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Keywords: Societal trust; tax Avoidance; tax evasion; legal institutions; capital market pressure

JEL classification: H26; G28; O16

Data Availability: Data are available from the sources identified in the text.

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Abstract

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1. Introduction

The recent revelations in the "Panama Papers" and "Paradise Papers" of alleged tax evasion by individuals and corporations call into question the effectiveness of formal tax laws and rules in constraining corporate tax avoidance. Opportunities for firms to avoid tax arise because of the intricacies of tax codes and the difficulty of tax enforcement. Therefore additional rules and regulations imposed to curb tax avoidance are likely to be limited in effectiveness. In this study, we explore whether societal trust, an informal institution, helps constrain corporate tax avoidance. In particular, we examine the relationship between societal trust and corporate tax avoidance for a sample of firms from 25 countries. We build on research that indicates that social norms influence tax compliance by individual taxpayers (e.g., Winzel 2004, 2005; Blanthorne and Kaplan 2008). We reason that societal trust is salient for corporate tax avoidance because the costs of violating social norms increase with the level of trust.

Arrow (1974) stresses the role of trust as the foundation in every economic transaction. Research examines the effects of societal trust on both financial and social outcomes. For example, the literature documents a positive relationship between societal trust and levels of economic growth and social efficiency (Knack and Keefer 1997; La Porta et al. 1997; Knack and Zak 2001), international trade and investment (Guiso et al. 2009), financial development (Guiso et al. 2004, 2008), corporate financing, and mergers and acquisitions (Duarte et al. 2012; Ahern et al. 2015). In sum, there is a well-established literature supporting the notion that trust underlies a wide array of economic exchanges.

In this study, we posit that the level of societal trust in a country is negatively related to corporate tax avoidance. According to Hanlon and Heitzman (2010), tax avoidance represents "a continuum of tax planning strategies where something like municipal bond investments are at one

end (lower explicit tax, perfectly legal)" and "terms such as 'noncompliance,' 'evasion,' 'aggressiveness,' and 'sheltering' would be closer to the other end of the continuum." We are interested in the more aggressive forms of tax planning that exploit the ambiguities and loopholes in the tax system by adhering to the letter but not the spirit and intention of tax laws.[1]

Societal trust is a particularly critical and salient factor, given that the intricacies of tax codes and the difficulty of tax enforcement present many opportunities for firms to avoid tax. Firms do not always have an explicit and contractual obligation to pay their fair share of taxes. However, in societies with greater societal trust, managers may refrain from taking measures to dodge taxes to avoid breaking the social contract and being shunned by society for violating social norms (Hechter and Opp 2001; Horne 2009; Liu et al. 2014).[2] Alternatively, if the costs for breaking the social contract are relatively low and managers take a narrower view of stakeholder welfare, they may aggressively avoid taxes to increase firm value for their shareholders. Therefore whether societal trust in a country is negatively related to corporate tax avoidance is an empirical question.

We examine the relation between societal trust and tax avoidance in a large sample of 162,467 firm-year observations across 25 countries spanning the years 1995 to 2014. Following prior studies (e.g., La Porta et al. 1997; Guiso et al. 2008; Pevzner et al. 2015; Kanagaretnam et al. 2017), we measure a country's level of societal trust by its citizens' average response to the following question in the World Values Surveys (WVS): "Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?" We follow

[1] Examples of aggressive tax planning include taking the more favorable tax position where the tax law is ambiguous or open to interpretation, structuring complex transactions where the only motivation for the transaction is tax savings, and other tax sheltering transactions, such as lease-in, lease-out, and contingent-payment installment sales. We refer to these forms of aggressive tax planning as "tax avoidance" in the rest of this paper.

[2] An example of such punishments includes being labeled as a "poor corporate citizen" (Bankman 2004), which might hurt product market outcomes (e.g., Hanlon and Slemrod 2009; Hardeck and Hertl 2014).

prior research (e.g., Atwood et al. 2012; Kanagaretnam et al. 2016) and measure tax avoidance as the difference between the firm's "unmanaged tax amount" (the home-country statutory corporate tax rate times pre-tax earnings before exceptional items) and its "managed tax amount" (current taxes paid). This difference reflects the extent to which managers pursue strategies that reduce taxes paid.

Consistent with our prediction, we find strong evidence that societal trust is negatively associated with corporate tax avoidance. This relation is also economically significant. When we include an extensive set of home country institutional characteristics as control variables in the regression specification, a one standard deviation increase in societal trust is associated with an 8.9% decrease in tax avoidance. This result suggests that higher levels of societal trust could play a significant role in mitigating tax avoidance over and above the effects of formal institutions, such as home country tax system characteristics, which are designed to constrain tax avoidance.

Research (e.g., Atwood et al. 2012) documents that corporate tax avoidance is lower in countries with higher-quality institutional characteristics, such as legal tradition, strength of investor rights, and ownership concentration. Because trust is a part of culture and does not exist in a vacuum, we also explore the interactions between societal trust and formal institutions and their joint relationship with tax avoidance. We consider two country-level institutional characteristics—strength of legal institutions and capital market pressure. We predict that the negative relation between societal trust and tax avoidance is less pronounced when the legal institutions are stronger and more pronounced when the capital market pressure is stronger. We find results consistent with these expectations.

In additional analyses, we find that societal trust and trust in the government complement each other in reducing corporate tax avoidance. We also find that the negative association between

societal trust and tax avoidance is less pronounced for firms with multinational operations, whose tax planning activities of the entire business entity are likely to be less influenced by the norms of the country where the firm's headquarters are located. We subject our main results to a battery of sensitivity tests, including using an instrumental variable approach to mitigate potential omitted correlated variable concerns, using two alternative measures of tax avoidance, and accounting for over-representation of U.S. and Japanese firms in the sample. Our inferences are robust to these additional tests.

Our focus so far has been on the association between societal trust and corporate tax avoidance. In a supplementary analysis, we examine whether societal trust is associated with tax evasion, an extreme and illegal form of tax avoidance. This analysis is based on a novel dataset from the World Bank Enterprise Surveys that includes a measure of tax evasion. Whereas an advantage of this dataset is that it provides a more direct measure of tax evasion, a disadvantage is that it includes mostly smaller, private firms from less developed countries. Nevertheless, we find results that are consistent with our primary findings for tax avoidance; that is, societal trust is significantly negatively associated with tax evasion, and this relation is less pronounced when legal institutions are stronger.

Our study makes several important contributions. First, our findings should matter to tax policymakers, who, concerned about declining corporate tax revenues, have proposed regulations such as tightening tax loopholes and increasing tax enforcement (Shulman 2009; DOT 2011; Hufbauer 2011; Keener 2011). Our study is particularly timely in light of the recent Panama Papers' and Paradise Papers' revelations, which allege money laundering, sanctions dodging, and tax avoidance by prominent individuals and corporations. These controversies have led to calls for an increase in tax regulation and enforcement to clamp down on avoidance. Our findings suggest

that the relationship between enforcement and tax avoidance is nuanced and that informal institutions such as societal trust act as a substitute for these formal institutions in mitigating incentives for tax avoidance. In other words, tightening of regulations may be needed more in countries with lower levels of societal trust.

Second, our study illuminates the "under-sheltering puzzle." Weisbach (2002) questions why firms do not use tax shelters or engage in tax avoidance more extensively, given the opportunity to save taxes at a relatively low economic cost and low probability of being challenged. He posits that firms' inclination to avoid taxes could be a function of behavioral norms, where the sanctions for sheltering are reputational or social (p. 245). We provide evidence that societal trust potentially is one reason why firms do not pursue tax avoidance more aggressively.

Third, our study contributes to the literature investigating cross-country determinants of tax avoidance. Atwood et al. (2012) find that tax avoidance across countries is associated with formal institutions, required book-tax conformity, and tax systems that use a worldwide versus a territorial approach. We extend this line of research by showing that an informal institution such as societal trust also relates to tax avoidance and is particularly important when formal institutions are weak.

Our study is subject to certain limitations. We mitigate concerns that our results are driven by an omitted or unobserved correlated variable by including an extensive set of country-level and firm-level controls as well as using an instrumental variable approach; however, we acknowledge that our results might be driven by some other omitted social or behavioral trait that is correlated with our measure of societal trust. Our findings should be interpreted with this caveat in mind.

The rest of this study is organized as follows. In Section 2, we discuss related research and develop our predictions on the relation between societal trust and corporate tax avoidance and on

how this relation may vary across different institutional settings. We describe the measures of our main variables of interest and the research design in Section 3. We discuss the main results in Section 4 and the results of additional analyses and robustness checks in Section 5. We present the results relating societal trust and tax evasion in Section 6 and provide our conclusions in Section 7.

2. Background and hypotheses

A culture of trust, which combines a willingness to trust with an associated disposition for trustworthiness (or reciprocity), can be useful in facilitating mutually beneficial exchanges in the presence of market imperfections, that is, when there is asymmetric information between transacting parties, when complete contracts cannot be written, enforced, or both and when perfect monitoring is prohibitively costly (Arrow 1974). Specifically, individuals who trust and are trustworthy can credibly commit to behave consistent with the spirit of contract, even when their behavior may not advance their best self-interest. For the commitment mechanism arising from a culture of trust to be effective in facilitating exchange, however, the individuals must largely agree on which behaviors are consistent with the spirit of the contract, in addition to being trusting and trustworthy. Neu (1991) highlights that trust is based on common expectations that form the essential starting point for interaction and exchange and embedded within these expectations are "hypothetical rules of conduct, norms of fairness and appropriate responses to unfair behavior."

We reason that corporate tax avoidance is a setting in which societal trust is likely to play an important role. The payment of corporate taxes can be viewed as an implicit social contract in which corporate taxpayers pay taxes to fund public spending and social welfare (Christensen and Murphy 2004). However, tax codes are complex, highly technical, and subject to alternative interpretations. In addition, a tax code is an incomplete contract that does not clearly articulate

what the taxpayer must do in every circumstance (Dowling 2014). As a result, there is substantial scope for tax avoidance activities that exploit the ambiguities and loopholes in the tax system.

Given that trust and reciprocity are critical factors in economic activity in the presence of market imperfections (Arrow 1974), we expect societal trust to play an important informal monitoring role in mitigating tax avoidance. In high-trust societies, managers will largely agree that tax avoidance is inconsistent with the spirit of the tax code and hence are less likely to engage in the practice (Winzel 2004, 2005). In addition, managers in high-trust societies are more likely to reciprocate the trust that society places in them and are more sensitive to fairness considerations and maintenance of social ties and hence are less likely to intentionally avoid taxes.

Although firms do not always have an explicit and contractual obligation to pay their fair share of taxes to society at large, managers will refrain from being tax aggressive to avoid breaking the implicit social contract and being shunned by society for violating social norms (Hechter and Opp 2001; Horne 2009; Liu et al. 2014). However, control mechanisms and punishments may not be the only reasons why individuals adhere to social norms. According to Kohlberg and Hersh (1977), individuals evolve in their moral development in three progressive stages: pre-conventional, conventional, and principled levels. Individuals who have advanced to the principled level define moral values apart from the legal authority and may view tax avoidance as morally wrong, even if it is deemed legal. Torgler (2003) provides evidence that trust has positive influence on tax morale, even after controlling for a range of other individual characteristics. Furthermore, stakeholder theory suggests that firms may still want to behave fairly because they care about their reputation and the implicit claims between them and their stakeholders (e.g., Bowen et al. 1995; Greenwood and Van Buren III 2010).[3]

[3] Evidence suggests that there are reputational costs associated with tax avoidance (e.g., Hanlon and Slemrod 2009; Graham et al. 2013; Hardeck and Hertl 2014).

Based on the discussion above, we posit the following (in alternate form):

H1: Societal trust is negatively related to a firm's tax avoidance.

