Tax Morale and International Tax Evasion

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A B S T R A C T

Low tax morale is associated with domestic tax evasion. We find evidence of cross-border equity flows designed to evade taxes in low tax morale countries. Using Foreign Portfolio Equity Investment (FPI) flows into 21 OECD countries from 138 source countries and an index of tax morale from the World Value Survey (WVS), we show that individuals in countries with low tax morale engage in tax evasion via roundtripping through tax havens. This allows them to benefit from differential taxes applied to foreign investors vis-a-vis domestic investors. Our results remain robust to various measures of tax morale and distinct subsamples.

1. Introduction

Tax morale, the intrinsic motivation to pay taxes or feel guilt from failure to comply (Luttmer & Singhal, 2014), has been linked to domestic tax evasion by underreporting taxable income (Alm, Sanchez, & de Juan, 1995; Alm & McClellan, 2012; Halla, 2012; *inter alia*). Are these tax morale effects so pervasive that they motivate individuals also to engage in international evasion schemes, even to the extent that international portfolio investment flows are influenced? This study finds robust evidence that this, in fact, is the case.

The determinants of tax morale have been widely explored (for example, Hofmann, Hoelzl, & Kirchler, 2008; DeBacker, Heim, & Tran, 2015; OECD, 2013; Luttmer & Singhal, 2014). Tax morale is negatively correlated with shadow economy activities and positively correlated with direct democracy. This may be explained by differences in the fairness of tax administration, perceived equity of fiscal exchange, attitude toward respective governments (Cummings, Martinez-Vazquez, McKee, & Torgler, 2004), differences in culture, which also interact with demographics (Botelho, Harrison, Hirsch, & Elisabet, 2001), and trustworthiness (Ashraf, Bohnet, & Piankov, 2006).

However, proxies for tax morale are challenging to construct. Slemrod and Weber (2012) argue that a single tax morale indicator, rather than an index of indicators, provides a more straightforward gauge of its relative importance. Recent survey efforts on culture and social values include questions on attitudes toward tax paying and corruption, *inter alia* (World Values Survey; Inglehart et al., 2014). Herein, we use an indicator based on country-level survey response data to questions of perceived tax fairness.[1] Since measuring tax evasion is challenging (Alm & Torgler, 2011), we use roundtripping as an indirect approach to capture it. We focus on OECD foreign portfolio investment (FPI) inflows through tax havens that are attributable to changes in tax savings. The concept of roundtripping is straightforward and illustrated in Fig. 1. Domestic investors create and capitalize shell companies overseas, in tax havens, before they invest those funds back into their home capital markets, where incoming funds are now recorded as foreign capital and taxed at a more favorable rate. Changes in the tax differential between a domestic investor and a foreign investor is an important determinant of foreign equity flows (Hanlon, Maydew, & Thornock, 2015; Kemme, Parikh, & Steigner, 2017) and an indicator of tax evasion, but not the only one. We find that the attitude of individuals toward the payment of taxes in general, or tax morale, is another noteworthy determinant of tax evasion, which has not been studied extensively in this context.[2]

Our sample consists of 7451 observations of FPI from 138 source

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  [1] We also consider alternative measures of of tax morale in our analysis in section 3 below.
  [2] While we focus on tax evasion at the country and policy level, tax morale of the citizens of a particular country and its implications are certainly important to management and firm-level decisions to take advantage of international business opportunities.
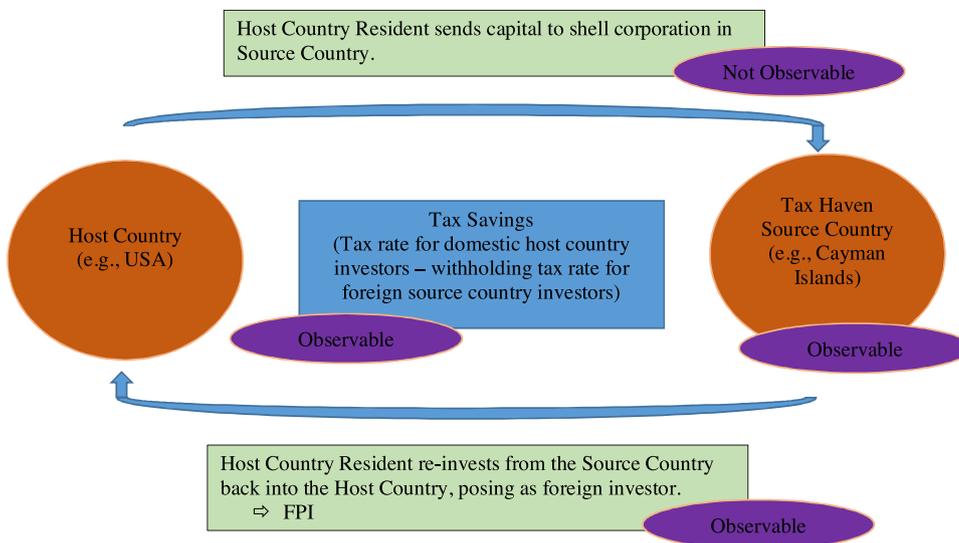
Fig. 1. Roundtripping.

Roundtripping: As the Tax Savings increase, hence the gap between a domestic investor's tax and a foreign investor's tax increases, the more beneficial it becomes for the domestic Host Country investor to evade taxes. As tax savings increase, the domestic Host Country investor sends more capital to the shell corporation in a Tax Haven Source Country, which in turn is flowing back to the Host Country as foreign portfolio investment (FPI). In support of roundtripping, Hanlon et al. (2015) and Kemme et al. (2017) find a positive relationship between FPI (dependent variable) and the interaction term Tax Haven * ΔTax Savings (independent variable).

countries into 21 OECD host countries between 2002 and 2013. Controlling for traditional determinants of FPI flows, we find that our tax morale indicator, when interacted with the tax haven and tax savings variables, is always positive and statistically significant. Specifically, our main model provides evidence that in low tax morale countries, FPI inflows from roundtripping for purposes of tax evasion increase by about 34.5% for every 1% increase in tax savings. This increase ranges between 22% and 35%, depending on model specifications discussed in the robustness test section. Regardless of the specification, the impact remains both statistically and economically significant. This finding demonstrates that, in general, a country's attitude toward paying or evading taxes is so strong that it influences international FPI flows.

Hence, our study contributes to the international management, investment, and tax evasion literature. Further, it provides new and valuable information to policymakers that suggest that in addition to (or in lieu of) enforcement mechanisms, various positive motivations should be considered to improve tax compliance (Alm & McKee, 1998).

Theoretical research on tax evasion dates back to Becker (1968) and Allingham and Sandmo (1972), who discuss tax compliance as a tradeoff between benefits and costs (penalties when authorities discover illegal behavior) of tax evasion. However, actual "[t]ax compliance is difficult to observe in the field since it is an illegal, hence hidden, activity" (Cummings, Martinez-Vazquez, McKee, & Torgler, 2009). Laboratory studies/games and experimental income tax compliance research suggest greater tax compliance when tax morale is higher (Cummings et al., 2009; Torgler, 2003). While laboratory games are useful for initial insights, they must be confirmed with real-world data. To get closer to this goal, researchers constructed estimates of income tax evasion by studying individual tax returns, estimates of tax capacity, surveys, and differences between income and consumption (Alm & Martinez-Vazquez, 2007). These methods are imprecise and have come under criticism (2002, Schneider & Enste, 2000). More recently, researchers have utilized improved data sources, such as cross-border bank deposits (Johannesen & Zucman, 2014) and foreign portfolio flows (Hanlon et al., 2015; Kemme et al., 2017), to provide strong evidence for international tax evasion via tax havens. Tax havens have become of particular public interest since the release of the Panama Papers in 2016, *inter alia*. While these findings have greatly expanded the literature by taking the concept out of the laboratory and beyond previously criticized data sources, we believe that those findings cannot be generalized across all countries. On the contrary, we find that tax evasion via tax havens is strongly based on a country's level of tax morale; it requires low levels of tax morale to find evidence for the

evasion of investment income tax. Hence, to the best of our knowledge, this is the first study bringing forth evidence for a positive relationship between low tax morale and international tax evasion of investment income in OECD countries. Adding to the international tax evasion literature, we focus on the impact of a country's level of tax morale on individual tax evasion of investment income via an international routing scheme.

