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Tax Morale

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For over 40 years, the benchmark economic model of tax evasion has been the Allingham and Sandmo (1972) model, in which self-interested taxpayers choose how much income to report to the tax authority by trading off the benefits of evasion (lower tax payments) against the costs of evasion (the possibility of being caught and punished). In this model, the key policy parameters affecting tax evasion are the tax rate, the detection probability, and the penalty imposed conditional on the evasion being detected.

However, there is an apparent disconnect between much of the academic literature on tax compliance and the administration of tax policy. While tax administrators are obviously concerned about enforcement, they also tend to place a great deal of emphasis on improving "tax morale," by which they generally mean increasing voluntary compliance with tax laws and creating a social norm of compliance. The OECD (2001), for example, noted that "[t]he promotion of voluntary compliance should be a primary concern of revenue authorities" in its principles for good tax administration, and it has highlighted the importance of tax morale more generally (OECD 2013).

Tax authorities around the world pursue policies that reflect their belief that nonpecuniary factors are important in tax compliance decisions. More than half of US states have or have had "name and shame" programs in which the names of top tax debtors are revealed publicly on state websites. In a more colorful example, the

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city of Patna in Bihar, India, deployed "singing eunuchs" to shame shopkeepers into paying their taxes (BBC News 2006).[1] An alternative to shaming tax evaders is to recognize compliant or high-paying taxpayers publicly, a strategy adopted by an increasing number of developing countries. Some nations have instituted public campaigns to change attitudes towards tax evasion. For example, recent television and print advertising campaigns in Italy have highlighted the need to reduce widespread tax evasion in order to better cope with the European debt crisis (Povoledo 2011).

The term "tax morale" is often used in reference to these types of influences on tax compliance. We will define tax morale broadly as an umbrella term capturing nonpecuniary motivations for tax compliance as well as factors that fall outside the standard, expected utility framework. For example, individuals may have some intrinsic motivation to pay taxes or feel guilt or shame for failure to comply. They may comply due to reciprocal motivations: the willingness to pay taxes in exchange for benefits that the state provides to them or to others even though their pecuniary payoff would be higher if they didn't pay taxes. Individuals may be influenced by peer behavior and the possibility of social recognition or sanctions from peers. Cultural or social norms can affect the strength of these intrinsic motivations, reciprocal motivations, or the sensitivity to peers. We will also include deviations from standard expected utility maximization, such as loss aversion, in our definition of tax morale.

Michael Waweru (2004), then the head of Kenya's revenue authority, captured many of the tax morale channels we have in mind during a presentation to the President of Kenya. Waweru said:

> KRA [Kenya Revenue Authority] has organised a Taxpayers' week from 18th to 23rd October throughout the country. The period was carefully chosen to coincide with Kenyatta Day celebrations in honour of our national heroes. The running theme throughout the celebrations will be "Kulipa Ushuru ni kulinda Uhuru" or "Pay your Taxes and set your country free" as a way of paying glowing tribute to those who dedicated their lives to free our beloved country from the humiliation of colonialism. Present taxpayers are taking a leading role in freeing their country from donor dependency to economic independence. The climax of these celebrations will be on 21st October 2004, when we will be recognizing Distinguished Taxpayers.

The linkage of tax compliance with honoring national heroes is clearly meant to prompt intrinsically motivated compliance, and the reference to compliance reducing donor dependence highlights the notion that tax payments have a direct benefit for society. The potential importance of peer effects and social norms is illustrated through the decision to recognize "Distinguished Taxpayers" and the adoption of a slogan that seems designed to change the overall social attitude toward tax compliance. Notice that some of these policies may confer private pecuniary

[1] The article uses the term "eunuch" for the community in South Asia referred to as "hijras," who are not necessarily eunuchs in the technical sense.

rewards. For example, public recognition could improve firms' reputations and therefore revenues. Isolating the components of behavior that are attributable to tax morale is therefore an empirical challenge.

We argue that tax morale is indeed an important component of tax compliance decisions, though we view enforcement as the primary driver of compliance. We then demonstrate that tax morale operates through a variety of underlying mechanisms, drawing on evidence from laboratory studies, natural experiments, and an emerging literature employing randomized field experiments. We do not attempt to provide a comprehensive review of the literature. Rather, we highlight a few studies that illustrate specific channels through which tax morale can affect compliance behavior. Finally, we consider the implications for tax policy and attempt to understand why recent interventions designed to improve morale, and thereby compliance, have had mixed results to date.

How Important is Tax Morale?

The standard Allingham and Sandmo model (1972) is a straightforward application of the Becker (1968) model of crime to the tax-evasion context: risk-averse individuals weigh the utility benefits and costs of evasion to optimize their compliance behavior. The model yields intuitive comparative statics—for example, that a larger penalty or a greater probability of detection should lead to a reduction in tax evasion. However, Allingham and Sandmo were also the first to recognize that their model does not capture all motivations for tax compliance, writing: "This is a very simple theory, and it may perhaps be criticized for giving too little attention to nonpecuniary factors in the taxpayer's decision on whether or not to evade taxes." Again, we use the term "tax morale" as a shorthand for any such nonpecuniary factors as well as deviations from expected utility maximization.

A natural question is how important tax morale is for compliance: Is it a major determinant of compliance or does it only have a trivial impact? A first sense of the importance of tax morale comes from surveys that directly ask individuals about attitudes towards tax evasion. For example, the World Values Survey asks respondents to rate the justifiability of "cheating on taxes if you have a chance." Over 60 percent of respondents worldwide answer that cheating is never justifiable, and over 80 percent give a response of 8 or higher on a 10-point scale where 10 denotes that cheating is never justifiable.[2] Similarly, over 80 percent of respondents to the 2004 wave of the European Social Survey "agreed" or "strongly agreed" with the statement that "citizens should not cheat on their taxes." These survey questions indicate a strong overall view that tax evasion is wrong, suggesting that the Allingham and Sandmo (1972) model does not capture the full range of factors relevant for compliance.

[2] Calculated from the 2005–2007 wave of the World Values Survey using data from 53 countries. Data from Ghana and Serbia were omitted due to data quality issues.