The reasoning in some papers (e.g., Dyreng et al. 2008; Atwood et al. 2012) suggests the opposite prediction. This literature considers corporate tax avoidance as not necessarily implying that firms are behaving improperly, because managing tax costs is viewed as a necessary and appropriate component of a firm's long-term strategy. Under this narrower view, in countries with higher levels of trust, shareholders trust managers to increase firm value through tax planning activities, and hence managers are more likely to reciprocate and engage in tax avoidance. Given these conflicting predictions, whether societal trust negatively relates to corporate tax avoidance is an empirical question.

Because corporate tax avoidance may be impacted by the institutional environment (Atwood et al. 2012) and because societal trust, as a part of the culture, does not exist in a vacuum, we also explore the interactions between societal trust and formal institutions and their joint relationship with tax avoidance. Studies on trust (e.g., Williamson 1993; Guiso et al. 2004; Carlin et al. 2009; Aghion et al. 2010) document that trust and formal institutions are substitutes. The financial reporting literature documents similar findings. For example, Pevzner et al. (2015) find that the relation between trust and market reaction to corporate earnings announcements is weaker when investor protection is stronger. In light of these findings, we expect a substitutive relation between trust and formal institutions and therefore predict that the relation between trust and tax avoidance is less pronounced when country-level legal institutions are stronger. When legal institutions are stronger, there is less scope for aggressive tax avoidance because the legal framework and expectations are better established, more clearly defined, and more reliably

enforced. Therefore trust is likely to play a less important role in constraining tax avoidance when country-level legal institutions are stronger.

The relation between societal trust and tax avoidance is also likely to depend on capital market pressure to increase firm value through tax planning. In countries with higher capital market pressure, managers may have more pressure to report higher earnings and avoid missing earnings benchmarks (e.g., Skinner and Sloan 2002; Graham et al. 2005). Managers have greater incentives to be aggressive in tax planning, so as to report higher after-tax income. As a consequence, there is greater scope for societal trust to thwart tax avoidance when managers' incentives for tax avoidance are heightened. Hence we expect trust to play a more important role in constraining tax avoidance when country-level capital market pressure is stronger.

Based on the above reasoning, we posit the following (in alternate form):

H2a: The negative relation between trust and tax avoidance is less pronounced when the country-level legal institutions are stronger.

H2b: The negative relation between trust and tax avoidance is more pronounced when the country-level capital market pressure is stronger.

3. Research design

3.1 Measure of societal trust

Following prior literature (e.g., Guiso et al. 2008; Ahern et al. 2015; Pevzner et al. 2015; Kanagaretnam et al. 2017), we construct our measure of societal trust based on responses to the following question from Wave 4 and Wave 5 of the World Values Survey: "Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?" The two possible answers are "Most people can be trusted" and "Can't be too careful." We code the response to this question as one if a survey participant reports that most people can be trusted and zero otherwise. We then use the mean response for each country-year as our measure

of societal trust (*TRUST*). Higher values of *TRUST* correspond to higher societal trust. Research shows that aggregate levels of this trust measure correlate well across countries with several indicators of the level of trustworthiness, such as the level of corruption (Uslaner 2002) and the prevalence of violent crime (Lederman et al. 2002).

As noted by Guiso et al. (2010), an individual's response to this question captures her level of generalized trust, that is, trust toward generic members of the population in her own country. Given that corporations are run by individuals, we use this measure, which is based on individuals' responses, as a proxy for mutual trust between firms and individuals within a country (Pevzner et al. 2015).

3.2 Measure of tax avoidance

Following Atwood et al. (2012), we measure tax avoidance as the reduction in the explicit taxes paid. We would like to use an empirical construct of tax avoidance that closely matches and corresponds to our theoretical construct of aggressive tax planning, but in an international setting, there is no widely accepted measure of tax aggressiveness in the literature. The results of recent studies that examine whether low tax rates empirically measure tax aggressiveness are mixed. For instance, recent studies use tax reserves for uncertain tax benefits disclosed under FIN 48 as a proxy for tax uncertainty and investigate whether low tax rates are associated with higher tax reserves. Dyreng et al. (2017) find that low cash effective tax rates are associated with significantly higher tax reserves, while Guenther et al. (2016) conclude that low cash effective tax rates are not associated with higher tax reserves based on a different research methodology. We also are constrained in our choice of empirical measures for aggressive tax planning such as DTAX (Frank et al. 2009), tax shelter prediction score (Wilson 2009), unrecognized tax benefit (UTB) prediction score (Rego and Wilson 2012), and tax reserves for uncertain tax benefits (Dyreng et al. 2017),

because many of the variables required to compute these measures are either not available or not applicable to non-U.S. settings.

We follow Atwood et al. (2012) and measure tax avoidance (*TAXAVOID*) for firm *i* in year *t* as the difference between the tax on pre-tax income, computed at the home-country statutory corporate tax rate, and the taxes actually paid, expressed as a percentage of pre-tax income:

$$TAXAVOID_{it} = \frac{[\sum_{t-2}^{t}(PTEBX \times \tau)_{it} - \sum_{t-2}^{t} CTP_{it}]}{\sum_{t-2}^{t} PTEBX_{it}}, \quad (1)$$

where *PTEBX* is pre-tax income less special items, τ is home-country statutory corporate tax rate, and *CTP* is current taxes paid.[4] We compute this measure using a three-year window because this period is adequate to reduce the effects of accruals that reverse in just one year. Following Atwood et al. (2012), we require the denominator in (1) to be positive; hence our sample includes only firms that have a cumulative profit in the three-year window. This measure of tax avoidance indicates the amount of taxes that the firm could avoid ("managed tax amount"), relative to the amount of taxes it is supposed to pay based on the home-country statutory tax rate ("unmanaged tax amount").

We recognize that our measure of tax avoidance encompasses a broad spectrum of tax planning activities that are perfectly legal as well as activities that result from interpretations that can be characterized as gray areas. This may suggest that our measure may not capture aggressive tax planning very well, and hence firms exhibiting high tax avoidance based on this measure may not necessarily be viewed as violating social norms. We argue that our empirical measure can effectively capture aggressive tax planning that regulators, the media, and other stakeholders are

[4] Atwood et al. (2012) define *PTEBX* as pre-tax earnings before exceptional items (data item 57 from the Legacy Global Compustat database) instead of pre-tax income less special items (PI minus SPI from the new Global Compustat database). Because the former variable is only available up to 2007, we modify the Atwood et al. measure of *PTEBX* so as to extend our sample period to 2014. Our results are robust to using the Atwood et al. measure of *PTEBX* and ending our sample period in 2007.

concerned about for the following reasons. First, the media (e.g., *The Wall Street Journal*) and other lobbying groups (e.g., Citizens for Tax Justice) identify tax avoiders as firms that report low actual tax payment rates. Second, Wilson (2009) documents that tax shelter participants exhibit lower tax rates, after engaging in tax sheltering, and that government agencies may view low tax rates as indicating tax sheltering (e.g., DOT 1999). This evidence suggests that low tax rates are widely viewed as aggressive tax planning, and hence firms that exhibit high tax avoidance, based on this measure, may actually be viewed as violating social norms, which is consistent with the theoretical construct of tax avoidance that we are trying to capture.[5]

3.3 Empirical models—main analyses

We estimate the following pooled cross-sectional regression to test H1:

$$TAXAVOID_{it} = \alpha + \beta TRUST_{it} + \psi CONTROLS_{it} + YEAR\_FE + IND\_FE + \varepsilon_{it}, \quad (2)$$

where *TAXAVOID* is the measure of tax avoidance, *TRUST* is the measure of societal trust, *CONTROLS* is a vector of firm-level and country-level controls, and *YEAR_FE* and *IND_FE* are indicator variables for year and industry, respectively.[6] Because we test our hypothesis on a pooled sample, we cluster the standard errors by firm and include time- and industry-fixed effects in our regressions. The appendix includes the detailed definitions of all the variables. Based on H1, we expect higher societal trust to be associated with lower tax avoidance, and hence we expect β to be negative.

We select *CONTROLS* that are factors documented by prior literature to be associated with tax avoidance (e.g., Atwood et al. 2012; Kanagaretnam et al. 2016). The first set of controls

[5] We also note that, if our operational measure of tax avoidance is not very effective in capturing more aggressive tax planning, it will reduce the power of our tests and bias against finding results consistent with our hypothesis. Moreover, we attempt to control for benign tax planning, such as research and development tax credits and interest deductibility of debt, by including research and development intensity and leverage ratio as controls.

[6] We define industries using the classification in Frankel et al. (2002).

includes country-level variables (*LEGFACTOR*, *STMCAP*, *WW*, *BTAXC*, *TAXRATE*, *TAXCOMP*, *VARCOMP*, *EARNVOL*, *FDI*, *GDPGR*, and *TREND*). We also control for the strength of the country's legal institutions (*LEGFACTOR*), using the first principal component from the factor analysis of the country's legal tradition (common law versus code law), strength of investor rights, and ownership concentration as reported by La Porta et al. (1998). We control for the country's capital market development using the size of the equity market (*STMCAP*), which we define as the stock market capitalization divided by GDP. In addition, we control for the following characteristics of the country's tax system: 1) whether the tax system follows a worldwide or territorial approach (*WW*), 2) the required book-tax conformity (*BTAXC*), and 3) the statutory tax rate (*TAXRATE*). Atwood et al. (2012) find that these characteristics are associated with firms' incentives to avoid taxes.[7] We also control for tax compliance costs (*TAXCOMP*) because studies document that these costs are significant (e.g., Tran-Nam et al. 2000; Marcuss et al. 2013) and hence may influence a firm's tax avoidance.

We include the country average of managers' variable pay as a percentage of total compensation (*VARCOMP*) because the literature suggests that managerial compensation incentives relate to tax avoidance (Atwood et al. 2012; Rego and Wilson 2012).[8] We include country-level earnings volatility (*EARNVOL*) as a control because Atwood et al. (2010) report that *BTAXC* is positively correlated with the cross-sectional variance in pre-tax income, and hence it is important to include this control variable to ensure that the effect of *BTAXC* on tax avoidance is

[7] We hand collect each country's annual statutory corporate tax rate and whether the tax system is worldwide or territorial from various sources, such as Ernst and Young's Worldwide Corporate Tax Guide, KPMG's Corporate and Indirect Tax Rate Survey, PwC's Worldwide Tax Summaries, and PwC's "Evolution of Territorial Tax Systems in the OECD" report.

[8] Atwood et al. (2012) use the country average of managers' variable pay as a percentage of management compensation from Towers Perrin (2005), which reports the pay components of CEOs across 26 countries. We do not have access to data from the Towers Perrin's report. Instead, we obtain equity-based compensation data from Bryan et al. (2010) who provide average equity-based compensation for 43 countries. The use of this variable also explains the differences in the countries represented in our sample of 25 countries and the Atwood et al. (2012) sample of 22 countries.

not overstated due to cross-country differences in earnings volatility. We control for the extent of outward direct foreign investments in a country (*FDI*) because direct investments in foreign jurisdictions may afford opportunities to transfer earnings or shift income across different tax jurisdictions. Finally, we control for economic growth using the GDP growth rate (*GDPGR*), which may influence tax avoidance across countries, and a time trend variable (*TREND*) to account for a time-series trend in corporate tax avoidance.

A second set of controls includes firm-level variables that are documented to be associated with tax avoidance. We control for firm performance using pre-tax return on assets (*PROA*) because better-performing firms have greater scope to save taxes. We control for firm size (*SIZE*) because larger firms have more resources for tax planning. Conversely, better performing and larger firms may avoid aggressive tax planning to mitigate political scrutiny for not paying their fair share of taxes. We control for tax planning opportunities, such as research and development tax credits and deductibility of interest on debt, using research and development intensity (*R&D*) and leverage ratio (*LEV*), respectively. We control for annual sales growth (*GROWTH*) because firms with higher growth opportunities derive greater marginal benefits from saving cash taxes and hence have stronger motivation to avoid tax (Goh et al. 2016). We also control for auditor quality using an indicator variable (*BIGN*) that equals one if the firm's auditor is a Big N auditor and zero otherwise, because high-quality auditors influence corporate tax avoidance (Kanagaretnam et al. 2016). Finally, we control for various components of accruals such as current accruals, noncurrent accruals, and financial accruals (*ΔWC*, *ΔNCO*, and *ΔFIN*, respectively) because the literature documents a positive association between tax avoidance and accruals (Frank et al. 2009).