The remainder of this paper is organized as follows. In Section 2, we discuss the relevant literature and develop our main hypothesis. Section 3 explains the variables and data used in this study, while Section 4 presents the model and empirical analysis. Finally, Section 5 concludes the paper.

2. Literature Review and Hypothesis Development

The tax evasion literature analyzes domestic and international tax evasion separately (Fuest & Riedel, 2009). Domestic "tax gaps" research focuses primarily on a country's shadow economy and illegal employment (Cobham, 2005; Schneider & Enste, 2013; Schneider, Raczkowski, & Mroz, 2015). The estimated domestic tax gap was at USD 100 billion already in 1985 (Jackson, 1985). International tax evasion research is further bifurcated. One strand focuses on corporate profit shifting (Fuest & Riedel, 2012; Gravelle, 2009), while the other explores corporate and personal financial assets that are held offshore (Palan, 2002; Zucman, 2014; Hanlon et al., 2015; Kemme et al., 2017). The general sentiment strongly suggests that tax compliance and tax havens are still understudied topics in the international business literature (Christensen, 2011; Gokalp, Lee, & Peng, 2017; Khlif & Achek, 2015). Our study focuses on tax evasion of individuals, tax havens, and tax morale, which – to the best of our knowledge – has not been studied before. This section provides a general overview of personal tax evasion, tax evasion via tax havens, and tax morale; it concludes with our hypothesis.

2.1. Personal Tax Evasion

While tax avoidance, or tax planning efforts that minimize tax liabilities, are perfectly legal activities, tax evasion is not. Individuals evade taxes by not reporting certain income from labor or capital (Sandmo, 2005).[3] The decision to evade is often described as a portfolio optimization problem (Auerbach & King, 1983), where, based on the

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[3] Dharmapala (2017), p. xv) defines tax avoidance as "the lawful reduction of tax obligations, while maintaining the same substantive economic outcome."

classic frameworks of Becker (1968) and Allingham and Sandmo (1972), one weighs the benefits of tax evasion against the risk of detection and its associated consequences. The literature focuses on two particular forms of tax evasion for individuals: tax evasion due to underreporting of income, and tax evasion via shell corporations in tax havens.[4] With respect to underreporting, Friedland, Maital, and Rutenberg, (1978) used an experimental study to show higher probabilities for underreporting when tax rates increased, and individuals were not married. Further, older individuals underreported less than younger, and women underreported less than men. Orviska and Hudson (2002), using UK survey data, also conclude that tax evasion is less likely among older people and higher for married persons. Subsequent studies confirm that men tend to be more tolerant of tax evasion than women (Hasseldine & Hite, 2003; Torgler & Valev, 2010). Noncompliance in Switzerland increases with inflation and decreases with the probability of detection (Pommerehne & Weck-Hannemann, 1996). Swedish households seem to underreport income if at least one member is self-employed (Engström & Holmlund, 2009). Underreporting of self-employed individuals is a persistent trend also seen in Denmark (Kleven, Knudsen, Kreiner, Pedersen, & Saez, 2011) and the US (Internal Revenue Service, 2016). Such underreporting of labor income and tax credit abuse has been accredited mainly to the lower-income strata, while wealthy individuals report more of their traceable income (Alstadsæter, Johannesen, & Zucman, 2017). However, the financial elite evades less by underreporting labor income and more by keeping unreported wealth in offshore accounts.[5] Tax evasion services target primarily the wealthiest of the rich, thereby maximizing their revenues while keeping the risk of detection low (Alstadsæter et al., 2017).

2.2. Tax Evasion via Tax Havens

Alstadsæter et al. (2017) investigate tax evasion in Norway, Sweden, and Denmark and find that while the average tax evasion level is very low, at three percent, the wealthiest 0.01 percent in this group evade up to 30 percent of their personal taxes. This level is as high as 40 percent for the UK, Spain, and France (Alstadsæter, Johannesen, & Zucman, 2018). This finding supports a German experimental study that shows that tax evasion is positively related to income earned (Giese & Hoffmann, 2000). Alstadsæter et al. (2018) find that ten percent of global GDP is held in tax havens, with the majority of it originating in Russia, Gulf countries, and Latin America. Of course, some of the offshore holdings might be legitimate, but others are specifically used to evade taxes (Zucman, 2014). Johannesen (2014) investigates tax evasion on interest income via offshore bank deposits. He finds that once automatic withholding taxes on such income for EU residents was implemented, Swiss bank deposits held by EU residents declined significantly; but only to be relocated to other tax havens that did not have an equivalent withholding tax. Similarly, new tax treaties with tax havens geared at more transparency caused shifts from tax havens with many treaties to those with few treaties and left the combined offshore holdings unchanged (Johannesen & Zucman, 2014).

Hanlon et al. (2015) and Kemme et al. (2017) examine tax evasion via foreign portfolio investments (FPI) as a vehicle. Hanlon et al. (2015) find that US residents prefer tax havens that did not sign tax treaties with the US over those that did. Kemme et al. (2017) report more tax evasion for OECD residents as the reward from tax savings increases.

They focus on OECD residents who establish shell corporations in tax havens and then reinvest in their home country's capital market by posing as a foreign investor from the tax haven country. If the tax rate on dividend income for foreign investors is less than for domestic investors, such roundtripping activity yields tax savings. We expand this literature by asking if tax savings via roundtripping originates in all countries equally, or if particular country characteristics may identify countries as more likely to be tax evaders. We look specifically at tax morale, a person's inclination to pay taxes (Torgler, 2007), as a potential determinant of evasion.

2.3. Tax Morale

In countries with low tax morale, individuals view cheating on paying taxes as acceptable. They might observe others in their society evading taxes; hence, find it rational and justified to evade as well. The more people evade in a society, the lower is the likelihood of detection (Sandmo, 2005).

Lago-Peñas and Lago-Peñas (2010) offer a brief overview of factors that have been identified in previous studies to influence tax morale. They show that age, religion, financial stress, and agreement with government decisions increase tax morale, while the level of education and self-employment status reduces tax morale. Higher tax morale is also associated with smaller shadow economies (Torgler & Schneider, 2009). Torgler (2003) further finds that Central and Eastern European countries have higher tax morale than former member countries of the Soviet Union. Cummings et al. (2009), who use field studies in Botswana and South Africa, together with a survey covering African countries, conclude that higher tax morale results in more tax compliance.

DellöAnno (2009) develops a theoretical model, which shows that tax evasion is largely explained by tax morale. Tax morale is dependent on taxpayers' attitudes toward honesty and social stigma. His model further incorporates the role of policymakers' effectiveness in controlling for significant economic and institutional variables that influence the extent of tax evasion. Lee (2016) develops a theoretical model with morality, tax evasion, and their implication for equity of the tax system. He finds that as the level of morality in a society increases, moral costs of tax evasion also increases, and tax evasion becomes lower. A high-income taxpayer would evade less and pay a higher amount of taxes.

We test this "tax morale hypothesis" empirically and systematically with a global sample of FPI inflows into OECD countries to determine if individual tax evasion via roundtripping through tax havens is a generalizable global phenomenon or not. If tax morale is associated with tax compliance, we expect that OECD countries with low tax morale should evade more taxes compared to their high tax morale counterparts, all else equal. Using the roundtripping approach to identify tax evasion, we know that FPI inflows from tax havens increase as the difference in a country's dividend withholding tax for domestic investors *vis-a-vis* foreign investors widens. Hence, if tax savings increases as domestic investors face a higher tax rate than foreign investors, it becomes more attractive for the domestic investor to send capital to a shell company in a tax haven and from there to invest back into the home country, posing as a foreign investor and paying the lower tax rate. However, if the attitude towards paying taxes varies between countries, all else equal, the extent of tax evasion via roundtripping should be different among OECD countries, reflecting differences in tax morale. Specifically, we expect that this tax evasion behavior via roundtripping is stronger if the domestic investor is located in a low tax morale OECD country rather than a high tax morale OECD country. Therefore, we predict that the triple interaction of tax savings, tax haven status of the source country from where the FPI originates, and low tax morale of the OECD host country where the tax evader resides, increases FPI flow into the OECD host country. However, if individual tax evasion via tax haven is reserved primarily to the wealthiest of the rich, the financial elite, we may find no evidence for the "tax morale hypothesis." Thus, we test the following hypothesis:

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[4] Of course, businesses also create shell corporations. However, while individuals can use shell corporations to re-invest capital in their home country posing as a foreign investor, businesses typically use similar shell companies for hostile takeovers, as a means to pay lower taxes in the country where the shell corporation is located, and to hide transactions between businesses, *inter alia*.