We would of course want to know whether these self-reported attitudes translate into actual compliance behavior. Some studies have attempted to measure evasion at the country level and relate this to survey measures of tax morale. However, constructing valid proxies of tax evasion across countries is very challenging. In addition, relating constructed proxies for tax evasion to tax morale (or other predictive variables) typically requires strong assumptions about how to measure untaxed economic activity, assumptions which are unlikely to hold in practice (for a detailed discussion, see Slemrod and Weber 2012).[3]

A second way to assess the importance of tax morale is indirectly, by attempting to determine the degree of compliance that would be predicted given the characteristics of the enforcement environment. Additional residual compliance is then attributed to tax morale. The Allingham and Sandmo (1972) model of tax evasion does not take into account that audit rates could be conditional on discrepancies between self-reported income and reports from third parties, such as employers (Kleven, Knudsen, Kreiner, Pedersen, and Saez 2011). For example, individuals in the United States are unlikely to evade on income that employers are required to report to the IRS using a W-2 form because they know that such evasion will be detected with near certainty. This situation can lead to low observed tax evasion, as well as low audit and penalty rates in equilibrium. Hence, inferring tax morale as residual compliance in the Allingham and Sandmo (1972) model is credible only in settings without third-party reporting.

Even on forms of income not subject to third-party reporting, compliance often appears higher than would be predicted under observed audit rates, realistic penalties, and plausible levels of risk aversion. Alm, McClelland, and Schulze (1992) calibrate the Allingham and Sandmo model for reasonable parameter values for the United States. They find that a mid-range estimate of the coefficient of relative risk aversion ($\gamma = 3$) implies compliance of 13 percent, well below audit-based estimates of compliance for most forms of business income (where third-party reporting is limited) in the United States. For example, compliance on nonfarm proprietor income in 2001 was 43 percent (Slemrod 2007). A recent audit study in Denmark was able to distinguish third-party and self-reported income at the line-item level (Kleven et al. 2011). The study found even higher compliance (in the range of 80–95 percent) for most sources of self-reported income. To put this in context, the Alm, McClelland, and Schulze (1992) calibrations require the coefficient of relative

[3] Perhaps the most commonly used proxies of tax evasion are measures of the shadow economy constructed using a MIMIC (Multiple Indicators Multiple Causes) approach (for example, Schneider 2005, and subsequent measures derived from it). The resulting shadow economy measure is a weighted sum of predictors such as per capita GDP, indicators of fiscal burden, quality of institutions, and sometimes even tax morale itself. While this measure can be informative about variation across countries and over time, regressing the shadow economy measure on a predictor such as tax morale leads to a mechanical relationship if tax morale was used to construct the shadow economy variable. Even if tax morale isn't used to construct the shadow economy measure, this regression ultimately uncovers a correlation between one predictor of the shadow economy (tax morale) and other predictors of the shadow economy (that is, a weighted average of predictors such as GDP, fiscal burden and quality of institutions).

risk aversion to be quite high ($\gamma = 5$) to achieve 44 percent compliance and extraordinarily high ($\gamma = 10$) to achieve 71 percent compliance.[4]

There are at least three caveats to these calibration exercises. First, audit studies reveal detected evasion, which is likely to be a lower bound on true evasion. Second, underreporting income or overreporting deductions is likely to invite scrutiny by the tax authorities, even absent third-party reporting, so that audit rates are not random but rather a function of misreporting. Finally, some residual compliance could be driven by private pecuniary benefits from compliance, such as improved access to credit or productivity gains from not needing to keep double books. Nevertheless, these calibration exercises do suggest a nontrivial role for nonpecuniary factors in encouraging tax compliance.

A third avenue for learning about the importance of tax morale is to examine compliance behavior in environments where tax enforcement is limited or nonexistent and private pecuniary benefits of compliance are likely to be minimal. Dwenger, Kleven, Rasul, and Rincke (2014), focus on such an environment in studying compliance with the local Protestant church tax in a metropolitan area in Bavaria. When collecting the local church tax, the Protestant church makes clear that this tax is legally obligated as specified by the German tax code. However, this tax is not enforced and knowledge of the lack of enforcement appears widespread: a treatment in which the collection letter explicitly stated that collection would not be enforced had no statistically or economically significant effect on compliance. Despite the lack of enforcement, about 20 percent of individuals pay at least as much tax as is owed, indicating an important role for tax-morale-driven compliance in this setting.

Whether this finding generalizes is unclear for at least two reasons (which work in opposite directions). First, the use of funds from the local church tax is associated with a particular type of service, which individuals may value more than the services funded by other types of taxes. Second, the fact that there was *zero* enforcement, despite the fact that the tax is easily enforceable, is unusual. It could signal to individuals that, while the church tax is technically a legal obligation, the church/government does not actually consider it an important civic obligation. This in turn could undermine tax morale.

A fourth way to shed light on the importance of tax morale on compliance is to examine compliance behavior of taxpayers that measurably differ in tax morale but all face the same enforcement environment. DeBacker, Heim, and Tran (2012) relate corporate tax evasion of foreign-held corporations in the United States to corruption levels in the owners' countries of origin. Given that the enforcement environment is common, the corruption levels in the countries of origin can affect compliance only through a tax morale channel. An important strength of this study is that it uses data from over 25,000 IRS corporate tax audits; it is rare that a study's

[4] To illustrate the degree of risk aversion an individual exhibits at $\gamma = 5$ and $\gamma = 10$, consider whether an individual is willing to take a gamble that offers a 50 percent chance of doubling one's income and a 50 percent chance of losing X percent of income. The individual with $\gamma = 5$ finds this gamble too risky to accept if $X \geq 16$ percent whereas an individual with $\gamma = 10$ declines this gamble whenever $X \geq 8$ percent.

information on tax evasion is available at the taxpayer level and is derived from actual audit data. DeBacker, Heim, and Tran (2012) find that corporations with owners from more corrupt countries evade more US tax. This effect is both statistically significant and economically sizable: an average-sized firm with an owner from a country with the level of corruption of Nigeria has an evasion level that is 8 percent of the tax obligation higher than a similar firm with an owner from a country with the level of corruption of Sweden. The authors control for firm characteristics and a number of other source-country characteristics (such as per capita GDP), which reduces the scope for omitted variable bias to drive their results. Given that corruption in the country of origin does not capture all aspects of the owner's tax morale (that is, owners from the same country may have different tax morale), the estimated magnitude of tax morale is likely to be a lower bound of the total effect of tax morale. Hence, this study suggests a sizable role for tax morale in compliance decisions.