We note that, by including an extensive set of country-level and firm-level controls, we

mitigate concerns that our results could be driven by omitted or unobserved correlated variables. On the other hand, some of the control variables might subsume the effects of trust and thus bias against rejection of our null hypothesis. For instance, if trust facilitates growth in legal institutions, then our control for strength of legal institutions (*LEGFACTOR*) will include the effects of trust on tax avoidance. Consequently, the incremental effect of trust that we document provides a conservative estimate of the relationship between trust and tax avoidance.

3.4 Empirical models—cross-sectional analyses

To test H2, we augment equation (2) by adding the conditioning variable *Conditioning_VAR* and its interaction with *TRUST* and estimate the following pooled cross-sectional regression:

$$TAXAVOID_{it} = \alpha + \beta TRUST_{it} + \eta TRUST_{it} \times Conditioning\_VAR_{it} + \gamma Conditioning\_VAR_{it} + \psi CONTROLS_{it} + YEAR\_FE + IND\_FE + \varepsilon_{it}. \quad (3)$$

In H2a, we examine the moderating effect of legal institutions on the relation between societal trust and corporate tax avoidance. Our measure of the strength of legal institutions in a country (*LEGFACTOR*) is the first principal component from a factor analysis of the country's legal tradition (common law versus code law), strength of investor rights, and ownership concentration, as reported by La Porta et al. (1998). The strength of legal institutions increases with *LEGFACTOR*, which also is included as a control variable in equation (2). We expect that societal trust and legal institutions are substitutes in constraining tax avoidance and therefore the relation between trust and tax avoidance will be less pronounced when legal institutions are stronger. Hence, based on H2a, we expect η in equation (3) to be positive.

In H2b, we examine the moderating effect of capital market pressure on the relation between societal trust and corporate tax avoidance. We expect capital market pressure, which we proxy by the relative size of the stock market, to be stronger when the equity market is more

important in a country. Accordingly, we measure capital market pressure (*STMCAP*) as the stock market capitalization divided by GDP in a country. We compute an annual measure of *STMCAP* using the data reported by Beck et al. (2009) and include it as a control variable in equation (2). We expect societal trust to play a more prominent role when capital market pressure is stronger. Hence, based on H2b, we expect η in equation (3) to be negative.

4. Results

4.1 Sample

We construct our measures of tax avoidance and other firm-level control variables with data obtained for the 1995–2014 period from the Compustat Global database. We identify 35 countries with data available for computing these firm-level variables. We construct our main variable of interest, *TRUST*, based on individual responses to the World Values Surveys. The surveys were conducted and completed in six waves: 1981–1984, 1989–1993, 1994–1998, 1999–2004, 2005–2008, and 2010–2014. We use the surveys in Wave 4 and Wave 5 of the WVS because they provide coverage of most of the countries in our initial sample and overlap with most of our sample period. Then we match the most recent available *TRUST* measure to our firm-year level variables. We remove seven countries (Austria, Belgium, Denmark, Greece, Hungary, Ireland, and Portugal) that do not have data for computing the societal trust measure. We either hand collect the country-level institutional variables (e.g., statutory tax rates, classification of worldwide or territorial tax system) or obtain them from the data published by other authors (e.g., strength of investors' rights and ownership concentration from La Porta et al. 1998, stock market capitalization index from Beck et al. 2009). We remove three countries (China, India, and Russia) for which the institutional variables are not available. Our final sample thus includes 25 countries. The number of countries represented is comparable to those of prior studies (e.g., 22 countries in Atwood et al. 2012 and

25 countries in Pevzner et al. 2015). We also trim each continuous firm-level variable at the 1% and 99% levels to mitigate the effect of extreme values. Depending on the availability of data, the final sample size used in the regression analyses ranges from 81,412 to 162,467 firm-year observations for the 20-year sample period.

4.2 Descriptive statistics

Table 1 reports the sample composition and the mean characteristics for each of the 25 countries. The sample size for each country ranges widely from 654 firm-year observations for Peru to 45,940 firm-year observations for the United States. Our main test variable is *TRUST*. As observed in Table 1, which is ordered from low to high level of trust, societal trust varies widely across countries. Citizens in the Nordic countries (Finland, Norway, Sweden) have the highest levels of trust in other people (about 60% or more of the respondents think that most people can be trusted), while citizens in Brazil, Peru, the Philippines and Turkey exhibit the lowest (less than 10% of the respondents think that most people can be trusted).

Table 2 reports descriptive statistics of and correlations between the regression variables for the full sample. As observed from Table 2 Panel A, the mean (median) percentage of taxes avoided from pre-tax income (*TAXAVOID*) is 13.6% (12.8%), which, based on the mean (median) statutory corporate tax rate (*TAXRATE*) of 35.0% (38.4%), implies that the mean (median) firm in our sample paid a tax rate of 21.4% (25.6%). The mean (median) value of societal trust (*TRUST*) is 0.360 (0.391), which is comparable to that reported by Pevzner et al. (2015).

Table 2 Panel B reports Pearson correlations between the variables in our analyses. As predicted by H1, we observe a significant negative correlation between societal trust (*TRUST*) and tax avoidance (*TAXAVOID*). Because these are pairwise univariate correlations, we defer our inferences to the multivariate tests reported in the following section.

4.3 Main analyses—Test of H1 and H2

In this section, we present the test results for the primary hypotheses, which are reported in Table 3. In Column 1, we test H1, which examines the association between societal trust and tax avoidance. We find a negative and statistically significant coefficient on *TRUST*, which is consistent with our prediction in H1. The negative relation between societal trust and tax avoidance also is economically significant. Specifically, a one standard deviation increase in societal trust is associated with an 8.9% decrease in tax avoidance.[9] In terms of economic magnitude, this translates to a decrease of 1.2% in taxes avoided from pre-tax income for an average firm that reports a mean *TAXAVOID* of 13.6%. In terms of dollar magnitude, the average cumulative three-year pre-tax income in our sample is U.S. $677 million. This indicates that, for an average firm in our sample, a one standard deviation increase in societal trust is associated with a decrease in taxes avoided over a three-year period of U.S. $8.1 million.

Next, we explore two cross-sectional variations in the relation between societal trust and tax avoidance and test our predictions jointly in the same regression specification. In H2a, we examine the moderating role of legal institutions. We expect societal trust to play a less important role in countries with stronger legal institutions. We present the results of our test in Table 3, Column 2, where we use the legal institutional factor (*LEGFACTOR*) as a proxy for the strength of legal institutions in the country. Consistent with our prediction in H2a, we find that the coefficient of *TRUST*LEGFACTOR* is positive and significant, which indicates that the negative association between societal trust and tax avoidance is attenuated in countries with stronger legal institutions. These results are consistent with legal institutions and societal trust acting as substitute

[9] The impact of a one standard deviation increase in societal trust (*TRUST*) on tax avoidance (*TAXAVOID*) is computed as -0.105 (coefficient on *TRUST* in Table 3) × 0.115 (the sample standard deviation of *TRUST* in Table 2) ÷ 0.136 (the sample mean of *TAXAVOID* in Table 2) = 8.9%.

mechanisms in constraining tax avoidance. In addition, the coefficient of *LEGFACTOR* is negative and significant, which confirms that tax avoidance is lower in countries with stronger legal institutions.

In H2b, we examine how capital market pressure affects the relation between societal trust and tax avoidance. We predict that societal trust plays a greater role in constraining tax avoidance when the capital market pressure in the country is higher. We present the results of our test in Table 3, Column 2, where we use the size of the equity market (*STMCAP*) as a proxy for capital market pressure. Consistent with our prediction in H2b, we find that the coefficient of *TRUST*STMCAP* is negative and significant, which indicates that the negative association between societal trust and tax avoidance is accentuated in countries with higher levels of capital market pressure. In addition, the coefficient of *STMCAP* is positive and significant, which is consistent with our conjecture that capital market pressure creates incentives for firms to avoid taxes.

The signs of the coefficients of the control variables are largely consistent with our expectations. Similar to Atwood et al. (2012), we find that tax system characteristics, such as having a worldwide approach to taxing foreign income (*WW*) and a higher required book-tax conformity (*BTAXC*), are associated with lower tax avoidance. We also find that firms in countries with higher statutory tax rates (*TAXRATE*), higher tax compliance costs (*TAXCOMP*), higher variable compensation (*VARCOMP*), lower earnings volatility (*EARNVOL*), lower outward foreign direct investments (*FDI*), and stronger economic development (*GDPGR*) avoid more taxes and that there is an increasing trend (*TREND*) in tax avoidance over time. Turning to the other firm-level control variables, we find that better-performing firms (*PROA*) are associated with higher tax avoidance, presumably because they have greater scope to save taxes, and larger firms

(*SIZE*) avoid less taxes, possibly due to closer political scrutiny. We also find that firms with higher leverage (*LEV*) and higher sales growth (*GROWTH*) are associated with higher tax avoidance, consistent with greater opportunities to avoid taxes for firms with more debt and greater marginal benefits of avoiding taxes for growth firms. Lastly, consistent with the work of Kanagaretnam et al. (2016), we find that firms audited by Big N auditors (*BIGN*) avoid less taxes, and the accrual components (ΔWC, ΔNCO, and ΔFIN) are associated with higher tax avoidance, which is consistent with a positive association between aggressive financial and tax reporting (Frank et al. 2009).

We conduct additional robustness checks to mitigate potential concerns about sample representation. As indicated in Table 1, a significant portion of our firm-year observations comprises firms from the United States and Japan. To mitigate the concern that our results are driven by observations from these two countries, we re-estimate the models using two alternative research designs. First, we exclude observations of firms from both countries. Second, we employ a weighted least squares (WLS) approach so that each of the 25 countries receives equal weight in the regression estimations (Dittmar et al. 2003). In untabulated analyses of these two alternative specifications, we still find consistent evidence to support our earlier tests of H1 and H2. These results provide assurance that our primary findings are not driven by sample over-representation from the United States and Japan.

Overall, the results indicate that societal trust is negatively associated with tax avoidance, which is consistent with firms and managers responding to social norms and expectations when conducting their corporate tax planning. In addition, we find that the relation between trust and tax avoidance is less pronounced when the legal institutions are stronger and more pronounced when the capital market pressure is stronger.

4.4 Corroborating evidence

In this section, we conduct additional cross-sectional analyses to corroborate the findings of our main hypothesis H1 and to provide further insights into the relation between societal trust and tax avoidance. First, we investigate whether individuals' trust in the government moderates the association between societal trust and tax avoidance. If individuals' trust in the government reflects the strength of social norms about the spirit (rather than the letter) of the tax law and about what constitutes a fair assessment of tax under the prevailing laws, then they are more likely to view tax avoidance as contradicting the spirit of the law and hence to engage in less aggressive tax planning. Accordingly, we expect trust in the government to complement societal trust and to therefore accentuate the relation between societal trust and tax avoidance. Conversely, trust in the government and societal trust also could be substitutes. In particular, when individuals trust managers more and government less to allocate funds for more productive uses for the benefit of society, they would prefer managers to avoid tax and deploy these savings more productively. Under these conditions, we expect trust in the government to substitute for societal trust and therefore to attenuate the relation between societal trust and tax avoidance.

To examine these competing predictions, we construct a measure of trust in the government (*TRUST_GOVT*) from the responses to the following WVS question: "Do you have a lot of confidence, quite a lot of confidence, not very much confidence, no confidence at all in the following: Government." We then test our prediction by repeating our analyses after adding *TRUST_GOVT* and its interaction with societal trust (*TRUST*) to the model. As reported in Table 4, Column 1, we find that the negative association between societal trust and tax avoidance is more pronounced when individuals trust government more. We also find that individuals' trust in the government (*TRUST_GOVT*) is significantly negatively associated with tax avoidance. Overall,

these results are consistent with our main prediction that societal trust and trust in the government complement each other in reducing corporate tax avoidance.

