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**The effect of foreign institutional  
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# The Effect of Foreign Institutional Ownership on Corporate Tax Avoidance: International Evidence

Iftekhar Hasan<sup>a,b</sup>, Incheol Kim<sup>c</sup>, Haimeng Teng<sup>d</sup>, and Qiang Wu<sup>e</sup>

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## Abstract

This study examines whether foreign institutional investors (FIIs) help explain variation in corporate tax avoidance and whether mechanisms such as tax morality, investment horizon, and corporate governance underlie the relation between FIIs and tax avoidance. We find robust evidence that FIIs are negatively associated with corporate tax avoidance. Moreover, this negative association is dominated by FIIs from countries with high tax morality, FIIs with long-term investment horizons, and FIIs from countries with high corporate governance quality. We conclude that FIIs play an active role in shaping corporate tax avoidance policy.

JEL classification: G23, G32, H26, M41

Keywords: Tax Avoidance, Foreign Institutional Ownership, Tax Morale, Investment Horizon, Corporate Governance

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## 1. Introduction

In the last two decades, corporate tax avoidance activities around the world have grown steadily. Accordingly, corporate tax avoidance has received considerable attention from regulators and policymakers internationally. For example, deterring corporate tax avoidance has been one of the core issues at the Group of Twenty (G20) summit for the last several years.<sup>1</sup> On the academic side, despite substantial recent attention on tax avoidance, our understanding on the determinants of tax avoidance, especially from a global market perspective, remains very limited. Hanlon and Heitzman (2010) argue that ownership structure is an important factor that could affect corporate tax avoidance, and they thus call for more research from this perspective. In this study, we investigate whether and under what mechanisms foreign institutional investors (FIIs), a unique and important ownership structure, affect their investee firms' tax avoidance.

With financial globalization, FIIs have become increasingly important financing sources worldwide. According to the International Monetary Fund (IMF), total investment in equity assets by foreign investors exceeded US\$23 trillion in 2009. An emerging literature finds that FIIs play an active role in influencing corporate decisions through both direct interventions as well as indirect supply-demand threats (e.g., Gillan and Starks, 2003; Ferreira and Matos, 2008; Aggarwal, Erel, Ferreira, and Matos, 2011). For example, FIIs facilitate successful cross-border mergers and acquisitions (M&As) (Ferreira, Massa, and Matos, 2010), improve corporate governance quality of investee firms (Aggarwal et al., 2011), increase accounting comparability across international financial markets (Fang, Maffett, and Zhang, 2015), and enhance investee firms' innovation capacity (Luong et al., 2015).

Corporate tax avoidance, one of the most important corporate decisions, is associated with both benefits and costs (e.g., Hasan, Hoi, Wu, and Zhang, 2014). On one hand, given that

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<sup>1</sup> <http://www.reuters.com/article/us-imf-g20-taxation-idUSKCN0S400V20151010>

tax could take away approximately one-third of corporate pretax profits from shareholders,<sup>2</sup> tax avoidance could result in substantial cash tax savings (Dyreng, Hanlon, and Maydew, 2008). On the other hand, engaging in tax avoidance activities may expose firms to various risks including tax authority auditing risk, litigation risk, and reputation risk (Hanlon and Heitzman, 2010). Prior studies show that institutional investors, such as long-term institutional investors and hedge fund managers, pay close attention to corporate tax avoidance activities (e.g., Khurana and Moser, 2013; McGuire, Wang, and Wilson, 2014). Because FIIs are a unique group of institutional investors that have been found to affect various corporate decisions (Gillan and Starks, 2003; Ferreira and Matos, 2008; Aggarwal et al., 2011), we conjecture that FIIs could significantly affect corporate tax decisions as well. A November 2014 article in the *Financial Times* gives an example of how FIIs intervene in corporate tax decision:

*Sasja Beslik, Nordea's head of corporate governance<sup>3</sup>, says he will raise tax-related concerns with a company's board, and if that fails he will file a motion at an annual general meeting. If that still proves ineffective, the company in question may be excluded from Nordea's investment universe.*

Given FIIs' unique characteristics compared with domestic institutional investors (DIIs), however, it is unclear how FIIs affect corporate tax avoidance across countries. In this paper, we focus on three possible underlying channels: FIIs' intrinsic tax morality, their investment horizon, and their home country's corporate governance effectiveness, through which FIIs could affect their investee firms' tax avoidance decisions.

First, given that FIIs and their investee firms might have different tax morality levels, we expect that FIIs' tax morality is one of the important determinants of investee firms' tax avoidance. Frey (1997) argues that an individual's decision to pay tax is affected by both

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<sup>2</sup> In our sample, the average company faces a home-country statutory tax rate of 32%.

<sup>3</sup> Nordea Investment Management is the biggest Nordic fund house.

external (i.e., potential penalty for tax avoidance) and internal (i.e., tax morality) motivation. Luttmer and Singhal (2014) emphasize tax morality as the primary force that determines an individual's tax compliance, and this tax morality theory also applies to corporate settings. For example, Hasan, Hoi, Wu, and Zhang (2015) find that firms in areas with higher civic norms are less likely to avoid taxes. DeBacker, Heim, and Tran (2015) find that foreign-owned corporations in the United States whose owners are from highly corrupted countries are more likely to engage in tax avoidance. To the extent that tax morality affects corporate tax avoidance, we predict that FIIs' tax morality affects their investees' corporate tax avoidance.

Second, prior studies show that institutional investors' investment horizon plays an important role in shaping corporate policies. Bushee (1998) finds that institutional investors with short-term investment horizons tend to reduce R&D expenditure to achieve foreseeable earnings targets. On the contrary, institutional investors with long-term investment horizons do not reduce R&D expenditure by discouraging managers' myopic behavior. Khurana and Moser (2013) show that long-term institutional investors deter corporate tax avoidance because such activities encourage managerial opportunism and reduce transparency in the long run. Therefore, it is highly plausible that FIIs with long-term investment horizons are more likely to discourage investee firms from engaging in tax avoidance activities.

Third, intensive studies show that corporate governance quality influences tax avoidance. Existing literature shows that corporate tax avoidance is one symptom among firms with poor corporate governance (e.g., Desai and Dharmapala, 2006). In a recent survey, McCahery, Sautner, and Starks (2016) show that FIIs enhance investee firms' corporate governance through both direct intervention and indirect supply–demand threats. Aggarwal et al. (2011) find that an increase in foreign ownership leads to improvement in investee firms' corporate governance quality. They also show the positive effect is more pronounced for

foreign owners whose home country has a common-law system. Therefore, we expect that FIIs also affect investee firms' tax avoidance through their governance role.

Based on a sample of 47,749 firm-year observations across 32 countries between 2000 and 2008, we find a significantly negative relation between FIIs and corporate tax avoidance. Our result is economically significant. Specifically, the coefficient estimate of FIIs translates into corporate tax avoidance decreasing by, on average, 0.46 percentage points (a 9% decrease in relative terms to the mean of tax avoidance) when foreign institutional ownership increases from 0.25% (the 25<sup>th</sup> percentile in our sample) to 6.09% (the 75<sup>th</sup> percentile). Given our sample's mean value of pretax income of US\$201.27 million, this 0.46% decrease in tax avoidance equates to an increase of US\$0.93 million in tax expenses for the average investee firm in our sample.

We conduct a battery of robustness tests in an attempt to mitigate endogeneity concerns such as omitted variable bias and reverse causality. First, we control for country-level characteristics that could affect corporate tax avoidance. Second, following Ferreira et al. (2010), we implement a two-stage least squares model with an instrumental variable. Third, we perform a difference-in-differences analysis by exploiting China's legal reform, the Qualified Foreign Institutional Investor program that significantly attracts FIIs to the Chinese stock market, as a natural experiment. Fourth, we compare changes in corporate tax avoidance in response to a significant increase (more than one standard deviation) in foreign institutional ownership. All tests confirm the negative relation between FIIs and corporate tax avoidance.

We provide further evidence on the mechanisms through which FIIs impact corporate tax avoidance. We find that 1) FIIs from countries with high tax morality play a dominant role in deterring investee firms' corporate tax avoidance; 2) FIIs with long investment horizons are the main drivers of lowering investee firms' corporate tax avoidance, whereas FIIs with short investment horizons do not decrease tax avoidance; 3) FIIs from countries with high corporate

governance quality decrease investee firms' corporate tax avoidance, whereas FIIs from countries with low corporate governance quality do not. Our findings lend strong support to our hypotheses that tax morality, investment horizon, and corporate governance are plausible underlying channels through which FIIs affect corporate tax avoidance.

Overall, our results suggest that FIIs significantly affect corporate tax avoidance. These results add to the recent literature that examines the effects of ownership structure on corporate tax avoidance (e.g., Chen, Chen, Cheng, and Shevlin, 2010; Cheng, Huang, Li, and Stanfield, 2012; Badertscher, Katz, and Rego, 2013; Khurana and Moser, 2013; McGuire et al., 2014). We provide evidence of a previously undocumented determinant of corporate tax avoidance: specifically, foreign institutional ownership, rather than domestic institutional ownership, is negatively associated with corporate tax avoidance. Our results indicate that FIIs play a distinct role in influencing corporate tax avoidance decisions, above and beyond that of DIIs. We also highlight the heterogeneity among different types of institutional investors. Even for FIIs, our results further suggest that their effect on investee firms' tax avoidance is not homogenous either. More specifically, FIIs' effect on tax avoidance depends on their tax morality, their investment horizon, and their home country's corporate governance.

This paper also contributes to the literature by illustrating FIIs' role in corporate policies. Extant literature shows that FIIs affect firm value and performance (Ferreira and Matos, 2008), financial reporting practice (Fang et al., 2015), corporate governance (Aggarwal et al., 2011), and innovation (Luong et al., 2015). Our study extends this stream of research by showing FIIs' effect on corporate tax decisions, one of the most important corporate decisions. Our results have important implications for firms with FIIs, investors in the global market, and policymakers, providing new insights about determinants of corporate tax avoidance internationally.