Our reading of these four sources of evidence taken together is that tax morale plays a meaningful role in tax compliance behavior, at least in the developed-country settings on which this evidence was largely based. It would be useful to quantify the importance of tax morale relative to the importance of tax enforcement, but implementing such a decomposition faces both conceptual and practical challenges. Conceptually, the importance of tax morale depends on the enforcement environment because tax morale and enforcement generally interact. At one extreme, if enforcement is so draconian that compliance is perfect, there is no role for tax morale. At the other extreme of no enforcement whatsoever, tax morale may be eroded because the lack of enforcement efforts signals that compliance is unimportant.

One practical challenge is that—even in the absence of enforcement interactions—we would expect the relative importance of tax morale to vary across countries and even across types of taxes within a country. Even in the rare cases in which we are able to measure the role of tax morale (for example, in the German church tax case), resulting estimates are unlikely to generalize. A further challenge when attempting to decompose cross-country variation in compliance is that we measure tax morale on a scale that does not have a well-defined zero. In the DeBacker, Heim, and Tran (2012) study of US corporate tax evasion mentioned above, for example, we can compare compliance at different observed levels of tax morale, but cannot assess what compliance would have been if tax morale were zero. While we cannot quantify the relative importance of enforcement and tax morale, our view is that enforcement is the primary driver of tax compliance but that tax morale meaningfully enhances compliance.

It is important to note that what matters for policy is not so much what role tax morale plays in current compliance, but whether it is feasible to improve tax morale on the margin and whether a given increase in compliance can be achieved at a lower cost by improving tax morale than by increasing enforcement. Before considering which policies could affect tax morale, it is therefore important to understand the mechanisms through which tax morale may operate.

Tax Morale Mechanisms

While tax morale is commonly used as a single concept, it can be more accurately thought of as a set of underlying motivations for tax compliance. Identifying the channels through which tax morale operates is both important for understanding individual preferences and for designing appropriate policy responses. We consider five broadly defined potential mechanisms through which tax morale could operate, recognizing that these channels are not mutually exclusive and are in fact likely to overlap and interact with each other.

The five classes of mechanisms are: 1) *intrinsic motivation*, which can be viewed as an additional term in the utility function that increases in the amount of taxes that the individual decides to pay (with, possibly, a discontinuous upward jump for paying the required amount); 2) *reciprocity*, in which an additional utility term for paying taxes depends in some way on the individual's relationship to the state (for example, on public goods provided by the state or perceptions about the fairness of the tax system); 3) *peer effects and social influences*, in which the additional utility term for paying taxes depends on views or behaviors of other individuals; 4) long-run *cultural factors* that may affect the willingness to pay taxes; and 5) *information imperfections and deviations from utility maximization* (for example, individuals may misperceive the probability of being detected in evading taxes or may exhibit loss aversion).

Forms of Intrinsic Motivation

When considering how tax morale might influence taxpayer decisions, one possibility is forms of intrinsic motivation that may induce people to comply with laws and expectations. Other forms of intrinsic motivation are feelings of pride and positive self-image that are often associated with honesty and the fulfillment of civic duties, and altruism toward others, which could result in a willingness to contribute to public goods through the tax system. Cheating on taxes may cause feelings of guilt or shame (Andreoni, Erard, and Feinstein 1998).

Direct evidence on the role of intrinsic motivations comes from Dwenger, Kleven, Rasul, and Rincke (2014). As discussed above, this study documents some degree of compliance with the local German Protestant church tax, even in an environment in which both actual and perceived enforcement is nonexistent. While this overall compliance effect could be driven by several underlying components of tax morale, we see sharp bunching at the exact level of owed tax. One interpretation of this bunching (if individuals are truly unconcerned about enforcement) is that it reflects one specific form of intrinsic motivation: a desire to comply with the law.

Indirect evidence on the role of intrinsic motivations comes from field experiments that have attempted to prime intrinsic motivations. These interventions take the form of "moral suasion" letters to taxpayers that include text emphasizing various elements of tax morale. The effects of these letters are generally compared to some type of baseline letter to address the possibility that receiving a letter related to taxes might directly affect compliance by signaling a change in the enforcement regime. If we observe treatment effects in response to such letters, this indicates that the particular underlying channel of tax morale that was primed is operating. However, it is important to stress that a lack of treatment effects does not necessarily imply that the underlying channel does not influence compliance: it may exist, but be inelastic to the particular intervention.

Indeed, many field interventions that have attempted to prime tax morale have failed to find effects on compliance. An example of an intervention approximating pure moral suasion is an experiment conducted by Fellner, Sausgruber, and Traxler (2013), who examine evasion of TV and radio licensing fees in Austria. One of the treatment arms added the following language to a baseline letter: "Those who do not conscientiously register their broadcasting receivers not only violate the law, but also harm all honest households. Hence, registering is also a matter of fairness." The study found that this moral suasion letter did not improve compliance relative to the baseline letter. Other studies using this methodology include information about how tax revenues are used or about the compliance of others. Since these interventions seek to trigger motives like reciprocity or peer effects, we will discuss them in the subsections below.

If tax payments are partially intrinsically motivated, then the extrinsic incentives of tax enforcement could potentially crowd out intrinsic motivation. This possibility is predicted by theoretical models in which external incentives crowd out prosocial behavior (for example, Bénabou and Tirole 2006). It is also consistent with the authors' own conversations with tax officials in developing countries, in which the officials repeatedly expressed the view that heavy-handed tax enforcement could backfire by reducing "voluntary" compliance. But at least in the context of local German church taxes—where we see clear evidence of intrinsically motivated payment—enforcement interventions have indicated that this type of crowd out appears limited. Dwenger, Kleven, Rasul, and Rincke (2014) show that interventions with audit threats increase compliance of those who evaded in the prior year but do not have a significant effect on payments by those initially paying at or above the owed amount. Boyer, Dwenger, and Rincke (2014) conduct a related randomized evaluation, in a setting similar to Dwenger et al. (2014), but focusing on the local Catholic church tax rather than the local Protestant church tax. Letters emphasizing that the church tax is a compulsory payment rather than a donation appear to result in some crowd out for individuals who donated infrequently in previous years, but have a small and insignificant effect on those who consistently donated in the past.

While we do not wish to generalize too far from this specific context, the church tax findings overall do suggest that enforcement does not erode intrinsic motivation. It thus can be a useful tool for compliance including in settings where some individuals are intrinsically motivated. In theory, enforcement could even amplify intrinsic motivation by signaling that tax compliance is an important legal or civic duty, although field interventions to date have not been designed in a way that would allow us to test for such effects.

