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Societal Trust and Corporate Tax Avoidance

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Abstract

Using an international sample of firms and a country-level index for societal trust, we study how differences in trust across countries relate to corporate tax avoidance. Consistent with our prediction, we find strong evidence that societal trust is negatively associated with corporate tax avoidance by firms, even after controlling for other determinants such as home country tax system characteristics. We also explore the effects of three country-level institutional characteristics – level of investor protection, disclosure requirement, and tax enforcement – on the relation between societal trust and tax avoidance. We predict and find that the effects of trust on tax avoidance are more pronounced when these institutions are weaker.

Keywords: Trust, Tax Avoidance; Tax Systems; Formal Institutions; Informal Institutions

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

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I. INTRODUCTION

Corporate tax avoidance is generally considered as exploiting the complexities, technicalities and loopholes in the tax laws (Dowling 2013). Legal tax avoidance may also involve creative tax accounting and/or earnings management. Here, managers exercise their discretion over the reported numbers without violating any laws or generally accepted accounting principles, with the objective of reducing the firm's tax burden.[1] One strand of prior literature (e.g., Dyreng et al. 2008; Atwood et al. 2012) generally considers the behavior of corporate tax avoidance as not necessarily implying that firms are engaging in improper behavior because managing tax costs is viewed as a necessary and appropriate component of a firm's long-term strategy. These tax planning activities result in greater tax savings and hence better align the interests of the firm and its shareholders (Swenson 1999).[2]

An alternative view of corporate tax avoidance is based on social norm theory, which suggests that corporate tax avoidance is not considered to be right and just from a general public point of view because it imposes costs on society (Elster 1989; Dowling 2013). In particular, under this view, firms are expected to pay their "fair share" of tax on their profits to the State.[3] Also, what is considered to be fair may be conditional on the type of tax regime (progressive vs. regressive) imposed on less well-endowed individuals and smaller firms that generally have less room and leeway to avoid taxes. In essence, this view is societal in nature.

[1] We follow prior research (e.g., Hanlon and Heitzman 2010; Atwood et al. 2012) and define corporate tax avoidance broadly as the reduction in explicit taxes paid, 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 how aggressively managers pursue strategies that reduce taxes paid.

[2] Consistent with tax avoidance enhancing shareholder value, some recent studies find that tax avoidance is associated with a lower cost of equity and better future firm performance (e.g., Blaylock 2011; Goh et al. 2013).

[3] Here, a fair share can be considered as the statutory tax rate times a reasonable estimate of the firm's taxable profits. Thus, our measure of corporate tax avoidance captures the deviations from the fair share of tax payable.

In this study, we examine the effects of societal trust on corporate tax avoidance for a sample of firms from 25 countries. Zand (1972) defines interpersonal trust as the willingness of one person to increase her vulnerability to the actions of another person whose behavior cannot be controlled. In particular, trust is an action taken by a party in an economic transaction with the anticipation that the other party in the transaction will not exploit the vulnerability that the party has created for herself by taking an action with an uncertain outcome (James 2002; Bohnet et al. 2008). The extant literature finds that trust affects a broad set of social and economic outcomes. For instance, prior studies find that having a higher level of societal trust facilitates economic growth and social efficiency (La Porta et al. 1997; Knack and Keefer 1997; Knack and Zak 2001), international trade and investment (Guiso et al. 2009), financial development (Guiso et al. 2004, 2008), corporate financing, and merger and acquisition (M&A) transactions (Bottazi et al. 2011; Duarte et al. 2012; Ahern et al. 2013). In sum, there is a well-established literature supporting the notion that trust underlies virtually all economic exchanges.

Despite the wealth of studies reporting significant social and economic effects of trust at the individual level and national level, only recently have researchers begun examining its effects at the firm level and, in particular, its effects on financial reporting. Nanda and Wysocki (2013) examine the relation between societal trust and firms' financial transparency, and how firms' external capital demand affects this relation. They document a robust positive association between trust and financial transparency across countries. Nanda and Wysocki (2013) also find that firms' demand for external capital amplifies the positive association, suggesting that trust is an important factor affecting the relation between financial transparency and external financing. Pevzner et al. (2013) examine whether the level of trust in a country affects investor perception and utilization of information transmitted by firms through financial disclosure. They document

that trust increases investor reaction to earnings announcements and that the reaction is more pronounced (1) when a country's investor protection and disclosure requirements are weaker, (2) when a country's average education level is lower, and (3) when firm level information asymmetry is higher.

In this study, we posit that the level of societal trust in an economy is negatively related to corporate tax avoidance for the following reasons. First, in societies with higher levels of trust, managers will most likely refrain from actions that may betray the trust that society has placed in them with an expectation that they pay a fair share of corporate taxes. In the context of tax avoidance, societal trust is a critical factor given that the design of tax codes and their enforcement are difficult. According to Freedman (2010), tax avoidance is characterized by what is called "rules lawyering" or "creative compliance," and as such will be influenced by factors other than legal and extra-legal systems. Hence, managers in high trust societies are more likely to reciprocate the trust society places in them and be more sensitive to fairness considerations. Second, consistent with the evidence documented in Nanda and Wysocki (2013), we argue that firms in high trust societies will likely have higher earnings quality, and engage in lower earnings management and other opportunistic reporting practices. In general, earnings management can be closely related to tax management. For example, Frank et al. (2009) find a strong, positive relation between aggressive tax and financial reporting.[4] Chen et al. (2012) document that tax planning and earnings quality jointly affect the relative informativeness of book and taxable income, suggesting that firms in more trusting societies are likely to be more transparent, and hence are likely to have less tax-motivated earnings management. Third, Pevzner et al. (2013) document that corporate earnings are more credible in more trusting

[4] Anecdotal evidence also suggests that aggressive earnings management and tax planning can be complementary to one another. For instance, Enron managed to commit a massive fraud while engaging in aggressive tax sheltering activities at the same time.

societies. This relation implies that taxes paid on these earnings are also likely to be fairer given that the sources of income are likely to be more transparent to the tax authorities and thereby facilitate a fair assessment of tax. Fourth, prior research suggests that tax avoidance transactions provide management with the tools, masks, and justifications for opportunistic managerial behavior (Desai and Dharmapala 2006). We argue that managers ("agents") expect to be treated fairly by shareholders ("principal") as well as by other stakeholders in high trust societies, and hence are less likely to extract private rents through complicated tax avoidance activities.

We examine the relation between trust and tax avoidance in a large sample of 79,834 firm-year observations across 25 countries spanning the years from 1995 to 2007. Following prior studies (e.g., La Porta et al. 1997; Guiso et al. 2008; Nanda and Wysocki 2013; Pevzner et al. 2013), we measure a country's level of societal trust by its citizens' average response to the following question in World Value 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?" Consistent with our prediction, we find strong evidence that societal trust is negatively associated with corporate tax avoidance by firms. This effect is also economically significant. When we exclude (include) home country tax system characteristics, a one standard deviation increase in societal trust is associated with a 28.2% (3.3%) decrease in tax avoidance. This suggests that societal trust plays a significant role in mitigating tax avoidance over and above the effects of formal institutions such as home country tax system characteristics, which are arguably more effective in constraining tax avoidance.

Prior 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 and strength of investor rights. Because trust, as a part of culture and social capital, does not develop in a

vacuum, we explore the interactions between societal trust and formal institutions and other country characteristics, and their joint effects on tax avoidance. We consider three country-level institutional characteristics – level of investor protection, disclosure requirement, and tax enforcement. We predict that the effects of trust are more pronounced when these institutions are weaker. We find results consistent with these expectations. We then subject our main results to a battery of sensitivity tests, including using an instrumental variable approach to mitigate endogeneity concerns, controlling for accrual components to ensure that our results are not driven by the mechanical relation between accruals and tax avoidance, using three alternative measures of trust, using two alternative measures of tax avoidance, and accounting for over-representation in the sample of U.S. and Japanese firms. Our inferences are robust to these sensitivity tests.

Our study provides several important contributions to the literature. First, it 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, worldwide versus territorial approach, and perceived strength of enforcement. We extend their findings by showing that informal institutions such as societal trust also affect tax avoidance, after explicitly controlling for the tax system characteristics studied in Atwood et al. (2012). We also show that societal trust is particularly important when formal institutions are weaker.

Second, our study extends the growing literature on societal trust. This literature suggests that trust is a key element of a country's culture that affects economic exchanges, financing opportunities, performance and development (Knack and Keefer 1997; Knack and Zak 2001; Guiso et. al. 2004, 2006, 2008, and 2009). Except for Nanda and Wysocki (2013) and Pevzner et

al. (2013), very few studies examine the relation between trust and financial reporting. We contribute to this literature by documenting the effects of societal trust on firms' tax reporting decisions.

Third, our study should be of interest to tax policymakers concerned about declining corporate tax revenues and the increasing gap between reported earnings and taxable income, who suggest that regulations such as tightening tax loopholes and increasing tax enforcement are likely to result in lower tax avoidance (Shulman 2009; DOT 2011; Gravelle 2011; Hufbauer 2011; Keener 2011; Zrust 2011). Our findings suggest that societal trust acts as a substitute for these formal institutions in mitigating tax avoidance incentives.

The rest of this paper is organized as follows. In section two, we discuss related research on societal trust, and develop our predictions on the effects of societal trust on corporate tax avoidance and on how these effects may vary across different institutional settings. We present the measures of our main variables of interest and research design in section three, discuss the main results in section four, and present the results of additional analyses and robustness checks in section five. We provide our conclusions in section six.

II. RESEARCH BACKGROUND AND HYPOTHESES

Prior Research on Trust

Trust is the overarching economic issue facing market participants, including regulators across the world. Arrow (1974) frames trust as an enabler for stimulating the economy and Fukayama (1995) views it as social capital. According to Fukuyama, trust can be thought of as a form of social capital – a shared asset that benefits all in the economy. Arrow (1974) stresses the ubiquity of trust (as a transaction cost depressant) in almost every economic transaction. He argues that higher rates of investment and growth are positively associated with higher levels of trust. Khalil

(1994) suggests that in market-based societies, where individuals are motivated by rational, self-interested behavior, there is a greater need for trust than in kin-based or other forms of economic organization. He notes that, "First, as economic exchange becomes less intermingled with kinship and more based on formal contractual relationships, the monitoring conducted by the kin members and the threat of ostracism almost vanish. Second, the modern judicial system, which replaces the threat system of ostracism and shunning, cannot practically monitor the extensive growth of contractual agreements – even the explicit ones" (Khalil 1994, 340). Therefore, the need for trust, integrity and reciprocity is greater in a market-based economy, where most control mechanisms are incomplete at best.

