear correlation.

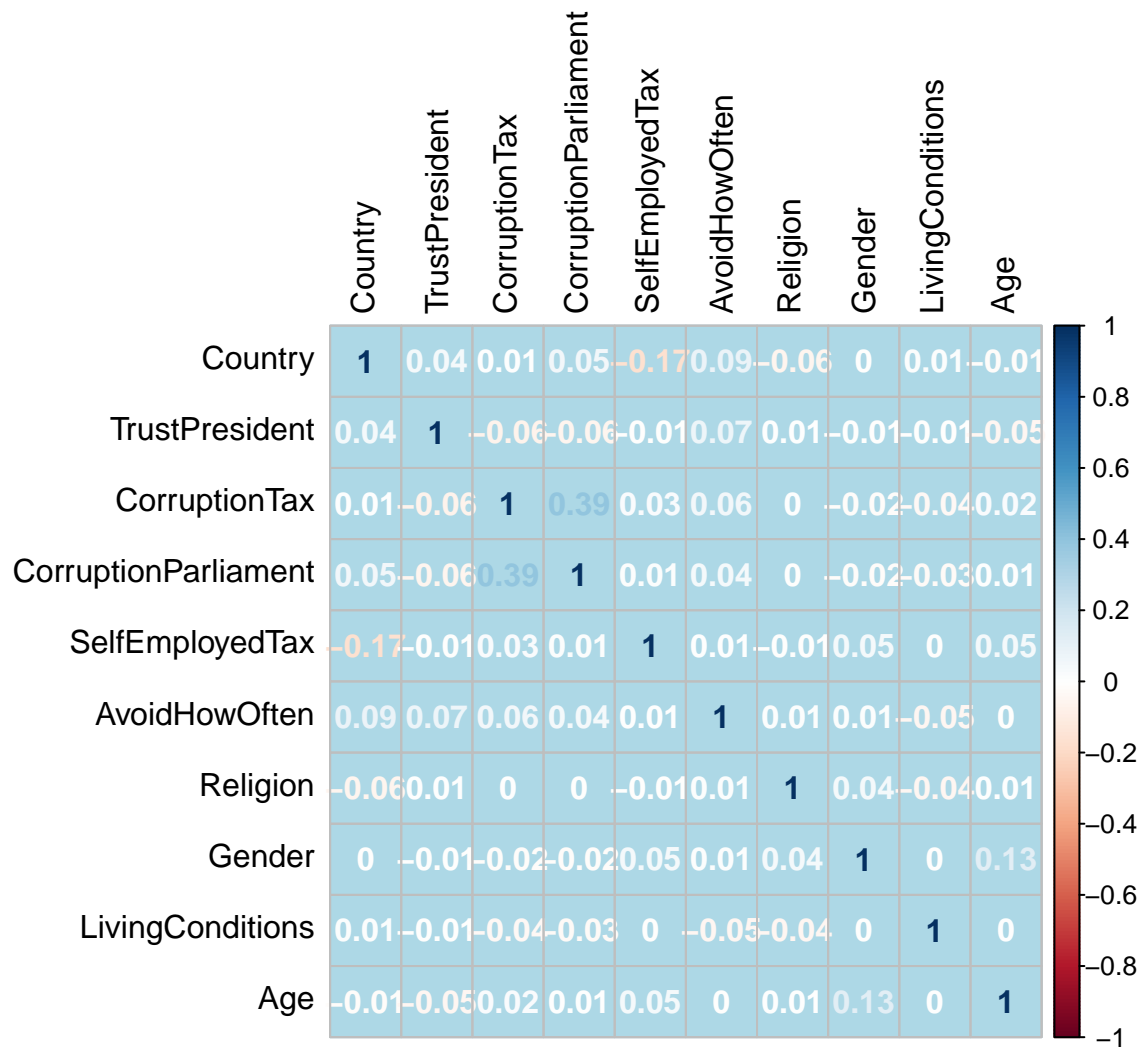


Figure 2: Correlation Matrix

4 Results and Discussion

This chapter presents the results and discussion of our analysis. We devote one section to discuss the results of the regression analysis, including appropriate robustness checks, before interpreting and discussing the statistical results.