Reciprocity

We use the term reciprocity broadly for situations in which willingness to pay taxes depends on the individual's relationship with the state other than direct tax–benefit linkages (where a tax payment directly causes benefits to the individual to increase). Individuals may view taxes as part of a social contract: tax payments are made in exchange for services provided by the state. This view of tax compliance suggests that compliance may be affected by perceptions of the legitimacy of the state (Levi 1989) as well as by attitudes toward government or perceptions about the fairness of the tax schedule (for example, Feld and Frey 2002; Hofmann, Hoelzl, and Kirchler 2008). Compliance may also be affected by the types of government services that are funded by tax revenues and how these are viewed by the taxpayer.[5]

A number of studies have documented positive correlations between survey measures of institutional quality, trust in government, and satisfaction with public services and survey measures of tax morale (for a review, see OECD 2013), as well as relationships between institutions and tax morale (for example, Torgler 2005). However, specific causal channels can be difficult to isolate. Some studies have manipulated these elements in a laboratory setting using student subjects, with parameters approximating the US income tax system, and have found that participants are less likely to evade taxes when funds are given to an organization that they support and when they feel active in the decision-making process (for example, Alm, Jackson, and McKee 1993).

Changing the decision-making process or actual use of tax revenues is obviously much more challenging outside the laboratory setting. Existing randomized field studies have therefore attempted to prime reciprocal motivations by highlighting the beneficial uses of tax revenues. One early study included a treatment arm that described the types of social programs on which tax revenues in Minnesota are spent, noting that "when taxpayers do not pay what they owe, the entire community suffers" (Blumenthal, Christian, and Slemrod 2001). Dwenger et al. (2014) included a treatment arm emphasizing that local German church tax revenues fund work in the parish, and Castro and Scartascini (2013) gave taxpayers in Argentina information about specific public goods in their community that had recently been provided by the local government. None of these studies found significant effects of these treatments on tax compliance. Together with the Fellner, Sausgruber, and Traxler (2013) findings, the literature to date thus suggests limited power of a variety of types of moral suasion. Ariel (2012) even finds suggestive evidence of moral suasion letters backfiring in a field experiment on value-added tax compliance by small corporations in Israel.

[5] One channel that we include with reciprocity is the possibility that the individual's willingness to comply depends on the use of raised revenue. This channel could operate because the individual feels "pure" altruism towards the beneficiaries of government spending. Despite the fact that pure altruism is strictly speaking an intrinsic motivation, we discuss this channel in the current subsection because we cannot empirically distinguish it from reciprocal motivations.

However, there are some counterexamples. Bott, Cappelen, Sørensen, and Tungodden (2014) examine compliance with foreign-income reporting requirements in a field experiment involving Norwegian taxpayers who had evaded taxes on foreign income in a prior year. They find positive effects when the results of their four moral suasion treatments are pooled. Three of these treatments highlighted the public goods on which tax revenues are spent while the fourth noted that the majority of taxpayers comply fully, so compliance is a matter of fairness. Hence, these treatments may have triggered other aspects of tax morale in addition to reciprocal motivations. Finally, Hallsworth, List, Metcalfe, and Vlaev (2014) examine a different margin of compliance, showing that late payment of taxes in the United Kingdom falls in response to reminder letters that emphasize the ways in which tax revenue finances public goods.

One possible interpretation for the predominance of null findings is that reciprocal motivations have little relevance for tax compliance decisions outside the laboratory. However, it is also possible—and in our view, likely—that such interventions are often not powerful enough to affect compliance. Individuals' views of the competence of the government and the value of the public services it provides are formed through a lifetime of personal experience: a few lines of text in a mailed letter may just not be sufficient to cause taxpayers to update their beliefs or attitudes in many contexts.

Manipulating other potential reciprocal motivations, such as attitudes about the fairness of the tax system or trust in government, is difficult to do in the context of a laboratory or field experiment. Some direct evidence on perceptions of fairness and tax compliance comes from Besley, Jensen, and Persson (2014), who examine the poll tax imposed in the United Kingdom starting in 1989–1990 under the Thatcher government. The poll tax replaced a tax based on property values. A massive backlash against this tax forced its repeal only three years later and resulted in a return to a property-value-based tax (the "council tax"). The authors argue that the backlash reflected a widespread perception that the poll tax system was unfair because it was not related to ability to pay, and they document a sharp spike in evasion at the time the poll tax was introduced.

While the move to a poll tax is an extreme example, the findings do suggest that compliance decisions can be affected by government policy, conditional on a given enforcement environment. If tax payment is motivated—at least in part—by the benefits provided by taxation or perceptions of the legitimacy of the state, the possibility of multiple equilibria arises. Weak tax morale could lead to low compliance, low revenue, and poor state capacity and provision of services, thereby further reducing tax morale.

Peer Effects and Social Influences

We now turn to ways in which an individual's compliance could be directly affected by others. Individuals may wish to conform to the behavior of others, so that peer compliance directly affects the individual's own compliance. Individuals may also wish to signal something about their type to their peers through their compliance behavior. The value of this signal may depend on peer compliance: for example, paying taxes may only be a positive signal to others who are also compliant, or inference about type could depend on the number of compliant taxpayers. Finally, if individuals imperfectly perceive the enforcement environment, the behavior of peers may influence individuals' own beliefs about the consequences of tax evasion.

One implication of these models is that a shock to individual compliance can be amplified through social influences. The Besley, Jensen, and Persson (2014) study of Britain's poll tax presents a model that includes both reciprocity arising from perceptions of fairness of the tax schedule (defined as intrinsic motivation by the authors) as well as a social norm effect arising from a desire to signal prosocial motivations to others. As noted above, the temporary shift to a poll tax sharply increases evasion, arguably due to a reduction in reciprocity motivations. However, higher levels of evasion persist well after the poll tax is replaced with the property-value-based council tax, particularly in councils that had high evasion during the poll tax period, consistent with a social norm effect.

These findings raise the question of whether governments have the capacity to influence social norms for compliance in a positive way. As discussed in the introduction, tax authorities around the world have undertaken policies with this goal in mind. A recent set of field experiments has begun to evaluate the causal impact of such interventions on compliance. A first channel through which governments could leverage social interactions is by providing information on peer behavior. However, field experiments in high-compliance contexts notifying taxpayers that over 90 percent of individuals comply have failed to find significant treatment effects (Blumenthal, Christian, and Slemrod 2001; Fellner, Sausgruber, and Traxler 2013).

