The Effect of Corporate Governance on Tax Avoidance: Evidence from Governance Reform

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ABSTRACT

Recent tax research explores the relation between the strength of corporate governance and tax avoidance. Desai and Dharmapala (2006) find strong evidence that firms using high-powered equity incentives engage in less tax avoidance. Subsequent research on whether governance curbs tax avoidance is mixed. Seidman and Stomberg (2011) argue that this result is attributable to the tax benefits of stock options. Armstrong et al. (2015) find limited evidence of a relation between equity incentives and tax avoidance in the extremes of the distribution. In this paper, we re-examine the issue and present new evidence by focusing on Mexican firms, which radically transformed their systems of governance following governance reform in 2000. Using a broad measure of governance generally unaffected by equity incentives, we show that tax avoidance decreases significantly following the implementation of the governance reform. This suggests there is a causal link between the strength of governance systems and tax evasion. We also show that firms with higher reported governance engage in less tax avoidance. Overall, our results contribute to this growing literature by documenting that improved governance does appear to curb tax avoidance.

1. Introduction

A question that lingers in the tax literature is the extent to which corporate governance systems influence the tax reporting behavior of firms. In an influential study, Desai and Dharmapala (2006) put forth the argument that tax systems and the corporate governance environment (i.e., weak vs. strong governance systems) interact to shape tax reporting and tax avoidance behavior of corporations. They hypothesize that internal governance mechanisms[1] put in place by firms to ameliorate the usual agency conflicts between managers-insiders and shareholders drive management to take actions to engage in aggressive tax avoidance.

Findings in Desai and Dharmapala (2006) are consistent with the notion that strong governance mechanisms, namely providing equity incentives to executives, are associated with lower tax avoidance. Subsequent research of the link between equity incentives or other measures of governance and tax avoidance finds weak or contrary results (for example, Minnick and Noga 2010, Robinson et al. 2012, Gallemore and Labro 2015, Blaylock 2016).[2] Armstrong, et al. (2015) find some evidence of a relationship between tax avoidance and governance at the extreme ends of the tax avoidance distribution, depending on the specific measure of governance and the level of tax avoidance, but not at the conditional mean or median of the distribution. In addition, Seidman and Stomberg (2011) find evidence that the observed negative relation between equity incentives and tax avoidance is attributable to the tax benefits from equity compensation and not managerial incentives for rent extraction.

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[1] These mechanisms might include equity grants offerings in executive compensation contracts, the structure and the degree of sophistication of corporate boards, firm ownership arrangements, the extent of shareholders' rights, dividend policy, and many more.

[2] Minnick and Noga (2010) find empirical support that performance-based compensation for CEO's and board of directors is associated with greater tax avoidance in the long-run. That, in turn, leads to better performance in the long term—higher ROEs and five-year returns. However, they found limited support of an association with other measures of governance and tax avoidance.

We add to this growing literature by exploring the relation between tax avoidance and governance following significant and comprehensive governance reform in Mexico. In 2000, México adopted the "Code of Best Governance Practices" (hereafter referred to as the Code). The adoption of the Code affects all publicly-traded companies and is comprised of voluntary as well as compulsory changes in internal mechanisms of governance as well as the enactment of several legal mandates aimed at the radical overhaul of corporate boards. The observed changes in governance are wide-ranging and cover multiple aspects of internal systems governance, including major transformations to the composition of corporate boards to boost directorship independence, the formation of specific board committees, rules which extend shareholders' rights, and various mechanisms instituted to improve internal control systems and the financial reporting environment of firms, among several other governance provisions.

This research setting is appealing for several reasons. The prevailing ownership structure of Mexican corporations is that firms are controlled by founding families or managers/insiders with close ties to the families. In addition, the use of equity-based incentives is largely absent from these firms. This is of great importance as the core, empirical result from Desai and Dharmapala (2006) is based upon the association between high-powered equity incentives and tax avoidance (with many other studies following suit). However, Seidman and Stomberg (2011) find evidence that it is the tax benefits from equity compensation (which reduce the firm's demand for additional tax avoidance by lowering its marginal benefit), and not managerial incentives for rent extraction, which drive the observed negative relation. Therefore, the use and presence of equity compensation for the US sample makes it difficult if not impossible to properly interpret results of governance on tax avoidance. The Mexican setting with its lack of equity-based incentives, allows for a much cleaner interpretation test results involving governance and tax avoidance.

2

While prior research has primarily focused on one or only a few aspects of governance, the governance reforms addressed in the Code is broader, encompassing many internal governance provisions. This allows us access to a broad and inclusive range of governance-related items not commonly found in the prior literature. In addition, the exogenous nature of the introduction of the Code acts as an exogenous shock to governance for the firms listed in México that strengthens our ability to detect a change in tax avoidance and draw strong, causal conclusions.

To conduct our empirical tests, we hand-collect governance data for each company from the "Code of Best Practices" questionnaire filed with México's regulators each year. We examine the period of 1990 to 2013, which comprises ten years prior to the enactment of the governance reforms and fourteen years post reform. Our sample consists of the firms listed on the Mexican stock market during the sample period. Our main proxy for tax avoidance the effective tax rate spread (ETRSpr), calculated as the difference between the firm-level effective tax rate and the corporate statutory tax rate.

We begin by testing the core, causal prediction of Desai and Dharmapala (2006) that the firm's system of governance drives corporate tax avoidance. More precisely, we examine whether firms change their level of tax avoidance after the introduction of the Code. This test exploits the exogenous nature of the introduction of the Code as a shock to governance for all affected firms. Consistent with the predictions of Desai and Dharmapala (2006), we document a significant decrease in tax avoidance following the introduction of the Code as an exogenous shock to governance as both the mean and median ETRSpr increase markedly. A striking finding is that the decrease in tax avoidance does not level off immediately, instead firms continued to exhibit a prolonged and steady increase in current ETRSpr (less tax evasion) for five to six years after the the governance reforms. Overall, these results suggest that positive changes in governance lead to less tax avoidance.