Arrow (1974) argues that, because of asymmetric information, incomplete contracts, and the prohibitive transaction costs of perfect monitoring, much economic activity requires trust and reciprocity in order for mutual gains from exchange to be realized. Prior research documents that trust and reciprocity can serve as a substitute for or as a complement to more formal governance structures (Zaheer and Venkatraman 1995; Larcker and Tayan 2013). Trust implies that an individual will subordinate his/her self-interests to the "joint interests" of the group under most conceivable circumstances (Arino et al. 2001). Furthermore, if business/agency relationships built on trust and reciprocity can succeed, then the dead-weight loss on welfare imposed by costly incentive and monitoring systems can be avoided. Consistent with the notion that trust plays an important role in economic and social exchanges, prior studies find that having a higher level of societal trust facilitates economic growth and social efficiency (La Porta et al. 1997; Knack and Keefer 1997; Knack and Zak 2001), international trade and investment (Guiso et al. 2009), financial development (Guiso et al. 2004, 2008), corporate financing and merger and acquisition (M&A) transactions (Bottazi et al. 2011; Duarte et al. 2012; Ahern et al. 2013). To

date, very few studies explore the implications of trust on accounting properties, with the notable exceptions of Nanda and Wysocki (2013) and Pevzner et al. (2013), who examine the impact of trust on financial transparency and investor reaction to earnings announcements, respectively. We extend these prior studies by examining how societal trust influences the extent of corporate tax avoidance.

Societal trust and Corporate Tax Avoidance

Using predominantly U.S. data, prior research identifies several firm characteristics that are associated with tax avoidance across firms. These characteristics include firm size, profitability, leverage, capital intensity, and foreign operations (e.g., Stickney and McGee 1982; Zimmerman 1983; Porcano 1986; Shevlin and Porter 1992; Gupta and Newberry 1997; Rego 2003). More recent research reports that companies accused of tax sheltering are more profitable, report larger book-tax differences, have higher R&D spending and less leverage, and operate subsidiaries in foreign tax havens (Graham and Tucker 2006; Wilson 2009; Lisowsky 2010). Further, ownership structure (family ownership and dual class share structure) is related to tax avoidance behavior (Chen et al. 2010; McGuire et al. 2011). Hoi et al. (2013) find that firms with more irresponsible CSR activities, particularly those with excessive irresponsible CSR activities in a given year, have a higher probability of engaging in tax sheltering, greater discretionary/permanent book-tax differences, and lower cash effective tax rates.

More recently, Dyreng et al. (2010) suggest that individual executives are an important determinant in their employers' tax avoidance, i.e., these managers have an incremental effect on tax avoidance that cannot be explained by firm characteristics. Boone et al. (2013) examine the relation between religiosity and tax avoidance by corporate and individual taxpayers. They find that firms headquartered in more religious U.S. counties are less likely to avoid taxes. They also

find that religiosity is consistently associated with lower tax avoidance by individual taxpayers as measured by underreported income. Brown and Drake (2013) examine whether network ties help explain variation in tax avoidance, and how the relation between network ties and tax avoidance varies depending on the nature and context of those ties. Using board interlocks to proxy for these connections, they find that firms with greater board ties to low-tax firms have lower cash ETRs. They also report that ties to low-tax firms are more influential when the focal firm and its network partner are operationally and strategically similar, as are ties created by executive directors. Board ties to low-tax firms are also more influential when the focal firm and its network partner engage the same local auditor. Overall, Brown and Drake's (2013) results suggest that the influence of firms' network ties on their tax avoidance behavior depends on the character of those ties. These recent studies highlight the importance of studying cultural effects such as religion and social networks in understanding tax avoidance behavior. In this spirit we focus on the effects of societal trust on corporate tax avoidance.

Prior studies primarily explore tax avoidance across firms within one country and mainly within the U.S. In recent research, Atwood et al. (2012) examine whether three tax system characteristics – required book-tax conformity, worldwide versus territorial approach, and perceived strength of enforcement – impact corporate tax avoidance across countries. They find that, on average, firms avoid taxes less when required book-tax conformity is higher, a worldwide approach is used, and tax enforcement is perceived to be stronger. However, the relations between tax avoidance and all three tax system characteristics are contextual and depend on the extent to which management compensation comes from variable pay, including bonuses, stock awards, and stock options. We extend this line of research to examine the effects of societal trust on corporate tax avoidance in a cross-country setting. In our analysis, we

explicitly control for the three tax system characteristics studied in Atwood et al. (2012).

We expect societal trust to be negatively related to corporate tax avoidance for several reasons. First, because managers in high trust societies are more likely to reciprocate to the trust society places in them and to be more sensitive to fairness considerations, they are less likely to avoid taxes. Specifically, the link between societal trust and corporate tax avoidance behavior is predicated on social norm theory. Sunstein (1996) defines norms as "… social attitudes of approval and disapproval, specifying what ought to be done and what ought not to be done …". Francois and Zabojnik (2005) assert that societal trust is an example of a social norm. Society utilizes control mechanisms such as "open criticism" and "withdrawal of social support" (Horne 2009; Hechter and Opp 2001) to punish individuals who violate these norms. Conversely, those who behave in accordance with these norms may receive "higher levels of social recognition (public acknowledgement of their status, merits, or personality) and respect" (Stavrova et al. 2013). In the context of tax avoidance, societal trust is a critical factor given that design of tax codes and their enforcement are difficult. According to Freedman (2010), tax avoidance is characterized by what is called "rules lawyering" or "creative compliance". Rules lawyering involves exploiting the complexities, technicalities and loop holes in the law, which, in the case of countries with complex tax codes such as the U.K. and the U.S., can be quite considerable. Legal tax avoidance may also involve creative tax accounting and/or earnings management, with the objective of reducing the firm's taxable income. Corporate tax avoidance, which clearly violates a firm's responsibility to contribute to society, does breach the trust society places in the

managers of corporations (Dowling 2013).[5] Therefore, managers of corporations located in a high trust society would be less likely to act in a manner that violates a social norm to avoid facing social sanctions.

Second, consistent with the evidence documented in Nanda and Wysocki (2013), we argue that firms in high-trust societies will have higher earnings quality, and engage in lower earnings management and other opportunistic reporting practices. Nanda and Wysocki (2013) assert that in high-trust economies, managers are more likely to disclose information because they believe that investors are more likely to revise their priors in light of accounting disclosures when they view these disclosures as credible. Mistrust on the other hand would lead capital market participants to disregard disclosed information, thereby reducing managers' incentives to be forthcoming. Further, greater trust in an economy promotes the development of institutions that complement financial reporting and disclosure and thus increases the returns to firms reporting and disclosure activities (Carlin et al. 2009; Boduh-creed 2011). In general, aggressive earnings management can also be linked to aggressive tax management. For example, Frank et al. (2009) find that firms can manage reported book income upwards and taxable income downwards simultaneously. Chen et al. (2012) document that that tax planning and earnings quality jointly affect the relative informativeness of book and taxable income. Therefore, firms in more trusting societies are likely to be more transparent and hence likely to have less tax-motivated earnings management.

[5] Christensen (Christensen and Murphy 2004; Christensen 2011) argues that the payment of corporate tax is the area where corporate citizenship is most tangible and most important. He aggressively supports the view that paying tax is a prime social responsibility of the modern corporation. The tax legislation in some countries like Australia also supports this view. It provides for the authorities to determine if schemes or arrangements that are used are substantive (i.e., they create business value) or whether they are merely of a form to artificially lower the tax base (Gilders et al. 2004).

Third, Pevzner et al. (2013) document that corporate earnings are more credible in more trusting societies. Specifically, they find that trust is positively associated with a country's aggregate earnings quality and that higher quality earnings generate stronger investor reactions. However, even holding earnings quality constant, Pevzner et al. (2013) still find evidence of significantly stronger investor reactions to earnings announcements in more trusting countries. The findings of higher earnings quality and more credible earnings announcements in countries with higher societal trust imply that taxes paid on these earnings are also likely to be fairer given that the sources of income are likely to be more transparent to the tax authorities and thereby facilitate a fairer assessment of tax. Therefore, we expect that in more trusting societies there will be less corporate tax avoidance.

Lastly, tax aggressive behavior calls into question the integrity and risk profile/appetite of management and exacerbates the agency problems between the firm and its stakeholders.[6] Tax aggressiveness could indicate management's attitude towards compliance with rules and regulations (Hanlon et al. 2012, footnote 11). A weak tone at the top and its effect on the control environment can increase the likelihood that the stakeholders might not be able to uncover tax avoidance activities. Societal trust can play an important role in the interaction between managers and outside investors given incomplete contracting and the potential for moral hazard (Williamson 1993; Guiso et al. 2008; Carlin et al. 2009). Self-serving managers have incentives to use aggressive tax behavior to extract rents (Desai and Dharmapala 2006). Trust, which reflects "the subjective probability individuals attribute to the possibility of being cheated" (Guiso et al. 2008), clearly has the potential to influence cheating of firms in terms of avoiding

[6] Studies have shown that aggressive tax behavior is driven by "tone at the top" (e.g., Desai and Dharmapala 2006; Dyreng et al. 2010). Further, Rego and Wilson (2012) argue that tax avoidance is a risky activity, which imposes costs on both firms and managers and thus, managers must be incentivized to engage in tax avoidance that involves uncertain outcomes. They find that equity risk incentives motivate managers to undertake more aggressive (i.e., risky) tax positions.

taxes. Specifically, we predict that managers expect to be treated fairly by shareholders in high trust societies and, therefore, the rent extraction arising from agency problems is likely to be less acute and managers are less likely to extract rents through complicated tax arrangements.

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

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

Because corporate tax avoidance may be impacted by the institutional environment (Atwood et al. 2012), and societal trust, as a part of culture and social capital, does not develop in a vacuum, we explore the interaction between societal trust and formal institutions and other country characteristics and their joint effects on tax avoidance.