It is possible that these studies have not found treatment effects because individuals already had a clear sense of overall compliance. One study that examines this possibility is Del Carpio (2014). In a field experiment on property tax collection in Peru, she also collected perceptions of tax compliance and enforcement in the treatment and control groups after the interventions had been administered.[6] She finds that an intervention combining information about peer compliance and a payment reminder leads to a small and statistically insignificant increase in compliance relative to a baseline intervention consisting of only a payment reminder. However, this combined intervention did not significantly influence perceptions of peer compliance relative to the baseline intervention. At least in this experiment, it is plausible that information on peer compliance failed to affect own compliance because this information did not sufficiently alter perceptions of peer compliance.

One study that did find effects of providing information on peer behavior is Hallsworth, List, Metcalfe, and Vlaev (2014), who examine the effects of a variety of interventions on the timely payment of taxes in the United Kingdom. In addition

[6] Examining responses relative to priors is also important because of the possibility of perverse effects. If individuals realize that compliance is actually lower than they thought, they may reduce their own compliance behavior. This possibility is particularly important in developing economies, where tax compliance is often low.

to the "reciprocity" interventions discussed above, this study gave some participants one of the following three messages about compliance norms: 1) "9 out of 10 people pay their tax on time"; 2) "9 out of 10 people in the U.K. pay their tax on time"; or 3) "9 out of 10 people in the U.K. pay their tax on time. You are currently in the very small minority of people who have not paid us yet." They find significant effects on early payment from all three messages, with the largest effects from the final message. In a subsequent experiment, the authors test the "descriptive" norms from the first experiment (what other individuals are doing) against "injunctive" norms (what others believe should be done) and find that descriptive norms appear to be more powerful overall. It is possible that these interventions did change individual priors in this context; it may also be that this compliance margin (timely payment) is more sensitive to such treatments than the evasion decision.

Another way in which governments could leverage social forces is to facilitate social recognition for compliant taxpayers. Emerging evidence from field experiments suggests that recognition can in fact encourage compliance, at least under some conditions. Dwenger et al. (2014) include a treatment arm in which those paying at least the required amount of the German church tax have a probability of having their names published in a local newspaper if they wish to do so. This treatment reduces payments for those who had evaded the church tax in the past, indicating that social recognition can backfire for those who lack intrinsic motivation to pay the church tax. In contrast, they find suggestive evidence that the treatment further increases payments among those who were already motivated to pay more than the required amount in the past.

These heterogeneous findings are perhaps not surprising: we would expect the effects of social norms and recognition to depend on how individuals update their priors about peer compliance and how they view the signaling value of compliance. These factors may vary both across contexts and across types of taxpayers. Treatment effects may also cancel out in aggregate, if, for example, an intervention causes some taxpayers to positively update their views about compliance but causes others to update negatively. We view this body of evidence as indicative of a role for peer effects and social influences in tax compliance but much remains to be learned about the circumstances under which interventions targeting these motivations are effective in changing behavior.

Culture

Culture refers to broad social norms that persist over long periods of time and across generations. Such persistence is one of the primary characteristics that distinguishes "culture" from contemporaneous peer effects, though the two are obviously related. The parameters of the additional utility term for paying taxes, whether it is conditional on the state's behavior or on the behaviors and views of other individuals, can be considered part of one's culture if these parameters reflect (internalized) social norms that persist over long periods and across generations.

The obvious empirical challenge in discerning a causal effect of culture is to separate the effects of culture from other aspects of the environment. Studies examining the effect of culture on tax compliance have therefore attempted to examine the behavior of individuals from different cultural backgrounds when placed in a similar environment. One strand of literature has compared tax evasion in similar laboratory experiments across two or three countries (for example, Alm, Sanchez, and de Juan 1995; Cummings, Martinez-Vazquez, McKee, and Torgler 2009; Gërxhani and Schram 2006; Lefebvre, Pestieau, Riedl, and Villeval 2011). These studies generally find differences across countries in tax evasion despite similar subject pools and experimental protocols. However, given the limited number of countries in each of these studies (three at most), these studies cannot credibly relate country-level evasion to any measure of country-level tax morale. Hence, they measure culture as a "residual"—that is, attribute whatever gap cannot be explained by the observable factors in their study to the effect of culture or tax morale.

An alternative strategy to examine the effect of culture is to exploit variation arising from individuals who reside in the same country (and are therefore arguably subject to the same current institutions and environment) but have varying countries of origin. Using survey-based measures of tax morale, Halla (2012) finds that American-born individuals in the United States have higher tax morale when their country of ancestry has higher average tax morale, controlling for individual demographics. Individuals in the United States with ancestors from a country with a 10-percentage point higher tax morale have about a 4-percentage point higher tax morale, where both tax-morale questions are measured as binary variables. Kountouris and Remoundou (2013) find similarly sized effects among first-generation immigrants in a large sample of European countries. A potential concern with these findings is that culture could simply affect the interpretation of or response to such survey questions. Thus, evidence on the role of culture is more credible when tax morale can be related to other outcome measures, ideally direct measures of tax evasion.[7] The DeBacker, Heim, and Tran (2012) study of US corporations with owners from different countries, discussed above, is able to relate culture to actual compliance behavior in an analogous setting. Their finding that corruption in firm owners' countries of origin affects evasion even in a common enforcement environment is a convincing demonstration that culture does influence real behavior.

Taken together, these results suggest that there are indeed cultural differences across countries, both in attitudes toward evasion and compliance behavior. This

[7] Because Halla (2012) has no measures of tax evasion of his General Social Survey respondents, he cannot directly relate culture to outcomes for respondents. However, he ingeniously uses a "reverse" strategy. He examines whether current evasion outcomes in the countries of ancestry can be explained by tax morale as measured by respondents in the United States from the corresponding countries of ancestry. As a proxy for evasion, he uses a widely used measure of underground production (also referred to as "shadow economy"). However, as we noted earlier in footnote 3, it is generally not valid to relate measures of the shadow economy that are constructed as combinations of predictors to measures of tax morale. The particular measure of the shadow economy that Halla borrows from the literature is constructed using tax morale data, so regressing it on tax morale can uncover a mechanical relationship.

implies that we may see persistent differences in compliance across countries even if they have similar enforcement environments.