The governance reforms include both voluntary and compulsory changes in firms' internal systems of governance, and there is significant cross-sectional variation in compliance with provisions of the code. We exploit the heterogeneity in governance compliance across firms in Mexico and expect that firms with stronger governance will have lower tax avoidance. Our results are consistent with better governed firms in Mexico engaging in less tax avoidance.

As previously noted, the governance reforms were accompanied by a series of tax reforms in subsequent years, which raised corporate taxes, introduced new taxes (a tax on cash deposits, an alternative minimum corporate tax, and other), and ratcheted enforcement from tax authorities to curb tax evasion. A prediction made in Desai and Dharmapala (2008) is that the characteristics of a country's tax system, including rates and enforcement, also influence managerial actions to avoid taxes. Our research setting allows a direct test of this prediction by exploring whether tax reform in Mexico has any impact on firms' tax reporting behavior. Our results suggest that the tax reform also acted to curb tax avoidance. However, we find that the interaction between tax reform and governance is negative, suggesting that increased tax enforcement (through tax reform) and increased governance may act as substitutes. Ours is the first study we are aware of to suggest this relationship between tax enforcement and governance.

Collectively, our results show a statistically strong, negative relation between governance and tax avoidance as predicted by Desai and Dharmapala (2006). This result indicates that as Mexican firms invest time, effort, and resources by committing to better governance, that engaging in aggressive tax avoidance becomes costly. These costs could take many forms such as: the risk of being audited by tax authorities; fines and penalties of tax evasion; reputation damage; and the costs of lawsuits from authorities or shareholders.

Market participants under this new governance environment likely perceive these as negative. Thus, post-reform tax avoidance activities may be more difficult to hide and investors

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may penalize those firms that engage in aggressive tax evasion with price discounts. However, tax avoidance can be beneficial to investors if they believe excess funds are directed toward the firm rather than rent extraction. In addition, as the controlling family is likely to be a large blockholder of the corporation, providing this assurance to the market may also greatly increase the controlling family's wealth.

As a final test we examine the value implications of tax avoidance in the face of governance reform.[3] Results from tests using Tobin's Q show that increased tax avoidance is positively associated with increases in Tobin's Q. When we partition the sample based upon time period, we find that this relation only holds during the post-governance reform period, implying that, during that period, tax avoidance was seen as value increasing.

Our paper contributes to the tax literature by providing new insight into an area that is fairly unsettled. First, we find strong empirical support for the notion that systems of governance do influence corporate tax avoidance, especially in a corporate environment where governance reforms likely have a great impact and equity-based compensation incentives are minimized. Furthermore, we provide evidence of a causal relation between governance and tax avoidance, something not shown in the prior literature. We also present evidence on the supplementary nature of governance reform and tax reform. Finally, we present evidence that governance reform and higher levels of governance give reasonable assurance to investors that funds are not being diverted for private extraction and use, resulting in higher firm value.

The paper proceeds as follows. In Section 2 we describe the institutional setting, the underlying agency problems, and the governance and tax reforms. In Section 3 we discuss

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[3] In this regard, there is overwhelming evidence that firms with stronger systems of governance or better-governed firms are rewarded favorably by investors (see, for example, Gompers et al. 2003).

related literature and develop our hypotheses. In Section 4, we discuss our sample, data, and model. Section V presents our results. Section VI concludes.

2. Institutional Background

To understand the underlying motives that led to the restructuring of corporate governance systems of publicly traded corporations in México, we start by discussing the institutional background of our research setting in terms of the prevailing ownership structure, corporate board arrangements, and the ensuing agency problems for corporate control in this environment prior to the enactment of governance reforms. We then lay out the major aspects of the corporate governance reforms and the ensuing corporate tax reforms that followed. Figure 1 illustrates a timeline of the date of enactment of each major initiative. It must be noted that governance reforms and the amendments to the corporate tax laws were passed several years apart. Therefore, there is a marked temporal order in their respective periods of adoption. The corporate governance reforms started in 1999 and ended in 2005. The tax amendments commenced in 2007, but they took effect at the start of 2008.[4] So, it is possible that this particular tax reform could have mediated the effects on firms' tax avoidance behavior ascribed to the changes in corporate governance, especially since it contained new corporate taxes and ratcheted up the level of enforcement by México's tax authorities (SAT) to circumvent tax evasion.

2.1 Research setting and underlying agency problems

Historically, public corporations in México have been perceived as having a lax system of corporate governance, low levels of accountability and poor financial transparency to outside investors. Relative to firms trading in developed financial markets, good governance practices in México simply were not built into the system. A major reason for this is the highly concentrated

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[4] There were also a comprehensive set of tax reforms in 2013, which slightly overlapped with our study period,. Although important, we omit the tax provisions of this particular reform in our analysis.

ownership structure of publicly traded Mexican firms, mainly in the hands of the firms' founding families, or coalitions of related families.[5]To illustrate, México has the third highest concentration of family ownership among public corporations in the world (Florencio Lopez-de-Silanes 2002). Further, founding families also play an important role in managing firms under their control. Most firms have a patriarch acting as CEO, or a family member in charge of operations (La Porta et al, 1999).[6]

Moreover, until the enactment of the governance reforms, corporate boards were entrenched and operated with opacity and little accountability to outside investors. Because of ownership structure of Mexican firms, corporate boards have been dominated by insiders and frequently under the control of the firms' founding families. In addition, incumbent directors tend to have a very long tenure with little to no opposition from outside investors. The fact that most firms offer distinct classes of shares with limited or no voting rights prevents minority and outside shareholders from voting against reelection of incumbent directors, or from nominating new directors.[7] Also, there are no laws or activist investors in Mexico to restrict director tenure or push for better transparency.

Another common feature of boards in Mexico is reciprocal interlocking directorships especially among family controlled companies. Interlocking directorships are created when

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[5] We note that as opposed to more developed capital markets in which there are large blocks of shareholders of institutional investors (mutual funds, pension funds, hedge funds), such ownership structure is rather small. Therefore, the lack of activist institutional ownership exacerbates the main agency problems between controlling families and outside investors. We expand on this issue shortly in this section.