[5] Famous names of convicted personal tax evaders in the US include Darryl Strawberry, Martha Steward, Wesley Snipes, Willie Nelson, and Ty Warner (Kratsas, 2014), to mention a few.

Main Hypothesis: *The positive relationship between tax savings and FPI flows from tax havens into OECD host countries, which indicates tax evasion via roundtripping, is more pronounced for low tax morale host countries.*

In the next section, we explain the variables used in this study, construct a tax morale proxy, and discuss other relevant determinants of FPI flows.

3. Data and variable construction

To test if a country's level of tax morale moderates tax evasion via roundtripping, we focus on the joint impact of tax savings, tax havens, and level of tax morale on foreign equity portfolio (FPI) flows, controlling for other standard variables in this context. Therefore, our dependent variable is *Log (Equity Flows)*, the natural logarithm of FPI that a foreign source country sends to an OECD host country each year during our sample period. We collect FPI inflow data from the *IMF Coordinated Portfolio Flows Investment Survey Database* (CPIS). To remain in the sample, each country pair must have at least three observations and FPI flows of at least USD 1 million (Kemme et al., 2017). The final sample contains 7451 observations of FPI flows, sent from 138 source countries into 21 OECD host countries, for the period 2002–2013. Table A1 in the Appendix lists the host countries, source countries, and source countries with tax haven status. Following Hanlon et al. (2015) and Dharmapala (2009), source countries that are included either in the *Harmful Tax Competition Report* (OECD, 1998) or by Hines and Rice (1994), are considered to be tax havens.[6] Twenty-three of our source countries (17%) are considered tax havens and labeled with a *Source Tax Haven* dummy variable equal to one. As illustrated by Hanlon et al. (2015) and Kemme et al. (2017), we expect that tax haven status is positively related to FPI inflow.

To test our hypothesis regarding the effect of tax morale on roundtripping via tax havens, we obtain tax morale data from the World Value Survey. Specifically, we focus on the following survey question:

> *"Please tell me for each of the following statements whether you think it can always be justified, never justified, or something in between:. . . Cheating on taxes if you have a chance (% "never justified" – code 1 from ten-point scale where 1 = never and 10 = always justifiable)."*

Following Norris and Inglehart (2003), for every host country, we calculate the proportion of its population who believes that it is justifiable to cheat on taxes (scores of 2 and higher), which ranges from 30% to approximately 51%, with a median value of 37%. We create a dummy variable *Low Tax Morale*, equal to one if 37% or more of the respondents of a host country believe that it is justifiable to cheat on taxes, and zero otherwise.[7] While tax morale itself is influenced by the individual- and contextual-level variables (Lago-Peñas & Lago-Peñas, 2010), and the allocation branch and distribution branch of the government (Torgler & Schaltegger, 2005), *inter alia*, Torgler (2007) shows that an increase in corruption reduces tax morale. Further, corruption and capital flows are negatively related (Wei & Shleifer, 2000). Hence, we expect that investors view countries with low levels of tax morale also to be more corrupt, which would imply the coefficient of the *Low Tax Morale* variable to be negative.

Clotfelter (1983) investigates the relationship between tax rates and tax evasion, and his findings suggest that tax rates have a significant effect on the amount of tax evasion. We control for tax rates by

introducing Δ*Tax Savings,* the percentage change of tax savings between every host country and source country pair each year. We subtract the dividend withholding tax for foreign investors from the net dividend tax rates for domestic residents to obtain Tax Savings. The dividend withholding tax in the host country can be lower for foreign investors from source countries with which double taxation avoidance treaties exist. We collect the tax information from the Deloitte International Tax Database and KPMG Individual Tax Rate Survey.[8] Δ*Tax Savings* by itself should not have any impact on *Log (Equity Flows)*; hence, we expect the coefficient on this variable to be not significantly different from zero.[9]

In the analysis that follows, we also include well-established determinants of FPI flows with variables and specifications as discussed in Kemme et al. (2017). *Log (Distance)* is the natural logarithm of the distance in kilometers (km) between the source and the host country, and data are obtained from Mayer and Zignago (2011). We expect a negative coefficient for this variable, reflecting home bias (Aggarwal, Kearney, & Lucey, 2012; *inter alia*).[10] Because investor protection is greater in common law legal systems relative to civil law systems, we construct a *Common Law Dummy* variable equal to one if the host country has a common law legal system, and zero otherwise. This data is obtained from La Porta, Lopez-de-Silanes, Shleifer, and Vishny, (1998), and we expect the coefficient for this variable to be positive since more equity flows into countries with a common law legal system that protects investors better than the civil law legal system (Globerman & Shapiro, 2003; La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 2000). In addition, we control for the size of the host country's economy because large and developed markets typically receive more Foreign Direct Investment (FDI) flows in general (Alfaro, Chanda, Kalemli-Ozcan, & Sayek, 2004; Amaya & Rowland, 2004). Hence, we expect positive coefficients for the *Log (Host GDP Per Capita)* variable. We collect data for GDP and population from the World Bank database. Further, *Log (Host Market Capitalization)* measures the depth and development of the host country's financial markets. In line with Aggarwal et al. (2012), we expect the coefficient of this variable to be positive.

Habib and Zurawicki (2002) note that corruption is a serious obstacle for foreign investment due to operational inefficiencies and perceived wrongdoing. Javorcik and Wei (2009) find that an increase in corruption in Eastern European countries reduces the probability of foreign investment by 15 percentage points. To capture this impact of corruption, we use the *Corruption Perception Index* provided by Transparency International. Each year they score countries on the 'degree to which corruption is perceived to exist among public officials.' A higher score represents less corruption. For example, in their 2018 report, Denmark has a score of 88 and is ranked as the least corrupt country, whereas Somalia has a score of 10 and is ranked as the most corrupt country. For our sample period, Transparency International reported scores ranging from 0 (most corrupt) to 10 (least corrupt) till 2011. In 2012, they changed the scoring to range from 0 (most corrupt) to 100 (least corrupt). To be consistent through the sample, we normalize the scores for 2012 and 2013, so that the scores for host countries range from 0 to 10. Gande and Parsley (2014) show that countries with a higher *Corruption Perception Index* score experience smaller outflows by foreign investors from equity mutual funds when a country's score falls.

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[6] It is important to note that there are alternative classification methods for varying purposes. For example, Jones, Temouri, and Cobham, (2018) use a subcomponent of the Tax Justice Network's Financial Secrecy Index (FSI), the Secrecy Score, to identify tax havens. While secrecy is certainly an important aspect of tax havens, our research focuses closely on tax rates. Hence, for this paper, we label a country as a tax haven if it is identified as such by either the OECD or Hines and Rice (1994).

[7] Note also in 4.3 below, we perform sensitivity analysis regarding the cut-offs for defining the variable.

[8] As noted in Kemme et al. (2017), we also compare similar tax rate data from other accounting firm publications and find that our tax rates are consistent across these publications.

[9] As Hanlon et al. (2015) and Kemme et al. (2017) have shown, an increase in tax savings triggers more FPI from tax haven source countries only, because those are the countries via which the host country investors evade taxes. Therefore, there is no expectation that FPI flows increase in general as tax savings increase.

[10] As an alternative distance measure, Hellmanzik and Schmitz (2017) show that virtual proximity, captured by bilateral internet hyperlinks, impacts bilateral portfolio investment. Due to the nature of our variables of interest and focus on tax havens, we use the traditional geographic distance variables.