Prior studies in the trust literature (e.g., Williamson 1993; Guiso et al. 2004; Carlin et al. 2009; Aghion et al. 2010) either argue or show that trust and formal institutions are substitutes. Similar findings are also documented in the accounting literature. For example, Lang et al. (2004) find that analysts are particularly important for firms with controlling families/managers in environments in which legal institutions provide poor protection for minority shareholders. Lang et al. (2012) document that firm-level transparency is positively related to liquidity, and the relation is more pronounced when country-level investor protection and disclosure requirements are weaker. More recently, Pevzner et al. (2013) find that trust is more strongly related to corporate earnings announcement returns when investor protection is weaker and disclosure requirement is more lax. In light of these findings, we expect a substitutive relation between trust and formal institutions, and we predict that the effect of trust on tax avoidance is more pronounced when country-level investor protection and disclosure requirement are weaker. In other words, trust is likely to play a more important role in constraining tax avoidance when country-level investor protection and disclosure requirement are weaker.

Atwood et al. (2012) document that firms avoid taxes less when tax enforcement is perceived to be stronger. When managers perceive that government enforcement of tax rules is stronger, the higher expected probability of detection and potential for imposition of penalties may discourage tax avoidance. Desai et al. (2007) examine a sample of Russian firms following an increase in tax enforcement after the 2000 election of Vladimir Putin. They find that tax payments increased, related party trades were curtailed, and tax haven entities were abandoned. In a similar vein, we hypothesize that the effect of trust on corporate tax avoidance is less pronounced when tax enforcement in a country is relatively 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 investor protection is stronger.

H2b: The negative relation between trust and tax avoidance is less pronounced when the country-level disclosure requirement is stronger.

H2c: The negative relation between trust and tax avoidance is less pronounced when the country-level tax enforcement is stronger.

III. RESEARCH DESIGN

Measure of Societal trust

Following prior literature (e.g. Guiso et al. 2008; Ahern et al. 2013; Pevzner et al. 2013), 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 (WVS): "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 as our

measure of societal trust (*TRUST*). For this measure, higher values correspond to higher societal trust.[7]

As noted by Guiso et al. (2010), an individual's response to this question captures her level of generalized trust, i.e., trust toward generic members of the population in her own country. Given that corporations are ultimately run by individuals, we use this measure that is based on individual's response as a proxy for mutual trust between firms and individuals within a country. In robustness analysis, we use a measure that captures individuals' confidence in the government and parliament, which ultimately affect how tax revenue is redistributed to ensure social equity and thus affects firms' incentives to pay their fair share of taxes. Our results continue to hold when we use these alternative measures of societal trust (see Section V).

Measure of Tax Avoidance

Following Atwood et al. (2012), we define tax avoidance broadly as the reduction in the explicit taxes paid. We measure tax avoidance 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. In particular, our measure of tax avoidance (*TAXAVOID*) for firm *i* in year *t* is computed as follows:

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

where *PTEBX* is pre-tax earnings before exceptional items, τ is home-country statutory corporate tax rate, and *CTP* is current taxes paid. We compute this measure using a three-year window because this time period is adequate to reduce the effects of items that reverse in just one year.

[7] Prior research shows that aggregate levels of this trust proxy correlate well across countries with a number of indicators of levels of trustworthiness, such as the level of corruption (Uslaner 2002) and the prevalence of violent crime (Lederman et al. 2002). This is expected if the open-ended wording of the generalized trust question leads respondents to rely on widely different interpretations (or guesses) as to what the question refers to.

We do not compute it over longer windows, such as five-year or ten-year windows (e.g., Dyreng et al. 2008), to avoid limiting our sample size.[8] This measure of tax avoidance indicates the amount of taxes that the firm is able to avoid relative to the amount of taxes it is supposed to pay based on the home country statutory tax rate ("unmanaged tax amount"), and the extent of tax avoidance is increasing in this measure.

Empirical Models – Main Analyses

To test H1, we estimate the following pooled cross-sectional regression:

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

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 time and industry, respectively.[9] Because we conduct our hypothesis testing on a pooled sample, we cluster the standard errors by firm and include time and industry fixed-effects in our regressions (Petersen 2009).[10] 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.

[8] As noted by Dyreng et al. (2008), tax avoidance measures that are estimated over short periods of time may be imperfect because they include payments to (and refunds from) the tax authorities upon settling of tax disputes that arose years ago. Tax avoidance measures that are estimated over longer periods mitigate this concern because the income to which these taxes relate will more likely be included in the same ratio as the taxes. As a sensitivity check, we use a longer horizon of five years to compute tax avoidance, and the results are qualitatively unchanged (see section V).

[9] Industries are defined as in the classification in Frankel et al. (2002), which is based on the following SIC codes: agriculture (0100–0999), mining and construction (1000–1999, excluding 1300–1399), food (2000–2111), textiles and printing/publishing (2200–2799), chemicals (2800–2824, 2840–2899), pharmaceuticals (2830–2836), extractive (2900–2999, 1300–1399), durable manufacturers (3000–3999, excluding 3570–3579 and 3670–3679), transportation (4000–4899), utilities (4900–4999), retail (5000–5999), services (7000–8999, excluding 7370–7379) and computers (3570–3579, 3670–3679, 7370–7379).

[10] Petersen (2009) suggests that in the presence of cross-sectional and time-series dependence, one dependence effect can be addressed parametrically (e.g., including time dummies for cross-sectional dependence) and then standard errors clustered on the other dependence effect (e.g., clustering by firms for time-series dependence) can be estimated. As we have more firm than year observations, we use year dummies and cluster by firms because a larger number of clusters lead to standard errors that are less biased.

We select *CONTROLS* that are factors documented by prior literature to be associated with tax avoidance (Atwood et al. 2012). The first set of controls includes country-level variables (*WW*, *BTAXC*, *TAXRATE*, *TAXENF*, *VARCOMP*, *EARNVOL*). We control for various characteristics of the country's tax system such as: 1) whether the country's tax system follows a worldwide or territorial approach (*WW*); 2) required book-tax conformity (*BTAXC*); 3) statutory tax rate (*TAXRATE*);[11] and 4) strength of tax enforcement (*TAXENF*), because Atwood et al. (2012) find that these tax system characteristics are associated with firms' incentives to avoid taxes.[12] We include the country average of managers' variable pay as a percentage of total compensation (*VARCOMP*) because prior literature suggests that managerial compensation incentives affect tax avoidance (Armstrong et al. 2012; Atwood et al. 2012; Rego and Wilson 2012). We also include 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 variable to ensure that the effect of *BTAXC* on tax avoidance is not overstated due to cross-country differences in earnings volatility.

The 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 profitable firms have greater incentives to avoid taxes. We control for firm size (*SIZE*) because larger firms have more resources and ability to avoid taxes. On the other hand, profitable and larger firms may avoid paying lower taxes to mitigate additional political scrutiny on paying their fair share of taxes. We control for tax planning opportunities, such as research

[11] We include the statutory tax rate as a control variable following Atwood et al. (2012), who highlight that because the measure of tax avoidance includes the statutory tax rate in its computation, it is important to control for the statutory tax rate to avoid the potential mechanical relation.

[12] 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, PwC's "Evolution of Territorial Tax Systems in the OECD" report, etc.

and development tax credits and interest deductibility on debt, using research and development intensity (*R&D*) and leverage (*LEV*). We control for sales growth (*GROWTH*) because firms with higher sales growth enjoy greater marginal benefits from tax planning and hence have greater incentives to avoid tax (Goh et al. 2013). Lastly, we control for firms with multinational operations (*MULTI*) because operations in different countries may present opportunities to avoid taxes through income shifting.

Empirical Models – Cross-sectional Analyses

To test H2, we modify equation (2) to include the conditioning variable (*Conditional_VAR*) and its interaction with *TRUST*:

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

In H2, we examine the moderating effect of legal and formal institutions on the relation between societal trust and corporate tax avoidance. In H2a, we focus on investor protection in the country, for which we use three measures. The first measure is an indicator variable that equals one if the country is a common law country, and zero otherwise (*COMMON*). Prior literature suggests that strict and well-enforced laws to protect minority investors are more prevalent in countries with common law traditions than in countries with civil law traditions (e.g., Haw et al. 2004), which implies that the strength of investor protection is stronger in common law countries. The second measure is the law enforcement index of the country (*LAWE*), which is the mean score of three legal enforcement variables reported in La Porta et al. (1998).[13] The strength of investor protection is stronger when the quality of legal enforcement is

[13] The three variables are (1) the mean for 1980–1983 of a variable provided by Business International Corp., capturing the efficiency and integrity of the judicial system; (2) the mean for 1982–1995 of a rule of law variable obtained from International Country Risk; and (3) the mean for 1982–1995 of a corruption variable that assesses the corruption in government, obtained from International Country Risk.

higher. The third measure is the anti-self-dealing index (*ANTISELF*), based on Djankov et al. (2008). This measure is designed to capture the strength of minority shareholder protection against self-dealing by the controlling shareholder, and focuses on private enforcement mechanisms such as disclosure, approval, and litigation, that govern a specific self-dealing transaction. The strength of investor protection is stronger when anti-self-dealing mechanisms are in place. We expect that societal trust and legal institutions are substitutes in constraining tax avoidance and, therefore, the effect of trust on tax avoidance is less pronounced when investor protection is stronger. Hence, based on H2a, we expect η to be positive in equation (3).

In H2b, we focus on the disclosure requirement that affects the information environment in the country, for which we use three measures. The first measure is the CIFAR disclosure index of the country (*DISC*),[14] which has been used in prior studies (e.g., Bushman et al. 2004) to capture financial disclosure intensity. The second measure is the annual frequency of financial reports issued by public companies in the country (*AVFR*). Choy and Zheng (2011) find that firms in countries with more frequent financial reports have lower earnings announcement premia, which suggests that disclosure risk is lower with higher frequency of financial reporting. In a similar vein, we expect the quality of the disclosure environment to be better for countries with higher frequency of financial reporting. The third measure is the proportion of firms that are audited by the Big N auditors in the country (*PBIG*). Although this measure does not speak to disclosure requirement directly, it captures the overall information quality of firms' financial reporting. We therefore use this measure to supplement our two disclosure requirement proxies (*DISC*, and *AFVR*). It is well documented that audit quality is higher for firms audited by Big N

[14] This measure is constructed based on the examination of annual reports from about 1,000 industrial companies across several countries collected in 1995, and the disclosure index is designed to capture the financial disclosure practices of each country based on the average number of 90 accounting and nonaccounting items disclosed by the sample companies in their annual reports.

auditors as compared to those audited by non-Big N auditors (e.g., Becker et al. 1998). Therefore, we expect the quality of the disclosure environment to be better in countries with a higher proportion of firms that are audited by the Big N auditors in the country. We expect that societal trust and general disclosure environment are substitutes in constraining tax avoidance, and therefore the effect of trust on tax avoidance is less pronounced when the disclosure environment is better. Hence, based on H2b, we expect η to be positive in equation (3).