4.1 Regression Analyses

4.2 Discussion

5 Conclusion

References

- ADCORP. “Jobs down and Tax Evasion up.” <http://www.adcorp.co.za/News/Pages/DecemberdatareflectSAjobsgrowthof12556E2%80%93butpermanentjobscontinuetodecline.aspx>.
- African Development Bank Group. “Financing Poverty Reduction and Inequality in Africa: Debates Focus on Tax Morale and Structure of Housing Finance.” <http://www.afdb.org/en/news-and-events/article/financing-poverty-reduction-and-inequality-in-africa-debates-focus-on-tax-morale-and-structure-of-housing-finance-14917/>.
- “Afrobarometer.” <http://www.afrobarometer.org/>.
- Ajzen, I., and M. Fishbein. 1980. *Understanding Attitudes and Predicting Social Behavior*. Englewood Cliffs, NJ: Prentice-Hall.
- Allingham, Michael G., and Agnar Sandmo. 1972. “Income Tax Evasion: A Theoretical Analysis.” *Journal of Public Economics* 1 (3-4): 323–38. doi:[10.1016/0047-2727\(72\)90010-2](https://doi.org/10.1016/0047-2727(72)90010-2).
- Alm, J., and Benno Torgler. 2006. “Culture Differences and Tax Morale in the United States and Europe.” *Journal of Economic Psychology* 27: 224–46.
- Bohnet, I., and B.S. Frey. 1994. “Direct-Democratic Rules: The Role of Discussion.” *KYKLOS* 47 (3): 341–54.
- Cummings, Ronald G., Jorge Martinez-Vazquez, Michael McKee, and Benno Torgler. 2009. “Tax Morale Affects Tax Compliance: Evidence from Surveys and an Artefactual Field Experiment.” *Journal of Economic Behavior and Organization* 70 (3): 447–57.
- Dulleck, Uwe, Jonas Fookan, Cameron Newton, Andrea Ristl, Markus Schaffner, and Benno Torgler. 2012. “Tax Compliance and Psychic Costs: Behavioral Experimental Evidence Using a Physiological Marker.” *CREMA Working Paper Series*. Center for Research in Economics, Management; the Arts (CREMA). <http://ideas.repec.org/p/cra/wpaper/2012-19.html>.
- Feld, L.P., and B.S. Frey. 2002. “Trust Breeds Trust: How Taxpayers Are Treated.” *Economics of Governance* 3: 87–99.
- . 2003. “The Tax Authority and the Taxpayer - An Exploratory Analysis.” <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.200.8641&rep=rep1&type=pdf>.
- Frey, B.S., and Benno Torgler. 2007. “Tax Morale and Conditional Cooperation.” *Journal of Comparative Economics* 35: 136–59.
- GTZ. 2011. *Tax Evasion and Tax Avoidance in Developing Countries*.
- Hlavac, Marek. 2015. “Stargazer: Well-Formatted Regression and Summary Statistics Tables.”
- Lewis, A. 1982. *The Psychology of Taxation*. Oxford: Martin Robinson.

- Maciejovsky, Boris, Herbert Schwarzenberger, and Erich Kirchler. 2012. "Rationality Versus Emotions: The Case of Tax Ethics and Compliance." *Journal of Business Ethics* 109 (3): 339–50.
- Molero, Juan Carlos, and Francesc Pujol. 2012. "Walking Inside the Potential Tax Evader's Mind: Tax Morale Does Matter." *Journal of Business Ethics* 105 (2): 151–62.
- Nerre, Birger. 2006. "Culture and Economics: The Concept of Tax Culture." *Intereconomics/Review of European Economic Policy* 41 (4): 189–94.
- OECD. 2013. *Draft Principles for International Engagement in Supporting Developing Countries in Revenue Matters*.
- OECD. 2015. "Strengthening Tax Systems to Mobilise Domestic Resources in the Post-2015 Development Agenda."
- R Core Team. 2015. "A Language and Environment for Statistical Computing. R Foundation for Statistical Computing." Vienna, Austria.
- Slemrod, J., and C. Weber. 2012. "Evidence of the Invisible: Toward a Credibility Revolution in the Empirical Analysis of Tax Evasion and the Informal Economy." *International Tax Public Finance* 19: 25–53.
- Spicer, M., and S.B. Lundstedt. 1976. "Understanding Tax Evasion." *Public Finances* 31 (2): 295–305.
- Torgler, Benno. 2002. "What Do We Know About Tax Morale and Tax Compliance?" *International Review of Economics and Business* 48: 395–419.
- . 2003. "Tax Morale and Institutions." *Center for Research in Economics, Management and the Arts*.
- . 2005. "Tax Morale in Latin America." *Public Choice* 122: 133–57.
- . 2007. *Tax Compliance and Tax Morale: A Theoretical and Empirical Analysis*. Northhampton MA: Edward Elgar Publishing Ltd.
- Torgler, Benno, and Friedrich Schneider. 2009. "The Impact of Tax Morale and Institutional Quality on the Shadow Economy." *Journal of Economic Psychology* 30 (2): 228–45.
- Traxler, C. 2010. "Social Norms and Conditional Cooperative Taxpayers." *European Journal of Political Economy* 26: 89–103.
- Traxler, C., and J. Winter. 2009. "Survey Evidence on Conditional Norm Enforcement." *Max Planck Institute for Research on Collective Goods*.
- Xie, Yihui. 2015. *Knitr: A General-Purpose Package for Dynamic Report Generation in R.R Package Version 1.11*.