Hence, we expect a positive relationship between *Log (Equity Flows)* and the *Corruption Perception Index*.

A country's exchange rate also influences FPI. Prior literature shows that a weaker US dollar is positively related to an increase in FDI into the US.[11] Non-US investors can reduce investment risk via international diversification, and if the US currency is relatively cheap, the purchasing power of their home currency allows them to purchase relatively more assets in the US. In our analysis, we expect that *Log (Equity Flows)* is positively related to relatively stronger currencies in the source countries. We measure *Relative Exchange Rate* as the host country's bilateral exchange rate with respect to the US dollar, relative to the source country's exchange rate with respect to the US dollar. Exchange rate data are obtained from Thomson Reuters DataStream.[12]

Table A2 of the Appendix provides names, descriptions, and sources for all variables we employ, and Table 1 below reports the summary statistics. The average FPI between the host and source countries in our sample is USD 10.19 billion, with 19 percent of all flows originating from *Source Tax Haven* countries. Forty-two percent of the FPI flows in our sample were identified as being from *Low Tax Morale* countries. The average *ΔTax Savings* is close to seven percent but can be as high as 35 percent. The average *Distance* between the source and host countries is 6994 km, with a minimum of 161 km (Austria - Netherlands) and a maximum of 19,517 km (New Zealand - Spain). Twenty-nine percent of the host countries have a *Common Law* legal system. Since our sample consists of inflows into OECD countries, the average *Host GDP Per Capita* is relatively high at USD 40,451. In general, the mean *Host Market Capitalization* in our sample is USD 3.17 trillion, with a maximum of USD 19.94 trillion for companies listed in the US. The *Corruption Perception Index* score, which can range between 0 and 10, averages a value of 7.56 in our sample, with a range from 2.30 to 9.60. In general, our sample has a relatively high score for control for corruption because most OECD countries experience low public corruption. The average *Host Exchange Rate (USD)* is about three times larger than the Source Exchange Rate (USD). [13]

Table 2 presents the Pearson Correlation Matrix for the independent variables in our study. We note that Low Tax Morale is moderately and negatively correlated with Log (Host Market Capitalization), Common Law Dummy, and Log (Distance); Relative Exchange Rate is moderately and negatively correlated with Log (Host GDP Per Capita) and Corruption Perception Index. Further, Log (Host GDP Per Capita) is moderately and positively correlated with Log (Host Market Capitalization), Corruption Perception Index, Log (Host Market Capitalization), and Common Law Dummy. All other correlations are relatively small, and none of these correlations produce any multicollinearity in our regression analysis.

Table 1

Summary Statistics. Herein are summary statistics for all variables. Detailed descriptions and sources are in Appendix Table A2. *FPI* reflects foreign portfolio investment flows from the source country to an OECD host country in millions of USD. *Log (Equity Flows)* is the natural logarithm of equity flows from source country to host country. *Source Tax Haven* is a dummy variable equal to 1 when a source country is classified as a tax haven, and 0 otherwise. *Low Tax Morale* is a dummy variable equal to 1 when the mean tax morale score of the host country exceeds 0.37, and 0 otherwise. *Tax Savings* is defined as the difference between host country net dividend tax and host country foreign withholding dividend tax, considering double taxation treaties. *Distance (KM)* measures the distance in kilometers between the two capital cities/financial centers of the host and the source country. *Common Law* is a dummy variable which equals 1 when the host country practices common law, and 0 otherwise. *Host GDP Per Capita* equals the host country's GDP in USD relative to the population of the host country. *Host Market Capitalization* is the market capitalization of all listed companies of the host country in million USD. The *Corruption Perception Index* is obtained from Transperancy International, which measures the misuse of public power for private benefit. For our sample period the score ranges from 0-10. *Host Exchange Rate (USD)* is the host country bilateral exchange rate in terms of USD. *Source Country Exchange Rate (USD)* reflects the source country bilateral exchange rate in terms of USD.

Variable	N	Mean	Std Dev	Minimum	Maximum
FPI (in millions)	7451	10194	41656	1.00	758411
Log (Equity Flows)	7451	19.69	2.99	13.82	27.35
Source Tax Haven	7451	0.19	0.39	0.00	1.00
Low Tax Morale	7451	0.42	0.49	0.00	1.00
ΔTax Savings	7451	6.59	10.58	−25.01	35.00
Distance (in kilometers)	7451	6994	4696	161	19517
Common Law	7451	0.29	0.46	0.00	1.00
Host GDP Per Capita	7451	40451	16237	4487	95190
Host Market Capitalization (in millions)	7451	3170456	5194535	1611	19947284
Corruption Perception Index	7451	7.5597	1.41	2.30	9.60
Host Exchange Rate (in USD)	7451	107	287	0.50	1277
Source Exchange Rate (in USD)	7451	314	1728	0.06	25000

4. Model and Empirical Analysis

4.1. Model specification

Our basic model is a gravity equation, derived from a portfolio optimization model commonly used in the literature.[14] The main independent variable to test the hypothesis regarding the effects of tax morale on tax evasion via roundtripping in OECD host countries is the interaction term between *Source Tax Haven*, *Low Tax Morale*, and *ΔΔTax Savings*, as defined in Section 3 above. The dependent variable is the log of equity flows from source to host country, *Log (Equity Flows)*.

The basic regression model and variants may be written as:

$$
\begin{aligned}
Log\ (Equity\ Flow)_{ij,t} = {} & \beta_1\ Source\ Tax\ Haven + \beta_2\ Low\ Tax\ Morale \\
& + \beta_3\ \Delta Tax\ Savings \\
& + \beta_4\ Source\ Tax\ Haven * Low\ Tax\ Morale \\
& + \beta_5 \Delta Tax\ Savings * Low\ Tax\ Morale \\
& + \beta_6 \Delta Tax\ Savings * Source\ Tax\ Haven \\
& + \beta_7 \Delta Tax\ Savings * Source\ Tax\ Haven * Low\ Tax \\
& Morale + \beta_k X_{i,j,t} + Year\ Fixed\ Effects_t \\
& + Host\ Fixed\ Effects + \in_{ij,t}
\end{aligned}
\tag{1}
$$

As explained in Section 3 above, we expect β_1 to be positive, β_2 to be negative, and β_3 to not be significantly different from zero. For our

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[11] See Froot and Stein (1991); Klein and Rosengren (1994), and Dewenter (1995) for the US, and Johannesen (2014) for European countries.

[12] For control variables, we also looked at *Identical Language,* which is a dummy variable equal to one if the source and host country speak the same official language, and zero otherwise. Language data were obtained from Melitz and Toubal (2014). Since familiarity with the language in the host country increases foreign investments (Aggarwal et al., 2012; *inter alia*), we expected a positive coefficient for this variable. However, the *Identical Language* variable remained statistically insignificant across all of our model specifications, and we have omitted this control variable in our reported models.

[13] We calculated the correlation matrix, and there are no unusually high correlations between independent variables except for *ΔTax Savings* and *ΔTax Savings*Low Tax Morale*. Hence we do not use these two variables in the same regression specification. We also do not find multi-collinearity in the regression analysis below, as confirmed by the variance inflation factors being less than three.

[14] See Martin and Rey (2004), for example.

Table 2
Correlation Matrix. Table 2 presents the correlation for the independent variables used in this study. The variables are defined in Table A2. ***, **, * indicates statistical significance at the 1%, 5% and 10% level, respectively.