In H2c, we focus on tax enforcement in the country. Following Atwood et al (2012), we measure the strength of tax enforcement using a measure of managers' perception of the strength of tax enforcement in the country (*TAXENF*), which is derived from the 1996 World Competitiveness Report. We expect that societal trust and tax enforcement regulation are substitutes in constraining tax avoidance, and therefore the effect of trust on tax avoidance is less pronounced when tax enforcement is perceived to be stronger. Hence, based on H2c, we expect η to be positive in equation (3).

IV. RESULTS

Sample

We construct our measures of tax avoidance and other firm-level control variables with data obtained for the 1995–2007 period from the Compustat Global database. We identify 36 countries with these firm-level variables available and which each have a minimum of 100 firm-year observations. Our main variable of interest, *TRUST*, is constructed based on individual responses to the World Values Surveys (WVS). The surveys were conducted in five waves in 1981-1984, 1989-1993, 1994-1998, 1999-2004, and 2005-2008. Following prior literature (e.g., Ahern et al. 2013; Pevzner et al. 2013), we match the most recent *TRUST* measure to our firm-level variables. We remove seven countries (Austria, Belgium, Denmark, Greece, Hungary,

Ireland, and Portugal) that do not have the societal trust measure available. The country-level institutional variables are either hand-collected (e.g., statutory tax rates, classification of worldwide or territorial tax system, etc.) or based on the data published by other authors (e.g., law enforcement index from La Porta et al. 1998, anti-self-dealing index from Djankov et al. 2008). We also remove four countries (China, India, Pakistan, and Russia) for which the tax enforcement variable is not available. Our final sample thus includes 25 countries.[15] The number of countries represented in the sample is comparable to those of prior studies (e.g., 22 countries in Atwood et al. 2002, and 25 countries in Pevzner et al. 2013). We also trim each continuous firm-level variable at the 1% and 99% level to mitigate the effect of extreme values. Depending on the availability of data, the final sample size used in the regression analyses ranges from 74,421 to 79,834 firm-year observations for the 13-year sample period.

Descriptive Statistics

Table 1 reports the sample composition and the median characteristics for each of the 25 countries. The sample size for each country ranges widely from 105 firm-year observations for Israel to 32,833 firm-year observations for Japan. Not surprisingly, a large proportion of the sample comes from Japan and the U.S.[16] Our main test variable is *TRUST*. As observed from Table 1, levels of societal trust vary widely across countries. People in the Nordic countries (Finland, Norway, Sweden) have the highest levels of trust in other people (about 60% or more of those interviewed answered that most of people can be trusted) while people in Brazil and the

[15] These countries include Australia, Brazil, Chile, Finland, France, Germany, Hong Kong, Indonesia, Israel, Italy, Japan, Korea, Mexico, Netherlands, New Zealand, Norway, Peru, Philippines, Singapore, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States.

[16] In a robustness test, we exclude sample observations from Japan and the U.S. to mitigate concerns that our results are driven by the large number sample observations from these two countries. We also re-estimate our models by country-year, so that each country-year observation receives equal weight in the regression (see Section V).

Philippines exhibit the lowest levels of interpersonal trust (less than 10% think that most people can be trusted).

Table 2 reports descriptive statistics and correlations of 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 13.2% (11.4%) which, based on the mean (median) statutory corporate tax rate (*TAXRATE*) of 39% (40%), implies that the mean (median) firm in our sample paid a tax rate of 25.8% (28.6%). The mean (median) value of societal trust (*TRUST*) in our sample is 0.390 (0.391), which is comparable to that reported in Pevzner et al. (2013).

Table 2 Panel B reports Pearson correlations between the variables in our analyses. As predicted by H1, we observe a significant and negative correlation between societal trust (*TRUST*) and tax avoidance (*TAXAVOID*). The correlations between the proxies for investor protection (*COMMON*, *LAWE* and *ANTISELF*) and the proxies for disclosure requirement (*DISC*, *AVFR* and *PBIG*) are all positive, indicating that these proxies capture similar dimensions of the underlying construct of interest. Because these are pairwise univariate correlations, we defer the main analyses to multivariate tests, reported in the following section.

Main Analyses – Test of H1

In this section, we report our results for the test of H1, which examines the association between societal trust and tax avoidance. In Column 1, we regress tax avoidance on societal trust and country, year and industry fixed-effects, and exclude the firm-level control variables. In Column 2, we report the results including firm-level control variables, and in Column 3, we report the results including additional controls for country-level tax system. In all three columns, we report a negative and statistically significant coefficient on *TRUST*, which is consistent with our prediction in H1. The effect of societal trust on tax avoidance is also economically significant.

Specifically, when we examine column 2 where we do not include controls for home country tax system characteristics, a one standard deviation increase in societal trust is associated with a 28.2% decrease in tax avoidance.[17] After controlling for home country tax system characteristics in Column 3, the incremental effect of trust on tax avoidance decreases to 3.3%. This suggests that societal trust has an effect on mitigating tax avoidance over and above legal institutions such as home country tax system characteristics, which are arguably more effective in constraining tax avoidance.

The coefficients of the control variables are consistent with expectations. Similar to Atwood et al. (2012), we find that tax system characteristics, such as having a worldwide tax system (*WW*), higher required book-tax conformity (*BTAXC*), and greater perceived tax enforcement (*TAXENF*), are associated with less tax avoidance. We also find that in countries with higher statutory tax rates (*TAXRATE*) and in countries where managers have higher variable compensation (*VARCOMP*), firms engage in more tax avoidance, possibly due to the additional incentives to avoid taxes when statutory tax rates are higher and when managers have high-powered incentives. Turning to the other firm-level control variables, we find that profitable (*PROA*) and larger (*SIZE*) firms have lower tax avoidance, possibly due to additional political scrutiny of such firms. We also find that firms with higher leverage (*LEV*) and sales growth (*GROWTH*) exhibit 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 Rego (2003), we find that firms with multi-national operations have lower tax avoidance.

[17] The impact of a one standard deviation increase in societal trust (*TRUST*) on tax avoidance (*TAXAVOID*) is computed as -0.409 (coefficient on *TRUST*) × 0.091 (the sample standard deviation of *TRUST*) ÷ 0.132 (the mean of *TAXAVOID*) = -28.2%. The other comparative statics are computed analogously.

Overall, the results indicate that societal trust is significantly associated with lower tax avoidance, consistent with firms and managers responding to social norms and expectations when shaping their corporate tax planning activities.

Cross-sectional Analyses – Test of H2

In this section, we explore cross-sectional variation in the relation between societal trust and tax avoidance. In particular, we are interested in whether formal institutions such as legal and disclosure environments have a substitutive relationship with societal trust in constraining tax avoidance. In H2a, we examine the moderating role of investor protection; we expect societal trust to play a smaller role in countries where investor protection is high. The results of our tests are presented in Table 4. In Column 1, we use an indicator variable for common law countries (*COMMON*); in Column 2, we use the law enforcement index (*LAWE*); and in Column 3, we use the anti-self-dealing index (*ANTISELF*) based on Djankov et al. (2008), as proxies for investor protection. Consistent with our prediction in H2a, we find across all three columns that the negative association between societal trust and tax avoidance is attenuated in countries with stronger investor protection, which is consistent with investor protection and societal trust acting as substitute mechanisms in constraining tax avoidance. In addition, the coefficients of *LEGAL* are all negative and significant, indicating that tax avoidance is lower in countries with stronger legal institutions.

In H2b, we examine the moderating role of the disclosure and overall information environment; we expect societal trust to play a smaller role in countries where disclosure requirements and information quality are high. The results of our tests are presented in Table 5. In Column 1, we use the CIFAR disclosure index (*DISC*); in Column 2, we use the annual frequency of financial reporting (*AVFR*); and in Column 3, we use the proportion of firms

audited by the Big N auditors in the country (*PBIG*), as proxies for disclosure and information environment. Consistent with H2b, we find across all three columns that the negative association between societal trust and tax avoidance is attenuated in countries with higher disclosure requirements and better information environment. The finding is consistent with societal trust becoming less important in constraining tax avoidance when the general information environment is better, as it facilitates monitoring of tax avoidance by external monitors. Also, we find that *AVFR* and *PBIG* are both significant and negatively associated with tax avoidance, which suggests that better information environment curtails tax avoidance activities.

In H2c, we examine the moderating role of tax enforcement. We predict that societal trust plays a smaller role in constraining tax avoidance when tax enforcement in the country is high. The results are presented in Table 6. Consistent with our prediction, we find that the relation between societal trust and tax avoidance is attenuated in countries with stronger tax enforcement.

Overall, the results presented in Tables 3 through 5 indicate a substitutive relation between formal institutions, such as investor protection, information environment and tax enforcement, and informal institutions proxied by societal trust, in constraining tax avoidance.

V. ADDITIONAL ANALYSES AND SENSITIVITY CHECKS

Instrumental Variable (2SLS) Approach

We recognize that, like most studies of this type, our study may suffer from omitted variable problems, because it is difficult to control for all possible variables that potentially affect the formulation and accumulation of trust. These potentially omitted variables could also be related to firms' incentives and inclination to avoid tax in a given country, and thus our findings may be spurious. 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 legal and formal institutional variables such as investor protection and disclosure environment, 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. Nonetheless, we attempt to address potential endogeneity concerns by employing an instrumental variable (2SLS) approach.