[6] According to La Porta et al. (1999), 95 percent of family-controlled firms at the Mexican Stock Exchange had at least one family member involved in the firm's operations.

[7] We note that most Mexican firms trading on the Mexican Stock offer distinct classes of shares with varying shareholders' voting rights, including classes of shares with limited voting or nonvoting rights. For example, series 'A' have full voting rights, series 'B' limited voting rights, and series 'D' and 'L' offer no voting rights. The 'L' shares are offered to foreign investors only by way of ordinary participation certificates (commonly referred as CPOs). While there could be various motives behind this practice, the main aim on this arrangement is to enable majority shareholders to exercise control with a minimum stake in equity. Therefore, it is not uncommon for families or controlling shareholders to exercise control of firms with much fewer shares than the total outstanding shares. This practice exacerbates the agency problem stemming from the separation of ownership and control between controlling shareholders (family insiders) and outside investors.

related families establish close links with other families and serve on each other's boards. For example, family A invites a member of family B to serve as an independent director on their firm, and vice versa.[8] While not barred, these relationships undeniably compromise board of directors' independence.

Another weakness which aggravates the agency problem between controlling and minority shareholders is that, relative to more developed capital markets, México has weak laws for the protection of minority investors. External mechanisms of governance that might help protect investors against expropriation by insiders, such as investor protection laws and the legal system to enforce such laws (i.e., legal recourse), are very limited. La Porta et al. (2002) and Durnev and Kim (2005), grade México as having one of the weakest legal systems for the protection of investors' rights in the world.[9] Because outside investors have little support from the laws form the legal system to help them mitigate abuses from corporate insiders, external mechanisms of governance that are frequently used in developed financial markets, such as class action suits, or proxy fights, are relatively uncommon in México.[10]

To summarize, for all the aforementioned reasons, historically, public corporations in México have been perceived as having weak systems of governance, as well as low levels of accountability and transparency to outside investors. Therefore, the prevailing ownership structure in which voting rights are in the hands of insiders (i.e., firms' founding families),

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[8] As an example, consider the corporate boards of four largest industrial business conglomerates from Monterrey, México's main industrial hub: Alfa, Hylsamex, Femsa, and Cemex. Their boards are controlled by the following related-families: Garza, Zambrano, Laguera, Sada, and Trevino; at least one member from each family sits on each other's firm board.

[9] For example, by considering both shareholder rights and law enforcement, Durnev and Kim (2005) rank México has the weakest legal system out of a sample of 27 major emerging countries. Further, in a World Bank study of minority-shareholder protection, México came at a meager 125th place out of 155 countries examined (see, Lyons 2005).

[10] To further illustrate the severity of this issue, consider the case of insider trading. Prior to the passage of the governance reforms, insider trading was not considered a criminal act and no legal recourse existed within the country's securities laws. Insider trading became a crime as part of the compulsory acts within the governance reforms. Specifically, after the enactment of the Securities Markets Laws of 2001 and 2005, respectively.

coupled with a lax system of corporate governance, entrenched boards, and limited investors' protection rights, can create obvious agency conflicts between controlling and minority investors. Building on the agency theory framework of Jensen and Meckling (1976), it is evident that in this corporate environment, controlling shareholders can become entrenched, behaving opportunistically to extract corporate resources or obtain private benefits at the expense of minority shareholders.[11]

2.2 Discussion of corporate governance reforms

Several authors in the academic literature and the popular business press identify lax systems of corporate governance and poor financial transparency as key risk factors in emerging markets such as Mexico (Klapper and Love 2004; Jacoby 2005, Fan, Wei and Zu 2011). To raise investor confidence and improve the investment climate to attract more foreign investors, México took steps to reform corporate governance systems of publicly traded firms.[12] A first step toward achieving this goal was the creation of a voluntary "*Code of Best Governance Practices*" in September 1999. This initiative was followed by the imposition of several legal mandates as part of Securities Markets Laws enacted in 2001, 2003, and 2005.

Enactment of the 'Code of Best Corporate Governance Practices'

Following an initiative of México's Council of Businesses (Consejo Coordinador Empresarial), the National Banking and Securities Exchange Commission (CNBV), and with the

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[11] Firm insiders can become entrenched with high levels of control and might have opportunistic incentives to obtain private benefits at the expense of minority shareholders. For example, this could lead to the possibility of inefficient use of company resources (e.g., investing in negative NPV projects or acquisitions with poor prospects for growth), as well as corporate abuses and expropriation of wealth such as tunneling firm's assets through advantageous contracts with controlling family members or other family businesses. These can take place in many forms, for example, high salaries and bonus compensation for members of the boards and managers-owners, acquisition of firms owned by insiders including members of the board of directors, consumption of perquisites, granting contracts to firms controlled by insiders, or at the extreme, illegal acts to expropriate wealth from shareholders like insider trading and corporate fraud.

[12] We further note that México's interest in reforming corporate governance was also intensified after the collapse of México's banking system in 1998 (i.e., FOBAPROA), which it was attributed to 'poor' and lax systems of corporate governance. Further, such reforms were also driven by the aftermath of the East Asian financial crisis of 1997, which some attributed to a lax system of corporate governance (for further insight, see, Lemmons and Lins, 2003).

support of leading industry executives, the Code of 'best' corporate governance practices (hereafter referred as the Code) was established in 1999 with the purpose of reforming internal governance systems of public corporation. In many respects, México's Code is highly similar to the "Code of Best Governance Practices" put forth by the Cadbury Committee at the U.K. in 1992. One main distinction is that Mexican firms were not legally required to adopt any of the Code's recommendations; instead firms adopted the underlying governance provisions voluntarily.