The rest of this paper is organized as follows. Section 2 discusses the prior literature on FIIs and tax avoidance and develops our predictions. Section 3 describes data in the sample, followed by the outline of our research design and analysis in Section 4. Section 5 concludes the paper.

## **2. Literature review**

Recent literature reveals some determinants of corporate tax avoidance in global markets. For example, Atwood, Drake, Myers, and Myers (2012) document international evidence showing that domestic country tax systems (e.g., strength of tax enforcement) are associated with corporate tax avoidance. Beuselinck, Deloof, and Vanstraelen (2015) find that organizational structure of multinational corporations, including private versus public status, also affects a magnitude of income, shifting countries from high to low statutory tax rates. Li, Maydew, Willis, and Xu (2015) show that political uncertainty surrounding presidential and legislative elections increases corporate tax avoidance. Although an international scope of research on corporate tax avoidance has garnered attention in recent years, there is still little evidence about how firm-level characteristics, especially ownership structure, affect tax avoidance internationally.

Prior literature has shown that FIIs aggressively extend their investment globally, thereby increasing their role in corporate decision making. For instance, FIIs encourage firms to engage in cross-border mergers and acquisitions (Ferreira et al., 2010), promote corporate governance (Aggarwal et al., 2011), increase accounting comparability across international financial markets (Fang et al., 2015), and encourage innovation (Luong et al., 2015). Despite this large body of literature on FIIs' effects on corporate policies and firm performance, there is little direct evidence about their effects on corporate tax avoidance.

Although two separate strands of literature—on FIIs and tax avoidance—are fast growing, to the best of our knowledge, no other research has examined determinants of corporate tax avoidance with the perspective of ownership structure in an international setting. Given FIIs’ unique characteristics compared with DIIs and other investors, it remains unclear in which direction FIIs affect corporate tax avoidance. This study attempts to fill this gap. We further attempt to find possible mechanisms through which FIIs impact investee firms’ tax avoidance activities, including FIIs’ tax morality, their investment horizon, and their home-country’s corporate governance.

### ***2.1 Mechanism 1: tax morality***

Our first mechanism investigates whether FIIs’ tax morality influences investee firms’ corporate tax avoidance. Song and Yarbrough (1978) define “taxpayer ethics” as “the norms of behavior governing citizens as taxpayers in their relationship with government.” Luttmer and Singhal (2014) highlight the importance of an individual’s intrinsic morality to pay tax beyond the legal enforcement. Richardson (2006) shows that tax morality is negatively associated with tax evasion at the country-level. There is evidence on how tax morality affects corporate tax avoidance as well. For example, McGuire, Omer, and Sharp (2012) document that firms located in religious counties are less likely to avoid corporate taxes, indicating that moral constraints, rather than risk aversion, dominate corporate tax avoidance behaviors. Hasan et al. (2015) use civic norm as a proxy for tax morality and find it has a negative impact on corporate tax avoidance. Moreover, prior studies find that foreign investors transfer culture from their home countries to the investee firms in many aspects. For instance, DeBacker et al. (2015) find that foreign-owned corporations in the United States with owners from highly corrupted countries are more likely to engage in tax avoidance activities. Taken together, we

conjecture that FIIs' home country tax morality play a non-negligible role in shaping investee firms' corporate tax policy.

## ***2.2 Mechanism 2: investment horizon***

Our second mechanism investigates whether FIIs' investment horizon matters for corporate tax avoidance. Bushee (2001) shows that transient institutional investors overemphasize short-term earnings and underemphasize long-term earnings. In theory, corporate tax avoidance could increase firm value and therefore shareholders' wealth from tax savings (Desai and Dharmapala, 2009; Slemrod, 2004). For example, hedge fund activists target firms with low level of tax avoidance and push those firms' managers to increase tax avoidance after the funds invest (Cheng et al., 2012). However, tax avoidance activities may facilitate managerial opportunism due to their complicated nature (Chen et al., 2010; Desai and Dharmapala, 2006, 2009) and could hurt long-term firm value through managerial rent extraction, litigation risk, and reputation risk. Khurana and Moser (2013) find direct empirical evidence that long-term institutional investors are less likely to be associated with corporate tax avoidance. FIIs could have either short-term or long-term targets, and we conjecture that FIIs with long-term (short-term) investment horizons could affect tax avoidance negatively (positively).

## ***2.3 Mechanism 3: corporate governance***

Our third mechanism examines whether FIIs affect corporate tax avoidance through exporting governance from their own countries to their investee firms. FIIs, as one type of institutional investor, can affect firms' corporate governance through both direct intervention and indirect supply-demand threats (Gillan and Starks, 2003; Ferreira and Matos, 2008; Aggarwal et al., 2011), particularly in countries that lack strong governance mechanisms.

Aggarwal et al. (2011) document a positive effect of FIIs on investee firms' corporate governance in countries with weak investor protection, particularly when FIIs are from countries with strong investor protection. In the tax literature, despite mixed empirical results on the relation between corporate governance and corporate tax avoidance, a general theme is that good governance deters corporate tax avoidance, given that tax avoidance facilitates managerial expropriation of shareholder wealth (Desai and Dharmapala, 2006; Hanlon and Heitzman, 2010). For example, Richardson, Taylor, and Lanis (2013) find that good corporate governance is less likely to be associated with tax aggressiveness. Therefore, we predict that FIIs from countries with strong investor protection decrease investee firms' tax avoidance compared with FIIs from countries with weak investor protection.

### **3. Data**

We obtain data from several sources. International institutional ownership information comes from FactSet, firm characteristics including tax avoidance information are from Global Compustat, and the tax morality index is from the World Values Survey.

#### ***3.1 Tax avoidance measurement***

Following Atwood et al. (2012), we define tax avoidance as “the reduction of explicit taxes paid” and use the modified cash effective tax rate calculation from Dyreng et al. (2008) as our primary measure of tax avoidance.<sup>4</sup> The tax avoidance for firm  $i$  at year  $t$  is calculated as follows:

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<sup>4</sup> We use annual tax avoidance measurement in our baseline model, instead of the three-year average of tax avoidance used in Atwood et al. (2012), but we construct robustness tests with two-year and three-year averages of tax avoidance. The results are consistent with our baseline result.

$$\text{TaxAvoid}_{i,t} = \frac{(\text{PreTaxEarn} * T)_{i,t} - \text{TaxPaid}_{i,t}}{\text{PreTaxEarn}_{i,t}} \quad (1)$$

where

PreTaxEarn = pretax earnings less special items

T = home-country statutory corporate income tax rate

TaxPaid = current cash tax paid<sup>5</sup>

### 3.2 International institutional ownership

FactSet provides detailed information about institutional investors' holdings, names, types, turnover rates, and headquarters locations, as well as information on their investees' prices, shares outstanding, and locations in international capital markets. International institutional ownership studies in the field of accounting and finance have used this data set as a primary source. A major drawback of this data set, however, is that institutional investors report their holdings on different reporting dates with irregular frequency across countries. To address this issue, following Ferreira and Matos (2008), we retain only the latest institutional ownership for each year. The final sample includes 47,749 firm-year observations across 32 countries from 2000 to 2008.<sup>6</sup>

We construct a battery of institutional ownership measures using institutional investors' information. Total institutional ownership, *Totown*, is institutional investors' aggregate holdings divided by shares outstanding for firm *i* at year *t*. Foreign institutional ownership, *Forown*, is FIIs' aggregate holdings divided by shares outstanding for firm *i* at year *t*. Foreign institutions are defined as institutions domiciled in a country different from the invested

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<sup>5</sup> Following Atwood et al. (2012), if current tax paid is missing, we replace it with total tax expense less deferred tax expense.

<sup>6</sup> At an institutional level, we include 2,411 institutions headquartered in 43 countries for the corresponding period.

company's country. Foreign institutional ownership coming from a country with high (or low) tax morality, *Forown\_HighMorale* (or *Forown\_LowMorale*), is the aggregate holdings of foreign institutions whose home country is classified as a high- (or low-) tax-morality country. Appendix A contains further detailed definitions of other institutional ownership variables.

### **3.3 Tax morality index**

The tax morality indexes are obtained from the World Values Survey (WVS).<sup>7</sup> WVS data are widely used in many fields such as economics and finance (e.g., Guiso, Sapienza, and Zingales, 2003, 2008; Alm and Torgler, 2006). The WVS conducts a series of surveys to collect information regarding national culture and/or belief with respect to social, economic, and political issues by interviewing at least 1,000 residents in a given country in almost 100 countries. To assess tax morality, the WVS asks individuals the following question:

*“Please tell me for each of the following actions whether you think it can always be justified, never be justified, or something in between: ... Cheating on taxes if you have a chance (on a ten-point scale where 1 is never justifiable and 10 is always justifiable)”*

Based on this questionnaire, we follow Alm and Torgler (2006) and construct an individual-level dummy variable that equals 1 if the respondent's answer is 1 (never justifiable) and 0 otherwise. We then take the percentage of a given country's individual-level tax morality score as its country-level tax morality index ranging from 0 (lowest degree of tax morality) to 1 (highest degree of tax morality). To include as many countries as possible, we use the most recent three WVS waves (Wave 4, Wave 5, and Wave 6) from 1999 to 2014. If a country participates in more than one wave, we average its tax morality index. We then divide the sample into high-tax-morality and low-tax-morality countries, with the cutoff point being the

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<sup>7</sup> Data are available at the webpage via <http://www.worldvaluessurvey.org/WVSContents.jsp>.

median value of the tax morality index. We report our tax morality index by country in Figure 1.

\*\*\*\*\* Insert Figure 1 here \*\*\*\*\*

### **3.4 Investment horizon**

We use the median value of institutional investors' turnover, 0.227, as the cutoff point to split institutional investors (both FIIs and DIIs) into long-term and short-term categories. The median value of 0.227 for institutional investors' turnover indicates that their median investment horizon is approximately 4.4 years. If FIIs' turnover is larger than 0.227, we categorize them as having a short investment horizon (*Forown\_Short*), and otherwise we code them as having a long investment horizon (*Forown\_Long*). Similarly, if DIIs' turnover is larger than 0.227, we categorize them as having a short horizon (*Domown\_Short*), and otherwise we code them as having a long horizon (*Domown\_Long*).