Variables	Source Tax Haven	Low Tax Morale	ΔTax Savings	Relative Exchange Rate	Log (Host GDP Per Capita)	Log (Host Market Capitalization)	Common Law Dummy	Corruption Perception Index	Log (Distance)
Source Tax Haven	1								
Low Tax Morale	−0.0163	1							
ΔTax Savings	0.0032	−0.0098	1						
Relative Exchange Rate	0.0453***	−0.1895***	0.0021	1					
Log (Host GDP Per Capita)	−0.023**	0.2221***	−0.0146	−0.3472***	1				
Log (Host Market Capitalization)	0.0103	−0.3590***	0.0060	−0.1017***	0.4009***	1			
Common Law Dummy	−0.0157	−0.3415***	0.0054	−0.1627***	0.2003***	0.5147***	1		
Corruption Perception Index	−0.0295	0.1076***	−0.0054	−0.3175***	0.6580***	0.0856***	0.2130***	1	
Log (Distance)	0.0446***	−0.3864***	−0.0116	0.1301	−0.0048	0.2603***	0.2849***	0.0214*	1

main hypothesis, the variable of interest is the interaction term *ΔΔTax Savings * Source Tax Haven * Low Tax Morale*. This interaction term tests our hypothesis that OECD investors in countries with low tax morale evade more taxes via roundtripping than their counterparts in high tax morale countries. We hypothesize that the associated coefficient, β_7, is positive and significant, confirming that roundtripping is more prevalent in low tax morale countries. Alternatively, β_7 could be not statistically different from zero, indicating that low tax morale countries do not evade any more taxes via roundtripping than high tax morale countries. For completeness, we estimate specifications that include interaction terms *Source Tax Haven * Low Tax Morale* and *ΔTax Savings * Source Tax Haven*. Due to high correlations between *ΔΔΔTax Savings* and *ΔTax Savings* Low Tax Morale*, we do not use these two variables in the same regression specification. However, we do split the sample into high and low tax morale subsamples as part of our analysis.

$X_{i,j,t}$ is a vector of common control variables for *Log (Equity Flows)*, including *Log (Distance)*, *Common Law Dummy*, *Log (Host GDP Per Capita)*, *Host Market Capitalization*, *Corruption Perception Index*, and *Relative Exchange Rate*. All variables are as defined in the previous section. Collectively, these variables effectively control for home bias and country-specific characteristics such as equity market features and transaction costs. The associated coefficients are elements of the vector β_k. We include year fixed effects to account for unmeasured determinants that vary irregularly over time, and host country fixed effects for country-specific idiosyncrasies not captured by the other independent variables. We estimate using clustered standard errors, by host country and year, to provide consistent standard errors and appropriate coefficient test statistics.[15]

4.2. Empirical Analysis

Table 3 presents the main results. Panel A represents our basic model with specific country control variables only, while Panel B includes host country fixed effects and year fixed effects. To avoid the multicollinearity issue discussed in the previous section, Model II includes the *ΔTax Savings* variable, while Model III includes the interaction term *ΔTax Savings * Low Tax Morale*. As discussed in Section 3, a country is classified as a low tax morale country if at least 37% of its population indicated that cheating on taxes is justifiable. The 37% cutoff represents the median value.

This study expands previous findings of increased FPI flows from tax havens when tax savings between domestic and foreign investors widen, evidencing tax evasion via roundtripping (Hanlon et al., 2015; Kemme et al., 2017). Acknowledging the importance of the previous finding, we ask if this tax evasion behavior persists across the board, or if it is moderated by a country's attitude towards paying taxes, as captured by the *Tax Morale* dummy variable. In support of our Hypothesis, the triple interaction coefficient of *ΔTax Savings * Source Tax Haven * Low Tax Morale* (β_7) is positive and highly significant at the 5% (Panel A) and 1% (Panel B) levels. Note that we report hierarchical regression results, which indicate that the inclusion of the interaction terms in both Models II and III increases the share of the explained variation in the dependent variable, and that this increase is statistically significant at the 5% level (Panel A) and 10% level (Panel B).[16] Therefore, we find strong evidence that tax evasion via roundtripping originating from countries with low tax morale is greater than that of other countries. From an economic perspective, our results suggest that in low tax morale countries, a 1% increase in tax savings results in a

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[15] Clustered standard errors in the panel data setting yield unbiased and asymptotically (in the number of cross- sections) efficient standard errors (Petersen, 2009; Thompson, 2011).

[16] We thank an anonymous referee who suggested this hierarchical regression analysis.

Table 3
Regression Results for Basic Specifications. Regression results are presented below. The dependent variable, *Log (Equity Flows)*, is the natural logarithm of equity flows from source country to host country. The main independent variable of interest is *Low Tax Morale* and its interaction with *Source Tax Haven* and *ΔTax Savings*. In particular, the triple interaction term *Source Tax Haven *ΔTax Savings* Low Tax Morale*, captures roundtripping based on host country tax morality. Models I-III in Panel A are estimated with host and year clustered standard errors and no fixed effects. In Models I-III in Panel B both host and year fixed effects are included, and standard errors are clustered by host and year. Standard errors are in parentheses. ***, **, * indicates statistical significance at 1%, 5% and 10% respectively.

Panel A. No Fixed Effects Parameter	I	II	III
	Low Tax Morale at Median		
Intercept	6.5774***	6.5659***	6.5657***
	(1.065)	(1.056)	(1.057)
Source Tax Haven	0.8015***	0.6555***	0.6555***
	(0.053)	(0.071)	(0.071)
Low Tax Morale	−0.3216***	−0.3893***	−0.3893***
	(0.10)	(0.109)	(0.109)
ΔTax Savings	0.0005	0.0004	
	(0.107)	(0.000)	
Source Tax Haven * Low Tax Morale		0.4157***	0.4158***
		(0.106)	(0.106)
ΔTax Savings * Low Tax Morale			0.0004
			(0.000)
ΔTax Savings * Source Tax Haven		−0.0248	−0.0244
		(0.084)	(0.086)
ΔTax Savings * Source Tax Haven * Low Tax Morale		0.3981**	0.3976**
		(0.168)	(0.168)
Relative Exchange Rate	0.0002	0.0002	0.0002
	(0.000)	(0.000)	(0.000)
Log (Host GDP Per Capita)	0.5424***	0.5448***	0.5448***
	(0.147)	(0.147)	(0.147)
Log (Host Market Capitalization)	0.3904***	0.3919***	0.3919***
	(0.036)	(0.036)	(0.036)
Common Law Dummy	0.6800***	0.6743***	0.6743***
	(0.118)	(0.117)	(0.117)
Corruption Perception Index	0.1882***	0.1884***	0.1884***
	(0.045)	(0.045)	(0.045)
Log (Distance)	−0.5937***	−0.5969***	−0.5969***
	(0.028)	(0.028)	(0.028)
Host Fixed Effects	No	No	No
Year Fixed Effects	No	No	No
No of Observation	7451	7451	7451
Adjusted R Square	0.1443	0.1451	0.1451
Hierarchical Analysis (Models 1 vs. 2 and Models 1 vs. 3)			
R Square	0.1453	0.1465	0.1465
Δ R Square		0.0012	0.0012
ΔF		3.30**	2.55**

Panel B. With Year and Country Fixed Effects Parameter	I	II	III
Source Tax Haven	0.8138**	0.6618***	0.6618***
	(0.052)	(0.070)	(0.070)
Low Tax Morale	0.0086	−0.0472	−0.0471
	(0.490)	(0.491)	(0.492)
ΔTax Savings	0.0004	0.0004	
	(0.000)	(0.000)	
Source Tax Haven * Low Tax Morale		0.4039***	0.4039***
		(0.100)	(0.100)
ΔTax Savings * Low Tax Morale			0.0004
			(0.000)
ΔTax Savings * Source Tax Haven		−0.0474	−0.0469
		(0.075)	(0.075)
ΔTax Savings * Source Tax Haven * Low Tax Morale		0.2961***	0.2956***
		(0.103)	(0.103)
Relative Exchange Rate	0.0004	0.0004**	0.0004**
	(0.000)	(0.000)	(0.000)
Log (Host GDP Per Capita)	0.1965	0.1989	0.1990
	(0.422)	(0.425)	(0.425)
Log (Host Market Capitalization)	0.3519**	0.3636**	0.3636**
	(0.184)	(0.184)	(0.184)
Common Law Dummy	3.6187***	3.5725***	3.5724***
	(0.984)	(0.984)	(0.984)
Corruption Perception Index	−0.0240	−0.0257	−0.0257
	(0.143)	(0.142)	(0.142)
Log (Distance)	−0.6475***	−0.6525***	−0.6526***
	(0.029)	(0.028)	(0.029)
Host Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
No of Observation	7451	7451	7451
Adjusted R Square	0.9811	0.9811	0.9811
Hierarchical Analysis (Models 1 vs. 2 and Models 1 vs. 3)			
R Square	0.9812	0.9812	0.9812
Δ R Square		0.0000	0.0000
ΔF		2.43*	1.89*

Table 3 (*continued*)

34.5% increase in FPI from tax havens.[17] Using the average annual FPI inflow from a tax haven into a low tax morale country in our sample, which is USD 13 billion, a 1% increase in tax savings would result in an increase in tax evasion of approximately USD 4.5 billion.