Next, we examine the effects of trust for a sample of multinational firms. We argued earlier that managers in high-trust societies respond to social norms in their home country and hence are less likely to avoid tax. For firms with extensive multinational operations in other jurisdictions, the tax planning activities of the entire business entity are likely to be less influenced by the norms of the country where the firm is headquartered, particularly if the leadership within the firm spans many nationalities across different foreign subsidiaries. Therefore we expect the relation between societal trust and tax avoidance to be attenuated for multinationals. Following Atwood et al. (2012), we use the payment/refund of foreign income taxes as a proxy for the presence of multinational operations.[10] We then test our prediction by repeating our analyses after adding the presence of multinational operations (*MULTI*) and its interaction with societal trust (*TRUST*) to the model. As reported in Table 4, Column 2, we find that the negative association between societal trust and tax avoidance is less pronounced for multinationals. We also find a significantly negative association between tax avoidance and the presence of multinational operations (*MULTI*), consistent with the work of Atwood et al. (2012). Overall, these results support our prediction that the association between societal trust and tax avoidance is attenuated for firms with multinational operations.

5. Additional analyses and sensitivity checks

5.1 Instrumental variable (2SLS) estimation

We recognize that, like most studies of this type, ours may suffer from omitted variable problems because it is difficult to control for all possible variables that could affect the formation and

[10] Data on foreign income taxes (data item 51 from the Legacy Global Compustat) is only available to 2007.

accumulation of trust. If the omitted variable is also associated with tax avoidance, then our documented results on the association between societal trust and tax avoidance will be biased. Our cross-sectional analyses mitigate this concern because it is arguably harder for an omitted correlated variable to explain both our main and our cross-sectional findings. Also, in all our cross-sectional analyses, we include additional controls for country-level formal institutional variables, such as legal institutions, and thus it is more difficult to find an omitted latent institutional variable that explains both country-level societal trust and tax avoidance in our analyses. Nevertheless, we attempt to address potential omitted correlated variable concerns by employing instrumental variable estimation.

The instrument we use is the ethnolinguistic fractionalization in a country because ethnicity and diversity are invariant for a country over long periods and hence more likely to be exogenous (e.g., Guiso et al. 2006). Leigh (2006) argues that ethnic diversity is associated with lower levels of trust because diverse communities find it more challenging to enforce a system of social norms and hence are less likely to trust one another. Therefore we expect higher ethnolinguistic fractionalization to be associated with lower levels of societal trust. We obtain information on each country's ethnolinguistic fractionalization (*ETHNIC*) from Mauro (1995).

We report the results of the first-stage regression in Table 5, Column 1. Consistent with our expectations, *ETHNIC* is significantly negatively associated with *TRUST*.[11] We then use the predicted value of *TRUST* from the first-stage regression as our instrument in the second stage and test our predictions in H1 and H2. We present these results in Table 5, Columns 2 and 3, respectively. The results reported in Column 2 show that the predicted value of trust

[11] As suggested by Larcker and Rusticus (2010), we formally test the strength of our instrumental variable by computing the partial F-statistic for the instrument used in the first-stage regression. The partial F-statistic is 7,736.27, much higher than the minimum benchmark of 8.96 for a model with one instrument, as reported by Larcker and Rusticus (2010). Therefore we conclude that our model does not suffer from a weak instrument problem.

(*PRED_TRUST*) is significantly negatively associated with tax avoidance, which is consistent with the results of the earlier test of H1. The positive and significant coefficient on *PRED_TRUST*LEGFACTOR* and the negative and significant coefficient on *PRED_TRUST*STMCAP* in Column 3 also corroborate the results of our earlier tests of H2a and H2b, respectively. Overall, the results from the instrumental variable approach indicate that our main results still hold after controlling for potential correlated omitted variables problems.

5.2 Alternative measures of tax avoidance

We also test the robustness of our results to using two alternative measures of corporate tax avoidance. There is a potential concern that *TAXAVOID* may not reflect and adequately control for different tax planning opportunities that vary across different industries and years. For the first alternative measure (*TAXAVOID_ALT1*), we define tax avoidance as an industry-year, mean-adjusted tax avoidance measure, that is, the firm's *TAXAVOID* minus the firm's industry-year mean *TAXAVOID*. For the second measure, we attempt to capture more aggressive tax planning activities by using an indicator variable with a value of one for firms whose tax avoidance measure is in the top quartile of the sample distribution and zero otherwise (*TAXAVOID_ALT2*). The results of the analyses using these two alternative measures are reported in Table 6, Columns 1 and 2 for *TAXAVOID_ALT1* and Columns 3 and 4 for *TAXAVOID_ALT2*.

As shown in Table 6, Columns 1 and 2, we continue to find that societal trust is significantly negatively associated with the industry-year, mean-adjusted tax avoidance measure (*TAXAVOID_ALT1*) and that this association is significantly weaker in countries with stronger legal institutions and stronger (but insignificant) in countries with higher capital market pressure. In Columns 3 and 4, we also find a significant negative association between societal trust and the likelihood of being tax aggressive (*TAXAVOID_ALT2*); this association is significantly weaker in

countries with stronger legal institutions and significantly stronger in countries with higher capital market pressure. Overall, the results indicate that our main tests of H1 and H2 are robust to using these two alternative measures of tax avoidance.

6. Societal trust and corporate tax evasion

We have investigated the association between societal trust and tax avoidance using a measure that captures a broad spectrum of tax avoidance activities, ranging from those that would be considered prudent and legal (i.e., exploiting ambiguity and unintended loopholes in the tax laws) to those that would be considered abusive or illegal tax sheltering (i.e., tax evasion). Legal tax planning may be better constrained by societal trust and social norms, whereas illegal tax evasion, which clearly violates social norms, may be more effectively disciplined by the legal and regulatory systems. If so, societal trust may not play a direct role in constraining tax evasion. As an extension of our study and to provide additional evidence on whether societal trust also constrains illegal tax evasion, we use a more direct measure of tax evasion and examine whether societal trust is associated with this measure. We discuss our tax evasion measure, describe the research design and sample, and present the results in the following sub-sections.

6.1 Measure of tax evasion

Following Beck et al. (2014) and Williams (2015), we obtain data on firm-level tax evasion from the World Bank Enterprise Surveys. The measure of tax evasion is based on responses to the following question: "Recognizing the difficulties many enterprises face in fully complying with taxes and regulations, what percentage of total sales would you estimate the typical establishment in your area of activity reports for tax purposes?" The tax evasion ratio (*EVADE_RATIO*) is equal to 100 minus the answered number, which indicates the percentage of revenue undeclared to the authorities for tax assessment.

Note that the question on tax evasion in the survey is worded in an indirect way to elicit more honest answers because respondents might not admit wrongdoing in a non-anonymous survey. As a result, there may be concerns that answers do not reflect the actual extent of tax evasion committed by a respondent's own firm. Beck et al. (2014), who also use the responses to this survey question as a proxy for firm-level tax evasion, discuss several reasons why measurement error is not likely to invalidate the proxy's use. First, they point out that "managers presumably most often respond based on their experiences," and hence researchers can cautiously use these indirect survey responses as reflecting managers' own behavior. Second, Beck et al. (2014) argue that, if respondents answered this question based only on their observations of what others are doing, there would not be significant within-country-industry variation in the measure of tax evasion because respondents would answer the question based on industry averages, rather than their own behavior. Their data exhibits significant within-country industry variation in this indirect survey measure of tax evasion, which suggests that respondents are indeed answering based on their own behavior. Third, the authors find a high correlation between this measure of tax evasion and the ratio of informal activity to GDP, which suggests that the measure is capturing the extent of tax evasion among different firms in the country. Fourth, the World Bank is cognizant of the sensitivity of these types of questions, and hence government officials are neither directly involved with data collection nor are they given any raw data to help them identify the individual respondents. This is to elicit truthful responses to these sensitive survey questions. In light of the above reasons, we use the indirect survey responses as a proxy for tax evasion; however, we caution that the results of this tax evasion analysis should be interpreted with this limitation in mind.

6.2 Research design and sample

Similar to the main analyses, we use the following pooled cross-sectional regression:

$$EVADE\_RATIO_{it} = \alpha + \beta TRUST_{it} + \psi CONTROLS_{it} + YEAR\_FE + IND\_FE + \varepsilon_{it}, \quad (4)$$

where *EVADE_RATIO* is the measure of tax evasion, *TRUST* is the measure of societal trust, *CONTROLS* is a vector of firm-level and country-level controls, and *YEAR_FE* and *IND_FE* are indicator variables for year and industry, respectively. The appendix includes the detailed definitions of all the variables.

Because the World Bank Enterprise Surveys do not collect the same firm-level financial variables as we have used in the tax avoidance analysis, we cannot use the same empirical specification as before. Furthermore, because this dataset does not provide the names of the firms, we are limited to use of only the variables included in the dataset in our empirical specification. Following Williams (2015), we include the following control variables collected from the World Bank Enterprise Surveys: 1) strength of legal institutions in the country, proxied by business regulation quality (*REGQUALITY*); 2) tax rate (*TAX_RATE*); 3) tax administration difficulty (*TAX_ADMIN*); 4) whether the firm's financial statements are reviewed by an external auditor (*AUDIT*); 5) percentage of the firm owned by foreign investors (*FOREIGN*); 6) percentage of sales that are exported directly (*EXPORT*); 7) age of the firm (*AGE*); 8) total number of employees (*EMPLOY*); 9) informal payment as a percentage of sales (*INF_PMT*); 10) extent of local corruption (*CORRUPT*); 11) whether the firm is located in a small city (*SMALL_CITY*); 12) whether the firm is located in the capital city (*CAPITAL_CITY*); 13) total amount of taxes paid by businesses (*TAXPMT*); and 14) growth in GDP (*GDPGR*).

Our initial sample of firms for the period 2002–2006 is obtained from the standardized World Bank Enterprise Surveys, which cover both private and public firms of all sizes and ownership types from 26 different industries across 98 countries. After merging this dataset with

our *TRUST* variable and obtaining the necessary control variables, we obtain a sample of 24,617 firm-year observations from 47 countries (see Table 7). The sample size from each country ranges from 74 for Burkina Faso to 1,631 for Turkey. As observed from this table, the sample countries in this tax evasion analysis based on the World Bank Enterprise Surveys are predominantly small private firms from developing countries, whereas the sample countries in the tax avoidance analysis based on Compustat Global are large public firms from more developed countries (see Table 1).[12] According to the World Bank, the purpose of its Enterprise Surveys is to "better understand conditions in the local investment climate and how they affect firm-level productivity," and "the goal is to advise government on ways to change policies that hinder private establishments." Hence it is not surprising that the respondents of the surveys are mostly smaller firms from developing countries that are likely to face greater obstacles to enterprise operation and growth. Hence the results of this tax evasion analysis should be interpreted in light of the sample composition differences from the tax avoidance sample.

6.3 Results

We present the estimation results of the association between societal trust and tax evasion in Table 8. Consistent with the results of the tax avoidance analyses (H1), we find in Column 1 that societal trust is negatively associated with tax evasion. The relation between societal trust and tax evasion is also economically significant. A one standard deviation increase in *TRUST* is associated with a 5.0% decrease in tax evasion.[13] In addition, the coefficient of the legal institution variable

[12] Of the 25 countries covered in the tax avoidance analysis in Table 1, only 10 countries are covered in the tax evasion analysis in Table 7 (Chile, Germany, Indonesia, Korea, Mexico, Peru, the Philippines, South Africa, Spain, and Turkey).

[13] The impact of a one standard deviation increase in societal trust (*TRUST*) on tax evasion (*EVADE_RATIO*) in Column 1 is computed as -8.735 (coefficient on *TRUST* in Table 8) × 0.108 (the sample standard deviation of *TRUST*, untabulated) ÷ 18.861 (the sample mean of *EVADE_RATIO*, untabulated) = 5.0%.