Following prior work, we use a country's primary religious adherence as an instrument for the level of societal trust because prior studies suggest that religious beliefs are more primitive than culture and thus can be considered exogenous (e.g., La Porta et al. 1997; Stulz and Williamson 2003; Guiso et al. 2006, 2008; Pevzner et al. 2013). Guiso et al. (2003) also highlight that religion has an influence on an individual's trust of others, and hence religious belief can be used as a relevant instrument for societal trust. We obtain information on each country's primary religion from Stulz and Williamson (2003). Based on the countries included in our sample, we identify six main religions: Protestant, Catholic, Buddhism, Islam and Judaism, and an unidentified local indigenous belief for Hong Kong. We create five indicator variables representing these six religions (with Judaism representing the excluded indicator variable) and use them as our instruments in the first-stage regression explaining societal trust.

We report the results of the first-stage regression in Table 7 Column 1. As indicated in the table, the five instruments are all significantly associated with *TRUST*, and the absolute magnitude of the t-statistics range from 3.75 to 26.00, which suggests that these instruments are relevant. Comparing the level of trust across various religions, we find that Protestants, Muslims and Hong Kong's local belief are more trusting relative to Judaism, and that Catholic and Buddhist are less trusting relative to Judaism.

We then use the predicted value of *TRUST* from the first-stage regression as our variable of interest in the second-stage, and report the results in Table 7, Column 2. The results show that the predicted value of *TRUST* is significantly negatively associated with tax avoidance, which is consistent with the results reported in the main analyses. Overall, the results from the instrumental variable approach indicate that our main results still hold after controlling for potential endogeneity.

Controlling for Accrual Components

Next, we investigate the relation between societal trust and tax avoidance after controlling for accruals. Nanda and Wysocki (2013) find that societal trust is associated with less earnings management, and therefore the negative association between societal trust and tax avoidance that we document could be due to the mechanical effect of accruals on tax avoidance (that is, societal trust affects tax avoidance through accruals). Hence, the purpose of this analysis is to determine whether societal trust affects tax avoidance solely through accruals or through other non-accrual-related tax-planning strategies, such as the use of tax havens, tax shelters, income shifting, cost sharing arrangements, etc. To do so, we decompose total accruals into three components (*ΔWC*, *ΔNCO* and *ΔFIN*) based on the reliability classification developed by Richardson et al. (2005) and used in Atwood et al. (2012). We include these three components in our main analyses in order to allow different types of accruals to differentially affect tax avoidance. The results of this analysis are reported in Table 8.

As reported in this table, all three components of accruals are positively associated with tax avoidance, which is consistent with prior literature that documents a positive relation between accruals and tax avoidance/sheltering (e.g., Frank et al. 2009; Wilson 2009; Lisowsky 2010; Atwood et al. 2012). We also find that societal trust continues to be significantly

negatively associated with tax avoidance. This result suggests that the relation between societal trust and tax avoidance that we document is not solely driven by accruals management, but also results from other tax planning strategies.

Alternative Measures of Trust

In this section, we test the robustness of our results by considering three alternative measures of trust. The first measure is an alternative trust index used in Pevzner et al. (2013) and Nanda and Wysocki (2013), and is calculated for each country based on the following formula:

TRUST_INDEX = 100 + (% most people can be trusted) – (% can't be too careful)

The second and third measures are based on individuals' trust in the government (*TRUST_GOVT*) and parliament (*TRUST_PARLIAMENT*). The reason for this analysis is that firms' decisions to respond to social norms and to reciprocate society's trust in them by paying their fair share of taxes also depends on the extent to which they trust the government and parliamentary system to redistribute the tax revenue equitably to ensure social fairness. We construct these two measures of trust based on the following question from the WVS: Do you have a lot of confidence, quite a lot of confidence, not very much confidence, no confidence at all in the following: Government and Parliament, respectively. We recode the response to these questions to one if a survey participant reports that he/she has a lot of confidence or quite a lot of confidence in government or parliament, and zero otherwise. We then calculate the mean responses for each country-year as alternative measures of societal trust. The estimation results using these three alternative measures of trust are reported in Table 9, Columns 1, 2 and 3, respectively.

As indicated in this table, all three alternative measures of trust are significantly negatively associated with tax avoidance, indicating that our inferences are robust to the measure of trust used.

Alternative Measures of Tax Avoidance

We also test the robustness of our results using two alternative measures of corporate tax avoidance. For the first alternative measure, we compute tax avoidance based on the difference between the taxes on pre-tax income computed at the home-country statutory corporate tax rate and the *tax expense recognized* instead of the *taxes actually paid*. This measure is more closely related to the concept of GAAP effective tax rate because it measures tax avoidance based on tax expense recognized rather than cash tax actually paid. Armstrong et al. (2012) find that U.S. tax managers are more focused on reducing the effective tax rate reported in the financial statements but not the actual cash tax savings, so we examine whether societal trust differentially affects the incentives to reduce effective tax rate and cash tax paid. For the second alternative measure, we use a longer time window of 5 years, instead of 3 years in our original measure of tax avoidance, to assess how societal trust affects long-run tax avoidance. The disadvantage of using this long-run measure of tax avoidance is that it reduces our sample size substantially as it requires five years of data for each firm. The results of the analyses using these two alternative measures of tax avoidance (*TAXAVOID_ALT1* and *TAXAVOID_ALT2*) are reported in Table 10, Columns 1 and 2 respectively.

As shown in Table 10 Column 1, we continue to find that societal trust is negatively associated with tax avoidance, which suggests that societal trust also reduces firms' incentives to report a lower effective tax rate in the financial statements. In Column 2, we also find that societal trust is associated with lower long-run tax avoidance. Overall, the results suggest that the

negative relation between societal trust and tax avoidance holds for these two alternative measures.

Additional Robustness Checks

We discuss a few additional robustness checks in this sub-section. As highlighted earlier, a significant portion of our firm-year observations consists of firms from the U.S. and Japan. To mitigate the concern that our results are driven by observations from these two countries, we re-estimate our models using three different samples. First, we exclude observations of firms from the U.S. Second, we exclude observations from both the U.S. and Japan. Third, in a much more restrictive test, we re-run our analyses based on country-year observations so that each country-year receives equal weight in the regression. The downside of this approach is that it reduces the variation in our sample substantially. The results are presented in Table 11, Columns 1, 2 and 3 respectively. As observed from this table, we still find a significant negative relation between societal trust and tax avoidance for all three samples. These analyses provide additional evidence that our results are not driven by over-representation from certain countries.

VI. CONCLUSION

Societal trust is an important element of a country's culture and extant literature finds that trust affects a broad set of social and economic outcomes such as facilitating economic growth and social efficiency (La Porta et al. 1997; Knack and Keefer 1997; Knack and Zak 2001), international trade and investment (Guiso et al. 2009), financial development (Guiso et al. 2004, 2008), corporate financing and merger and acquisition (M&A) transactions (Bottazi et al. 2011; Ahern et al. 2013; Duarte et al. 2012). We extend this important line of research by examining whether societal trust affects corporate tax avoidance. We predict that in societies with higher levels of trust, managers will refrain from actions that may betray the trust that society has

placed in them with an expectation that they 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 across 25 countries, we find robust evidence of a negative relation between societal trust and tax avoidance, even after controlling for the effects of legal institutions such as tax system characteristics that have been documented to be effective in constraining tax avoidance (Atwood et al. 2012). The results are also economically significant. When we exclude (include) home country's tax system characteristics, a one standard deviation increase in societal trust is associated with a 28.2% (3.3%) decrease in tax avoidance. These results indicate that societal trust has an important effect in mitigating tax avoidance, over and above the effects of legal institutions such as home country tax system characteristics.

In additional analyses, we find that societal trust and legal institutions such as investor protection, disclosure environment and tax enforcement have a substitutive effect in constraining tax avoidance. That is, the effect of societal trust in constraining tax avoidance is less salient when formal institutions in the country are already strong. Our inferences are robust to a number of sensitivity tests, including using an instrumental variable approach to mitigate endogeneity concerns, controlling for accrual components to ensure that our results are not driven by the mechanical relation between accruals and tax avoidance, using three alternative measures of trust, using two alternative measures of tax avoidance, and accounting for sample over-representation from the U.S. and Japan.

We make several important contributions to the literature. First, we contribute to the literature that investigates cross-country determinants of corporate tax avoidance by showing that informal institutions such as societal trust also affect tax avoidance, even after explicitly

controlling for the tax systems in a country. Second, we extend the growing literature on the accounting implications of societal trust. Except for Nanda and Wysocki (2013) and Pevzner et al. (2013), very few studies examine the relation between trust and financial and tax reporting. We contribute to this line of research by showing that societal trust affects 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 these formal institutions in mitigating corporate tax avoidance.

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APPENDIX: VARIABLES DEFINITION

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 earnings before exceptional 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.
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.
WW	=	An indicator 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: $CTE_t = \theta_0 + \theta_1 PTBI_t + \theta_2 ForPTBI_t + \theta_3 DIV_t + e_t$ where *CTE* is current tax expense, *PTBI* is pre-tax book income, *ForPTBI* is the estimated foreign 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.
TAXENF	=	Proxy for the level of tax enforcement in the country, based on the 1996 World Competitiveness 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	=	Country-level control variable for earnings volatility.
PROA	=	Pre-tax return on assets.
SIZE	=	Natural logarithm of total assets.
R&D	=	Research and development expenditures scaled by total assets.
LEV	=	Total liabilities scaled by total assets
GROWTH	=	Percentage change in sales.
MULTI	=	An indicator variable that equals zero if foreign income taxes is missing or zero, and equals one otherwise.
COMMON	=	An indicator variable that equals one if the country is a common law country, and zero otherwise.
LAWE	=	Law enforcement index, which is the mean score of the three legal