### **3.5 Country-level governance**

Following Aggarwal et al. (2011), we use law origin to proxy country-level corporate governance. La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998) argue that common-law countries, compared with civil-law countries, have strong investor protections and therefore high corporate governance quality. *Forown\_CommonLaw* (*Forown\_CivilLaw*) is the aggregate ownership of foreign institutions whose home countries are classified as common-law (civil-law) countries.

Table 1 presents descriptive statistics on variables used in our empirical analyses. The mean (median) value of tax avoidance is 5.3% (6.2%), similar to Li et al. (2015), who show a mean (median) value of tax avoidance of 6.2% (9.0%). Institutional investors hold on average 9.4% of ownership, with approximately 4.7% foreign institutional ownership and 4.8%

domestic institutional ownership. Our sample firms have average assets of US\$2,368 million and leverage (debt to assets) of 20%. During our sample period, the average corporate tax rate is about 32% for the 32 countries where investee firms are located. Approximately 48% of our sample firms are engaged in multinational operations. Two-thirds of our 32 countries have civil-law legal origin, and approximately 69% of firms are in developed countries.

\*\*\*\*\* Insert Table 1 here \*\*\*\*\*

In Table 2, we tabulate tax avoidance and institutional investor ownership by country. The top three countries with the highest tax morality are Japan, Indonesia, and Pakistan, and the bottom three are Israel, Germany, and Peru. We also divide our sample into two groups: high- and low-tax-morality countries. Of all 32 countries, 12 are from Asia and 11 from Europe. Although 7 out of 12 Asian countries are classified as high-tax-morality countries, only 4 out of 11 European countries are. The mean value of tax avoidance for the high-tax-morality group is 4.7%, and the corresponding value for the low-tax-morality group is 6.1%. The difference in tax avoidance between these two groups is statistically significant at the 1% level, indicating that firms in high-tax-morality countries are associated with lower levels of tax avoidance. Regarding institutional ownership, both domestic and foreign ownership are higher in low-tax-morality countries than in high-tax-morality countries.

\*\*\*\*\* Insert Table 2 here \*\*\*\*\*

We further examine the effect of a country's legal origin and economic development on tax avoidance. In common-law countries, 5 out of 10 are classified as high-tax-morality countries, compared with 11 out of 22 civil-law countries. We find that the mean value of tax avoidance in common-law countries is 4.0% and the corresponding value in civil-law countries is 5.5%; the difference between these two groups is statistically significant at the 1% level. 9



out of 15 developed countries are classified as high-tax-morality countries. We also find that the mean value of tax avoidance in developed countries is 2.9% and the corresponding value in developing countries is 9.7%; the difference between these two groups is also statistically significant at the 1% level. For brevity, the results are not tabulated.

## 4. Empirical results

### 4.1 Multivariate results: foreign institutional ownership and tax avoidance

In Table 3, we investigate the effect of institutional ownership on tax avoidance. Our baseline regression model is as follows:

$$\begin{aligned}
 TaxAvoid_{i,t} = & \alpha_0 + \sum \alpha_m InstOwn_{i,t} + \sum \alpha_n Control_n + \alpha_{year} \\
 & + \alpha_{industry} + \alpha_{country} + \varepsilon_{i,t}
 \end{aligned}
 \tag{2}$$

where

$TaxAvoid_{i,t}$  = tax avoidance measurement from Model (1)

$InstOwn_{i,t}$  = types of institutional ownership (e.g., *Totown*, or *Domown* and *Forown*)

$\alpha_{year}$  = year fixed effects

$\alpha_{industry}$  = industry fixed effects

$\alpha_{country}$  = country fixed effects

$Control = Ln(Size)_{i,t-1}, Leverage_{i,t}, ROA_{i,t}, Sales\ Growth_{i,t}, R\&D_{i,t}, Accrual_{i,t}, Tax\ Rate_{i,t},$

$Foreign\ Operation_{i,t}$  (see Appendix A for detailed information)

In Column (1), we first examine the association between tax avoidance and total institutional ownership (*Totown*). We find that the coefficient on *Totown* is -0.042, which is statistically significant at the 1% level. Economically, our coefficient estimate of *Totown* translates into corporate tax avoidance decreasing by, on average, 0.51 percentage points (a 10%

decrease in relative terms to the mean of tax avoidance) when total institutional ownership increases from 1.18% (the 25<sup>th</sup> percentile in our sample) to 13.30% (the 75<sup>th</sup> percentile). Given the mean value of pretax income in our sample of US\$201.27 million, this 0.51% decrease in tax avoidance would equal an increase of US\$1.03 million in tax expenses for an average firm. Our finding is consistent with Khurana and Moser (2013), who find a positive correlation between long-term institutional ownership and the cash effective tax rate in the United States.

\*\*\*\*\* Insert Table 3 here \*\*\*\*\*

To test how FIIs affect corporate tax avoidance, we then split institutional ownership into foreign (*Forown*) and domestic (*Domown*) institutional ownership. Column (2) reports the results. We find that the coefficient on *Forown* is negative and statistically significant at the 1% level. Economically, the coefficient estimate of FIIs is  $-0.080$ , which translates into corporate tax avoidance decreasing by, on average, 0.46 percentage points (a 9% decrease in relative terms to the mean of tax avoidance) when foreign institutional ownership increases from 0.25% (the 25<sup>th</sup> percentile in our sample) to 6.09% (the 75<sup>th</sup> percentile). This 0.46% decrease in tax avoidance would equal a US\$0.93 million increase in tax expenses by the average firm in our sample. For domestic institutional ownership, although the coefficient on *Domown* is negative, it is statistically insignificant. Hence our results indicate that foreign institutional ownership plays a dominant role in reducing investee firms' tax avoidance, but domestic institutional ownership does not.

## **4.2 Robustness tests**

### **4.2.1 Do home country characteristics matter?**

In Table 4, we first examine how various country characteristics could affect our main finding. Existing tax avoidance research builds on the theory that a firm determines its level of

tax avoidance by trading off potential benefits from tax savings with the potential risks of being caught by the government (Mills, 1998). Thus we focus on country characteristics that may affect this trade-off decision. The limitation of international-level studies, however, is that proxy variables for certain country characteristics often are neither time-variant nor comprehensive. To overcome this weakness, following Rajan and Zingales (1998), we include interaction terms between country and year in our regressions. We thus can test the effect of time-invariant variables, such as legal origin and economic development, while controlling for unobservable heterogeneous cross-country effects that might affect our findings.

We first include four country characteristics that affect the strength of legal enforcement, the likelihood of a firm being audited by the government, and/or the likelihood of it being punished for tax evasion: legal origin (*CivilLaw*) from La Porta et al. (1998), government effectiveness to enforce the law (*GovEffect*), the quality of regulations (*RegQuality*), and transparency in politics (*Accountability*). Columns (1) to (4) in Table 4 report the results. We find that three out of the four variables are significantly and negatively associated with tax avoidance at the 1% level, and *CivilLaw* is insignificantly associated with tax avoidance. In sum, effective law enforcement and high political transparency reduce local firms' tax avoidance.

\*\*\*\*\* Insert Table 4 here \*\*\*\*\*

We then include an economic development indicator (*EconDevelop*) that equals 1 for a developed country and 0 otherwise. Prior tax research shows that tax evasion is pervasive in developing countries (e.g., Richupan, 1984; Gillis, 1989; Bird and de Jantscher, 1992). We find that *EconDevelop* is significantly negatively associated with tax avoidance at the 1% level, consistent with prior studies.

We further add an index measuring a country's freedom from corruption (*Anti-corruption*) obtained from the Heritage Foundation. If corruption is high, marginal benefits from tax savings would be greater than marginal cost of punishment imposed on firms for tax avoidance as a result of weak enforcement of tax collection and/or lack of government audits. As predicted, *Anti-corruption* is significantly negatively associated with tax avoidance at the 1% level. Lastly, we include the invested firms' home country tax morality (*Tax Morale Index*), and the coefficient on *Tax Morale Index* is also significantly negative. More importantly, in all seven regressions, *Forown* stays significantly and negatively associated with tax avoidance at the 1% level. Taken together, these results show that our main findings are not subsumed by country-level factors that could affect tax avoidance.

#### 4.2.2 Two-stage model

Our model could suffer from endogeneity. Whether or not FIIs invest in a foreign firm and whether or not a firm accepts FIIs are corporate decisions. Such decisions are not made in isolation but rather are likely to be made in conjunction with other corporate decisions, including tax decisions. This dynamic introduces simultaneity bias into our analysis. In addition, although we try to include control variables that are found to affect tax avoidance in the literature, our model could still suffer from omitted variable bias. We first test if our variable of interest, *Forown*, is an exogenous variable in our baseline model. The F-value for our robust regression is 3.28 (p-value is 0.07). This result indicates that our variable of interest is endogenous. Thus, the OLS model may be inefficient.

To mitigate endogeneity concerns, we implement a two-stage model (2SLS). A good instrumental variable is correlated with the endogenous variable and not directly correlated with the dependent variable. It is correlated with the dependent variable only through the endogenous variable. Ferreira and Matos (2008) find that FIIs prefer firms in the Morgan

Stanley Capital International (MSCI) Index. Therefore, following Ferreira et al. (2010), we use *MSCI inclusion* as an instrumental variable for foreign institutional ownership. *MSCI inclusion* equals 1 if a given firm is included in MSCI in a given year  $t$  and 0 otherwise. It is not possible to prove that the instrumental variable is correlated with the dependent variable only through the endogenous variable. To test the instrument's validity, we run an F-test and find an F-value of 289.31, indicating that our instrumental variable is valid.

We then regress tax avoidance on predicted foreign institutional ownership (*Pred\_Forown*) from first-stage regressions. Table 5 reports the results. We find that *MSCI Inclusion* is significantly positively associated with foreign institutional ownership at the 1% level. In the second stage, we find that *Pred\_Forown* is significantly negatively associated with tax avoidance at the 1% level. This result is consistent with our baseline result—that is, foreign institutional ownership has a significantly negative association with tax avoidance.