(*REGQUALITY*) is negative and significant, indicating that tax evasion is lower in countries with stronger legal institutions.

We also examine whether the strength of legal institutions and societal trust act as substitutes in constraining tax evasion. Consistent with the results of the tax avoidance analyses (H2a), we find, in Column 2, that the negative association between societal trust and tax evasion is less pronounced in countries with stronger legal institutions. Overall, the results in this section suggest that societal trust is associated with lower tax evasion and this association is weaker when the country's legal institutions are stronger.[14]

7. Conclusion

Societal trust is an important facet of a country's culture, and the literature finds that trust affects a broad spectrum of social and economic outcomes. We extend this emerging line of research by examining whether the level of trust in a society relates to corporate tax avoidance. We predict that, in societies with higher levels of trust, managers will conform more closely to social norms and refrain from actions that may betray the trust that society places in them and pay a fair share of corporate taxes. Therefore we expect societal trust to be negatively associated with tax avoidance.

Using a large sample of firm-year observations from 25 countries, we find robust evidence of a negative relation between societal trust and tax avoidance, even after controlling for the effects of formal institutions, such as tax system characteristics that have been documented to be effective in constraining tax avoidance. In additional analyses, we find that societal trust and formal institutions, such as legal institutions, act as substitutes in constraining tax avoidance. That is, the

[14] We do not examine the moderating role of capital market pressure (H2b) because the sample firms are predominantly private firms that do not face capital market pressures to evade taxes.

negative association between societal trust and tax avoidance is less salient when legal institutions in the country are stronger. We also find that societal trust plays a more important role in damping the incentives to avoid tax when capital market pressure is stronger. Our inferences are robust to a number of sensitivity tests, including using an instrumental variable approach to mitigate potential omitted correlated variable concerns, using two alternative measures of tax avoidance, and accounting for sample over-representation of countries.

In a supplementary analysis, we examine whether societal trust is associated with tax evasion, measured using a novel dataset from the World Bank Enterprise Surveys. Consistent with the results for tax avoidance, we find that societal trust also is significantly negatively associated with tax evasion and this relation is less pronounced when legal institutions are stronger.

We make several important contributions to the literature. First, we contribute to the body of research that investigates cross-country determinants of corporate tax avoidance by showing that informal institutions, such as societal trust, also relate to tax avoidance, after controlling for the variables that have been shown to affect tax avoidance. Second, we extend the growing literature on the financial and tax reporting implications of societal trust. We contribute to this line of research by showing that societal trust is associated with firms' tax reporting decisions. Third, our study is relevant to tax policymakers concerned about declining corporate tax revenues and the increasing gap between reported earnings and taxable income. Our findings suggest that societal trust acts as a substitute for formal institutions in mitigating corporate tax avoidance.

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APPENDIX: VARIABLE DEFINITIONS

Variables used in the Tax Avoidance Analysis		
TRUST	=	Societal trust index, based on responses to the WVS question: "Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?" The two possible answers were "Most people can be trusted" and "Can't be too careful." We recode the response to this question to one if a survey participant reports that most people can be trusted and zero otherwise. We then calculate the mean of the response for each country-year. Higher values correspond to higher societal trust.
PRED_TRUST	=	The predicted value of *TRUST* from the first-stage regression, where ethnic fractionalization (*ETHNIC*) is used as the instrumental variable.
TAXAVOID	=	Measure of tax avoidance, defined as: $\frac{[\sum_{t-2}^{t}(PTEBX\times\tau)_{it}-\sum_{t-2}^{t}CTP_{it}]}{\sum_{t-2}^{t}PTEBX_{it}}$, where *PTEBX* is pre-tax income less special items, τ is home-country statutory corporate tax rate, and *CTP* is current taxes paid. The extent of tax avoidance is increasing in this measure.
TAXAVOID_ALT1	=	Industry-year mean-adjusted measure of tax avoidance, computed as the firm's *TAXAVOID* minus the firm's industry-year mean *TAXAVOID*. The extent of tax avoidance is increasing in this measure.
TAXAVOID_ALT2	=	An indicator variable that equals one if T*AXAVOID* (defined above) is within the top quartile of the sample distribution and zero otherwise.
LEGFACTOR	=	Institutional factor used by Atwood et al. (2012). It is the first principal component from the factor analysis of the country's legal tradition (common law versus code law), strength of investor rights, and ownership concentration as reported by La Porta et al. (1998)
STMCAP	=	Annual stock market capitalization divided by GDP from Beck et al. (2009).
WW	=	Indicator variable that equals one if the home-country adopts a worldwide tax system and zero if the home-country adopts a territorial tax system.
BTAXC	=	Proxy for the level of required book-tax conformity, following Atwood et al. (2010). *BTAXC* is computed based on the conditional variance of current tax expense from the following model, estimated by country-year: $CTE_t = \theta_0 + \theta_1 PTBI_t + \theta_2 DIV_t + e_t$, where *CTE* is current tax expense, *PTBI* is pre-tax book income, *DIV* is total dividends, and all variables are scaled by average total assets. *BTAXC* is then computed as the scaled ranking of the root mean squared errors (RMSE) from these country-year regressions, and RMSEs are ranked in descending order so that higher values of *BTAXC* indicate higher required book-tax conformity.
TAXRATE	=	Country statutory tax rate.
TAXCOMP	=	Cost of tax compliance as reported in the Freedom of the World 2016 Annual Report.
VARCOMP	=	The sum of the value of option compensation and restricted stock compensation divided by total compensation at the country level, to proxy for CEO incentives. Data is from Bryan et al. (2010).
EARNVOL	=	The scaled descending rank, between zero and one, of cross-sectional pre-tax earnings volatility by country-year, following Atwood et al. (2012). Pre-tax earnings are defined as pre-tax income before exceptional items, divided by lagged total assets.

FDI	=	The net outflows of foreign direct investment from the reporting economy to the rest of the world, divided by GDP. Source: https://data.worldbank.org/indicator/BM.KLT.DINV.WD.GD.ZS
GDPGR	=	The growth rate in GDP. Source: www.ers.usda.gov/datafiles/International_Macroeconomic_Data/...Data
TREND	=	Time trend variable, defined as the current fiscal year minus the first fiscal year in our sample (1995).
PROA	=	Pre-tax return on assets.
SIZE	=	Natural logarithm of total assets.
R&D	=	Research and development expenditures divided by total assets.
LEV	=	Total liabilities divided by total assets
GROWTH	=	One-year percentage change in sales.
BIGN	=	Indicator variable that equals one if the firm's auditor is a Big N auditor and zero otherwise.
ΔWC	=	Change in current operating assets minus current operating liabilities, divided by total assets.
ΔNCO	=	Change in noncurrent operating assets minus noncurrent operating liabilities, divided by total assets.
ΔFIN	=	Change in financial assets minus financial liabilities, scaled by total assets.
ETHNIC	=	Ethnolinguistic fractionalization index that measures the probability that two randomly selected individuals within a country belong to the same ethnic group. It is an index between 0 and 1, with higher values denoting higher fractionalization. Data from Mauro (1995).
TRUST_GOVT	=	Country-year average of rescaled response to the following WVS question: "Do you have a lot of confidence, quite a lot of confidence, not very much confidence, no confidence at all in the following: Government." We recode the response to these questions to one if a survey participant reports that he or she has a lot of confidence or quite a lot of confidence in government and zero otherwise. We then calculate the mean of the response of each country-year. Higher values correspond to higher societal trust.
MULTI	=	An indicator variable that equals zero if foreign income taxes is missing or zero and one otherwise.

Variables used in the Tax Evasion Analysis		
TRUST	=	Societal trust index, based on responses to the WVS question: "Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?" The two possible answers were "Most people can be trusted" and "Can't be too careful." We recode the response to this question to one if a survey participant reports that most people can be trusted and zero otherwise. We then calculate the mean of the response for each country-year. Higher values correspond to higher societal trust.
EVADE_RATIO	=	A measure of tax evasion based on responses to the World Bank Enterprise Surveys: "Recognizing the difficulties many enterprises face in fully complying with taxes and regulations, what percentage of total sales would you estimate the typical establishment in your area of activity reports for tax purposes?" The tax evasion ratio is equal to 100 minus the answered number, and the extent of tax evasion is increasing in this measure.
REGQUALITY	=	Quality of regulation which captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development. Data from Kaufmann et al. (2010).
TAX_RATE	=	Firm's tax as reported in the World Bank Enterprise Surveys: "Please tell us if Tax Rates are a problem for the operation and growth of your business. If an issue poses a problem, please judge its severity as an obstacle on a four-point scale where: 0 = no obstacle, 1 = minor obstacle, 2 = moderate obstacle, 3 = major obstacle, 4 = very severe obstacle."
TAX_ADMIN	=	Tax administration difficulty as reported in the World Bank Enterprise Surveys: "Please tell us if the Tax Administration is a problem for the operation and growth of your business. If an issue poses a problem, please judge its severity as an obstacle on a four-point scale where: 0 = no obstacle, 1 = minor obstacle, 2 = moderate obstacle, 3 = major obstacle, 4 = very severe obstacle."
AUDIT	=	An indicator that equals one if financial statements of the firm are reviewed by an external auditor and zero otherwise. Data from the World Bank Enterprise Surveys.
FOREIGN	=	Percentage of the firm owned by foreign investors. Data from the World Bank Enterprise Surveys.
EXPORT	=	Percentage of sales that are exported directly. Data from the World Bank Enterprise Surveys.
AGE	=	Log of firm age. Firm age is based on the response in the World Bank Enterprise Surveys: "In what year did your firm begin operations in this country?" Firm age is measured as the year of the survey minus the firm age answered.
EMP	=	Total number of employees in the firm. Data from the World Bank Enterprise Surveys.
INF_PMT	=	Informal payment as a percentage of sales, based on the response in the World Bank Enterprise Surveys: "We've heard that establishments are sometimes required to make gifts or informal payments to public officials to 'get things done' with regard to customs, taxes, licenses, regulations, services etc. On average, what percent of annual sales value would such expenses cost a typical firm like yours?"
CORRUPT	=	The extent of local corruption, based on the response in the World Bank Enterprise Surveys about local corruption: "Please tell us if any of the following issues are a problem for the operation and growth of your business.