		enforcement variables reported in La Porta et al. (1998).
ANTISELF	=	Anti-self-dealing index of the country, based on Djankov et al. (2008).
DISC	=	CIFAR disclosure index of the country, which is based on firms' annual reports in 1995.
AVFR	=	Annual frequency of financial reports issued by public companies in the country, as reported in Choy and Zheng (2011).
PBIG	=	The proportion of firms that are audited by the Big N auditors in the country.
TRUST_INDEX	=	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". Based on the responses, the trust index is computed for each country as: 100 + (% most people can be trusted) – (% can't be too careful). Higher values correspond to higher societal trust.
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/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 as an alternative measure of societal trust. Higher values correspond to higher societal trust.
TRUST_PARLIAMENT	=	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: Parliament. We recode the response to these questions to one if a survey participant reports that he/she has a lot of confidence or quite a lot of confidence in parliament, and zero otherwise. We then calculate the mean of the response of each country-year as an alternative measure of societal trust. Higher values correspond to higher societal trust.
ΔWC	=	Change in current operating assets minus current operating liabilities, scaled by total assets.
ΔNCO	=	Change in noncurrent operating assets minus noncurrent operating liabilities, scaled by total assets.
ΔFIN	=	Change in financial assets minus financial liabilities, scaled by total assets.
PROTEST, CATHOLIC, BUDDHIST, MUSLIM and *INDIG*	=	An indicator that equals one if a country's primary religious belief is one of these four religions, and zero otherwise. *INDIG* is an indicator variable capturing Hong Kong's local religious belief. The data is obtained from Stulz and Williamson (2003).
TAXAVOID_ALT1	=	Alternative measure of tax avoidance, defined as: $\frac{[\sum_{t-2}^{t}(PTEBX \times \tau)_{it} - \sum_{t-2}^{t} CTE_{it}]}{\sum_{t-2}^{t} PTEBX_{it}}$ where *PTEBX* is pre-tax earnings before exceptional items, τ is

		home-country statutory corporate tax rate and *CTE* is current tax expense. The extent of tax avoidance is increasing in this measure.
TAXAVOID_ALT2	=	Alternative measure of tax avoidance, defined as: $\frac{[\sum_{t-4}^{t}(PTEBX \times \tau)_{it} - \sum_{t-4}^{t} CTP_{it}]}{\sum_{t-4}^{t} PTEBX_{it}}$ where *PTEBX* is pre-tax earnings before exceptional 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.

TABLE 1
Sample Composition and Median Characteristics by Country

Country	N	*TAXAVOID*	*TRUST*	*COMMON*	*LAWE*	*ANTISELF*	*DISC*	*AVFR*	*PBIG*	*TAXENF*	*WW*
Australia	2,894	0.30	0.48	1.00	9.51	0.79	80.00	1.95	0.22	4.58	0.00
Brazil	300	0.11	0.09	0.00	6.13	0.29	56.00	-	0.78	2.14	1.00
Chile	373	0.05	0.23	0.00	6.52	0.63	78.00	2.05	0.77	4.20	1.00
Finland	305	0.10	0.59	0.00	10.00	0.46	83.00	3.62	0.62	5.53	0.00
France	1,101	0.22	0.19	0.00	8.68	0.38	78.00	1.98	0.37	3.86	0.00
Germany	1,334	0.26	0.34	0.00	9.05	0.28	67.00	2.44	0.38	3.41	0.00
Hong Kong	358	0.12	0.41	1.00	8.91	0.96	73.00	2.20	0.66	4.56	0.00
Indonesia	1,249	0.24	0.52	0.00	2.90	0.68	-	-	0.39	2.53	1.00
Israel	105	0.17	0.23	1.00	7.72	0.71	74.00	-	0.52	3.69	1.00
Italy	539	0.20	0.29	0.00	7.07	0.39	66.00	3.25	0.72	1.77	0.00
Japan	32,833	0.02	0.43	0.00	9.17	0.48	71.00	2.49	0.00	4.41	1.00
Korea, Rep.	1,739	0.26	0.27	0.00	5.55	0.46	68.00	2.08	0.02	3.29	1.00
Mexico	329	0.14	0.22	0.00	5.37	0.18	71.00	-	0.69	2.46	1.00
Netherlands	315	0.20	0.44	0.00	10.00	0.21	74.00	-	0.79	3.40	0.00
New Zealand	189	0.19	0.51	1.00	100.00	0.95	80.00	2.41	0.51	5.00	0.00
Norway	277	0.22	0.74	0.00	10.00	0.44	75.00	3.76	0.78	3.96	0.00
Peru	109	0.17	0.11	0.00	-	0.41	-	-	0.61	2.66	1.00
Philippines	597	0.32	0.09	0.00	3.47	0.24	64.00	3.68	0.21	1.83	1.00
Singapore	1,421	0.09	0.15	1.00	8.93	1.00	79.00	2.60	0.70	5.05	0.00
Spain	1,110	0.17	0.34	0.00	7.14	0.37	72.00	3.74	0.70	1.91	0.00
Sweden	2,251	0.14	0.66	0.00	10.00	0.34	83.00	-	0.71	3.39	1.00
Switzerland	467	0.11	0.51	0.00	10.00	0.27	80.00	-	0.62	4.49	0.00
Turkey	288	0.23	0.19	0.00	4.79	0.43	58.00	-	0.53	2.07	1.00
UK	2,783	0.22	0.30	1.00	9.22	0.93	85.00	2.01	0.51	4.67	1.00
USA	26,568	0.15	0.36	1.00	9.50	0.65	76.00	3.98	0.91	4.47	1.00

TABLE 1 (continued)

Country	*BTAXC*	*TAXRATE*	*VARCOMP*	*EARNVOL*	*PROA*	*SIZE*	*R&D*	*LEV*	*GROWTH*	*MULTI*
Australia	0.17	0.30	0.31	0.15	-0.05	3.26	0.00	0.05	0.13	0.00
Brazil	0.48	0.34	0.02	0.64	0.09	7.99	0.00	0.26	0.08	0.00
Chile	0.88	0.17	0.00	0.11	0.07	8.41	0.00	0.24	0.05	0.00
Finland	0.69	0.26	0.03	0.56	0.09	5.45	0.00	0.21	0.07	0.00
France	0.74	0.33	0.14	0.55	0.07	5.44	0.00	0.21	0.09	0.00
Germany	0.52	0.38	0.05	0.47	0.06	4.95	0.00	0.16	0.07	0.00
Hong Kong	0.62	0.18	0.01	0.44	0.07	7.61	0.00	0.18	0.11	1.00
Indonesia	0.33	0.30	0.00	0.09	0.04	7.42	0.00	0.33	0.03	0.00
Israel	0.71	0.36	0.16	0.69	0.03	6.97	0.01	0.21	0.05	0.00
Italy	0.57	0.37	0.05	0.95	0.05	6.12	0.00	0.26	0.06	0.00
Japan	0.62	0.42	0.02	0.15	0.04	10.08	0.00	0.21	0.02	0.00
Korea, Rep.	0.43	0.30	0.00	0.07	0.06	8.03	0.00	0.26	0.06	0.00
Mexico	0.40	0.33	0.00	0.05	0.08	9.10	0.00	0.23	0.08	0.00
Netherlands	0.55	0.30	0.25	0.58	0.08	6.39	0.00	0.21	0.10	0.00
New Zealand	0.79	0.33	0.42	0.44	0.08	5.08	0.00	0.26	0.11	0.00
Norway	0.02	0.28	0.00	0.58	0.09	6.98	0.00	0.23	0.15	0.00
Peru	0.88	0.30	0.00	0.62	0.13	6.99	0.00	0.23	0.06	0.00
Philippines	0.69	0.32	0.00	0.44	0.01	8.14	0.00	0.21	0.01	0.00
Singapore	0.55	0.25	0.13	0.47	0.04	4.92	0.00	0.19	0.01	0.00
Spain	0.71	0.35	0.02	0.20	0.06	7.58	0.00	0.23	0.08	0.00
Sweden	0.36	0.28	0.09	0.45	0.06	7.42	0.00	0.18	0.05	0.00
Switzerland	0.86	0.21	0.04	0.76	0.08	6.38	0.00	0.15	0.06	0.00
Turkey	0.45	0.33	0.00	0.36	0.11	8.06	0.00	0.16	0.24	0.00
UK	0.45	0.30	0.20	0.33	0.07	4.17	0.00	0.13	0.09	0.00
USA	0.02	0.40	0.40	0.22	0.07	6.18	0.00	0.20	0.07	0.00

This table provides the sample composition and selected median characteristics by country. The detailed definitions of the variables are provided in the Appendix. All continuous variables are trimmed at the 1 and 99 percentiles.

TABLE 2
Descriptive Statistics and Correlations

Panel A: Descriptive Statistics

	Mean	Median	Q1	Q3	Std Dev
TAXAVOID	0.132	0.114	-0.013	0.301	0.271
TRUST	0.390	0.391	0.363	0.431	0.091
COMMON	0.430	0.000	0.000	1.000	0.495
LAWE	9.213	9.170	9.170	9.500	4.610
ANTISELF	0.562	0.480	0.480	0.650	0.154
DISC	73.988	73.000	71.000	76.000	4.429
AVFR	3.006	2.490	2.490	3.980	0.778
PBIG	0.425	0.377	0.000	0.914	0.409
TAXENF	4.249	4.410	4.410	4.470	0.612
WW	0.861	1.000	1.000	1.000	0.346
BTAXC	0.361	0.357	0.048	0.619	0.270
TAXRATE	0.390	0.400	0.340	0.420	0.070
VARCOMP	0.170	0.040	0.024	0.395	0.172
EARNVOL	0.231	0.182	0.127	0.273	0.157
PROA	0.118	0.048	0.008	0.105	2.598
SIZE	7.761	7.924	5.725	10.021	2.787
R&D	0.029	0.000	0.000	0.017	0.143
LEV	0.246	0.202	0.048	0.359	0.517
GROWTH	0.373	0.040	-0.033	0.148	3.494
MULTI	0.182	0.000	0.000	0.000	0.386

TABLE 2 (continued)