In terms of its underpinnings, the Code recommended that firms adopt fifty-five governance mechanisms deemed fundamental to strengthen firms' internal governance systems, including major restructuring of corporate boards and internal controls systems, making improvements in financial reporting and disclosures practices.[13] Some key provisions within the Code aim to improve director oversight and heighten board independence. The Code recommends board size be between 5 and 20 directors and increased the proportion of independent directors to a minimum of 25 percent. It also called for the creation of subcommittees to oversee the functions of auditing, finance, and executive compensation, among others. Other provisions call for changes in firm internal controls systems, as well as mechanisms to make the disclosure practices of firms more transparent, such as the timely disclosure of relevant events. The Code also sought to provide more rights to shareholders, especially voting rights.[14]

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[13] For economy in exposition, we limit the discussion to these key governance provisions. For more insight about the origins of the governance *Code* and all of its current governance provisions, we refer the reader México's Coordinating Council of Businesses (Consejo Coordinador Empresarial, which enacted the governance code. Please refer to the following site: http://cce.org.mx/comitedegobiernocorporativo/visit. Alternatively, refer to official document titled, "Codigo de Mejores Practicas Corporativas," available at the National Banking and Securities Exchange Commission (CNBV), or at the Mexican Stock Exchange (BMV).

[14] For example, the *Code* aims to transform shareholders' rights with several provisions intended to facilitate the gathering of relevant information subject to shareholders voting approval. Usually, proxy statements of Mexican

As noted previously, firms were not legally bound to adopt any of the Code's recommendations at first; instead firms adopted them at their choosing. Firms were required to report their compliance with each provision of the code to capital markets regulators starting in 2000, and to investors starting in 2003. This is done via a standard questionnaire filed annually with México's Banking and Securities Exchange Commission (CNBV), the Mexican Stock Exchange, and the firms' annual financials report.[15]

The Code has continued to expand over time. Most of the original governance provisions remain in effect today and new provisions have been included throughout the years. At present, the Code comprises 84 governance provisions, divided into 17 sections covering numerous internal mechanisms deemed 'good' governance practices.

Security Markets Laws Governance Mandates

Besides the enactment of the *Code*, other governance mandates are important aspects of México's corporate governance reforms. First, in 2001 several of the Code's recommendations became mandatory. This legal mandate imposed stringent standards on several of the Code's provisions[16] including requiring corporate boards to between 5 and 20 directors, requiring and increasing the minimum proportion of independent directors from 25 to at least 33 percent.[17] This new law also provided a clearer definition of directorship independence, prohibiting firms

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firms did not disclose ex-ante the specific agenda that will be discussed, and matters subject to shareholders approval at the Annual Shareholders Meetings, making difficult for investors to make an informed decision.

[15] As we note shortly, several of the Code's governance provisions became compulsory as part of subsequent legal acts to the Securities Markets Law. Therefore, firms' level of compliance was subject to enforcement by market regulators.

[16] For a full description of all the dispositions in the Securities Markets Law (2001), see the official government document "Ley de Sociedades Mercantiles" published in México's Government Official Gazette (Diario Oficial de la Federacion), on June 4, 2001.

[17] Mexican Business Law (1934) did not limit the size of corporate boards; therefore, for years Mexican firms chose at their will and with very little opposition the number of board seats that they wish to have, the new Securities Law put caps in the size of corporate boards.

to designate independent directors having any affiliation whatsoever with the firm, or with the controlling shareholders.[18]

To raise the level of board independence, the Securities Markets Law of 2001 mandated the creation of an internal audit committee comprised solely of outside directors having no affiliation with the firm or its major shareholders. The members of the audit committee must be ratified during the Annual Shareholders' Meeting.[19] Another important initiative of the Securities Markets Law of 2001 was the establishment of legal guidelines to prosecute cases of insider trading. This marked the first time insider trading became a punishable crime in Mexico.

Several amendments followed in March 2003 including a mandate that firms report to investors, not only to financial market regulators (CNBV), their level of compliance with each provision in the Code. Firms were also required by law to report to the public the names and holdings of each major shareholder. Previously, commercial laws permitted public ownership of corporations to remain anonymous.[20] Also, the 2003 amendments required companies to establish separate board committees to oversee the functions of auditing and internal controls, as well as executive compensation; previously these were only recommendations.

The last set of amendments to the governance provisions were enacted in December 2005. Among the chief governance mandates is that firms were legally required to disclose relevant and material events publicly. Stricter guidelines were put in place for the dissemination and disclosure of information to investors to prevent insiders from profiting by trading upon inside

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[18] For more insight on these dispositions, see "Ley de Sociedades Mercantiles" published in México's Official Gazette (Diario Oficial de la Federacion), on June 4, 2001.

[19] The intended function of the Audit Committee is to ensure that the financial statements adhere to Mexican GAAP and that they reflect the true financial position of the firm. Each firm's Statutory Auditor carried out this function previously (known officially as a 'Comisario'). While the role of the Statutory Auditor in principle is to bring financial transparency and provide more disclosure to investors, the fact that controlling shareholders were usually the ones that nominate the Statutory Auditor clearly compromises her independence. Thus, the Securities Law of 2001 shifted part of the responsibility to the Audit Committee to bring more independence.

[20] Notable exceptions were those firms trading ADR's in U.S. capital markets, or at European markets. Under U.S. securities laws, firms are obligated to report large concentration of ownership in the hands of individual investors, or institutional shareholders (mutual funds, hedge funds, institutional investors).

information at the expense of outside shareholders. Finally, the definition of an independent

director was made more restrictive, amending the 2003 definition.

Have the governance initiatives been effective in improving firms' governance systems?

One important issue is whether the governance reform initiatives have been effective in

transforming firms' internal systems of governance. Also of interest is whether there is any

related improvement to financial reporting. Price et al. (2011) and Macias and Román (2014)

examine the extent of compliance with the Code and the legal mandates during the five initial

years after adoption. Both papers conclude that a large number of firms adopted many of the

Code's recommendations. For example, 80 percent of firms listed on the exchange instituted 75

percent or more of the recommendations in the Code during a five-year span after the code's

passing. However, these changes occurred gradually. Furthermore, these studies find that the

legal mandates brought significant changes in the composition of corporate boards. In particular,

one chief transformation is a rise in the proportion independent directors serving on boards. In

many cases this proportion far exceeds the minimum thresholds imposed by the securities

markets law.[21]

2.3 Discussion of Corporate Tax Enactments

Apart from the corporate governance reforms instituted in the early 2000s, México's

Congress enacted a series of major tax reforms in successive years that took effect in 2008.