		If an issue poses a problem, please judge its severity as an obstacle on a four-point scale where: 0 = no obstacle; 1 = minor obstacle; 3 = Major obstacle; 4 = Very severe obstacle".
SMALL_CITY	=	Firm location = 4 or 5 (city of 50,000 to 250,000 and town or location with less than 50,000 population). Data from the World Bank Enterprise Surveys.
CAPITAL_CITY	=	Firm Location = 1 (capital city). Data from the World Bank Enterprise Surveys.
TAXPMT	=	Log of the total number of taxes paid by businesses, including electronic filing. Data from the World Bank Enterprise Surveys.
GDPGR	=	The growth rate in GDP. Source: www.ers.usda.gov/datafiles/International_Macroeconomic_Data/...Data

TABLE 1
Tax Avoidance Analysis: Sample Composition and Mean Characteristics by Country

Country	*N*	*TRUST*	*TAXAVOID*	*LEGFACTOR*	*STMCAP*	*WW*	*BTAXC*	*TAXRATE*	*TAXCOMP*	*VARCOMP*	*EARNVOL*
Turkey	1,457	0.05	0.16	-1.02	0.29	1	0.65	0.22	7.50	0.00	0.43
Peru	654	0.06	0.29	-0.63	0.46	1	0.49	0.30	5.74	0.00	0.53
Philippines	1,236	0.09	0.28	-0.50	0.55	1	0.33	0.32	7.81	0.00	0.24
Brazil	2,688	0.09	0.27	-0.76	0.50	1	0.25	0.34	0.00	0.02	0.12
Chile	1,544	0.12	0.12	0.50	1.02	1	0.75	0.18	6.46	0.00	0.24
Singapore	5,022	0.15	0.11	0.82	2.14	0	0.45	0.19	9.06	0.13	0.19
Mexico	1,124	0.16	0.24	-1.57	0.30	1	0.35	0.31	4.20	0.00	0.63
South Africa	2,240	0.17	0.43	0.21	2.14	1	0.12	0.36	7.76	0.31	0.22
France	7,080	0.19	0.17	0.07	0.72	0	0.34	0.35	8.52	0.14	0.24
Spain	1,542	0.20	0.20	-0.12	1.00	1	0.57	0.33	7.61	0.02	0.55
Italy	2,077	0.29	0.18	-1.43	0.37	0	0.54	0.36	6.26	0.05	0.48
Korea	5,363	0.30	0.27	-0.22	0.77	1	0.29	0.26	7.20	0.00	0.41
UK	13,187	0.30	0.18	1.99	1.26	1	0.14	0.30	8.77	0.20	0.07
Germany	6,927	0.34	0.25	-1.21	0.44	1	0.24	0.38	7.80	0.05	0.19
Japan	36,631	0.39	-0.01	0.66	0.75	1	0.38	0.43	6.02	0.02	0.61
USA	45,940	0.40	0.13	2.05	1.20	1	0.05	0.39	7.90	0.40	0.02
Hong Kong	7,038	0.41	0.18	1.17	8.15	0	0.41	0.17	9.10	0.01	0.13
Indonesia	2,170	0.43	0.32	-1.10	0.36	1	0.60	0.27	7.02	0.00	0.32
Netherlands	2,100	0.44	0.17	-0.45	0.97	0	0.35	0.31	8.16	0.25	0.21
Australia	6,812	0.48	0.28	1.35	1.04	0	0.09	0.31	8.80	0.31	0.06
Switzerland	2,793	0.51	0.10	-0.81	2.08	0	0.57	0.23	9.29	0.04	0.33
New Zealand	1,166	0.51	0.27	0.87	0.37	0	0.40	0.31	9.22	0.42	0.16
Finland	1,345	0.59	0.08	-0.15	1.03	0	0.44	0.27	7.28	0.03	0.42
Sweden	2,731	0.68	0.15	-0.02	0.98	1	0.26	0.27	8.63	0.09	0.20
Norway	1,600	0.74	0.18	0.28	0.49	1	0.12	0.28	9.02	0.00	0.23

TABLE 1 (continued)

Country	*FDI*	*GDPGR*	*PROA*	*SIZE*	*R&D*	*LEV*	*GROWTH*	*BIGN*	*ΔWC*	*ΔNCO*	*ΔFIN*
Turkey	0.00	0.04	0.11	5.65	0.00	0.18	0.18	0.16	0.02	0.05	-0.02
Peru	0.00	0.06	0.14	5.44	0.00	0.21	0.10	0.09	0.01	0.06	-0.02
Philippines	0.01	0.05	0.11	5.20	0.00	0.21	0.17	0.08	0.01	0.05	-0.01
Brazil	0.00	0.03	0.10	6.87	0.00	0.26	0.17	0.72	0.02	0.06	-0.03
Chile	0.04	0.04	0.09	5.97	0.00	0.24	0.10	0.81	0.01	0.03	-0.01
Singapore	0.12	0.06	0.09	4.96	0.00	0.19	0.16	0.71	0.02	0.04	-0.02
Mexico	0.01	0.02	0.10	7.32	0.00	0.21	0.13	0.52	0.01	0.05	-0.02
South Africa	0.01	0.03	0.15	5.58	0.00	0.16	0.14	0.65	0.02	0.05	-0.01
France	0.03	0.02	0.08	6.18	0.01	0.21	0.05	0.43	0.00	0.01	-0.01
Spain	0.04	0.02	0.08	7.13	0.00	0.26	0.09	0.87	-0.01	0.02	-0.02
Italy	0.02	0.00	0.07	6.87	0.01	0.25	0.05	0.58	-0.01	0.01	-0.02
Korea	0.02	0.04	0.07	6.31	0.01	0.24	0.13	0.46	0.01	0.03	0.00
UK	0.05	0.02	0.11	5.63	0.01	0.19	0.14	0.70	0.01	0.05	-0.02
Germany	0.02	0.01	0.09	6.08	0.02	0.18	0.08	0.54	0.00	0.02	-0.01
Japan	0.01	0.01	0.06	6.31	0.01	0.20	0.05	0.00	0.01	0.01	0.00
USA	0.02	0.03	0.11	6.27	0.03	0.23	0.13	0.85	0.01	0.05	-0.02
Hong Kong	0.28	0.04	0.10	5.76	0.00	0.17	0.18	0.77	0.02	0.05	-0.01
Indonesia	0.01	0.06	0.12	5.09	0.00	0.25	0.18	0.11	0.03	0.05	-0.02
Netherlands	0.08	0.02	0.10	6.88	0.01	0.23	0.07	0.91	0.00	0.03	-0.01
Australia	0.01	0.03	0.12	5.11	0.01	0.19	0.18	0.64	0.01	0.06	-0.01
Switzerland	0.08	0.02	0.08	6.66	0.02	0.21	0.07	0.84	0.00	0.02	0.00
New Zealand	0.00	0.03	0.11	5.21	0.01	0.25	0.12	0.81	0.01	0.04	-0.01
Finland	0.04	0.02	0.09	6.16	0.03	0.22	0.06	0.81	0.00	0.00	0.00
Sweden	0.06	0.02	0.12	5.47	0.02	0.18	0.14	0.76	0.01	0.05	-0.02
Norway	0.04	0.02	0.10	6.11	0.01	0.27	0.14	0.87	0.01	0.05	-0.01

This table provides the sample composition for the tax avoidance analyses and the mean characteristics by country and is sorted from low to high level of *TRUST*. Detailed definitions of the variables are provided in the appendix. All continuous variables are trimmed at the 1st and 99th percentiles.

TABLE 2
Tax Avoidance Analysis: Descriptive Statistics and Correlations

Panel A: Descriptive Statistics

	Mean	Median	Q1	Q3	Std. Dev
TRUST	0.360	0.391	0.304	0.396	0.115
TAXAVOID	0.136	0.128	0.005	0.298	0.251
LEGFACTOR	0.891	0.663	0.065	2.054	1.070
STMCAP	1.305	0.977	0.670	1.304	1.629
WW	0.782	1.000	1.000	1.000	0.413
BTAXC	0.254	0.218	0.064	0.381	0.206
TAXRATE	0.350	0.384	0.300	0.400	0.083
TAXCOMP	7.507	7.900	6.020	8.520	1.469
VARCOMP	0.173	0.132	0.024	0.395	0.163
EARNVOL	0.249	0.120	0.020	0.510	0.258
FDI	0.037	0.018	0.010	0.028	0.064
GDPGR	0.023	0.024	0.016	0.038	0.025
PROA	0.093	0.070	0.033	0.126	0.115
SIZE	6.084	5.944	4.742	7.333	1.968
R&D	0.015	0.000	0.000	0.011	0.039
LEV	0.212	0.189	0.052	0.326	0.189
GROWTH	0.110	0.062	-0.016	0.169	0.389
BIGN	0.548	1.000	0.000	1.000	0.498
ΔWC	0.009	0.006	-0.019	0.036	0.083
ΔNCO	0.034	0.012	-0.013	0.059	0.129
ΔFIN	-0.009	0.000	-0.046	0.037	0.124

TABLE 2 (continued)

Panel B: Pearson Correlations

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1)	*TRUST*	1.00									
(2)	*TAXAVOID*	-0.09	1.00								
(3)	*LEGFACTOR*	0.23	-0.07	1.00							
(4)	*STMCAP*	0.08	0.07	0.17	1.00						
(5)	*WW*	0.02	-0.09	0.21	-0.41	1.00					
(6)	*BTAXC*	-0.21	-0.07	-0.60	0.05	-0.27	1.00				
(7)	*TAXRATE*	0.16	-0.21	0.19	-0.49	0.52	-0.23	1.00			
(8)	*TAXCOMP*	0.24	0.12	0.34	0.33	-0.41	-0.22	-0.41	1.00		
(9)	*VARCOMP*	0.17	0.08	0.75	-0.07	0.09	-0.71	0.22	0.39	1.00	
(10)	*EARNVOL*	-0.04	-0.21	-0.50	-0.19	0.10	0.56	0.20	-0.50	-0.71	1.00
(11)	*FDI*	0.03	0.06	0.02	0.88	-0.48	0.17	-0.57	0.35	-0.21	-0.14
(12)	*GDPGR*	-0.14	0.09	0.05	0.19	-0.14	-0.04	-0.30	0.17	0.10	-0.27
(13)	*PROA*	0.00	0.13	0.08	0.04	-0.02	-0.12	-0.07	0.10	0.14	-0.17
(14)	*SIZE*	0.01	-0.04	-0.03	-0.04	0.07	0.02	0.12	-0.12	-0.01	0.07
(15)	*R&D*	0.09	-0.03	0.11	-0.04	0.07	-0.13	0.09	0.04	0.14	-0.08
(16)	*LEV*	0.01	0.01	0.01	-0.05	0.03	0.00	0.05	-0.03	0.04	-0.02
(17)	*GROWTH*	0.00	0.11	0.04	0.05	-0.02	-0.04	-0.07	0.05	0.05	-0.09
(18)	*BIGN*	0.07	-0.10	0.28	0.16	-0.13	-0.32	-0.23	0.36	0.46	-0.55
(19)	*ΔWC*	0.00	0.03	0.02	0.03	0.01	-0.01	-0.03	0.01	0.02	-0.04
(20)	*ΔNCO*	0.00	0.10	0.07	0.04	0.00	-0.07	-0.05	0.05	0.08	-0.11
(21)	*ΔFIN*	0.01	0.03	-0.02	-0.01	0.00	0.02	0.02	-0.02	-0.04	0.05

TABLE 2 (continued)

		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
(11)	*FDI*	1.00										
(12)	*GDPGR*	0.22	1.00									
(13)	*PROA*	0.03	0.12	1.00								
(14)	*SIZE*	-0.05	-0.10	-0.08	1.00							
(15)	*R&D*	-0.06	-0.04	0.05	-0.05	1.00						
(16)	*LEV*	-0.05	0.01	-0.21	0.24	-0.16	1.00					
(17)	*GROWTH*	0.04	0.13	0.28	-0.03	0.00	0.00	1.00				
(18)	*BIGN*	0.14	0.19	0.10	0.23	0.06	0.08	0.04	1.00			
(19)	*ΔWC*	0.03	0.08	0.12	-0.05	0.01	0.04	0.18	-0.01	1.00		
(20)	*ΔNCO*	0.03	0.09	0.18	0.02	-0.01	0.07	0.34	0.06	0.06	1.00	
(21)	*ΔFIN*	-0.01	-0.05	0.04	-0.04	0.03	-0.21	-0.16	-0.04	0.30	0.52	1.00

This table provides the descriptive statistics (Panel A) and Pearson correlations (Panel B) for the main variables used in the tax avoidance analyses. Detailed definitions of the variables are provided in the appendix. All continuous variables are trimmed at the 1st and 99th percentiles. All correlations with absolute values greater than 0.02 are statistically significant at the 0.01 level or better (two-tailed).