Panel B: Pearson Correlations

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
(1) TAXAVOID	1.00																			
(2) TRUST_INDEX	**-0.06**	1.00																		
(3) COMMON	**0.15**	**-0.24**	1.00																	
(4) LAWE	0.00	**0.16**	**0.14**	1.00																
(5) ANTISELF	**0.09**	**-0.22**	**0.80**	**0.16**	1.00															
(6) DISC	**0.10**	**0.18**	**0.63**	**0.17**	**0.64**	1.00														
(7) AVFR	**0.09**	**-0.13**	**0.66**	0.00	**0.21**	**0.24**	1.00													
(8) PBIG	**0.15**	**-0.21**	**0.81**	**0.05**	**0.44**	**0.54**	**0.86**	1.00												
(9) TAXENF	**-0.06**	**0.16**	**0.39**	**0.25**	**0.51**	**0.39**	-0.01	-0.01	1.00											
(10) WW	**-0.09**	**-0.02**	-0.01	**-0.12**	**-0.03**	**-0.24**	**0.25**	**-0.07**	**0.19**	1.00										
(11) BTAXC	**-0.14**	**0.05**	**-0.78**	0.00	**-0.45**	**-0.39**	**-0.75**	**-0.74**	**-0.18**	**-0.13**	1.00									
(12) TAXRATE	**-0.12**	**0.18**	**-0.29**	**0.03**	**-0.32**	**-0.50**	-0.01	**-0.40**	**0.24**	**0.51**	**0.19**	1.00								
(13) VARCOMP	**0.15**	**-0.14**	**0.94**	**0.17**	**0.59**	**0.56**	**0.79**	**0.86**	**0.32**	**0.05**	**-0.85**	**-0.17**	1.00							
(14) EARNVOL	**0.06**	**-0.20**	**0.03**	**0.06**	**-0.04**	**0.17**	**0.04**	**0.25**	**-0.27**	**-0.50**	**0.15**	**-0.38**	0.00	1.00						
(15) PROA	**-0.02**	0.00	**-0.04**	-0.01	**-0.03**	**-0.03**	**-0.02**	**-0.02**	**-0.03**	**0.02**	**0.02**	0.00	**-0.04**	-0.02	1.00					
(16) SIZE	**-0.22**	**0.19**	**-0.61**	**-0.07**	**-0.47**	**-0.53**	**-0.32**	**-0.57**	**-0.05**	**0.33**	**0.46**	**0.45**	**-0.57**	**-0.23**	**0.09**	1.00				
(17) R&D	**0.09**	**-0.01**	**0.14**	**0.02**	**0.07**	**0.08**	**0.13**	**0.14**	**0.05**	**0.03**	**-0.14**	**-0.02**	**0.15**	0.00	**-0.05**	**-0.20**	1.00			
(18) LEV	**0.08**	0.00	0.00	-0.01	0.00	**-0.02**	**0.03**	**0.02**	**-0.01**	**0.02**	-0.01	**0.02**	0.01	-0.01	**-0.05**	**-0.02**	**0.13**	1.00		
(19) GROWTH	**0.03**	0.01	**-0.03**	**-0.02**	-0.01	**-0.02**	**-0.03**	**-0.03**	**-0.04**	0.00	0.01	**-0.03**	**-0.03**	**-0.03**	**0.50**	**0.08**	-0.01	0.00	1.00	
(20) MULTI	**0.03**	**-0.12**	**0.49**	**0.03**	**0.31**	**0.27**	**0.47**	**0.50**	**0.15**	**0.08**	**-0.43**	**-0.11**	**0.50**	**0.05**	**0.00**	**-0.16**	**0.05**	**-0.03**	**-0.02**	1.00

This table provides the descriptive statistics (Panel A) and Pearson correlations (Panel B) of the main variables used in this study. The detailed definitions of the variables are provided in the Appendix. All continuous variables are trimmed at the 1 and 99 percentiles. All correlations that are bold are statistically significant at the 0.01 level or better (two-tailed).

TABLE 3
Societal Trust and Tax Avoidance

	Column (1)		Column (2)		Column (3)	
	Estimate	t-value	Estimate	t-value	Estimate	t-value
Intercept	0.193	8.01***	0.132	4.90***	0.387	24.12***
TRUST	-0.185	-2.97***	-0.409	-5.82***	-0.048	-3.21***
WW					-0.022	-5.21***
BTAXC					-0.016	-1.94**
TAXRATE			0.653	10.01***	0.073	2.70***
TAXENF					-0.040	-15.89***
VARCOMP					0.156	9.05***
EARNVOL			-0.011	-1.22	-0.038	-4.65***
PROA			-0.002	-4.78***	-0.002	-5.10***
SIZE			-0.013	-13.95***	-0.015	-18.14***
R&D			0.050	1.63	0.045	1.53
LEV			0.037	2.91***	0.036	2.87***
GROWTH			0.003	8.45***	0.003	9.13***
MULTI			-0.034	-8.07***	-0.032	-7.99***
Country-fixed effects	Yes		Yes		No	
Year-fixed effects	Yes		Yes		Yes	
Industry-fixed effects	Yes		Yes		Yes	
Adj Rsq	6.44		8.46		7.81	
n	79,834		79,834		79,834	

This table reports the regression results of the relation between societal trust and tax avoidance. The dependent variable is tax avoidance (*TAXAVOID*), which is increasing in the extent of tax avoidance. Column 1 shows the results excluding control variables; Column 2 shows the results including control variables, but without country-level tax system controls; and Column 3 shows the results including additional controls for country-level tax system. The regressions in Column 1 and 2 include year, industry, and country fixed effects, while the regression in Column 3 includes year and industry fixed effects. The detailed definitions of all variables are provided in the Appendix. Coefficients on the year, industry and year indicator variables are not tabulated for brevity. The t-statistics 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
Societal Trust and Tax Avoidance – The Role of Legal Institutions

	Column (1)		Column (2)		Column (3)	
	LEGAL = COMMON		*LEGAL = LAWE*		*LEGAL = ANTISELF*	
	Estimate	t-value	Estimate	t-value	Estimate	t-value
Intercept	0.383	23.87***	0.486	19.21***	0.427	21.80***
TRUST	-0.075	-4.48***	-0.342	-5.73***	-0.231	-6.23***
*LEGAL*TRUST*	0.256	6.45***	0.037	5.25***	0.397	5.80***
LEGAL	-0.053	-3.26***	-0.020	-5.31***	-0.108	-3.81***
WW	-0.018	-4.04***	-0.028	-6.55***	-0.021	-4.83***
BTAXC	-0.028	-3.41***	-0.017	-1.95**	-0.023	-2.85***
TAXRATE	0.071	2.45**	0.125	4.36***	0.038	1.24
TAXENF	-0.039	-12.98***	-0.030	-9.60***	-0.037	-11.29***
VARCOMP	0.016	0.65	0.169	9.29****	0.117	6.60***
EARNVOL	-0.012	-1.39	-0.036	-4.41***	-0.014	-1.66*
PROA	-0.002	-4.94***	-0.002	-4.98***	-0.002	-5.00***
SIZE	-0.015	-17.33***	-0.015	-18.25***	-0.015	-17.36***
R&D	0.046	1.54	0.044	1.51	0.046	1.55
LEV	0.037	2.88***	0.037	2.86***	0.036	2.88***
GROWTH	0.003	8.97***	0.003	9.18***	0.003	8.94***
MULTI	-0.032	-7.67***	-0.031	-7.67***	-0.031	-7.64***
Year-fixed effects	Yes		Yes		Yes	
Industry-fixed effects	Yes		Yes		Yes	
Adj Rsq	7.89		7.86		7.88	
n	79,834		79,725		79,834	

This table reports the regression results of the role of legal institutions (*LEGAL*) on the relation between tax avoidance (*TAXAVOID*) and societal trust (*TRUST*). The dependent variable is tax *TAXAVOID*, which is increasing in the extent of tax avoidance. *LEGAL* is proxied by an indicator variable for common law jurisdiction in Column 1, by the law enforcement index of the country in Column 2, and by the anti-self-dealing index of the country in Column 3. The detailed definitions of all variables are provided in the Appendix. Coefficients on the year and industry indicator variables are not tabulated for brevity. The t-statistics 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
Societal Trust and Tax Avoidance– The Role of Information Environment

	Column (1)		Column (2)		Column (3)	
	InfoEnv = DISC		*InfoEnv = AVFR*		*InfoEnv = PBIG*	
	Estimate	t-value	Estimate	t-value	Estimate	t-value
Intercept	0.383	6.11***	0.637	17.22***	0.530	26.39***
TRUST	-0.441	-2.15**	-0.337	-4.53***	-0.388	-9.70***
*InfoEnv*TRUST*	0.005	1.81*	0.115	4.35***	0.594	9.16***
InfoEnv	0.000	-0.04	-0.080	-7.03***	-0.288	-10.94***
WW	-0.025	-5.55***	-0.007	-1.36	-0.024	-5.66***
BTAXC	-0.011	-1.24	-0.041	-4.23***	-0.011	-1.28
TAXRATE	0.160	4.78***	0.103	3.21***	0.049	1.67*
TAXENF	-0.042	-11.89***	-0.063	-16.81***	-0.041	-14.72***
VARCOMP	0.149	7.77***	0.280	12.58***	0.272	12.79***
EARNVOL	-0.051	-6.06***	-0.005	-0.49	-0.016	-1.88*
PROA	-0.002	-4.93***	-0.003	-5.77***	-0.002	-4.87***
SIZE	-0.015	-16.96***	-0.014	-14.91***	-0.015	-17.94***
R&D	0.045	1.55	0.043	1.38	0.045	1.54
LEV	0.036	2.85***	0.042	2.68***	0.037	2.87***
GROWTH	0.004	8.78***	0.004	8.52***	0.003	9.00***
MULTI	-0.032	-7.87***	-0.031	-7.31***	-0.030	-7.15***
Year-fixed effects	Yes		Yes		Yes	
Industry-fixed effects	Yes		Yes		Yes	
Adj Rsq	7.86		8.20		8.05	
n	78,476		74,421		79,834	

This table reports the regression results of the role of information environment (*InfoEnv*) on the relation between tax avoidance (*TAXAVOID*) and societal trust (*TRUST*). The dependent variable is *TAXAVOID*, which is increasing in the extent of tax avoidance. *InfoEnv* is proxied by the CIFAR disclosure index of the country in Column 1, by the annual frequency of financial reports issued by public companies in the country in Column 2, and by the proportion of firms that are audited by the Big N in the country in Column 3. The detailed definitions of all variables are provided in the Appendix. Coefficients on the year and industry indicator variables are not tabulated for brevity. The t-statistics 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
Societal Trust and Tax Avoidance– The Role of Tax Enforcement

	Estimate	t-value
Intercept	0.472	20.39***
TRUST	-0.211	-3.65***
*TAXENF*TRUST*	0.048	3.20***
TAXENF	-0.056	-10.40***
WW	-0.025	-6.08***
BTAXC	-0.021	-2.59***
TAXRATE	0.073	2.73***
VARCOMP	0.140	8.18***
EARNVOL	-0.037	-4.62***
PROA	-0.002	-5.47***
SIZE	-0.016	-19.49***
R&D	0.068	2.04**
LEV	0.034	2.86***
GROWTH	0.004	10.02***
MULTI	-0.024	-5.99***
Year- fixed effects	Yes	
Industry-fixed effects	Yes	
Adj Rsq	6.94	
n	79,834	