Information Imperfections and Deviations from Expected Utility

Information imperfections and decision-making biases are not always considered in the context of tax morale, but they clearly represent deviations from a fully rational model of tax compliance. Such factors could affect individuals making compliance decisions in several ways: taxpayers might misperceive parameters of the optimization problem (for example, the likelihood or consequences of an audit); fail to comply due to limited attention or costs of complexity; or be subject to systematic biases in their decision process (for example, loss aversion or overweighting of small probabilities).

Most tax authorities deliberately limit information on their auditing and enforcement procedures. It would therefore not be surprising for individuals to have incomplete information about true audit rates or penalties. Using matched IRS-survey data from the United States, Scholz and Pinney (1995) find that individuals report a subjective probability of getting caught (conditional on underreporting income) that is on average an order of magnitude higher than the probability that the IRS will actually audit an individual's return. Further, they find that variation in actual audit probabilities across individuals is not predictive of the variation in subjective probabilities of getting caught. However, these results come with a caveat: the subjective probabilities of getting caught were based on a hypothetical case where the individual underreports income, which were then compared to IRS audit probabilities that were based on all tax returns, not just those with underreported incomes. Naturally, the objective IRS audit probabilities would likely have been higher if they had been based only on tax returns with underreported income.

In contrast, the Del Carpio (2014) study mentioned earlier finds that individuals in Peru perceive tax enforcement to be weaker than it actually is, which implies that disclosure of true enforcement could enhance tax collection. Del Carpio finds that a combination of a payment reminder and information about enforcement of a local property tax both increases perceived enforcement and results in increased tax compliance. Interestingly, the effects appear to be largely driven by the payment reminder, which suggests a failure of individual optimization due to limited attention rather than through misperceptions of the probability of enforcement efforts.[8] This is consistent with Hallsworth, List, Metcalfe, and Vlaev (2014), which finds a direct effect of payment reminders on timely remittance of owed UK income taxes. A role for limited attention is also found by Dwenger et al. (2014). A "salience" treatment that shortens the standard German church tax mailing and increases the focus on the church tax payment obligation, schedules, and deadline

[8] Another possible interpretation is that the payment reminder itself increased enforcement perceptions and the specific enforcement information did not have an incremental effect. Del Carpio (2014) finds that the payment reminder on its own did not significantly increase perceived enforcement, although it is possible that the lack of significance reflects lack of power in measured perceptions.

significantly decreases the fraction of people who evade the church tax. Together, these results suggest that tax payment may be subject to the same types of behavioral biases we observe in many other contexts: individuals may simply forget to make payments or procrastinate in remitting owed taxes. In very low-enforcement environments, such behavior not only delays tax payments but may in fact reduce overall revenue collection if the tax authority lacks the capacity to follow up with nonpayers. Individuals may also have limited information about the rules of the tax code. Recent testimony to Congress from the US General Accountability Office (2011), for example, argued that complexity contributes to the "tax gap" between what tax is owed and what is paid. However, it is difficult to know the extent to which complexity leads to honest errors in reporting versus facilitates deliberate evasion.

Finally, people may in some cases deviate from the behavior predicted by expected utility theory in the Allingham and Sandmo (1972) model. A first indication of such deviation comes from Alm, McClelland, and Schulze (1992), who find in a laboratory setting that student subjects react remarkably strongly to a small audit probability and that their behavior cannot be rationally explained at any level of risk-aversion. Of course, the notion that individuals may overweight small probabilities is predicted by prospect theory. More recently, two studies using large administrative datasets find evidence that individuals are much more likely to seek tax shelters if they have a balance due than if they are to receive a tax refund. Rees-Jones (2014) finds a shift in the mass of the balance-due distribution in the United States away from positive amounts. This shift is particularly pronounced for taxpayers with greater access to tax shelters. The author demonstrates that such behavior could be driven by loss-averse individuals pursuing sheltering options more aggressively when they have a balance due and rules out other plausible explanations for the observed patterns. While tax sheltering need not imply illegality, it seems likely that at least some of the increased use of tax shelters stems from tax evasion. Engström, Nordblom, Ohlsson, and Persson (2013) pursue a related strategy using data from Sweden. They demonstrate that the balance due prior to adjustments affects the rate at which individuals claim deductions for "other expenses for earning employment income" in a manner predicted by a model of loss aversion. This type of deduction is a plausible proxy for tax evasion because it is notorious for high rates of claimed deductions that are rejected if audited (around 90 percent of audited deductions in this category are disallowed).

Policy Lessons

What policy lessons can we draw from the evidence on tax morale? The most obvious lesson is that the extent of tax evasion can be affected by policies beyond standard tax enforcement actions, such as detection probabilities and punishments. Clearly, an Allingham and Sandmo–type model does not fully capture individual motivations for tax compliance. This finding should not be surprising: channels such as intrinsic motivation, social norms, peer effects, and limits to rationality are known to be important in a variety of other domains, including in the contexts of charitable giving and private provision of public goods, which are closely related to tax compliance.

The potential importance of tax morale in determining evasion suggests that policymakers may have access to a broader range of instruments to affect compliance than implied by a standard enforcement model. Simple nudges to taxpayers, such as presenting information in a more accessible form or providing payment reminders, can reduce tax evasion (for example, Del Carpio 2014; Dwenger et al. 2014; Hallsworth et al. 2014). In addition, some evidence suggests policies that might be helpful even though the effect of the policy itself has not yet been directly tested. For example, the evidence from Engström et al. (2013) and Rees-Jones (2014) on loss aversion indicates that tax compliance could potentially be improved through over-withholding—because those who are likely to receive refunds are less likely to be motivated by loss aversion to seek out tax shelters.

On the other hand, the direct evidence from field experiments attempting to manipulate intrinsic motivation, reciprocity, and social norms to improve tax compliance has been decidedly mixed. To the extent that such interventions have been successful in changing behavior, they often appear to act primarily on "small stakes" decisions like paying taxes on time or paying relatively small taxes and fees. There are several ways to interpret these findings.

First, it could be that these channels do exist but are small in magnitude relative to the factors in the standard model. As discussed, assessing relative magnitudes is very challenging. While many of the field experiments include an enforcement treatment, it is generally extremely difficult to compare the "strength" of the enforcement versus tax morale interventions or to know how they shift individuals' beliefs relative to their priors. Note that it is also important to be cautious when comparing the costs and benefits of threats of enforcement and social notifications. Threat-of-audit letters (or more generally, letters that prime individuals to focus on enforcement) are often not backed up by actual increases in enforcement. While threatening enforcement is cheap, such threats must ultimately be backed up by greater and potentially quite costly enforcement in equilibrium. In contrast, social interventions may be relatively cheap in equilibrium.