TABLE 3
Relation between Societal Trust, Legal Institutions, Capital Market Pressure, and Tax Avoidance

	(1)	(2)
TRUST	**-0.105**	**-0.129**
	(-10.48)* **	**(-6.79)*** **
TRUST*LEGFACTOR		**0.060**
		(3.04)* **
TRUST*STMCAP		**-0.015**
		(-2.92)* **
LEGFACTOR	-0.073	-0.092
	(-37.82)***	(-12.87)***
STMCAP	0.022	0.013
	(18.53)***	(1.88)*
WW	-0.033	-0.035
	(-9.20)***	(-9.39)***
BTAXC	-0.060	-0.056
	(-8.65)***	(-8.07)***
TAXRATE	0.235	0.236
	(10.90)***	(10.91)***
TAXCOMP	0.010	0.013
	(10.14)***	(10.73)***
VARCOMP	0.255	0.235
	(15.40)***	(13.72)***
EARNVOL	-0.171	-0.170
	(-27.35)***	(-27.47)***
FDI	-0.004	-0.004
	(-15.60)***	(-13.49)***
GDPGR	0.312	0.305
	(5.33)***	(5.18)***
TREND	0.005	0.005
	(20.82)***	(20.65)***
PROA	0.140	0.139
	(15.00)***	(14.93)***
SIZE	-0.006	-0.006
	(-9.06)***	(-9.14)***
R&D	-0.096	-0.095
	(-3.76)***	(-3.75)***
LEV	0.052	0.052
	(8.86)***	(8.85)***
GROWTH	0.028	0.028
	(14.10)***	(14.02)***
BIGN	-0.011	-0.010
	(-4.16)***	(-3.92)***
ΔWC	0.016	0.016
	(1.99)**	(2.01)**
ΔNCO	0.112	0.112
	(18.58)***	(18.50)***
ΔFIN	0.080	0.079
	(13.39)***	(13.35)***
Constant	0.192	0.185
	(10.41)***	(9.46)***
Observations	162,467	162,467
Adj. R^2	0.198	0.198

This table reports the regression results of the relation between societal trust and tax avoidance, measured by *TAXAVOID*. Column 1 shows the results with *TRUST* and both firm-level and country-level institutional controls. Column 2 shows the results of the role of legal institutions (*LEGFACTOR*) and capital market pressure (*STMCAP*) on the relation between societal trust (*TRUST*) and tax avoidance, measured by *TAXAVOID.* Detailed definitions of the variables are provided in the appendix. Coefficients on the year and industry indicator variables are not tabulated for brevity. The t-statistics reported in parentheses are based on standard errors clustered by firm to control for cross-sectional dependence in the data. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

TABLE 4
Relation between Societal Trust and Tax Avoidance – Additional Cross-sectional Analyses

	(1) VAR=*TRUST_GOVT*	(2) VAR=*MULTI*
TRUST	-0.142	-0.062
	(-9.98)***	(-4.82)***
TRUST*VAR	**-0.611**	**0.061**
	(-3.87)* **	**(1.93)***
VAR	-0.071	-0.038
	(-2.45)**	(-11.81)***
LEGFACTOR	-0.065	-0.057
	(-32.69)***	(-25.35)***
STMCAP	0.014	0.003
	(9.91)***	(1.82)*
WW	-0.013	-0.031
	(-3.27)***	(-6.92)***
BTAXC	-0.046	-0.068
	(-6.52)***	(-7.97)***
TAXRATE	0.264	0.108
	(10.28)***	(3.77)***
TAXCOMP	0.011	0.021
	(10.38)***	(13.79)***
VARCOMP	0.248	0.299
	(14.20)***	(14.90)***
EARNVOL	-0.158	-0.186
	(-24.37)***	(-20.55)***
FDI	-0.003	-0.002
	(-9.04)***	(-6.74)***
GDPGR	0.778	0.981
	(11.95)***	(10.98)***
TREND	0.005	0.015
	(23.37)***	(37.98)***
PROA	0.127	0.168
	(13.83)***	(10.74)***
SIZE	-0.006	-0.001
	(-10.32)***	(-1.57)
R&D	-0.093	-0.144
	(-3.68)***	(-3.53)***
LEV	0.053	0.057
	(8.88)***	(7.13)***
GROWTH	0.029	0.036
	(13.89)***	(13.87)***
BIGN	-0.007	-0.004
	(-2.53)**	(-1.12)
ΔWC	0.020	0.002
	(2.52)**	(0.23)
ΔNCO	0.114	0.106
	(18.68)***	(13.32)***
ΔFIN	0.084	0.087
	(14.02)***	(10.92)***
Constant	0.157	-0.195
	(7.85)***	(-7.75)***
Observations	157,445	81,412
Adj. R^2	0.206	0.200

This table reports the regression results of the relation between societal trust (*TRUST*) and tax avoidance measured by *TAXAVOID*, conditional on various moderating variables. Column 1 reports the results using trust in the government (*TRUST_GOVT*) as the moderating variable, and Column 2 reports the results using the presence of multinational operations (*MULTI*) as the moderating variable. Detailed definitions of the variables are provided in the appendix. Coefficients on the year and industry indicator variables are not tabulated for brevity. The t-statistics reported in parentheses are based on standard errors clustered by firm to control for cross-sectional dependence in the data. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

TABLE 5
Relation between Societal Trust and Tax Avoidance – Instrumental Variable (2SLS) Estimation

	(1) First-stage Dependent variable: *TRUST*	(2) Second-stage Dependent variable: *TAXAVOID*	(3) Second-stage Dependent variable: *TAXAVOID*
PRED_TRUST		**-0.194**	**-0.657**
		(-14.41)* **	**(-14.81)*** **
PRED_TRUST*LEGFACTOR			**0.247**
			(7.14)* **
PRED_TRUST*STMCAP			**-0.314**
			(-18.04)* **
ENTHIC	-0.300		
	(-33.50)***		
LEGFACTOR	-0.024	-0.067	-0.026
	(-17.51)***	(-39.38)***	(-2.11)**
STMCAP	0.022	0.020	0.109
	(34.71)***	(17.10)***	(15.22)***
WW	-0.044	-0.032	-0.029
	(-10.49)***	(-8.83)***	(-7.73)***
BTAXC	-0.028	-0.070	-0.076
	(-4.50)***	(-9.98)***	(-10.58)***
TAXRATE	-0.140	0.229	0.252
	(-7.90)***	(10.62)***	(11.03)***
TAXCOMP	0.034	0.013	0.017
	(45.62)***	(12.96)***	(12.13)***
VARCOMP	0.384	0.246	0.325
	(31.12)***	(15.43)***	(15.09)***
EARNVOL	0.132	-0.168	-0.138
	(38.58)***	(-26.58)***	(-17.62)***
FDI	-0.000	-0.004	-0.004
	(-2.10)**	(-14.46)***	(-14.03)***
GDPGR	-0.364	0.238	0.308
	(-11.07)***	(3.97)***	(4.92)***
TREND	-0.001	0.005	0.006
	(-10.69)***	(20.16)***	(2.47)**
PROA	0.002	0.140	0.138
	(0.41)	(14.93)***	(14.95)***
SIZE	-0.002	-0.006	-0.006
	(-3.62)***	(-9.33)***	(-9.99)***
R&D	0.080	-0.088	-0.055
	(4.37)***	(-3.49)***	(-2.07)**
LEV	0.017	0.053	0.057
	(5.02)***	(8.97)***	(9.74)***
GROWTH	0.001	0.029	0.028
	(1.00)	(14.12)***	(13.94)***
BIGN	0.002	-0.010	-0.008
	(0.98)	(-3.66)***	(-2.88)***
ΔWC	0.018	0.017	0.022
	(5.20)***	(2.11)**	(2.82)***
ΔNCO	0.014	0.113	0.117
	(4.86)***	(18.70)***	(19.24)***
ΔFIN	0.018	0.080	0.085
	(6.64)***	(13.51)***	(14.13)***
Constant	0.011		
	(0.87)		
Observations	162,467	162,467	162,467
Adj. R^2	0.313	0.130	0.199

This table reports the regression results of the relation between societal trust (*TRUST*) and tax avoidance measured by *TAXAVOID*, using instrumental variable (2SLS) estimation. In Column 1, we report the results of the first-stage regression, where we regress *TRUST* on an instrument, *ETHNIC*, and other control variables in the main regression. In Column 2, we report the second-stage results using the predicted value of *TRUST* (*PRED_TRUST*) from the first-stage. In Column 3, we report the second-stage results of the role of legal institutions (*LEGFACTOR*) and capital market pressure (*STMCAP*) on the relation between societal trust (*TRUST*), using the predicted value of *TRUST* (*PRED_TRUST*) from the first-stage and tax avoidance measured by *TAXAVOID*. Detailed definitions of the variables are provided in the appendix. Coefficients on the year and industry indicator variables are not tabulated for brevity. The t-statistics reported in parentheses are based on standard errors clustered by firm to control for cross-sectional dependence in the data. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

TABLE 6
Relation between Societal Trust and Tax Avoidance - Alternative Measures for Tax Avoidance

	Dependent variable: *TAXAVOID_ALT1*		Dependent variable: *TAXAVOID_ALT2*	
	(1)	(2)	(3)	(4)
TRUST	**-0.099**	**-0.110**	**-1.645**	**-2.125**
	(-10.05)* **	**(-5.84)*** **	**(-26.84)*** **	**(-17.78)*** **
TRUST*LEGFACTOR		**0.069**		**0.296**
		(3.51)* **		**(2.61)*** **
TRUST*STMCAP		**-0.001**		**-0.475**
		(-0.05)		**(-4.69)*** **
LEGFACTOR	-0.072	-0.094	-0.666	-0.561
	(-37.55)***	(-13.33)***	(-60.14)***	(-14.21)***
STMCAP	0.022	0.019	0.204	0.012
	(18.67)***	(2.75)***	(22.90)***	(0.29)
WW	-0.032	-0.033	-0.058	-0.051
	(-8.95)***	(-9.23)***	(-2.83)***	(-2.47)**
BTAXC	-0.054	-0.050	-0.421	-0.454
	(-7.91)***	(-7.27)***	(-8.32)***	(-8.81)***
TAXRATE	0.002	0.002	0.003	0.003
	(9.38)***	(9.45)***	(1.99)**	(2.04)**
TAXCOMP	0.011	0.014	0.055	0.055
	(11.52)***	(12.00)***	(9.47)***	(8.51)***
VARCOMP	0.242	0.220	2.573	2.720
	(14.77)***	(12.95)***	(24.63)***	(23.92)***
EARNVOL	-0.172	-0.172	-1.449	-1.396
	(-27.86)***	(-28.20)***	(-30.57)***	(-28.61)***
FDI	-0.004	-0.004	-0.031	-0.030
	(-15.51)***	(-13.40)***	(-11.74)***	(-11.32)***
GDPGR	0.294	0.269	0.947	0.304
	(5.07)***	(4.62)***	(2.25)**	(0.68)
TREND	0.001	0.001	0.052	0.053
	(2.87)***	(2.95)***	(17.69)***	(18.02)***
PROA	0.133	0.133	0.059	0.058
	(14.70)***	(14.65)***	(1.03)	(1.00)
SIZE	-0.005	-0.005	-0.157	-0.158
	(-8.02)***	(-8.04)***	(-38.87)***	(-39.12)***
R&D	-0.101	-0.099	-0.299	-0.347
	(-3.96)***	(-3.90)***	(-1.54)	(-1.79)*
LEV	0.053	0.053	0.999	0.998
	(9.06)***	(9.05)***	(25.80)***	(25.76)***
GROWTH	0.028	0.028	0.236	0.236
	(13.83)***	(13.76)***	(14.23)***	(14.24)***
BIGN	-0.010	-0.009	-0.027	-0.025
	(-3.65)***	(-3.42)***	(-1.56)	(-1.43)
ΔWC	0.011	0.011	0.048	0.053
	(1.41)	(1.40)	(0.57)	(0.64)
ΔNCO	0.108	0.107	0.885	0.886
	(17.98)***	(17.87)***	(14.33)***	(14.36)***
ΔFIN	0.079	0.078	0.821	0.821
	(13.30)***	(13.24)***	(12.45)***	(12.47)***
Constant	0.038	0.025	-0.919	-0.752
	(2.08)**	(1.31)	(-7.28)***	(-5.68)***
Observations	162,467	162,467	162,467	162,467
Adj. R^2/Pseudo R^2	0.124	0.124	0.129	0.129