These reforms were intended to do the following: increase tax revenues by imposing new taxes;

close tax 'loopholes'; and eliminate generous tax credits and deductions. These tax reforms mark

an attempt to combat a persistent culture of tax evasion, which according to México's chief tax

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[21] Both studies document a gradual but markedly degree in compliance across each of the four subsets of governance categories in the Code—Board Structure, Auditing and Internal Controls, Financial Reporting and Disclosure, and Shareholders' Rights. They also find that the legal mandates brought significant changes in the composition of corporate boards.

authority (SAT, Tributary Administration Office), was rampant.[22] To illustrate, among OECD

countries, México has one of the lowest tax receipts in relation to GDP among OECD members,

at a meager 5 percent of GDP (Rodriguez and Ruiz 2013). Moreover, several studies have

documented high levels of tax avoidance, which according to their main findings is equally

perpetuated by individuals and businesses alike (see, for example, Bergman et al. 2005, Anton

2005, Samaniego et al. 2006).[23]

It is important to highlight that these reforms targeted both individual and corporate

taxpayers. However, we focus exclusively on examining the revisions to the tax code affecting

businesses and corporations.

Tax Enactment of 2007

The 2007 tax enactment became effective in 2008. This bill levied a new tax on all cash

bank deposits held by businesses and individuals. This tax on cash deposits (IDE, *Impuesto a los*

a los Depósitos en Efectivo) aimed to curb informal commerce and black market exchanges,

dissuade money-laundering activities, and more importantly, reduce the extent of tax evasion

within certain sectors of the economy and in particular small businesses. Firms that generate a

significant portion of their sales in cash and fail to report or misrepresent the real amount of cash

transactions to tax authorities were able to evade taxes (e.g., gas stations, public transportation

companies, retail and convenience stores). A common practice among business owners was to

conceal income generated by cash sales by diverting these funds to personal bank accounts.

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[22] For example, the Tributary Administration Office (SAT—Servicio de Administración Tributaria) estimates that during 2000 to 2008, the amount of uncollected tax revenue due to tax evasion represents 2.6 percent of the country's GDP ("El Economista", November 14, 2013). Moreover, SAT upholds a database with numerous research studies examining the extant of tax evasion perpetuated in the country. For further insight, we refer the reader to the following site: http://sat.gob.mx/administracion_sat/estudios_evasion_fiscal/Paginas/default.aspx

[23] Refer to the work of Diaz et al. (2005) Bergman et al. (2005), Anton (2005), Samaniego et al. (2006), Rodriguez and Ruiz (2013). For example, Bergman et al. (2005) estimates a loss in federal tax revenue as a result tax evasion of 32.6 to 39.5 percent of the total amount of tax collected by México's federal tax authority, SAT—Servicio de Administracion Tributaria.

The IDE imposed a tax of 2 percent on all cash deposits in excess of 25,000 pesos, including cashier checks and checks paid to cash (México's Official Gazette, October 1, 2007).[24] This IDE tax took effect on July 1, 2008. Moreover, the IDE tax was increased in 2009 to 3 percent and by reducing the tax base from $25,000 to $15,000 pesos. It is important to note that firms are allowed to recover the amount of IDE taxes paid to tax authorities (SAT) with a tax credit against corporate income taxes owed during the fiscal year, though firms must wait for reimbursement until tax returns are filed. Compliance with the IDE tax also comes with a potential for a compliance audit, particularly among firms with high cash sales and a history of underreporting revenues. A possible side consequence of this law is the misreporting of cash sales and reduction of cash deposits.[25]

The 2007 tax reform also imposed a new business "flat tax" of 16.5 percent on firms' taxable income after the elimination of several business deductions. This tax, formally known as "*Impuesto Empresarial a Tasa Única*" (IETU, México's Official Gazette, October 1, 2007),[26] was created to increase tax revenues and is similar to the alternative minimum tax in the U.S. Firms must either pay a 16.5 percent IETU tax on income, or a 29 percent tax on income based on the amount of profits after allowable deductions. This provision was included because firms in certain sectors under a "special" or "simplified" tax regime and paid little or no taxes. Thus,

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[24] More specifically, IDE taxed all bank deposits either made in cash, cashier checks, or checks payable to cash at a rate of 2 percent on the remaining amount of cash deposits exceeding $25,000 pesos, about $2,000 U.S. dollars in 2008. Further, the tax is applied to a single bank transaction or else aggregate monthly transaction that exceed the aforementioned thresholds. For more insight refer to México's Federal Registry: *Diario Oficial de la Federación*, "Ley de Impuestos a los Depósitos en Efectivo", October 1, 2007. Official document can be accessed at the following site: http://www.normateca.gob.mx/Archivos/34_D_1361_03-10-2007.pdf

[25] A recent paper by Ruiz Alvarez (2013) documents a sharp decrease in the amount of cash deposits made in banks and financial institutions, coupled with a sizeable increase in the circulation of currency (bills and coins) in hands of the general public, in the years that followed the enactment of the IDE tax. Moreover, he documents a significant drop in the number of checking accounts at banks. Clearly, IDE tax changed the behavior of agents affected by it.
[26] See México's México's Federal Registry: *Diario Oficial de la Federación*, "Ley del Impuesto Empresarial a Tasa Única", October 1, 2007. http://www.diputados.gob.mx/LeyesBiblio/abro/lietu/LIETU_abro.pdf

the IETU tax ensured that all businesses pay a fair share of taxes. This tax took effect on January 1, 2008. The rate was increased to 17 percent and 17.5 percent in 2009 and 2010, respectively.