\*\*\*\*\* Insert Table 5 here \*\*\*\*\*

#### 4.2.3 Using China's Qualified Foreign Institutional Investors reform as a natural experiment

In Table 6, we further address endogeneity concerns by exploiting a quasi-natural experiment. Many stocks traded on Chinese exchanges offer two types of shares, A share and B share. A share is the regular stock, which was available to domestic investors but unavailable to foreign investors before 2002. If foreign investors wanted to invest in China's stock market before 2002, they could purchase stocks only through B shares. B shares have the same rights as A shares except that Type B shareholders receive dividends in foreign currency. Compared with A shares, the number of B shares was limited. China's Qualified Foreign Institutional Investors reform in 2002 allowed qualified FIIs to purchase stocks directly through A shares. This reform attracted more FIIs to invest in China's stock market, which provides us with a good natural experiment.

Because our sample starts in 2000 and the reform happened in 2002, we analyze a  $[-2, 2]$  year window. In an untabulated test, we find that FIIs in China increased by 8.63% (from 10.38% to 19.00%) after the reform, and this increase is significant at the 1% level. The result confirms the important assumption of our setting: the number shares holding by FIIs increased significantly after the legal reform.

Our difficulty in conducting a difference-in-differences analysis comes from the fact that there is no perfect control group of countries to match with China. We thus use four different criteria to choose the control countries: They must be Asian countries, low-tax-morality countries, emerging economies, and civil-law countries. Table 6 reports the results of difference-in-differences regressions using the four different sets of control countries. Three variables of interest are *China*, *Post-Reform*, and *China\*Post-Reform*. *China* is an indicator that equals 1 if the investee firms' home country is China and 0 otherwise. *Post-Reform* is an indicator that equals 1 if the observational year is after China's reform year, 2002, and 0 otherwise. *China\*Post-Reform* is the interaction term between *China* and *Reform*, capturing the post-reform effect of investee firms in China compared with control countries. The results of our variable of interest, *China\*Reform*, are all negative and significant, indicating that the significant increase of foreign institutional ownership led to a decrease in tax avoidance in China compared with benchmark countries. The results mitigate the endogeneity concern and confirm a causal effect of foreign institutional ownership on tax avoidance.

\*\*\*\*\* Insert Table 6 here \*\*\*\*\*

#### 4.2.4 The effect of dramatic changes in institutional ownership on tax avoidance

Our third strategy is a change regression. Specifically, we test how corporate tax avoidance changes after institutional ownership significantly increases. To ensure a non-negligible effect of changes in foreign (domestic) institutional ownership on corporate tax

policy, we first identify firms that increase at least one standard deviation of foreign (domestic) institutional ownership from the previous year to the current year: 1,342 unique firms for foreign institutions and 1,275 unique firms for domestic institutions. We then find matching firms (i.e., firms that do not increase a standard deviation of foreign (domestic) institutional ownership) based on year, industry (i.e., the first three digits of the SIC code), and the nearest firm size<sup>8</sup>. We restrict our analysis to a short window, two years before and after changes in foreign (domestic) institutional ownership, to avoid confounding effects. We also exclude the year in which institutional ownership increases.

*Post* is a dummy variable that equals 1 for years after foreign (domestic) institutional ownership increases and 0 otherwise. *IncFor* (or *IncDom*) is a dummy variable that equals 1 for firms that increase foreign (domestic) institutional ownership by one standard deviation of foreign (domestic) institutional ownership and 0 otherwise. The interaction term between *Post* and *IncFor* (or *IncDom*) captures the asymmetric effect of increased foreign (or domestic) institutional ownership between the treatment group and the control group. This difference-in-difference approach provides us dynamic views to compare the effect of changes in foreign (domestic) institutional ownership on tax avoidance, although dramatic increases in foreign (or domestic) institutional ownership are not strictly exogenous.

The first pair of models tests changes in tax avoidance before and after changes in standard deviation of foreign (domestic) institutional ownership relative to corresponding matched firms without control variables. In this case, we find that the level of tax avoidance decreases after at least a one-standard-deviation increase in foreign or domestic institutional ownership compared with corresponding matched firms. The coefficients on *Post\*IncFor* and *Post\*IncDom* are  $-0.025$  and  $-0.034$  respectively, which are statistically significant at the 5% level or better. In the next pair, we include control variables used in Table 7. Although the

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<sup>8</sup> The ratio of assets between two firms is bounded by 75% and 125%.

coefficient on *Post\*IncFor* remains statistically and economically significant, the coefficient on *Post\*IncDom* becomes insignificant. This evidence strongly supports our hypothesis that FIIs reduce corporate tax avoidance but DIIs do not. Our empirical findings suggest that the effect of DIIs on tax avoidance is largely subsumed by known firm characteristics or unknown industry, country, and year effects.

\*\*\*\*\* Insert Table 7 here \*\*\*\*\*

### ***4.3 Exploring underlying mechanisms***

#### ***4.3.1 Mechanism 1: FIIs' home country tax morality and corporate tax avoidance***

Until now, we find that FIIs have a significantly negative effect on investee firms' tax avoidance. In next three tables, we investigate possible mechanisms that drive the negative relation between FIIs and corporate tax avoidance. We first examine the effect of FIIs' home country tax morality on tax avoidance in investee companies. We separate foreign institutional ownership into two groups based on home country tax morality: institutions headquartered in high-tax-morality countries (*Forown\_HighMorale*) versus low-tax-morality countries (*Forown\_LowMorale*). In Column (1) of Table 8, we find foreign ownership headquartered in high-tax-morality countries has a significantly negative relationship with investee firms' tax avoidance, whereas foreign ownership headquartered in low-tax-morality countries is positively (but not significantly) associated with investee firms' tax avoidance. Our findings indicate that FIIs' tax morality plays a critical role in shaping investee firms' tax avoidance.

\*\*\*\*\* Insert Table 8 here \*\*\*\*\*

We further test how investee firms' tax morality affects our findings. In Columns (2) and (3), we examine the effects of *Forown* on *TaxAvoid* in low- and high-tax-morality countries separately. We find different effects of FIIs on investee firms located in each type of country.



For investee firms from low-tax-morality countries, the coefficient on *Forown* is -0.131, statistically significant at the 1% level. For investee firms from high-tax-morality countries, however, the coefficient on *Forown* becomes insignificant. To illustrate the economic effects, we find that an increase of *Forown* from 0.14% (the 25<sup>th</sup> percentile) to 7.12% (the 75<sup>th</sup> percentile) in low-tax-morality countries reduces tax avoidance in investee firms by 0.91% (a 15% decrease in relative terms to the mean of tax avoidance).

In Columns (4) and (5), we further extend our test to see the effect of relative tax morality differences between FIIs and their investee firms on tax avoidance. Interestingly, we find that for investee firms from low-tax-morale countries, having FIIs from high-tax-morale countries (*Forown\_HighMorale*) is significantly negatively associated with tax avoidance (*TaxAvoid*), but the effect of FIIs from low-tax-morality countries (*Forown\_LowMorale*) is insignificant. For investee firms from high-tax-morality countries, FIIs do not affect tax avoidance, regardless of whether they are from high- or low-tax-morality countries. Overall, the results indicate that the tax morality differences between FIIs and their investee firms matter, and only FIIs from high-tax-morality countries significantly affect tax avoidance of investee firms from low-tax-morality countries. Our results provide evidence that FIIs affect investee firms' tax avoidance through the mechanism of tax morality.

#### 4.3.2 Mechanism 2: FIIs' investment horizon and corporate tax avoidance

Next, we examine another possible mechanism through which FIIs affect tax avoidance: investment horizon. Khurana and Moser (2013) find that long-term institutional ownership is negatively associated with tax avoidance. Their evidence is broadly consistent with existing institutional ownership literature showing that investors with long-term institutional ownership care more about the investee firms' long-term value creation (e.g., Bushee, 2001). Extending

prior research, we also find that long-term institutional ownership effectively reduces the investee firms' tax avoidance in international markets.

In Table 9, our main variable of interest is foreign institutional ownership, partitioned by investment horizon: *Forown\_Long* and *Forown\_Short*. We also partition domestic institutional ownership by investment horizon for additional insights. We find long-term foreign institutional ownership (*Forown\_Long*) exhibits significantly negative coefficients at the 1% level, but short-term foreign institutional ownership (*Forown\_Short*) is not significantly related to *TaxAvoid*. In addition, long-term domestic institutional ownership (*Domown\_Long*) exhibits a significantly negative coefficient at the 5% level, whereas short-term domestic institutional ownership (*Domown\_Short*) is significantly positively related to *TaxAvoid* at the 5% level. The results are consistent with Khurana and Moser (2013) and demonstrate that investment horizon is another plausible mechanism through which FIIs affect corporate tax avoidance.

\*\*\*\*\* Insert Table 9 here \*\*\*\*\*

#### 4.3.3 Mechanism 3: Corporate governance and corporate tax avoidance

In Table 10, we test how the corporate governance mechanism induced by FIIs could influence their investee firms' tax avoidance. Extensive literature shows that FIIs enhance internal corporate governance especially when their investee firms lack external corporate governance mechanisms (e.g., Aggarwal et al., 2011). An empirical challenge to testing this hypothesis is that measuring FIIs' governance role is not straightforward. Following Aggarwal et al. (2011), we use law origin to proxy country-level corporate governance. La Porta et al. (1998) argue that common-law countries, compared with civil-law countries, have stronger investor protection and therefore higher corporate governance quality. *Forown\_CommonLaw* (*Forown\_CivilLaw*) measures aggregate ownership of foreign institutions whose home

countries are classified as common-law (civil-law) countries. We find that FIIs from common-law countries (high-corporate-governance-quality countries) have a negative effect on investee firms' tax avoidance, significant at the 1% level. In contrast, FIIs from civil-law countries (low-corporate-governance-quality countries) have a positive effect on investee firms' tax avoidance, but this result is not significant. The results support the idea that FIIs' governance quality is another plausible mechanism through which FIIs affect investee firms' tax avoidance.