Second, it could be that tax morale is important, but fairly inelastic. For example, in a model with honest taxpayers and strategic taxpayers, intrinsic motivation may have a large effect on overall compliance (for the honest taxpayers), but moral suasion interventions may not affect behavior for either group. Also, many tax morale channels may be inelastic to the types of interventions that are feasible for researchers to test experimentally. For example, designing field experiments to affect culture would be very difficult. Interventions may also not be powerful enough to overcome individual priors: a letter arguing that tax revenue is important for funding public goods may not be effective if individuals have a strong (and perhaps accurate) belief that revenues are often expropriated or inefficiently spent. However, these arguments do *not* imply that tax morale cannot be affected by actual policies undertaken by governments: as the Besley, Jensen, and Persson (2014) paper on the poll tax experience in the United Kingdom indicates, even temporary policies that affect tax morale can have lasting effects on compliance.

Finally, the evidence strongly indicates heterogeneous treatment effects in response to interventions intended to affect tax morale. The effects of these interventions appear to be influenced by both the context (for example, are existing levels of compliance high or low?) as well as characteristics of the individual taxpayer (for example, does the taxpayer appear to be intrinsically or extrinsically motivated?). Obviously, heterogeneity makes designing appropriate policy responses challenging: interventions targeting tax morale could be ineffective or potentially even have perverse effects in some environments or for some population subgroups, and identifying the groups for which interventions are likely to be effective (for example, the intrinsically motivated) may be quite difficult in practice.

More broadly, what does it mean for tax policy if tax morale exists as a determinant of compliance and can be affected by government decisions? Conditional on a given enforcement environment, there is at least the possibility for tax morale to improve compliance. However, we do not see the potential importance of tax morale as being limited solely to reducing the tax gap between what is owed and what is paid: the possibility of tax-morale-driven compliance has broader implications for optimal tax policy. For example, the structure of the tax schedule itself could influence compliance through a tax morale channel, as indicated in the poll tax study. While the switch to a poll tax is an extreme example, this study suggests that perceived fairness of the tax schedule can affect compliance. This finding may hold true more generally, even in cases in which isolating the causal effect of the tax schedule on compliance is challenging. Tax morale could also affect how behavior responds to taxation, depending on the specific channel of tax morale. If the channel is pure altruism, for example, then individuals receive a direct utility benefit from an additional tax payment, which at least partly offsets the utility loss of the consumption reduction due to the additional tax payment. Thus, pure altruism can reduce labor supply responses to taxes. Tax-morale-driven compliance could also reduce individuals' incentives to engage in costly behavior to avoid or evade taxes.

Directions for Future Research

Policymakers, practitioners, and researchers are developing a better understanding of the channels through which policies can leverage tax morale to improve compliance, but there is clearly still much to learn. Here, we emphasize some of the areas that could prove especially productive for research.

First, it would be useful to examine why similar interventions have produced varying results in different contexts. In many cases, it is difficult to determine whether the lack of effect of an intervention resulted because the intervention was too weak to affect tax morale or because there truly was no meaningful effect of this tax morale channel on compliance.

Second, field studies of tax morale to date have been one-shot in nature. From an academic perspective, observing dynamic effects could help to provide direct evidence on specific channels of tax morale. From a policy perspective, the potential of ratchet effects alters the cost–benefit calculus of tax morale (and potentially enforcement) interventions. For example, increases in compliance could be reinforced if individuals feel that they are getting better public services or if they respond positively to peer compliance. Similarly, negative shocks to morale or to compliance could lead to a downward spiral in tax morale and compliance.

Third, some of the most important channels of tax morale may be inelastic to the types of interventions that are feasible in randomized trials, but elastic to actual policies undertaken by governments. We applaud the recent move towards field experiments conducted in collaboration with tax authorities around the world. However, researchers should also consider other approaches to investigate components of tax morale, particularly those that cannot be easily manipulated in the field. Some examples discussed in this paper include taking advantage of natural experiments, as in the Besley, Jensen, and Persson (2014) study of the United Kingdom poll tax, and other creative identification strategies, like the paper by DeBacker, Heim, and Tran (2012) that used variation in firm ownership to identify a culture channel for tax morale.

Finally, existing empirical studies of tax morale have generally not attempted to estimate the welfare effects of tax morale—which is unsurprising given that welfare analysis can be challenging in settings where utility maximization does not fully explain behavior or where the utility function depends on social effects. Moreover, the welfare effects likely depend on the exact channels through which tax morale operates; for example, do peer effects operate by giving people more warm-glow utility from paying taxes or do they operate through a social sanction on being caught evading? Despite the challenges of welfare analysis in the context of tax morale, we see this as an important area for further research.

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References

Allingham, Michael G., and Agnar Sandmo. 1972. "Income Tax Evasion: A Theoretical Analysis." *Journal of Public Economics* 1(3–4): 323–38.

Alm, James, Betty R. Jackson, and Michael McKee. 1993. "Fiscal Exchange, Collective Decision Institutions, and Tax Compliance."

Journal of Economic Behavior & Organization 22(3): 285–303.

Alm, James, Gary H. McClelland, and William D. Schulze. 1992. "Why Do People Pay Taxes?" *Journal of Public Economics* 48(1): 21–38.

Alm, James, Isabel Sanchez, and Ana de Juan. 1995. "Economic and Noneconomic Factors in Tax Compliance." *Kyklos* 48(1): 3–18.

Andreoni, James, Brian Erard, and Jonathan Feinstein. 1998. "Tax Compliance." *Journal of Economic Literature* 36(2): 818–60.

Ariel, Barak. 2012. "Deterrence and Moral Persuasion Effects on Corporate Tax Compliance: Findings from a Randomized Controlled Trial." *Criminology* 50(1): 27–69.

BBC News. 2006. "India Eunuchs Turn Tax Collectors." November 9. http://news.bbc.co.uk/2/hi/south_asia/6134032.stm.

Becker, Gary S. 1968. "Crime and Punishment: An Economic Approach." *Journal of Political Economy* 76(2): 169–217.

Bénabou, Roland, and Jean Tirole. 2006. "Incentives and Prosocial Behavior." *American Economic Review* 96(5): 1652–78.