3. Related Literature and Hypothesis Development

3.1 Governance and Tax Avoidance

Desai and Dharmapala (2006) use the principal-agent setting to frame their predictions; managers and firm-insiders act opportunistically and pursue their own benefits at the expense of shareholders. Because managers and firm insiders (i.e., controlling shareholders) have corporate control in environments with disperse ownership, these insiders can extract rents (i.e., corporate resources) for their personal benefit at the expense of outside shareholders.[27] Therefore, managers have incentives to engage in aggressive tax avoidance as they benefit from the additional income or rents generated from tax avoidance activities.[28]

An important aspect of the theory in Desai and Dharmapala (2006) is the prediction regarding the interaction between taxation and firms' systems of governance. The essence of that argument is that firms' systems of governance can encourage or discourage aggressive tax avoidance activities. If strong systems of governance are in place to prevent rent extraction and abuses, then managers are less inclined to engage in aggressive tax avoidance as they are less able to benefit from the extra rents generated. That is, strong mechanisms of governance, such as effective board oversight, board sophistication, or effective monitoring of managers, will preclude them from extracting rents including those generated by tax avoidance. Conversely, if

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[27] Tax avoidance can be manifested in several forms. For example, firms may establish offshore accounts, or tax shelters to conceal income. Moreover, they could aggressively manage earnings downward by taking excessive corporate deductions, or use discretionary accruals to underreport income to tax authorities. Last, a new and highly scrutinized tax arrangement, are the so-called "corporate tax inversions". In an inversion, a U.S. company merges with another and takes a foreign address in a country with a lower corporate income tax. The firm then shifts profits from the U.S. to low-tax countries using a maneuver referred as earnings stripping. Regardless of the action, in all of the aforementioned cases, the intent is to minimize tax payments.

[28] Just as tax avoidance, rents extractions too can be manifested in many forms, including higher executive compensation, perquisites, using excess rents to expand the size of a firm through mergers and acquisitions—the so-called "empire building". At the extreme, rent extraction equates to embezzlement of funds or stealing corporate assets.

systems of governance are weak, management's ability to extract rents may be enhanced. Therefore, in firms with weak governance, managers are incentivized to undertake activities that would lead to greater tax avoidance as doing so increases the potential benefit of rent extraction.

Desai and Dharmapala (2006) empirically test their core prediction of the effects on tax avoidance using a single but common internal mechanism of governance: high-powered equity incentives (stock options or equity grants).[29]   Desai and Dharmapala (2006) find robust results in support of their model predictions, namely that higher equity compensation is associated with lower levels of tax avoidance for poorly-governed firms but not well-governed ones.

While the above theory on the possible linkage between corporate governance and tax avoidance is compelling, subsequent studies have disputed these findings. For example, a series of studies either dispute the fundamental assumptions of the model's predictions or find only weak evidence of the linkage between equity incentives or other measures of governance and tax avoidance (for example, Minnick and Noga 2010, Seidman and Stomberg 2011, Robinson et al. 2012, Gallemore and Labro 2015, Blaylcok 2016).

To help explain this lack of evidence, a recent paper by Armstrong, Blouin, Jagolinzer, and Larcker (2015) calls into question the main prediction of Desai and Dharmapala. Using quantile regressions, Armstrong et al. (2015) find some evidence of a relationship between tax avoidance and governance at the extreme ends of the tax avoidance distribution, but that the result depends on the specific measure of governance (e.g., equity incentives, board independence, and the

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[29] According to their prediction, equity-based compensation would provide incentives for managers to either engage in more or less aggressive tax avoidance; however the ensuing effect would be dependent on firms' strength of governance systems. Managers at well-governed firms will engage in less aggressive tax avoidance than poorly-governed firms; asserting that managers at well-governed firms have greater incentives to avoid tax sheltering activities (less tax avoidance), as the existence of stronger governance prevents managers from extracting the residual rents produced by tax avoidance activities. In contrast, poor-governed firms lack the governance mechanisms to prevent managerial diversion, and therefore hypothesized that these firms will not adopt equity incentives to promote tax avoidance.

degree of financial sophistication of directors) and the level of tax avoidance. Furthermore, they find no relation between governance and tax avoidance at the conditional mean or median of the distribution. Overall, their results present a contrast to Desai and Dharmapala (2006), finding that corporate governance appears to be related to tax avoidance decisions, but only for high levels of tax avoidance.

Seidman and Stomberg (2011) find evidence that the observed negative relation between equity incentives and tax avoidance is attributable to the tax benefits from equity compensation (which reduce the firm's demand for additional tax avoidance by lowering its marginal benefit), and not managerial incentives for rent extraction. These findings call into question the Desai and Dharmapala (2006) interpretation.

3.2 Scope of Governance Measures

While the extant studies conduct rigorous analyses and present novel results, the mixed and inconclusive findings may be a consequence of limitations, which may preclude them from finding convincing results. Chief among them is that these studies focus on examining the relationship between governance and tax avoidance primarily among U.S. firms.[30] For many U.S. firms, the systems of governance are highly mature showing little to no substantive changes in their governance structures across time. Therefore, because they are 'sticky' and seldom change, drawing strong conclusions is problematic. In addition, the prediction in Desai and Dharmapala is inherently causal, though no causal evidence has been supplied by the extant literature, which relies only on association tests.

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[30] Notable exceptions are Desai, Dyck, and Zingales (2007). Although Desai et al. (2007) do not directly examine the effects of systems of governance at the firm-level, they do provide fresh evidence of a possible link between the strength of governance institutions within a country and tax evasion after examining the effects of enforcement to curb tax evasion among Russian firms mainly under control of family oligarchies.

Many studies focus on one aspect of governance (i.e., equity incentives), or just a few internal mechanisms of governance (i.e., corporate boards characteristics), and thereby ignore other potentially important measures of governance. While those studies that aim to incorporate a more comprehensive measure of governance onto their analyses have relied on the G-Index (Gompers et al., 2003) to measure firms' strength in governance (see, for example, Desai and Dharmapala 2006, Minnick and Noga 2010), that index also has limitations as it mostly measures shareholder rights.[31] These limited governance measures fail to capture the broad range of internal governance mechanisms—e.g., financial reporting systems, corporate board characteristics, specialized board committees, internal controls systems, etc.