We further split the sample into two subsamples: investee firms in civil-law countries and investee firms in common-law countries. We find that FIIs have a significantly negative effect on tax avoidance only for investee firms located in civil-law countries, and this negative effect is driven by FIIs from common-law countries. The result suggests that only FIIs with good governance quality affect tax avoidance for investee firms with poor governance quality. We thus conclude that FIIs' enhanced governance mechanism supplements weak governance institutions and thereby effectively reduces tax avoidance.

\*\*\*\*\* Insert Table 10 here \*\*\*\*\*

Overall, our cross-sectional variation tests in Tables 8, 9, and 10 prove that FIIs affect corporate tax avoidance through tax morality, investment horizon, and corporate governance channels. Our results also suggest that FIIs' effect on corporate tax avoidance is not homogenous, and it depends on specific characteristics of FIIs.

#### ***4.4 Additional tests***

We further conduct a set of sensitivity analyses. Richupan (1984), Gillis (1989), and Bird and de Jantscher (1992) find empirical evidence that economic development is highly associated with tax morality. In Table 11, Panel A, we use a country's economic development as an alternative proxy for tax morality. In Panel B, we further examine the effect of FIIs on

more aggressive tax avoidance. Similar to Donohoe and Knechel (2014), we rank tax avoidance by country, industry, and year. *TaxAggressive* equals 1 if the observation is in the top tercile and 0 otherwise.

In Panel C, we restrict our analysis to G-20 member nations, which represent more than 75% of world trade and 85% of global GDP. By exclusively examining G-20 members, we ensure our findings are economically important. Moreover, we want to show our findings are robust to alternative high- and low-tax-morality countries. In Panel D, we further dissect high-tax-morality FIIs into US and non-US FIIs to see if the negative association between high-tax-morality FIIs and tax avoidance is dominated by US FIIs. The result shows that both US and non-US high-tax-morality FIIs are negatively associated with tax avoidance in the full sample and the in subsample of low-tax-morality countries, and non-US high-tax-morality FIIs' effect is larger in both magnitude and significance. Collectively, our main findings are robust to these additional tests.

\*\*\*\*\* Insert Table 11 here \*\*\*\*\*

## **5. Conclusion**

The importance of FIIs in global financial markets has been rising rapidly. In this paper, we examine whether and how FIIs affect corporate tax avoidance. We report robust evidence that FIIs negatively affect their investee firms' tax avoidance. To mitigate endogeneity concerns, we provide a series of analyses (difference-in-difference test, IV test, and change regression) to identify the causal effect of FIIs on corporate tax avoidance. Moreover, we provide evidence to support that FIIs affect corporate tax avoidance through three plausible mechanisms: FIIs' tax morality, their investment horizon, and their home country's corporate governance.

Our study extends the tax avoidance literature by answering Hanlon and Heitzman's (2010) call for a more careful examination of ownership structure's effects on tax avoidance. Our results indicate that FIIs play a distinct role in influencing corporate tax avoidance decisions that is above and beyond that of DIIs. Our study also complements prior studies on FIIs' real effect on corporate decision-making.

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Table 1  
Descriptive Statistics

This table presents descriptive statistics on our sample, 47,749 firm-year observations for the period from 2000 to 2008. *TaxAvoid* is annual tax avoidance spread measured as a firm's home country statutory tax rate minus cash effective tax rate. *Totown* is total institutional ownership. *Forown* is aggregate foreign institutional ownership. *Forown\_HighMorale* (or *Forown\_LowMorale*) is aggregate ownership of foreign institutions whose home countries are classified as having high (low) tax morality. *Forown\_Long* (or *Forown\_Short*) is aggregate ownership of long-term (or short-term) foreign institutions. *Domown* is aggregate domestic institutional ownership. *Domown\_Long* (or *Domown\_Short*) is aggregate ownership of long-term (or short-term) domestic institutions. *Assets* measures a firm's book value of assets at the end of fiscal year. *Leverage* is book value of debt scaled by assets. *ROA* is operating income scaled by assets. *Sales Growth* is the growth rate of sales year to year. *R&D* is research and development expenditure scaled by lagged assets. *Accrual* is residual obtained from the discretionary accrual model (Kothari, Leone, and Wasley 2005). *Tax Rate* is a country's statutory tax rate. *Foreign Operations* is an indicator that equals 1 if a firm has a foreign subsidiary and 0 otherwise. *Firm Age* counts the years since a firm was first listed in Global Compustat. Appendix A contains detailed definitions of the variables.

Variable Name	N	Mean	Median	Std. Dev	25th Pctl	75th Pctl
<i>TaxAvoid</i>	47,749	0.053	0.062	0.231	-0.014	0.190
<i>Totown</i>	47,749	0.094	0.051	0.115	0.012	0.133
<i>Forown</i>	47,749	0.047	0.016	0.072	0.003	0.061
<i>Forown_HighMorale</i>	47,749	0.030	0.009	0.050	0.001	0.037
<i>Forown_LowMorale</i>	47,749	0.017	0.002	0.034	0.000	0.019
<i>Forown_Long</i>	47,749	0.035	0.011	0.057	0.002	0.045
<i>Forown_Short</i>	47,749	0.011	0.001	0.024	0.000	0.012
<i>Forown_CommonLaw</i>	47,749	0.0359	0.0105	0.0591	0.0015	0.0456
<i>Forown_CivilLaw</i>	47,749	0.0098	0.0007	0.0218	0.0000	0.0100
<i>Domown</i>	47,749	0.048	0.014	0.084	0.000	0.056
<i>Domown_Long</i>	47,749	0.030	0.004	0.060	0.000	0.031
<i>Domown_Short</i>	47,749	0.018	0.002	0.047	0.000	0.018
<i>Assets (\$ in million)</i>	47,749	2367.630	313.747	10291.000	111.916	1033.740
<i>Leverage</i>	47,749	0.202	0.183	0.165	0.052	0.316
<i>ROA</i>	47,749	0.061	0.046	0.055	0.023	0.083
<i>Sales Growth</i>	47,749	0.171	0.093	0.380	0.009	0.230
<i>R&amp;D</i>	47,749	0.011	0.000	0.025	0.000	0.008
<i>Accruals</i>	47,749	0.049	0.062	0.221	-0.008	0.133
<i>Tax Rate</i>	47,749	0.321	0.330	0.071	0.280	0.392
<i>Foreign Operations</i>	47,749	0.477	0.000	0.499	0.000	1.000
<i>Firm Age</i>	47,749	8.689	8.000	4.827	5.000	12.000
<i>MSCI</i>	47,749	0.106	0.000	0.307	0.000	0.000
<i>CivilLaw</i>	47,749	0.687	1.000	0.464	0.000	1.000
<i>EconDevelop</i>	47,749	0.686	1.000	0.464	0.000	1.000
<i>GovEffect</i>	47,749	1.246	1.425	0.643	1.053	1.719
<i>Accountability</i>	47,749	0.768	0.951	0.743	0.513	1.309
<i>RegQuality</i>	47,749	1.055	1.141	0.647	0.746	1.584
<i>Anti-Corruption</i>	42,498	67.060	71.000	20.152	58.000	83.000

Table 2  
Summary Statistics by Country

This table presents tax avoidance and institutional ownership by country. *TaxAvoid* is average tax avoidance spread measured as a firm's home country statutory tax rate minus cash effective tax rate at year *t*. *Totown* is total institutional ownership. *Forown* is aggregate foreign institutional ownership. *Domown* is aggregate domestic institutional ownership. *Tax Morale Index* is the percentage of the individual-level tax morality score in a given country, obtained from the World Values Survey (WVS).

Country	N	<i>TaxAvoid</i>	<i>Forown</i>	<i>Domown</i>	<i>TaxMorale Index</i>	<i>CivilLaw</i>	<i>EconDevelop</i>
<u>Panel A. High-Tax-Morality Group</u>							
Argentina	142	-0.017	0.008	0.000	0.766	1	0
Australia	1,832	0.025	0.039	0.018	0.658	0	1
Switzerland	929	-0.005	0.094	0.066	0.617	1	1
Chile	328	-0.011	0.010	0.007	0.661	1	0
Spain	628	0.053	0.054	0.042	0.637	1	1
Hong Kong	2,351	0.024	0.052	0.022	0.613	0	1
Indonesia	463	0.025	0.049	0.000	0.786	1	0
Italy	927	-0.092	0.059	0.023	0.609	1	1
Japan	13,289	0.048	0.028	0.030	0.819	1	1
Korea	1,885	-0.037	0.067	0.002	0.715	1	0
Mexico	322	0.068	0.067	0.006	0.647	1	0
Netherlands	512	0.021	0.158	0.049	0.616	1	1
New Zealand	345	0.024	0.029	0.008	0.603	0	1
Pakistan	202	0.092	0.008	0.018	0.767	0	0
Singapore	1,300	0.006	0.041	0.011	0.587	0	1
Taiwan	2,629	0.241	0.045	0.001	0.632	1	0
Mean (A)		0.047	0.042	0.023			
<u>Panel B. Low-Tax-Morality Group</u>							
Brazil	501	0.047	0.081	0.005	0.518	1	0
China	2,188	0.238	0.066	0.078	0.581	1	0
Germany	2,173	0.039	0.073	0.056	0.290	1	1
Finland	598	0.002	0.108	0.091	0.560	1	1
France	2,447	0.038	0.055	0.041	0.481	1	1
Israel	286	0.018	0.036	0.000	0.000	0	0
India	2,291	0.098	0.042	0.057	0.501	0	0
Malaysia	1,605	0.045	0.025	0.010	0.402	0	0
Norway	424	0.053	0.096	0.111	0.493	1	1
Peru	98	-0.111	0.012	0.000	0.397	1	0
Philippines	225	0.099	0.048	0.000	0.408	1	0
Poland	693	-0.037	0.029	0.166	0.527	1	0
Sweden	956	0.021	0.071	0.160	0.542	1	1
Thailand	669	0.075	0.038	0.007	0.495	0	0
Turkey	460	0.006	0.057	0.000	0.558	1	0
United Kingdom	4,051	0.020	0.039	0.177	0.563	0	1
Mean (B)		0.061	0.053	0.083			
Mean Diff. (A – B)		-0.014***	-0.011***	-0.060***			