Besley, Timothy, Anders Jensen, and Torsten Persson. 2014. "Norms, Enforcement, and Tax Evasion." http://people.su.se/~tpers/papers/Draft_140302.pdf.

Blumenthal, Marsha, Charles Christian, and Joel Slemrod. 2001. "Do Normative Appeals Affect Tax Compliance? Evidence from a Controlled Experiment in Minnesota." *National Tax Journal* 54(1): 125–38.

Bott, Kristina, Alexander W. Cappelen, Erik Ø. Sørensen, and Bertil Tungodden. 2014. "You've Got Mail: A Randomized Field Experiment on Tax Evasion." Discussion Paper 26/2014, Department of Economics, Norwegian School of Economics.

Boyer, Pierre, Nadja Dwenger, and Johannes Rincke. 2014. "Do Taxes Crowd Out Intrinsic Motivation? Field-Experimental Evidence from Germany." Unpublished manuscript, University of Mannheim.

Castro, Lucio, and Carlos Scartascini. 2013. "Tax Compliance and Enforcement in the Pampas: Evidence from a Field Experiment." Inter-American Development Bank Working Paper 472.

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 & Organization* 70(3): 447–57.

DeBacker, Jason, Bradley T. Heim, and Anh Tran. 2012. "Importing Corruption Culture From Overseas: Evidence From Corporate Tax Evasion in the United States." Published online in the *Journal of Financial Economics*. http://dx.doi.org/10.1016/j.jfineco.2012.11.009.

Del Carpio, Lucia. 2014. "Are the Neighbors Cheating? Evidence from a Social Norm Experiment on Property Taxes in Peru." http://scholar.princeton.edu/sites/default/files/Are_the_neighbors_cheating_Apr2014_0.pdf.

Dwenger, Nadja, Henrik Kleven, Imran Rasul, and Johannes Rincke. 2014. "Extrinsic and Intrinsic Motivations for Tax Compliance: Evidence from a Field Experiment in Germany." http://www.henrikkleven.com/uploads/3/7/3/1/37310663/dwengeretal_churchtax_may2014.pdf.

Engström, Per, Katarina Nordblom, Henry Ohlsson, and Annika Persson. 2013. "Tax Compliance and Loss Aversion." Unpublished Manuscript, Uppsala University.

Feld, Lars P., and Bruno S. Frey. 2002. "Trust Breeds Trust: How Taxpayers Are Treated." *Economics of Governance* 3(2): 87–99.

Fellner, Gerlinde, Rupert Sausgruber, and Christian Traxler. 2013. "Testing Enforcement Strategies in the Field: Threat, Moral Appeal and Social Information." *Journal of the European Economic Association* 11(3): 634–60.

Gërxhani, Klarita, and Arthur Schram. 2006. "Tax Evasion and Income Source: A Comparative Experimental Study." *Journal of Economic Psychology* 27(3): 402–22.

Halla, Martin. 2012. "Tax Morale and Compliance Behavior: First Evidence on a Causal Link." *B.E. Journal of Economic Analysis & Policy* 12(1): Article 13.

Hallsworth, Michael, John A. List, Robert D. Metcalfe, Ivo Vlaev. 2014. "The Behavioralist as Tax Collector: Using Natural Field Experiments to Enhance Tax Compliance." NBER Working Paper 20007.

Hofmann, Eva, Erik Hoelzl, and Erich Kirchler. 2008. "Preconditions of Voluntary Tax Compliance: Knowledge and Evaluation of Taxation, Norms, Fairness, and Motivation to Cooperate." *Journal of Psychology* 216(4): 209–217.

Kleven, Henrik Jacobsen, Martin B. Knudsen, Claus Thustrup Kreiner, Søren Pedersen, and Emmanuel Saez. 2011. "Unwilling or Unable to Cheat? Evidence from a Tax Audit Experiment in Denmark." *Econometrica* 79(3): 651–92.

Kountouris, Yiannis, and Kyriaki Remoundou. 2013. "Is There a Cultural Component in Tax Morale? Evidence from Immigrants in Europe." *Journal of Economic Behavior & Organization* 96: 104–19.

Lefebvre, Mathieu, Pierre Pestieau, Arno Riedl, and Marie Claire Villeval. 2011. "Tax Evasion, Welfare Fraud, and 'The Broken Windows' Effect: An Experiment in Belgium, France and the Netherlands." IZA Discussion Paper 5609.

Levi, Margaret. 1989. *Of Rule and Revenue.* University of California Press.

OECD. 2001. "Principles of Good Tax Administration—Practice Note." Organization for Economic Co-operation and Development.

OECD. 2013. "Tax and Development: What Drives Tax Morale?" Organization for Economic Co-operation and Development. http://www.oecd.org/ctp/tax-global/TaxMorale_march13.pdf.

Povoledo, Elisabetta. 2011. "Italy Tries to Get Tax Cheats to Pay Up." *New York Times,* August 8. http://www.nytimes.com/2011/08/09/business/global/italy-tries-to-get-tax-cheats-to-pay-up.html?_r=0.

Rees-Jones, Alex. 2014. "Loss Aversion Motivates Tax Sheltering: Evidence From U.S. Tax Returns." Unpublished Manuscript, University of Pennsylvania.

Schneider, Friedrich. 2005. "Shadow Economies around the World: What Do We Really Know?" *European Journal of Political Economy* 21(3): 598–642.

Scholz, John T., and Neil Pinney. 1995. "Duty, Fear, and Tax Compliance: The Heuristic Basis of Citizenship Behavior." *American Journal of Political Science* 39(2): 490–512.

Slemrod, Joel. 2007. "Cheating Ourselves: The Economics of Tax Evasion." *Journal of Economic Perspectives* 21(1): 25–48.

Slemrod, Joel, and Caroline E. Weber. 2012. "Evidence of the Invisible? Measurement Issues in Analyzing Tax Evasion and the Informal Economy." *International Tax and Public Finance* 19(1): 25–53.

Torgler, Benno. 2005. "Tax Morale and Direct Democracy." *European Journal of Political Economy* 21(2): 525–31.

US Government Accountability Office. 2011. "Tax Gap: Complexity and Taxpayer Compliance." United State Government Accountability Office, June 28. GAO-11-747T.

Waweru, Michael G. 2004. "Remarks by Commissioner General of Kenya Revenue Authority Mr. M. G. Waweru." Kenya Revenue Authority. October 8. http://www.revenue.go.ke/speeches/cgspeechnationaldisasterfund081004.htm.