Rountree et al. (2011) and Macias and Román (2014) examine the effects of corporate governance reforms in Mexico following the enactment of the Code of Best Corporate Practices. In contrast to prior studies which focus on equity incentives, these studies use much broader measures of governance. These studies find that the implementation of the Code of Best Corporate Practices significantly altered the internal governance mechanisms as most firms listed on the Mexican stock exchange made positive and substantive changes to their governance systems. These dramatic changes in the governance provide an ideal setting to explore the relation between changes in governance broadly measured and changes in tax reporting.

3.3 Hypotheses

While the arguments for a relation between tax avoidance and governance is compelling, it is still unproven. In addition, evidence is limited to the relation between tax avoidance and equity incentives as opposed to a broad measure of governance. In this paper, we shed additional

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[31] The G-Index is based on twenty-two provisions or defenses against corporate takeovers. The data is compiled by the Investor Responsibility Research Center (IRRC).

light on the link between governance systems and tax avoidance. To do so, we center our investigation on a distinct corporate governance environment and exploit an exogenous corporate governance shock largely ignored in prior studies. Specifically, we examine the implications of corporate governance reforms on tax avoidance using Mexican corporations trading on the Mexican stock exchange (Mexican Bolsa). The prevailing ownership structure and dramatic changes in governance structures of Mexican firms lend themselves as a rich setting to investigate the link between governance and tax avoidance.

Desai and Dharmapala (2006) argue that that the firm's system of governance drives corporate tax avoidance. Using the introduction of the Code in Mexico, we test the prediction that tax avoidance decreases when corporate governance mechanisms are strengthened. Our first hypothesis, stated in alternative form follows:

Hypothesis 1: Tax avoidance in Mexico decreases after the introduction of the Code of Best Corporate Practices

More precisely, we examine whether firms change their level of tax avoidance after the introduction of the Code relative to the preceding period. This test exploits the exogenous nature of the introduction of the Code as a shock to governance for all affected firms. However, it is important to note that the governance reforms comprised both voluntary and compulsory changes in governance systems. As the rate of adoption to the various governance provisions is likely asymmetric and will vary widely across the sample firms, we also test for the heterogeneity in governance structures (strong vs. weak governance) across firms on the extent of tax avoidance.[32]

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[32] According to both Rountree et al. (2011) and Macias Román (2014) the observed changes in governance inside firms occurred progressively and the rate of adoption was asymmetric across firms. This means that there is significant cross-sectional variation in the rate of governance changes amongst firms or differences in the strength of governance. Thus, we also test how changes in governance observed cross-sectionally among sample firms (strength of governance) influenced tax avoidance behavior for the after period.

As noted previously, there is considerable cross-sectional variation in compliance with the Code in Mexico. We exploit this variability and predict that tax avoidance is negatively related to firm-level compliance with the Code of Best Corporate Practices. We state the second hypothesis in alternative form as follows:

Hypothesis 2: Tax avoidance in Mexico is negatively associated with firm-level compliance with the Code of Best Corporate Practices.

As previously noted, the governance reforms were followed by a series of tax reforms, which raised corporate taxes, introduced new taxes (a tax on cash deposits, an alternative minimum corporate tax, and other), and ratcheted enforcement from tax authorities to curb tax evasion. Another prediction made by Desai and Dharmapala (2008) in a follow up paper is that the characteristics of a country's tax system, such as the structure of the corporate tax rates as well as the extent of enforcement by tax authorities, will also influence managerial actions to evade taxes. However, there is scant evidence to back this prediction.[33] Our third hypothesis explores whether subsequent comprehensive tax reforms in Mexico had any impact on firms' tax reporting behavior Our third hypothesis, stated in alternative form follows:

Hypothesis 3: Tax avoidance in Mexico decreases after the tax reforms

Greater levels of enforcement are likely to dissuade managers from engaging in tax avoidance. On the other hand, the levying of additional taxes would increases the benefit of tax evasion, thus the combined effect of this reform for our sample may be ambiguous.

4. Research Methodology

Governance data are collected for each company from the "Code of Best Practices" (Code) questionnaire filed with México's regulators each year. The Code was instituted in 2000 and

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[33] A notable exception is Desai, Dyck, and Zingales (2007), which examined the effects of greater enforcement from Russian tax authorities on tax avoidance at Russian firms under the control of family oligarchs.

companies continue to file the questionnaire up until the present.[34] We follow prior research (Gompers, Ishii, and Metrick 2003) and construct a governance score based on the level of compliance with the recommended provisions in the Code and use this score as a proxy for the strength of governance. Specifically, we calculate *Governance Index* as the natural logarithm of 1 plus the number of items complied with during the year. Because the number of items in the Code has increased significantly over time, prior to conducting analysis we selected a subset of items we considered key indicators of governance quality, including board independence, the presence of compensation and audit committees, board size, auditor rotation, qualifications of the audit committee chairman, etc. See the appendix for a specific list of variables. In addition, we also use the adoption of the Code in 2000 as an exogenous shock to governance. Specifically, we calculate *Governance Reform* as equal to 1 for the years 2000 and later, and zero otherwise.

Firms' financial data is obtained from Economatica, which is a data provider which aggregates and disseminates data on Latin American companies. Due to the availability of data for the Code, our analysis ends in 2013.

We use measures of tax avoidance taken from prior literature for which data items are available in Economatica. Specifically, we use ETRSpr, calculated as the spread between the firm-level effective tax rate (ETR) and the corporate statutory tax rate (CSTR). We calculate the firm-level effective tax rate as corporate income tax expense scaled by pre-tax income. We also use the current ETRSpr, calculated as the spread between the firm-level current ETR and the CSTR. We calculate the current effective tax rate as the current income tax expense scaled by pre-tax income. Finally, we also use the cash ETRSpr, calculated as the spread between the

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[34] Due to data archiving issues, data on governance is unavailable for the 2005-2006 years. We fill these holes by using 2004 data for 2005 and 2007 data for 2006, though we find that our results remain unchanged if we omit those years, instead.

firm-level cash ETR and the CSTR. The cash ETR is calculated as the amount of cash taxes paid

scaled by pre-tax income. However, data on cash taxes paid is unavailable until 2007 and thus

limits its use in our tests. Following prior research, we limit the above ETRs to range between 0

and 1.