Table 3  
Foreign Institutional Ownership and Tax Avoidance

This table presents results from OLS regressions in which the dependent variable is  $TaxAvoid_t$ , the annual tax avoidance spread measured as a firm's home country statutory tax rate minus cash effective tax rate at year  $t$ .  $Totown$  is total institutional ownership.  $Domown$  is aggregate domestic institutional ownership.  $Forown$  is aggregate foreign institutional ownership. Appendix A provides detailed definitions of the control variables. Industry, country, and year dummies are included, but coefficients are omitted for brevity. Numbers in parentheses are  $t$ -statistics computed using standard errors that are clustered at the firm level. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)
	Dependent variable: $TaxAvoid_t$	
	Full Sample	Full Sample
<i>Totown</i>	-0.042*** (-3.23)	
<i>Forown</i>		-0.080*** (-3.98)
<i>Domown</i>		-0.007 (-0.44)
<i>Ln(Size)</i>	0.006*** (5.81)	0.006*** (6.21)
<i>Leverage</i>	0.064*** (6.98)	0.063*** (6.86)
<i>ROA</i>	0.796*** (24.17)	0.802*** (24.27)
<i>Sales Growth</i>	0.023*** (6.48)	0.023*** (6.53)
<i>R&amp;D</i>	0.060 (1.06)	0.066 (1.15)
<i>Accrual</i>	-0.000 (-0.06)	-0.001 (-0.17)
<i>Tax Rate</i>	0.576*** (7.73)	0.594*** (7.93)
<i>Foreign Operations</i>	0.002 (0.64)	0.002 (0.61)
Constant	-0.339*** (-8.87)	-0.349*** (-9.07)
Year FE	YES	YES
Industry FE	YES	YES
Country FE	YES	YES
Obs.	47,749	47,749
Adj. R <sup>2</sup>	0.131	0.131

Table 4  
Country Characteristics

This table presents results from OLS regressions in which the dependent variable is  $TaxAvoid_t$ , the annual tax avoidance spread measured as a firm's home country statutory tax rate minus cash effective tax rate at year  $t$ .  $CivilLaw$  is an indicator that equals 1 if a country's legal system is based on civil law and 0 if common law.  $GovEffect$  measures perceptions of the quality of public services as well as the quality of the civil service and the degree of its independence from political pressure.  $RegQuality$  measures perceptions of the government's ability to formulate and implement sound policies and regulations that permit and promote private sector development.  $Accountability$  measures perceptions of the extent to which a country's citizens can participate in selecting their government, as well as freedom of expression.  $EconDevelop$  is an indicator that equals 1 if a country is classified as a developed country and 0 otherwise.  $Anti-Corruption$  measures perceptions of the extent to which public power is exercised for private gain. The tax morality index ( $Tax Morale Index$ ) is obtained from the World Values Survey (WVS). Firm characteristic variables, industry year dummies, and interaction terms between year and country are included, but coefficients are omitted for brevity. Numbers in parentheses are  $t$ -statistics computed using standard errors that are clustered at the firm level. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Dependent variable: $TaxAvoid_t$						
$Forown_t$	-0.084*** (-4.68)	-0.076*** (-4.16)	-0.076*** (-4.14)	-0.073*** (-3.80)	-0.074*** (-4.05)	-0.084*** (-4.14)	-0.092*** (-5.10)
$CivilLaw$	-0.002 (-0.37)						
$GovEffect$		-0.125*** (-8.46)					
$RegQuality$			-0.193*** (-12.32)				
$Accountability$				-0.166*** (-20.23)			
$EconDevelop$					-0.062*** (-10.00)		
$Anti-Corruption$						-0.088*** (-9.31)	
$Ln(Tax Morale Index)$							-0.048** (-2.50)
$Domown_t$	0.001 (0.05)	-0.003 (-0.15)	-0.013 (-0.72)	0.004 (0.22)	-0.003 (-0.17)	-0.012 (-0.66)	-0.005 (-0.28)

Controls & Intercept	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES	YES
Country FE*Year FE	YES	YES	YES	YES	YES	YES	YES
Obs.	47,749	47,749	47,749	47,749	47,749	42,498	47,463
Adj. R <sup>2</sup>	0.122	0.124	0.127	0.134	0.125	0.0906	0.123

Table 5  
Two-Stage Model

To address potential omitted variable bias, we use 2SLS model with *MSCI inclusion* as the instrumental variable of foreign institutional ownership. *MSCI inclusion* equals 1 if a given firm is included in MSCI in a given year  $t$  and 0 otherwise. We then regress tax avoidance on predicted foreign institutional ownership (*Pred\_Forown*) from first-stage regressions. Numbers in parentheses are  $t$ -statistics computed using standard errors that are clustered at the firm level. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

	(1) <i>Forown<sub>t</sub></i>	(2) <i>TaxAvoid<sub>t</sub></i>
	<u>1<sup>st</sup> Stage</u>	<u>2<sup>nd</sup> Stage</u>
<i>MSCI Inclusion</i>	0.044*** (17.01)	
<i>Pred_Forown</i>		-0.241*** (-2.60)
<i>Domown</i>	0.012 (1.61)	-0.006 (-0.36)
<i>Ln(Size)</i>	0.014*** (31.74)	0.009*** (4.61)
<i>Leverage</i>	-0.020*** (-5.55)	0.059*** (6.32)
<i>ROA</i>	0.142*** (12.73)	0.830*** (22.29)
<i>Sales Growth</i>	0.006*** (7.09)	0.024*** (6.68)
<i>R&amp;D</i>	0.170*** (6.53)	0.096 (1.60)
<i>Accrual</i>	0.008*** (4.58)	-0.001 (-0.12)
<i>Tax Rate</i>	0.048* (1.92)	0.604*** (8.05)
<i>Foreign Operations</i>	0.002 (1.16)	0.003 (0.78)
Constant	-0.133*** (-11.13)	-0.370*** (-8.69)
Year FE	YES	YES
Industry FE	YES	YES
Country FE	YES	YES
Obs.	47,749	47,749
Adj. R <sup>2</sup>	0.315	0.130

Table 6  
Qualified Foreign Institutional Investor Reform in China  
and Tax Avoidance

This table presents results that examine the effect of China's Qualified Foreign Institutional Investors (QFII) reform in 2002 on tax avoidance. It provides results from four pooled OLS regressions. *Post-Reform* is an indicator that equals 1 (0) for years after (before) the 2002 reform. *China* is an indicator that equals 1 if the invested firms are located in China and 0 otherwise. *China\*Reform* captures the post-reform effect in China. Numbers in parentheses are *t*-statistics computed using standard errors that are clustered at the firm level. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)
	Dependent variable: <i>TaxAvoid<sub>it</sub></i>			
	<u>Asian</u>	<u>Low-Tax-Morale</u>	<u>Emerging</u>	<u>Civil Law</u>
<i>Post-Reform</i>	0.039*** (5.01)	0.031*** (3.59)	0.027* (1.92)	0.038*** (5.21)
<i>China</i>	-0.023 (-0.61)	0.186*** (4.97)	0.336*** (7.46)	0.331*** (6.97)
<i>China* Post-Reform</i>	-0.055** (-2.30)	-0.040* (-1.71)	-0.053** (-2.12)	-0.043* (-1.86)
<i>Ln(Size)</i>	0.005** (2.01)	0.007** (2.53)	-0.001 (-0.14)	0.008*** (3.70)
<i>Leverage</i>	0.047** (2.05)	0.069** (2.28)	0.124*** (3.10)	0.028 (1.33)
<i>ROA</i>	0.955*** (9.03)	0.758*** (7.66)	1.004*** (6.86)	0.687*** (7.15)
<i>Sales Growth</i>	0.019 (1.53)	0.014 (1.29)	-0.001 (-0.07)	0.013 (1.42)
<i>R&amp;D</i>	-0.247 (-1.17)	-0.174 (-1.45)	-0.611** (-1.98)	-0.160 (-1.22)
<i>Accrual</i>	0.005 (0.21)	-0.045** (-2.36)	-0.011 (-0.45)	-0.014 (-0.76)
<i>Tax Rate</i>	1.289*** (3.37)	0.747*** (3.36)	0.514 (1.34)	0.830*** (3.82)
<i>Foreign Operations</i>	0.006 (0.77)	-0.015 (-1.37)	-0.010 (-0.70)	0.002 (0.26)
Constant	-0.298*** (-2.86)	-0.329*** (-3.76)	-0.365** (-2.57)	-0.502*** (-5.64)
Year FE	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES
Country FE	YES	YES	YES	YES
Obs.	5,694	3,891	2,105	7,338
Adj. R <sup>2</sup>	0.117	0.102	0.182	0.0939

Table 7  
The Effect of Changes in Institutional Ownership on Tax Avoidance

This table presents results of the difference-in-difference regressions that examine the effect of a change in foreign (or domestic) institutional ownership on tax avoidance. The dependent variable is *TaxAvoid<sub>it</sub>*, the annual tax avoidance spread measured as a firm's home country statutory tax rate minus the cash effective tax rate at year *t*. *IncFor* (or *IncDom*) is an indicator that equals to 1 if foreign (or domestic) institutional ownership increases at least by a standard deviation of foreign (or domestic) ownership and 0 otherwise. *Post* is an indicator that equals 1 for years after foreign (or domestic) institutional ownership increases by a standard deviation of foreign (or domestic) ownership and 0 otherwise. Firm characteristic variables, as well as industry, country, and year dummies, are included, but coefficients are omitted for brevity. Numbers in parentheses are *t*-statistics computed using standard errors that are clustered at the firm level. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)
	Dependent variable: <i>TaxAvoid<sub>it</sub></i>			
<i>Post</i>	-0.007 (-0.85)	-0.023** (-2.34)	0.003 (0.39)	-0.009 (-0.93)
<i>IncFor</i>	0.028*** (3.43)		0.010 (1.32)	
<i>Post* IncFor</i>	-0.025** (-2.51)		-0.019** (-1.97)	
<i>IncDom</i>		0.038*** (3.73)		0.011 (-0.93)
<i>Post*IncDom</i>		-0.034*** (-2.61)		-0.002 (-0.18)
Constant	-0.379*** (-5.83)	0.040*** (5.42)	-0.379*** (-5.83)	-0.532*** (-5.66)
Controls	NO	NO	YES	YES
Year FE	NO	NO	YES	YES
Industry FE	NO	NO	YES	YES
Country FE	NO	NO	YES	YES
Obs.	7,207	5,849	7,207	5,849
Adj. R2	0.004	0.011	0.179	0.194