This seemingly important caveat for individual OECD country's behavior has not been considered in the literature thus far and, hence, therein lies the significant contribution of this paper. Consequently, individuals in countries with lower tax morale find it not only justifiable to evade taxes domestically, but they also take advantage of international tax evasion strategies.

The coefficients of our control variables are consistent with prior studies. For example, the coefficient for *Source Tax Haven* (β_1) is positive and highly significant at the 1% level, both with and without fixed effects. Hence, significantly more FPI flows into the OECD from tax haven countries than other source countries. *Low Tax Morale* has a negative and highly significant coefficient (β_2) in Panel A, indicating less investment into countries with low tax morale. However, once we control for fixed effects in Panel B, country-specific and time characteristics dominate the contribution of tax morale, and this coefficient is no longer significantly different from zero. Hence, by itself, the level of tax morale plays no role in international equity flows; rather, it is the level of tax morale in a specific subset of countries that makes a difference. For example, the coefficient of the interaction term, *Source Tax Haven * Low Tax Morale* (β_4), is significantly positive for all models, implying that OECD countries with low tax morale also receive significantly more FPI flows from tax havens than other source countries. As anticipated, *ΔTax Savings* (β_3) is not significantly different from zero. Further, the interaction terms *ΔTax Savings * Low Tax Morale* (β_5) and *ΔTax Savings * Source Tax Haven* (β_6) are also not significantly different from zero.

In line with prior studies, we find that the estimated coefficients for *Log (Host Market Capitalization)* and *Common Law Dummy* are positive and highly significant, and the coefficient for *Log (Distance)* is negative and highly significant. Thus, OECD host countries with deeper capital markets and a common law legal system with better investor protection attract higher foreign portfolio inflows. In line with the home bias literature, more foreign portfolio inflows originate from nearby countries.

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[17] Table 2, Panel B, Model II, shows that the coefficient for the roundtripping triple-interaction term is 0.2961 (it is very similar in Model IV, 0.2956). Hence, the impact on FPI flow for a 1% change in tax rates is equal to (eˆ0.2961 – 1), or 34.5%.

Table 4

Robustness Tests – Different Definitions of Tax Morale. Additional regression results with alternative definitions of *Low Tax Morale* are below. The dependent variable is *Log (Equity Flows)*, the natural logarithm of equity flows from source country to host country. As in the previous table, the independent variable of interest is *Source Tax Haven* *ΔΔTax Savings* *Low Tax Morale*, the triple interaction that captures roundtripping based on host country tax morality. In Models I and II *Low Tax Morale* takes the value 1 when the host tax morality score is greater than or equal to 0.32 (25th percentile). In Models III and IV *Low Tax Morale* takes the value 1 when the host country tax morality score is greater than or equal to 0.41 (75th percentile). All models are estimated with host and year fixed effects, and standard errors are clustered by host and year. Standard errors are in parentheses. ***, **, * indicates statistical significance at 1%, 5% and 10% respectively.

Parameter	I	II	III	IV
	Low Tax Morale at 25th Percentile		Low Tax Morale at 75th Percentile	
Source Tax Haven	0.6266***	0.6267***	0.7289***	0.7288***
	(0.093)	(0.093)	(0.061)	(0.061)
Low Tax Morale Dummy	−0.0290	−0.0289	2.6592**	2.6592**
	(0.493)	(0.493)	(1.114)	(1.114)
ΔTax Savings	0.0004		0.0004	
	(0.000)		(0.000)	
Source Tax Haven * Low Tax Morale	0.3395***	0.3394**	0.4440***	0.4440***
	(0.109)	(0.109)	(0.097)	(0.097)
ΔTax Savings * Low Tax Morale		0.0004		0.0004
		(0.000)		(0.000)
ΔTax Savings * Source Tax Haven	−0.0787	−0.0783	0.0093	0.0097
	(0.072)	(0.071)	(0.078)	(0.078)
ΔTax Savings * Source Tax Haven * Low Tax Morale	0.3098***	0.3094***	0.1960*	0.1956*
	(0.117)	(0.117)	(0.109)	(0.109)
Relative Exchange Rate	0.0004**	0.0004**	0.0004**	0.0004**
	(0.000)	(0.000)	(0.000)	(0.000)
Log (Host GDP Per Capita)	0.1998	0.2000	0.1959	0.1961
	(0.425)	(0.425)	(0.423)	(0.423)
Log (Host Market Capitalization)	0.3660**	0.3661**	0.3524*	0.3524*
	(0.183)	(0.183)	(0.183)	(0.183)
Common Law Dummy	3.5706***	3.5703***	3.6133***	3.6133***
	(0.982)	(0.982)	(0.981)	(0.981)
Corruption Perception Index	−0.0282	−0.0281	−0.0245	−0.0245
	(0.142)	(0.142)	(0.142)	(0.142)
Log (Distance)	−0.6502***	−0.6502***	−0.6511***	−0.6511***
	(0.029)	(0.029)	(0.029)	(0.029)
Host Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
No of Observation	7451	7451	7451	7451
Adjusted R Square	0.9812	0.9812	0.9812	0.9812

The coefficients for *Relative Exchange Rate* (host relative to source) become positive and significant in the specifications with interaction terms and fixed effects (Panel B, Models II and III). Coefficients for *Log (Host GDP Per Capita)* and *Corruption Perception Index* are positive and significant only models in Panel A. When fixed effects are included, other country and time characteristics dominate the contribution of these variables. In summary, the coefficient estimates for all of the other determinants are similar to Kemme et al. (2017).

Since we constructed the tax morale variable using the median scores as the benchmark for high and low tax morale, it may be worthwhile to determine whether our results are sensitive to the construction of this variable. In Table 4, we present two alternative specifications for the computation of *Low Tax Morale* as robustness tests. In Models I and II, we redefine the *Low Tax Morale* dummy to equal one if the mean value of the host country's low tax morale score is at least equal to 32%, which represents the 25th percentile. In Model III and IV, the *Low Tax Morale* dummy equals one if the host country tax morale mean score is at least equal to 41%, which represents the 75th percentile. All specifications include host country and year fixed effects, and standard errors are clustered by host country and year. The coefficient for our main independent variable of interest, the triple interaction of *ΔTax Savings, Source Tax Haven,* and *Low Tax Morale*, remains positive and is statistically significant at the 1% level for Models I and II, and at the 10% level for Models III and IV. Hence, our finding that tax evasion via roundtripping takes place particularly in low tax morale OECD countries, instead of high tax morale countries, remains robust to changes in the cutoff to define the *Low Tax Morale* dummy; however, statistical significance of this finding is lower when we widen the definition of *Low Tax Morale*. We conclude that our original definition and

specification of *Low Tax Morale,* with the host countries' low tax morale score being of the 50th percentile, is appropriate.

4.3. Additional issues and robustness tests

We also note that the average FPI flows into the US (USD 40 billion) are disproportionally larger than average flows into the rest of the OECD countries in our sample (USD 5.7 billion), and this difference is statistically significant at the 1% level. To ensure that our prior results are not influenced by the vast FPI flows into the US, we estimate similar specifications excluding the US as a host country from the sample, as robustness tests, and these are reported in Tables 5 and 6. Our results remain consistent.