This table reports the regression results of the relation between societal trust and alternative measures of tax avoidance. Columns 1 and 2 show the results using an industry-year mean-adjusted measure of tax avoidance, computed as the firm's *TAXAVOID* minus the firm's industry-year mean *TAXAVOID*. The extent of tax avoidance is increasing in this measure. Columns 3 and 4 show the results using an indicator variable that equals one if the tax avoidance is within the top quartile of the sample distribution and zero otherwise, to capture the extent of tax avoidance. Detailed definitions of the variables are provided in the appendix. Coefficients

on the year and industry indicator variables are not tabulated for brevity. The t-statistics reported in parentheses are based on standard errors clustered by firm to control for cross-sectional dependence in the data. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

TABLE 7

Tax Evasion Analysis: Sample Composition and Mean Characteristics by Country

Country	N	*TRUST*	*EVADE_RATIO*	*REGQUALITY*	*TAX_RATE*	*TAX_ADMIN*	*AUDIT*	*FOREIGN*	*EXPORT*
Turkey	1,631	0.05	36.47	0.27	2.60	2.18	0.51	5.26	77.19
Rwanda	207	0.05	19.19	-0.50	0.30	0.04	0.39	14.29	97.27
Peru	470	0.06	9.05	0.35	0.04	0.14	0.32	8.12	85.71
Uganda	588	0.08	42.84	-0.21	0.47	0.36	0.48	15.42	94.28
Tanzania	561	0.08	42.34	-0.50	0.83	0.71	0.59	10.29	95.27
Philippines	517	0.09	22.10	-0.06	1.59	1.41	0.75	19.63	69.29
Algeria	79	0.11	32.53	-0.79	2.14	1.99	0.68	0.00	99.91
Zambia	121	0.12	16.07	-0.45	2.25	1.46	0.82	22.75	82.52
Chile	1,574	0.12	7.55	1.53	0.69	0.47	0.53	9.02	88.06
Colombia	670	0.14	17.34	0.27	0.11	0.04	0.54	1.97	93.01
El Salvador	643	0.15	22.03	0.22	0.69	0.42	0.85	6.66	81.95
Burkina Faso	74	0.15	28.18	-0.17	0.20	0.04	0.35	6.51	94.34
Mexico	834	0.16	23.12	0.34	0.13	0.03	0.30	6.82	93.41
Guatemala	675	0.16	23.74	-0.15	1.30	0.95	0.42	7.95	86.42
Bosnia	286	0.16	19.49	-0.16	1.51	1.35	0.45	12.73	89.19
Kyrgyz Rep.	381	0.17	20.80	-0.34	1.77	1.86	0.41	9.30	90.65
Argentina	519	0.17	16.65	-0.74	0.14	0.05	0.69	12.93	86.55
South Africa	518	0.17	8.72	0.50	1.34	0.88	0.96	15.96	85.99
Mali	113	0.17	25.59	-0.39	2.15	1.81	0.48	12.82	92.53
Moldova	489	0.18	16.31	-0.17	2.19	1.95	0.25	10.06	82.28
Slovenia	338	0.18	12.24	0.83	1.17	1.03	0.38	10.49	78.53
Georgia	284	0.18	24.89	0.49	1.82	1.60	0.72	11.12	90.39
Egypt	877	0.18	17.12	-0.17	3.26	2.59	0.83	2.47	91.18
Poland	1,355	0.19	9.92	0.82	2.31	1.93	0.42	7.60	91.04
Spain	569	0.20	3.75	1.24	1.21	0.94	0.59	5.56	94.03
Azerbaijan	426	0.21	13.13	-0.35	1.53	1.53	0.50	11.70	94.20
Estonia	238	0.22	4.71	1.43	0.82	0.61	0.87	14.29	86.68
Lithuania	288	0.22	13.36	1.12	2.05	1.38	0.52	11.48	85.85
Bulgaria	442	0.22	15.68	0.69	1.55	1.05	0.45	10.60	87.50
Hungary	596	0.23	10.42	1.19	2.06	1.28	0.69	12.87	85.50
Belarus	438	0.24	7.67	-1.25	1.67	1.41	0.54	11.56	87.86
Albania	307	0.24	23.19	0.15	2.14	1.74	0.81	9.69	84.38
Armenia	476	0.25	6.30	0.31	1.81	1.99	0.40	7.83	89.62
Latvia	283	0.25	9.50	1.03	1.80	1.80	0.59	12.44	89.66
Croatia	315	0.25	9.26	0.51	1.44	0.67	0.46	12.82	86.04
Dominican Rep.	85	0.26	37.84	-0.19	2.51	1.73	0.89	2.94	97.24
Russia	843	0.27	17.31	-0.39	1.53	1.67	0.39	8.28	94.64
Slovak Rep.	226	0.27	9.32	1.12	1.30	1.03	0.49	11.48	87.81
Ukraine	781	0.28	12.81	-0.52	1.97	1.48	0.45	10.90	91.64
Uruguay	77	0.28	12.12	0.25	0.18	0.00	0.23	8.38	85.55
Czech Rep.	488	0.29	12.15	1.15	2.09	1.94	0.40	10.06	90.13
Korea	546	0.30	9.83	0.73	1.04	0.82	0.36	8.57	91.60
Jordan	330	0.31	14.40	0.33	0.10	0.12	0.77	10.15	78.60
Germany	1,181	0.34	5.72	1.49	1.66	1.46	0.54	6.40	94.75
Indonesia	709	0.43	26.86	-0.32	1.61	1.42	0.46	14.06	70.72
Vietnam	592	0.52	5.12	-0.60	0.90	0.72	0.29	9.16	67.34
China	577	0.52	56.14	-0.13	1.66	1.38	0.64	12.85	86.45

TABLE 7 (continued)

Country	*AGE*	*EMP*	*INF_PMT*	*CORRUPT*	*SMALL_CITY*	*CAPITAL_CITY*	*TAXPMT*	*GDPGR*
Turkey	2.53	3.71	0.77	1.92	0.17	0.32	2.40	7.87
Rwanda	1.89	2.60	2.80	0.01	0.09	0.91	3.22	9.24
Peru	2.65	3.31	0.39	0.06	0.00	0.00	2.20	7.53
Uganda	2.23	2.68	3.52	0.37	0.16	0.66	3.47	10.04
Tanzania	2.29	2.86	2.75	0.69	0.13	0.60	3.85	5.27
Philippines	2.72	4.05	2.12	1.70	0.36	0.00	3.87	4.97
Algeria	2.32	2.91	6.97	1.97	0.00	0.00	3.66	5.60
Zambia	2.52	4.24	1.68	1.95	0.18	0.55	3.64	4.51
Chile	2.94	3.70	0.55	0.38	0.14	0.29	2.08	5.25
Colombia	2.48	3.03	1.72	0.06	0.00	0.00	4.25	6.70
El Salvador	2.71	3.41	1.88	0.86	0.06	0.21	3.97	3.09
Burkina Faso	2.30	2.32	6.15	0.07	0.00	0.46	3.81	6.25
Mexico	2.64	3.31	1.00	0.12	0.00	0.00	3.30	5.00
Guatemala	2.72	3.40	2.69	1.78	0.13	0.37	3.64	3.85
Bosnia	2.42	3.11	0.66	1.51	0.62	0.38	4.01	5.12
Kyrgyz Rep.	2.33	3.38	2.84	1.67	0.61	0.33	4.33	1.44
Argentina	2.97	3.63	1.42	0.03	0.00	0.00	4.13	8.40
South Africa	2.79	4.69	0.32	1.13	0.03	0.00	2.48	2.95
Mali	2.26	2.67	3.30	2.26	0.07	0.93	4.08	7.44
Moldova	2.16	3.41	1.52	1.59	0.53	0.47	3.97	7.46
Slovenia	2.68	2.88	0.53	0.63	0.78	0.22	3.09	3.93
Georgia	2.31	2.90	1.71	1.54	0.49	0.51	3.83	7.36
Egypt	2.75	3.50	2.65	2.24	0.05	0.29	3.74	4.09
Poland	2.54	2.71	0.87	1.33	0.44	0.12	3.69	2.94
Spain	2.65	2.63	0.06	0.40	0.59	0.15	1.95	3.72
Azerbaijan	2.12	3.46	2.74	1.28	0.15	0.69	3.61	22.17
Estonia	2.27	3.07	0.36	0.68	0.39	0.61	1.95	8.01
Lithuania	2.33	3.16	0.94	1.20	0.51	0.31	2.40	7.31
Bulgaria	2.53	2.91	1.85	1.25	0.62	0.19	3.37	5.33
Hungary	2.41	2.98	0.89	0.76	0.63	0.36	2.56	4.33
Belarus	2.26	3.26	1.30	0.82	0.40	0.34	4.83	7.32
Albania	2.07	3.04	2.49	1.96	0.62	0.35	3.81	4.45
Armenia	2.38	2.94	1.18	1.15	0.44	0.56	3.91	13.67
Latvia	2.15	2.72	0.81	0.84	0.49	0.51	3.37	8.80
Croatia	2.68	3.13	0.83	1.32	0.68	0.32	3.69	4.58
Dominican Rep.	2.95	3.63	2.12	2.99	0.00	0.52	4.32	9.26
Russia	2.19	3.40	1.24	1.07	0.29	0.25	2.48	5.68
Slovak Rep.	2.35	2.96	1.25	1.15	0.58	0.42	3.47	5.67
Ukraine	2.25	3.18	1.88	1.38	0.35	0.16	4.99	3.83
Uruguay	2.97	3.15	0.53	0.01	0.00	0.00	4.01	4.10
Czech Rep.	2.29	2.82	0.75	1.28	0.69	0.19	3.30	4.53
Korea	2.32	2.70	0.06	0.61	0.26	0.31	2.64	3.92
Jordan	2.30	3.64	0.64	0.08	0.00	0.00	3.26	8.09
Germany	2.76	2.68	0.40	0.41	0.73	0.07	2.48	0.71
Indonesia	2.70	5.03	1.73	1.86	0.00	0.00	3.93	4.78
Vietnam	2.06	4.75	0.74	0.79	0.20	0.13	3.47	7.55
China	2.36	4.79	1.92	1.55	0.00	0.05	3.56	9.09

This table provides the sample composition for the tax evasion analyses and the mean characteristics by country, sorted in ascending order of the level of *TRUST*. Detailed definitions of the variables are provided in the Appendix. All continuous variables are trimmed at the 1st and 99th percentiles.

TABLE 8
Relation between Societal Trust and Tax Evasion

	(1)	(2)
TRUST	**-8.735**	**-8.900**
	(-3.64)* **	**(-3.72)*** **
TRUST* REGQUALITY		**17.039**
		(7.23)* **
REGQUALITY	-6.247	-10.113
	(-18.26)***	(-14.68)***
TAX_RATE	0.779	0.728
	(3.83)***	(3.57)***
TAX_ADMIN	0.701	0.610
	(3.46)***	(3.00)***
AUDIT	-1.386	-1.681
	(-3.69)***	(-4.44)***
FOREIGN	-0.045	-0.047
	(-6.74)***	(-6.97)***
EXPORT	0.016	0.014
	(2.09)**	(1.79)*
AGE	-0.790	-0.846
	(-3.42)***	(-3.65)***
EMP	-0.778	-0.678
	(-6.05)***	(-5.24)***
INF_PMT	0.652	0.645
	(11.30)***	(11.18)***
CORRUPT	1.656	1.710
	(9.49)***	(9.79)***
SMALL_CITY	-1.014	-1.511
	(-2.26)**	(-3.37)***
CAPITAL_CITY	2.521	2.071
	(5.05)***	(4.13)***
TAXPMT	-3.195	-3.423
	(-11.03)***	(-11.77)***
GDPGR	0.193	0.249
	(3.87)***	(4.84)***
Constant	36.043	37.525
	(19.43)***	(20.01)***
Observations	24,617	24,617
Adj. R^2	0.112	0.113

This table reports the regression results of the relation between societal trust and tax evasion, measured by *EVADE_RATIO*. Detailed definitions of the variables are provided in the appendix. Coefficients on the year and industry indicator variables are not tabulated for brevity. The t-statistics reported in parentheses are based on robust standard errors controlling for heteroscedasticity. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.