Table 8  
Mechanism 1: Tax Morality and Tax Avoidance

This table presents the results of our first mechanism: tax morality. The dependent variable is *TaxAvoid<sub>t</sub>*, the annual tax avoidance spread measured as a firm's home country statutory tax rate minus the cash effective tax rate at year *t*. *Forown\_HighMorale* (*Forown\_LowMorale*) is aggregate ownership of foreign institutions whose home countries are classified as high (low) tax morale countries. We further bisect the full sample into two subsamples: investee firms in countries with low tax morale and investee firms in countries with high tax morale, and we repeat the test. Firm characteristic variables, as well as industry, country, and year dummies, are included, but coefficients are omitted for brevity. Numbers in parentheses are *t*-statistics computed using standard errors that are clustered at the firm level. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)
	Dependent variable: <i>TaxAvoid<sub>t</sub></i>				
	<u>Full Sample</u>	<u>Low-Tax-Morale</u>	<u>High-Tax-Morale</u>	<u>Low-Tax-Morale</u>	<u>High-Tax-Morale</u>
<i>Forown<sub>t</sub></i>		-0.131*** (-4.54)	0.011 (0.44)		
<i>Forown_HighMorale<sub>t</sub></i>	-0.150*** (-5.20)			-0.246*** (-5.86)	-0.022 (-0.59)
<i>Forown_LowMorale<sub>t</sub></i>	0.048 (1.16)			0.069 (1.23)	0.077 (1.15)
<i>Domown<sub>t</sub></i>	-0.012 (-0.70)	0.014 (0.69)	-0.158*** (-3.78)	0.008 (0.39)	-0.163*** (-3.84)
Constant	-0.354*** (-9.19)	-0.269*** (-6.17)	-0.464*** (-8.44)	-0.274*** (-6.29)	-0.468*** (-8.48)
		H <sub>0</sub> : <i>Forown</i> [(2)= (3)] (0.0001)		H <sub>0</sub> : <i>Forown_HighMorale</i> [(4)= (5)] (0.0001)	
				H <sub>0</sub> : <i>Forown_LowMorale</i> [(4)= (5)] (0.6726)	
Controls	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES
Country FE	YES	YES	YES	YES	YES
Observations	47,749	19,665	28,084	28,084	27,995
Adj. R <sup>2</sup>	0.132	0.107	0.155	0.108	0.155

Table 9  
Mechanism 2: Investment Horizon and Tax Avoidance

This table presents results of our second mechanism. The dependent variable is *TaxAvoid<sub>it</sub>*, the annual tax avoidance spread measured as a firm's home country statutory tax rate minus the cash effective tax rate at year *t*. *Forown\_Long* (or *Forown\_Short*) is aggregate ownership of long-term (or short-term) foreign institutions. *Domown\_Long* (or *Domown\_Short*) is aggregate ownership of long-term (or short-term) domestic institutions. Firm characteristic variables, as well as industry, country, and year dummies are included, but coefficients are omitted for brevity. Numbers in parentheses are *t*-statistics computed using standard errors that are clustered at the firm level. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

	(1)
	Dependent variable: <i>TaxAvoid<sub>it</sub></i>
	<u>Full Sample</u>
<i>Forown_Long</i>	-0.094*** (-3.36)
<i>Forown_Short</i>	-0.021 (-0.40)
<i>Domown_Long</i>	-0.067** (-2.40)
<i>Domown_Short</i>	0.059** (2.39)
	H0: (1) <i>Forown_Long</i> = (1) <i>Forown_Short</i> (0.2812)
Controls & Intercept	YES
Year FE	YES
Industry FE	YES
Country FE	YES
Obs.	47,749
Adj. R <sup>2</sup>	0.132

Table 10  
Mechanism 3: Corporate Governance and Tax Avoidance

This table presents results of our third mechanism. The dependent variable is  $TaxAvoid_t$ , the annual tax avoidance spread measured as a firm's home country statutory tax rate minus its cash effective tax rate at year  $t$ .  $Forown\_CommonLaw$  ( $Forown\_CivilLaw$ ) is aggregate ownership of foreign institutions whose home countries are classified as common-law (civil-law) countries. We further bisect the full sample into two subsamples: investee firms in civil-law countries and investee firms in common-law countries, and we repeat the test. Firm characteristic variables, as well as industry, country and year dummies, are included, but coefficients are omitted for brevity. Numbers in parentheses are  $t$ -statistics computed using standard errors that are clustered at the firm level. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)
	Dependent variable: $TaxAvoid_t$				
	<u>Full Sample</u>	<u>Civil Law</u>	<u>Common Law</u>	<u>Civil Law</u>	<u>Common Law</u>
$Forown_t$		-0.116*** (-5.04)	0.040 (1.08)		
$Forown\_CommonLaw_t$	-0.113*** (-4.68)			-0.163*** (-5.82)	0.037 (0.80)
$Forown\_CivilLaw_t$	0.071 (1.06)			0.085 (1.13)	0.061 (0.43)
$Domown_t$	-0.009 (-0.55)	0.026 (1.50)	-0.074** (-2.12)	0.023 (1.31)	-0.074** (-2.12)
		H <sub>0</sub> : $Forown$ [(2)= (3)] (0.0004)		H <sub>0</sub> : $Forown\_CommonLaw$ [(4)= (5)] (0.0002)	
				H <sub>0</sub> : $Forown\_CivilLaw$ [(4)= (5)] (0.8837)	
Controls		YES	YES	YES	YES
Year FE		YES	YES	YES	YES
Industry FE		YES	YES	YES	YES
Country FE		YES	YES	YES	YES
Obs.	47,749	32,817	14,932	32,817	14,932
Adj. R <sup>2</sup>	0.132	0.159	0.0774	0.159	0.0773

Table 11  
Sensitivity Analyses

This table presents results of eight sensitivity analyses. Panel A uses a country's economic development as an alternative proxy for tax morality. Panel B investigates tax aggressiveness instead of tax avoidance. Panel C only retains members of the Group of Twenty (G-20). Panel D further split FIIs (e.g., *Forown\_HighMorale*) into US FIIs (e.g., *Forown\_HighMorale\_US<sub>i</sub>*) and non-US FIIs (e.g., *Forown\_HighMorale\_Others*). All analyses include control variables (firm characteristics as well as year, industry, and country dummies) used in Table 4 but omitted for brevity. Numbers in parentheses are *t*-statistics computed using standard errors that are clustered at the firm level. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A. Alternative Tax Morality: Economic Development

	(1)	(2)	(3)	(4)	(5)	(6)
	Dependent variable: <i>TaxAvoid<sub>i</sub></i>					
	<u>Emerging</u>	<u>Developed</u>	<u>Emerging</u>	<u>Developed</u>	<u>Emerging</u>	<u>Developed</u>
<i>Totown<sub>t</sub></i>	-0.074*** (-3.94)	-0.029* (-1.68)				
<i>Domown<sub>t</sub></i>			0.028 (1.52)	-0.054** (-2.07)	0.028 (1.53)	-0.054** (-2.07)
<i>Forown<sub>t</sub></i>			-0.172*** (-5.82)	-0.003 (-0.13)		
<i>Forown_Developed<sub>t</sub></i>					-0.173*** (-5.80)	-0.002 (-0.10)
<i>Forown_Emerging<sub>t</sub></i>					0.018 (0.06)	-0.070 (-0.29)
Obs.	15,502	35,034	15,502	35,034	15,502	35,034
Adj. R <sup>2</sup>	0.235	0.0592	0.237	0.0593	0.237	0.0593

Panel B. Alternative Tax Avoidance Measure: Tax Aggressiveness

	(1)	(2)	(3)	(4)	(5)
	Dependent variable: <i>TaxAggressive<sub>i</sub></i>				
	<u>Full Sample</u>	<u>Full Sample</u>	<u>Full Sample</u>	<u>Full Sample</u>	<u>Full Sample</u>
<i>Totown<sub>t</sub></i>	-0.685*** (-7.20)				
<i>Domown<sub>t</sub></i>		-0.944*** (-7.37)	-0.951*** (-7.42)		-0.944*** (-7.36)
<i>Forown<sub>t</sub></i>		-0.414*** (-2.89)			
<i>Forown_HighMorale<sub>t</sub></i>			-0.543** (-2.53)		
<i>Forown_LowMorale<sub>t</sub></i>			-0.191 (-0.65)		
<i>Forown_Long</i>				-0.416** (-2.08)	
<i>Forown_Short</i>				-0.441 (-1.08)	
<i>Domown_Long</i>				-0.726*** (-3.91)	
<i>Domown_Short</i>				-1.264*** (-5.62)	
<i>Forown_CommonLaw<sub>t</sub></i>					-0.439** (-2.40)
<i>Forown_CivilLaw<sub>t</sub></i>					-0.404 (-0.97)
Obs.	47,724	47,724	47,724	47,724	47,724
Pseudo R <sup>2</sup>	0.0443	0.0445	0.0445	0.0445	0.0297