In Table 5, we re-run our basic regression model for the various definitions of *Low Tax Morale*, at the 50th (Models I and II), 25th (Models III and IV), and 75th percentile (Models V and VI). All models include year and host country fixed effects. The coefficient of the triple interaction between *ΔTax Savings, Source Tax Haven,* and *Low Tax Morale* remains positive and statistically significant across all additional model specifications.[18] Again, we find that the significance of this

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[18] In our sample, low tax morale host countries generally have higher personal tax rates compared to high tax morale host countries. We re-run the models, controlling for personal tax rates in our specifications (similar to Models II and III in Table 3, Panel B), and find that the coefficient on personal tax rates is statistically insignificant. The triple interaction variable of *ΔTax Savings * Source Tax Haven * Low Tax Morale* remains positive and statistically significant. The results are available upon request.

Table 5

Robustness Tests - Excluding US from the Host Country Sample at different Definitions of Tax Morale. This table presents results for the models excluding US host country observations from the overall sample. The dependent variable is *Log (Equity Flows)*, the natural logarithm of equity flows from source country to host country. As in the previous regression tables, the independent variable of interest is *Source Tax Haven *ΔΔTax Savings* Low Tax Morale*, the triple interaction that captures roundtripping based on host country tax morality. For Models I and II *Low Tax Morale* taxes the value 1 when the host tax morale score is greater than 0.37 (50th percentile). In Models III and IV *Low Tax Morale* takes the value 1 when the host country morale score is greater than 0.32 (25th percentile). In Models V and VI *Low Tax Morale* takes the value 1 when the host country tax morale score is greater than 0.41 (75th percentile). All models are estimated with host and year fixed effects, and standard errors are clustered by host and year. Standard errors are in parentheses. ***, **, * indicates statistical significance at 1%, 5% and 10% respectively.

Parameter	I	II	III	IV	V	VI
	Low Tax Morale at Median		Low Tax Morale at 25th Percentile		Low Tax Morale at 75th Percentile	
Source Tax Haven	0.7267***	0.7267***	0.7189***	0.7187***	0.7886***	0.7886***
	(0.078)	(0.078)	(0.118)	(0.118)	(0.065)	(0.065)
Low Tax Morale Dummy	2.0010	2.0010	2.0291	2.0288	2.5933*	2.5934*
	(1.427)	(1.427)	(1.429)	(1.429)	(1.353)	(1.353)
ΔTax Savings	0.0004		0.0004		0.0004	
	(0.000)		(0.000)		(0.000)	
Source Tax Haven * Low Tax Morale	0.3461***	0.3461***	0.2515*	0.2515*	0.3916***	0.3916***
	(0.107)	(0.107)	(0.131)	(0.131)	(0.100)	(0.101)
ΔTax Savings * Low Tax Morale		0.0004		0.0004		0.0004
		(0.000)		(0.000)		(0.000)
ΔTax Savings * Source Tax Haven	−0.0517	−0.0514	−0.0806	−0.0803	0.0088	0.0092
	(0.078)	(0.077)	(0.076)	(0.077)	(0.080)	(0.080)
ΔTax Savings * Source Tax Haven * Low Tax Morale	0.3021***	0.3017***	0.3087***	0.3083***	0.1958*	0.1955*
	(0.105)	(0.105)	(0.119)	(0.119)	(0.111)	(0.111)
Relative Exchange Rate	0.0004**	0.0004**	0.0004**	0.0004**	0.0004**	0.0004**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Log (Host GDP Per Capita)	0.1878	0.1879	0.1888	0.1889	0.1840	0.1842
	(0.514)	(0.515)	(0.514)	(0.514)	(0.513)	(0.513)
Log (Host Market Capitalization)	0.3727**	0.3728**	0.3758****	0.3759***	0.3590**	0.3591**
	(0.177)	(0.177)	(0.177)	(0.177)	(0.176)	(0.176)
Common Law Dummy	1.4594***	1.4594**	1.4526***	1.4526**	3.5544***	3.5544***
	(0.439)	(0.439)	(0.438)	(0.438)	(1.182)	(1.182)
Corruption Perception Index	−0.0052	−0.0052	−0.0075	−0.0075	−0.0050	−0.0051
	(0.152)	(0.152)	(0.153)	(0.153)	(0.152)	(0.152)
Log (Distance)	−0.6749***	−0.6750***	−0.6720***	−0.6720***	−0.6747***	−0.6747***
	(0.029)	(0.029)	(0.029)	(0.029)	(0.028)	(0.028)
Host Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
No of Observation	6475	6475	6475	6475	6475	6475
Adjusted R Square	0.9833	0.9833	0.9833	0.9833	0.9833	0.9833

coefficient changes from the 1% to the 10% level when the cutoff for *Low Tax Morale* is at the 75th percentile and includes more host countries. Therefore, even if the US is excluded as a host country, the economic implication is similar to our findings in Table 3: a 1% increase in tax savings in low tax morale countries results in a 35.3% increase in FPI from tax havens.[19]

An alternative way to examine if tax morale has any effect on roundtripping is to divide the sample into subsamples of low tax morale countries and high tax morale countries. This also alleviates the high correlation issue between *ΔTax Savings* and *ΔTax Savings * Low Tax Morale*, which we commented on in Section 4.1. We follow the Hanlon et al. (2015) and Kemme et al. (2017) model of roundtripping for those subsamples, and now focus on the coefficient of the original roundtripping interaction term, *ΔTax Savings * Source Tax Haven*. To support our regression results for the full sample, we expect to find evidence of roundtripping for the low tax morale subsample, but no (or less) evidence of roundtripping for the high tax morale subsample. Table 6 reports these results. Models I and II represent the low tax morale subsample, where we find that the *ΔTax Savings * Source Tax Haven* coefficient is, as expected, positive and statistically significant. A 1% increase in tax savings for the low tax morale subsample results in an increase of 27% (Model I) or 28% (Model II) in FPI inflows from tax havens. Hence, we find persistent evidence that low tax morale

countries engage in tax evasion via roundtripping. Models III and IV represent the high tax morale subsample, and we find no evidence of tax evasion via roundtripping for our high tax morale subsample because the *ΔTaxSavings * Source Tax Haven* roundtripping coefficient is not statistically different from zero.

The results of the robustness tests strengthen our contribution to the literature that tax morale plays a vital role in deciding whether investors of a host country will evade taxes via roundtripping or not.

5. Conclusions

We examine the role of tax morale on tax evasion of individuals via roundtripping domestic equity investments through tax havens. In a sample of 21 OECD host countries and 138 source countries, we find that countries with low tax morale, i.e., with individuals who find it justifiable to cheat on taxes, experience higher roundtripping *vis-a-vis* countries with higher tax morale. The results demonstrate that in low tax morale countries, a 1% change in tax savings, the difference in taxes on investment income charged to a domestic versus a foreign investor, changes the FPI inflows from tax havens by 22%–35%. We, therefore, confirm the claims from Hanlon et al. (2015) and Kemme et al. (2017), that investors are more likely to evade taxes by "roundtripping" their investment income via tax havens when tax savings become more attractive. However, our major contribution is that tax evasion via roundtripping is not a generalizable phenomenon that policymakers in all countries should focus on equally. Instead, we show evidence that this type of tax evasion is found primarily in countries with low tax morale. In addition to providing valuable information to policymakers,

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[19] This result is based on Model I. The results are very similar for Models II-IV. The impact on FPI is smaller, but still at 22%, for the broadest definition of *Low Tax Morale* in Models V and VI.

Table 6

Robustness Tests - Excluding US from the Host Country Sample-Roundtripping for Low Tax Morale and High Tax Morale Subsamples. In this table, we perform roundtripping analysis for low tax morale countries and high tax morale countries separately. The dependent variable is *Log (Equity Flows)*, the natural logarithm of equity flows from source country to host country. The independent variable of interest is the interaction between *ΔTax Savings* and *Source Tax Haven*. Models I and II consist of host countries which are classified as low tax morale countries. Models III and IV consist of host countries, which are classified as high tax morale countries. All models are estimated with host and year fixed effects, and standard errors are clustered by host and year. Standard errors are in parentheses. ***, **, * indicates statistical significance at 1%, 5% and 10% respectively.