This table reports the regression results of the role of tax enforcement (*TAXENF*) on the relation between tax avoidance (*TAXAVOID*) and societal trust (*TRUST*). The dependent variable is tax *TAXAVOID*, which is increasing in the extent of tax avoidance. The detailed definitions of all variables are provided in the Appendix. Coefficients on the year and industry indicator variables are not tabulated for brevity. The t-statistics 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
Societal Trust and Tax Avoidance– Instrumental Variable (2SLS) Approach

	Column (1)		Column (2)	
	First-stage Dependent variable: *TRUST*		Second-stage Dependent variable: *TAXAVOID*	
	Estimate	t-value	Estimate	t-value
Intercept	0.116	10.25***	0.335	19.80***
TRUST			-0.125	-5.10***
PROTEST	0.188	26.00***		
CATHOLIC	-0.049	-7.41***		
BUDDHIST	-0.027	-3.75***		
MUSLIM	0.098	8.66***		
INDIG	0.058	8.50***		
WW	-0.080	-27.73***	-0.007	-1.70*
BTAXC	-0.040	-7.83***	0.008	0.88
TAXRATE	0.424	17.12***	0.040	1.40
TAXENF	0.033	12.45***	-0.046	-17.30***
VARCOMP	-0.553	-27.98***	0.191	10.49***
EARNVOL	-0.002	-13.91***	0.000	-2.87***
PROA	0.000	-2.17**	-0.002	-5.01***
SIZE	0.009	22.91***	-0.016	-19.58***
R&D	0.018	3.73***	0.042	1.44
LEV	0.001	0.95	0.037	2.87***
GROWTH	0.000	-2.90***	0.003	9.18***
MULTI	-0.025	-14.88***	-0.030	-7.38***
Year- fixed effects	Yes		Yes	
Industry-fixed effects	Yes		Yes	
Adj Rsq	44.21		7.84	
n	79,834		79,834	

This table reports the regression results of the relation between tax avoidance (*TAXAVOID*) and societal trust (*TRUST*), based on an instrumental variable (2SLS) approach. The dependent variable is *TAXAVOID*, which is increasing in the extent of tax avoidance. In Column 1, we report the results of the first-stage regression, where we regress *TRUST* on various instruments based on the religious adherence in the country and other control variables in the main regression. In Column 2, we report the second-stage results using the predicted value of *TRUST* from the first-stage. The detailed definitions of all variables are provided in the Appendix. Coefficients on the year and industry indicator variables are not tabulated for brevity. The t-statistics 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 8
Societal Trust and Tax Avoidance – Controlling for accrual components

	Estimate	t-value
Intercept	0.386	24.06***
TRUST	-0.047	-3.16***
WW	-0.023	-5.49***
BTAXC	-0.015	-1.87*
TAXRATE	0.060	2.22**
TAXENF	-0.040	-15.79***
VARCOMP	0.167	9.65***
EARNVOL	-0.001	-4.57***
PROA	-0.002	-5.23***
SIZE	-0.014	-17.17***
R&D	0.039	1.31
LEV	0.036	2.77***
GROWTH	0.005	11.21***
MULTI	-0.033	-8.06***
Δ*WC*	0.114	11.66***
Δ*NCO*	0.033	4.71***
Δ*FIN*	0.019	2.40**
Year- fixed effects	Yes	
Industry-fixed effects	Yes	
Adj Rsq	8.09	
n	79,803	

This table reports the regression results of the relation between tax avoidance (*TAXAVOID*) and societal trust (*TRUST*), including additional controls for accrual components. The dependent variable is tax avoidance *TAXAVOID*, which is increasing in the extent of tax avoidance. The detailed definitions of all variables are provided in the Appendix. Coefficients on the year and industry indicator variables are not tabulated for brevity. The t-statistics 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 9
Societal Trust and Tax Avoidance - Alternative Measures for Trust

	Column (1)		Column (2)		Column (3)	
	Estimate	t-value	Estimate	t-value	Estimate	t-value
Intercept	0.386	24.07***	0.440	19.45***	0.432	20.33***
TRUST_INDEX	0.000	-3.17***				
TRUST_GOVT			-0.079	-3.33***		
TRUST_PARLIAMENT					-0.084	-4.12***
WW	-0.021	-5.17***	-0.023	-5.74***	-0.027	-6.54***
BTAXC	-0.016	-1.92*	-0.022	-2.75***	-0.022	-2.68***
TAXRATE	0.072	2.67***	-0.073	-2.02**	-0.055	-1.59
TAXENF	-0.040	-15.85***	-0.039	-15.26***	-0.039	-14.97***
VARCOMP	0.156	9.04***	0.151	8.66***	0.153	8.69***
EARNVOL	-0.038	-4.62***	-0.023	-2.77***	-0.016	-1.83*
PROA	-0.002	-5.10***	-0.002	-4.97***	-0.002	-5.03***
SIZE	-0.015	-18.12***	-0.015	-17.13***	-0.015	-18.24***
R&D	0.045	1.53	0.045	1.53	0.045	1.54
LEV	0.036	2.87***	0.036	2.85***	0.036	2.84***
GROWTH	0.003	9.14***	0.003	8.95***	0.003	9.08***
MULTI	-0.032	-7.99***	-0.031	-7.49***	-0.031	-7.55***
Year-fixed effects	Yes		Yes		Yes	
Industry-fixed effects	Yes		Yes		Yes	
Adj Rsq	7.81		7.89		7.87	
n	79,834		76,683		78,308	

This table reports the regression results of the relation between tax avoidance (*TAXAVOID*) and societal trust (*TRUST*), using alternative measures of trust. The dependent variable is *TAXAVOID*, which is increasing in the extent of tax avoidance. *TRUST* is proxied using an alternative trust index in Column 1, by an alternative trust measure based on societal trust in the government in Column 2, and by an alternative trust measure based on societal trust in the parliament in Column 3. The detailed definitions of all variables are provided in the Appendix. Coefficients on the year and industry indicator variables are not tabulated for brevity. The t-statistics 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 10
Societal Trust and Tax Avoidance - Alternative Measures for Tax Avoidance

	Column (1)		Column (2)	
	Dependent variable: *TAXAVOID_ALT1*		Dependent variable: *TAXAVOID_ALT2*	
	Estimate	t-value	Estimate	t-value
Intercept	0.391	23.70***	0.460	26.10
TRUST	-0.051	-3.33***	-0.031	-1.95**
WW	-0.027	-5.97***	-0.017	-3.92**
BTAXC	0.000	0.01	-0.007	-0.85
TAXRATE	0.103	3.74***	-0.087	-3.03***
TAXENF	-0.045	-17.71***	-0.046	-16.11***
VARCOMP	0.181	10.36***	0.218	12.24***
EARNVOL	-0.025	-3.09***	-0.064	-7.11***
PROA	-0.003	-6.12***	-0.002	-3.71***
SIZE	-0.016	-18.32***	-0.016	-19.02***
R&D	0.045	1.53	0.030	1.21
LEV	0.036	2.85***	0.030	2.41**
GROWTH	0.003	6.23***	0.003	6.83***
MULTI	-0.032	-7.05***	-0.035	-8.18***
Year-fixed effects	Yes		Yes	
Industry-fixed effects	Yes		Yes	
Adj Rsq	7.53		13.02	
n	79,780		56,605	

This table reports the regression results of the relation between tax avoidance (*TAXAVOID*) and societal trust (*TRUST*), using alternative measures of tax avoidance. The dependent variable is *TAXAVOID*, which is measured as the difference between the taxes on pre-tax income computed at the home-country statutory corporate tax rate and the *tax expense recognized* instead of the *taxes actually paid* (*TAXAVOID_ALT1*) in Column 1, and as our original measure of tax avoidance but using a longer time window of 5 years instead of 3 years (*TAXAVOID_ALT2*) in Column 2. The detailed definitions of all variables are provided in the Appendix. Coefficients on the year and industry indicator variables are not tabulated for brevity. The t-statistics 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 11
Societal Trust and Tax Avoidance –
Removing US and Japanese firms and country-year regressions

	Column (1)		Column (2)		Column (3)	
	Removing US firms		Removing US and Japanese firms		Country-year regressions	
	Estimate	t-value	Estimate	t-value	Estimate	t-value
Intercept	0.395	16.59***	0.188	8.03***	0.236	3.09***
TRUST	-0.080	-4.91***	-0.025	-2.38**	-0.105	-2.20**
WW	-0.014	-3.12***	0.002	0.68	-0.027	-1.32
BTAXC	-0.050	-5.27***	-0.041	-5.01***	-0.038	-1.23
TAXRATE	-0.012	-0.37	0.563	13.42***	0.133	1.19
TAXENF	-0.042	-15.65***	-0.011	-4.16***	-0.027	-3.55***
VARCOMP	0.259	9.90***	0.019	0.92	0.157	1.91*
EARNVOL	-0.046	-4.75***	-0.071	-9.18***	0.027	0.90
PROA	-0.001	-2.37**	-0.001	-1.84*	-0.046	-2.18**
SIZE	-0.014	-14.13***	-0.014	-23.03***	-0.005	-0.53
R&D	0.055	2.44**	0.042	3.24***	0.229	2.45***
LEV	0.087	2.36**	0.013	1.61	0.098	1.30
GROWTH	0.003	7.30***	0.002	4.82***	0.044	2.60***
MULTI	-0.025	-3.71***	-0.036	-7.31***	-0.031	-0.82
Year-fixed effects	Yes		Yes		Yes	
Industry-fixed effects	Yes		Yes		No	
Adj Rsq	7.43		9.49		19.66	
n	53,266		20,433		191	

This table reports the regression results of additional robustness checks of the relation between tax avoidance (*TAXAVOID*) and societal trust (*TRUST*). The dependent variable is *TAXAVOID*, which is increasing in the extent of tax avoidance. Column 1 shows the results excluding U.S. firms, Column 2 shows the results excluding both U.S. and Japanese firms, and Column 3 shows the results for country-year regressions. The detailed definitions of all variables are provided in the Appendix. Coefficients on the year and industry indicator variables are not tabulated for brevity. The t-statistics 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.