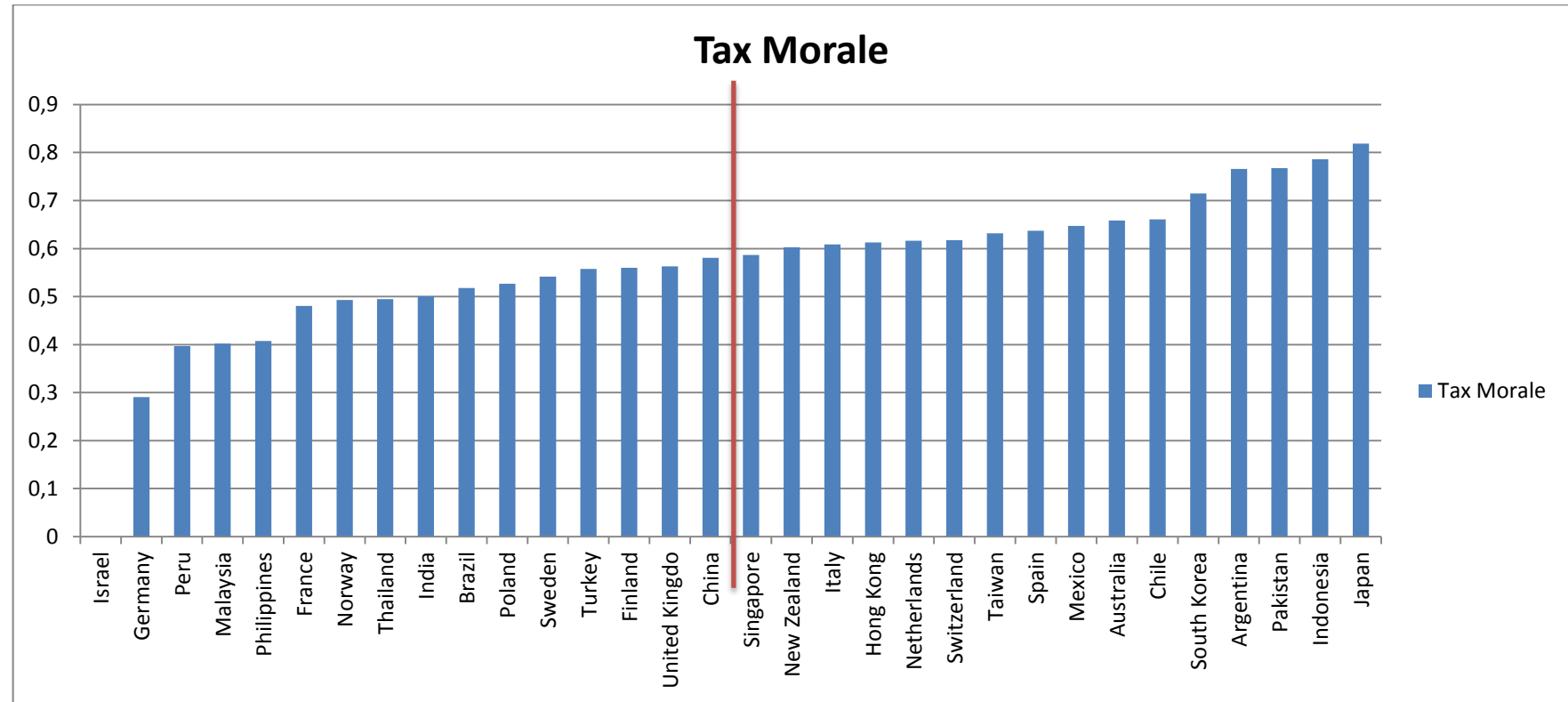
Panel C. G20 Countries Only

	(1)	(2)	(3)	(4)	(5)
	Dependent variable: <i>TaxAvoid<sub>t</sub></i>				
	<u>Full Sample</u>	<u>Full Sample</u>	<u>Full Sample</u>	<u>Full Sample</u>	<u>Full Sample</u>
<i>Totown<sub>t</sub></i>	-0.046*** (-3.07)				
<i>Domown<sub>t</sub></i>		-0.010 (-0.52)	-0.016 (-0.89)		-0.012 (-0.67)
<i>Forown<sub>t</sub></i>		-0.094*** (-3.90)			
<i>Forown_HighMorale<sub>t</sub></i>			-0.207*** (-6.06)		
<i>Forown_LowMorale<sub>t</sub></i>			0.112** (2.35)		
<i>Forown_Long</i>				-0.107*** (-3.16)	
<i>Forown_Short</i>				-0.042 (-0.68)	
<i>Domown_Long</i>				-0.052* (-1.74)	
<i>Domown_Short</i>				0.039 (1.46)	
<i>Forown_CommonLaw<sub>t</sub></i>					-0.145*** (-4.97)
<i>Forown_CivilLaw<sub>t</sub></i>					0.138* (1.93)
Obs.	36,358	36,358	36,358	36,358	36,358
Pseudo R <sup>2</sup>	0.0942	0.0944	0.0947	0.0945	0.0947

Panel D. US vs. Non-US Institutions

	(1)	(2)
	Dependent variable: <i>TaxAvoid<sub>t</sub></i>	
	<u>Full Sample</u>	<u>Full Sample</u>
<i>Domown<sub>t</sub></i>	-0.013 (-0.77)	-0.009 (-0.55)
<i>Forown_HighMorale_US<sub>t</sub></i>	-0.079* (-1.92)	
<i>Forown_HighMorale_Others<sub>t</sub></i>	-0.253*** (-5.07)	
<i>Forown_LowMorale<sub>t</sub></i>	0.039 (0.92)	
<i>Forown_CommonLaw_US<sub>t</sub></i>		-0.068* (-1.67)
<i>Forown_CommonLaw_Others<sub>t</sub></i>		-0.157*** (-4.03)
<i>Forown_CivilLaw<sub>t</sub></i>		0.074 (1.09)
Obs.	47,749	47,749
Adj. R <sup>2</sup>	0.132	0.132

Figure 1  
Tax Morality Index by Country



## Appendix A

### Definitions of Variables

Variable	Description and Sources
<i>TaxAvoid</i>	Annual tax avoidance spread measured as the corporate home country statutory tax rate less cash effective tax rate. Cash effective tax rate = (Pretax earnings – Current tax paid)/ Pretax earnings. If the current tax paid is missing, we replace it with total tax expense less current deferred tax (Atwood et al. 2012). A country's statutory tax rate is collected from the OECD and KPMG LLP websites. [Source: Global Compustat]
<i>Totown</i>	Total institutional ownership for firm <i>i</i> at year <i>t</i> . [Source: FactSet]
<i>Forown</i>	Aggregate ownership of foreign institutions. An institution is classified as foreign when its headquarters are located in a different country from that of the invested company. [Source: FactSet]
<i>Domown</i>	Aggregate ownership of domestic institutions [Source: FactSet].
<i>Forown_HighMorale</i> (or <i>Forown_LowMorale</i> )	Aggregate ownership of foreign institutions whose home country is classified as a high (low) tax morale country [Source: FactSet]. High (or low) tax morale in a country is defined by that country's tax morality score being greater (or lower) than the median value. The tax morality index is obtained from the World Values Survey (WVS). Data are available at the webpage via <a href="http://www.worldvaluessurvey.org/WVSContents.jsp">http://www.worldvaluessurvey.org/WVSContents.jsp</a>
<i>Forown_Long</i> (or <i>Forown_Short</i> )	Aggregate ownership of long-term (or short-term) foreign institutions. Long-term and short-term investment horizon are based on an institution's turnover rate. If an institution's turnover rate is lower (or greater) than its median value, it is classified as long-term (or short-term) institutional investors. [Source: FactSet]
<i>Domown_Long</i> (or <i>Domown_Short</i> )	Aggregate ownership of long-term (or short-term) domestic institutions. [Source: FactSet]
<i>Forown_CommonLaw</i> (or <i>Forown_CivilLaw</i> )	Aggregate ownership of foreign institutions whose home country is classified as common law (or civil law). [Source: FactSet]
<i>Tax Rate<sub>t</sub></i>	Statutory tax rate for a country <i>j</i> at year <i>t</i> . [Source: the OECD, KPMG LLP websites]
<i>Assets<sub>t-1</sub></i>	Book value of assets (in US\$ million) at the end of year <i>t</i> . [Source: Global Compustat]
<i>Leverage<sub>t</sub></i>	Book value of debts scaled by assets ((dlcc + dlt)/at). [Source: Global Compustat]
<i>ROA<sub>t</sub></i>	Operating income scaled by assets (EBIT/at). [Source: Global Compustat]
<i>Sales Growth<sub>t</sub></i>	Annual sales' growth rate ((Sale <sub>t</sub> /Sale <sub>t-1</sub> ) – 1). [Source: Global Compustat]
<i>R&amp;D<sub>t</sub></i>	Research and development expenditure scaled by assets. [Source: Global Compustat]
<i>Accrual<sub>t</sub></i>	Discretionary accruals measured as residuals from the discretionary accrual model (Kothari et al. 2005). [Source: Global Compustat]
<i>MSCI Inclusion</i>	An indicator that equals 1 if a firm's stock is included in the MSCI index in a given calendar year <i>t</i> , and 0 otherwise. <a href="http://www.msci.com/products/indexes">http://www.msci.com/products/indexes</a>
<i>IFRS</i>	An indicator that equals 1 for countries that mandate the IFRS adoption in 2005 (Florou and Pope 2012)
<i>Accountability</i>	Reflects perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media (–2.5 (worst) ≤ Value ≤ +2.5(best)). [Source: WGI]
<i>RegQuality</i>	Reflects perceptions of the government's ability to formulate and implement sound policies and regulations that permit and promote private sector development (–2.5(worst) ≤ Value ≤ +2.5(best)). [Source: WGI]

<i>GovEffect</i>	Reflects perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies ( $-2.5(\text{worst}) \leq \text{Value} \leq +2.5(\text{best})$ ). [Source: WGI]
<i>CivilLaw</i>	An indicator that equals 1 if a country's legal system is based on civil law, and 0 if common law.
<i>Anti-Corruption</i>	Corruption Perceptions Index (CPI) that reflects how a country's public sectors are corrupted ( $0(\text{most corrupted}) \leq \text{Value} \leq +100(\text{least corrupted})$ ). [Source: Heritage Foundation]



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