Parameter	I	II	III	IV
	Low Tax Morale Countries		High Tax Morale Countries	
Source Tax Haven	1.0424***	1.04383***	0.7224***	0.7221***
	(0.072)	(0.072)	(0.080)	(0.080)
ΔTax Savings	0.0004*	0.0004*	0.0579	0.0597
	(0.000)	(0.000)	(0.049)	(0.049)
ΔTax Savings * Source Tax Haven	0.2425***	0.2484***	−0.1104	−0.1119
	(0.063)	(0.061)	(0.086)	(0.086)
Relative Exchange Rate	0.0055***	0.0057***	0.0004**	0.0004**
	(0.001)	(0.001)	(0.000)	(0.000)
Log (Host GDP Per Capita)	3.1005***	3.1349***	−0.7653	−0.7880
	(0.902)	(0.906)	(0.515)	(0.527)
Log (Host Market Capitalization)	0.1252	0.1263	0.7138**	0.6830**
	(0.149)	(0.150)	(0.336)	(0.333)
Common Law Dummy	2.9032***	2.9517***	8.4495***	8.5394***
	(0.484)	(0.481)	(1.364)	(1.371)
Corruption Perception Index	−0.0255	−0.0130	−0.3846*	−0.4032**
	(0.117)	(0.113)	(0.202)	(0.196)
Log (Distance)	−0.6038***	−0.6037***	−0.7767***	−0.7768***
	(0.034)	(0.034)	(0.052)	(0.052)
Personal Tax Rates (%)		0.0137		−0.0167
		(0.014)		(0.031)
Host Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
No of Observation	3153	3153	3322	3322
Adjusted R Square	0.9830	0.983	0.9839	0.9839

our research also adds to the international business literature where tax compliance and tax havens are still understudied areas (Christensen, 2011; Gokalp et al., 2017; Khlif & Achek, 2015).

Our results remain robust to different definitions of the *Low Tax Morale* dummy variable, and also to the exclusion of the US from the host country sample. Further, our results are confirmed in subsample analyses, in which we find that roundtripping occurs only in the low tax morale country subsample; and we find no evidence of roundtripping in the high tax morale country subsample.

Our finding indicates that tax evasion via international evasion techniques by individuals is influenced by attitudes to pay or not pay taxes. This suggests that in addition to policies like tax information exchange agreements (TIEAs) or the US Foreign Account Tax Compliance Act (FACTA) to reduce roundtripping via tax havens, it is also essential to improve the attitude toward paying taxes in general. This is especially important, because the literature shows that tax information agreements between countries only compel tax evaders to shift funds from a tax haven with those agreements to another tax haven that has not signed such an agreement with the evader's home country (De Simone, Lester, & Markle, 2018; Johannesen & Zucman, 2014). The lack of success via TIEAs (Kemme et al., 2017) or FACTA (De Simone et al., 2018) is in line with Saeed and Shah (2011), who advocate instead to increase tax morale via positive intrinsic motivation such as education, respect, voting, and empathy. Highly complex auditing schemes have also been introduced as a possible solution (Yim, 2009). Hence, governments should consider further efforts to increase general awareness and appreciation of the benefits of paying taxes for

the provision of public goods, especially if they enhance the general quality of life and provide opportunities for economic growth. Further, better services provided by the government (Lee, Gokalp, & Kim, 2019) and greater overall satisfaction with the political regime might also improve the willingness to pay taxes (Torgler, 2004).

However, note again that a certain net worth is typically required to evade taxes using an international evasion scheme. We mentioned initially that the wealthiest 0.01 percent in Norway, Sweden, and Denmark evade up to 30 percent of their personal taxes (Alstadsæter et al., 2017). Individuals in that income strata, whether they belong to the political, social, or industrial financial elite, have access to virtually undetectable evasion methods. So, even when governments are made aware of evasions schemes in whistleblower documents such as the Panama Papers, they are likely to pursue the status quo. For example, the British government "was not keen on a new regulatory system for the tax avoidance industry and did not support the call for a statutory code of conduct as it believed that the existing voluntary code of ethics promulgated by the Institute of Chartered Accountants in England and Wales was adequate, even though (the code) has no statutory underpinning and does not apply to non-accountants (e.g. lawyers)." (Sikka, 2015).

Acknowledgement

Appendix A

Table A1

Host Countries, Source Countries and Tax Haven Countries.

Host Countries	Australia, Canada, Chile, Estonia, Finland, France, Germany, Hungary, Italy, Japan, South Korea, Mexico, Netherlands, New Zealand, Norway, Poland, Spain, Sweden, Turkey, United Kingdom, United States
Source Countries	Afghanistan, Albania, Algeria,, Anguilla, Antigua and Barbuda, Argentina, Armenia, Australia, Austria, Bahamas, Bahrain, Bangladesh, Barbados, Belgium, Belize, Bermuda, Bolivia, Bosnia and Herzegovina, Botswana, Brazil, Bulgaria, Cambodia, Cameroon, Canada, Cayman Islands, Chile, Hong Kong, China, Colombia, Democratic Republic of Congo, Costa Rica, Cote d'Ivoire, Croatia, Cyprus, Czech Republic, Denmark, Dominican Republic, Ecuador, Egypt, El Salvador, Equator Guinea, Estonia, Finland, France, Gabon, Georgia, Germany, Ghana, Greece, Grenada, Guinea, Guyana, Hungary, Iceland, India, Indonesia, Iran, Ireland, Israel, Italy, Jamaica, Japan, Jordan, Kazakhstan, Kenya, South Korea, Kuwait, Laos, Latvia, Lebanon, Lesotho, Liberia, Lithuania, Luxembourg, Madagascar, Malawi, Malaysia, Maldives, Malta, Mauritania, Mauritius, Mexico, Mongolia, Montenegro, Morocco, Mozambique, Namibia, Nepal, Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Oman, Pakistan, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Poland, Portugal, Puerto Rico, Qatar, Romania, Russia Federation, Saudi Arabia, Senegal, Serbia, Seychelles, Singapore, Slovak Republic, Slovenia, South Africa, Spain, Sri Lanka, St. Vincent and the Grenadines, Swaziland, Sweden, Switzerland, Taiwan, Tanzania, Thailand, Togo, Trinidad and Tobago, Tunisia, Turkey, Uganda, Ukraine, United Arab Emirates, United Kingdom, United States, Uruguay,, Venezuela, Vietnam, Zambia, Zimbabwe
Tax Havens	Anguilla, Antigua and Barbuda, Bahamas, Bahrain, Barbados, Belize, Bermuda, Cayman Islands, Hong Kong, Cyprus, Grenada, Ireland, Jordan, Lebanon, Liberia, Luxembourg, Maldives, Mauritius, Panama, Seychelles, Singapore, St. Vincent and the Grenadines, Switzerland

Table A2

Description of Variables and Sources.

Variable	Description	Source
Log (Equity Flows)	Logarithm of equity flow from source country, which is the country of origin, to a host country, which is the intended destination. It is in millions of USD.	IMF-CPIS
Source Tax Haven	Dummy variable taking the value of 1 if country of origination of flows is considered as a tax haven, and 0 otherwise	Hines and Rice (1994) and Harmful Tax Competition report (OECD, 1998)
Low Tax Morale	Dummy variable when a host country low tax morale scrore is greater than 0.37, and 0 otherwise.	European Social Survey
ΔTax Savings	Difference between host country net dividend tax and host country foreign withholding dividend tax taking account of existing/non-existing double taxation treaty.	Deloitte, KPMG, OECD
Log (Distance)	Logarithmic Distance between two capital cities or two financial centers measured in km.	Mayer and Zignago (2011)
Common Law Dummy	Dummy variable taking the value 1 when host country follows a common legal practice, and 0 otherwise	La Porta et al. (1998)
Log (Host GDP Per Capita)	Logarithmic ratio of GDP in USD of the host country divided by the population of the host country	World Bank
Log (Host Market Capitalization)	Logarithmic market capitalization of all the listed companies in the host country in USD	World Bank
Corruption Perception Index	It is a measurement of corruption for a country. The measurement captures perceived level of corruption in public sector or misuse of public power for private benefit.	Transparency International
Relative Exchange Rate	Ratio of host country exchange rate with respect to 1 USD over source country exchange rate for 1 USD	Thomson Reuters DataStream

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