We control for variables likely to affect governance and tax avoidance. Specifically, we

include the following controls: PPE, calculated as net property, plant, and equipment scaled by

lagged total assets; Intang, calculated as intangible assets scaled by lagged total assets; Size,

calculated as the natural logarithm of 1 plus total assets; Lev, calculated as total debt scaled by

lagged total assets; PriorLoss, set equal to 1 if pre-tax income in either of the prior two years is

negative, and zero otherwise; ChgCash, calculated as the percentage change in cash from the

prior year to the current year; MVE, calculated as the natural logarithm of 1 plus the market

value of equity; and BE, calculated as the natural logarithm of 1 plus the book value of

shareholders' equity. We also include models which control for industry and year fixed effects.

To reduce the effect of outliers, we winsorize all continuous variables at the 1 and 99 percentiles.

We also cluster standard errors at the firm level.

Table 1, Panel A shows sample selection with varying data availability based on the model

and timeframe. The sample size varies with each analysis since we use all available observations

to maximize power. Table 1, Panel B provides information on the industry composition of our

sample. The biggest concentration of firm-years is in the manufacturing industry (232 firm-

years) with retail trade (87 firm-years) and construction (84 firm-years) as second and third,

respectively.

5. Results

We begin our analysis by calculating the mean and median firm-level ETRSpr and current

ETRSpr by year and then graphing those amounts over the time frame 1990 to 2013. The results

are reported in Figure 2 for the mean and median ETRSpr and Figure 3 for the mean and median current ETRSpr. The results in Figure 2 are striking and show a marked increase in both the mean and median ETRSpr upon the adoption of the "Code of Best Practices" in 2000. In fact, the general levels of ETRSpr appear to shift from the pre-governance reform period to the post-governance reform period, with the level of tax avoidance generally being much higher in the pre-period than in the post period. Also of note is that the tax reforms that went into effect in 2008 appear to have little effect on the ETRSpr. This implies that governance reform, at least in the case of México, may have a stronger effect on tax avoidance than tax reform.

The results using the current ETRSpr are seen in Figure 3 and show much less of a stark difference between the pre- and post-governance reform periods. In general, the trend in the current ETRSpr for the post-governance reform period appears to be one with a decrease in tax avoidance, it appears to occur with a bit of delay and is less pronounced. Although the graphs in both figures imply that the exogenous shock to governance via the adoption of the "Code of Best Practices" appears to have reduced tax avoidance, we next turn to other statistical analyses to provide additional support.

5.1 Tests of Hypothesis 1

For our next analyses we provided tests of the difference in means for both the ETRSpr and the current ETRSpr. The results of this series of tests using windows of different sizes around the adoption of the "Code of Best Practices" are found in Table 2 to test if there is a statistically significant shift in tax avoidance. Specifically, we use the following window size: 1-year window centered around adoption, 2-year window centered around adoption, and a full sample window from 1990 to 2013.

The results as seen in Table 2 provide strong support for the results shown in Figures 2 and 3. Generally, we find a strong and significant shift in tax avoidance as measured by the mean

24

ETRSpr with the mean ETRSpr following the adoption of the code being significantly more positive than the mean ETRSpr before adoption. The difference is significant across all windows. Similar to Figure 3, however, we find a much less significant shift in the current ETRSpr with the results only being significant over the entire sample period and in the 5-year and 7-year windows, (only the 7-year window is tabulated since the results in both windows are very similar).

As a final test of the effect of the exogenous shock to governance reform on tax avoidance, we provide a multivariate analysis controlling for other factors which may affect tax avoidance. The results of this analysis are found in Table 3. As seen there, the results provide additional support that governance reform impacts tax avoidance as the coefficient on *Governance Reform*, the exogenous shock to governance, is both significant and positive. This implies that increased governance is associated with and even leads decreased tax avoidance.

5.2 Tests of Hypothesis 2

We next turn to more direct tests of governance and tax avoidance. While our previous analyses have shown that the exogenous shock to governance reform had a marked effect on tax avoidance, the question of whether greater adherence to the code (and thus greater commitment to better corporate governance) is also associated with decreased tax avoidance.

We begin this analysis with a multivariate analysis similar to that found in Table 3, but where the variable of interest is *Governance Index* instead of *Governance Reform*. We provide summary statistics and a correlation matrix for this analysis in Tables 4 and 5, respectively. As seen in Table 4, Mexican firms provide a setting of firms with considerable variation in size, assets, and profitability. In addition, Table 5 shows that *Governance Index* is positively correlated with both ETRSpr and current ETRSpr, providing initial support for our hypotheses.

The results of the multivariate analysis are found in Table 6, Panels A and B. Due to the need for the actual *Governance Index*, the timeframe of these tests is restricted to 2000 to 2013. As seen in both Panels A and B of Table 6, the coefficient on *Governance Index* is positive and significant across all specifications, though the results are somewhat attenuated when the dependent variable is the current ETRSpr. This provides evidence that a greater commitment and adherence to the "Code of Best Practices" appears to be associated with a decrease in tax avoidance for our sample of Mexican firms.

As governance reforms can often be sticky measures which take some time to see the full effect of, we also provide a lag analysis were we use lagged values of *Governance Index* to determine if those values are also associated with contemporaneous tax avoidance. The results of this analysis can be found in Table 7, Panels A and B. As seen there, the results continue to be strong with the association between lagged *Governance Index* and the current ETRSpr being slightly weaker than for ETRSpr. All of these results combined provide support that governance reform and adherence to governance reforms appears to be associated with decreased tax avoidance.

We next turn to tests of governance reform on cash tax payments, as measured by Cash ETRSpr. Due to data limitations in Economatica, the amount of cash taxes paid for Mexican firms is unavailable until 2007. While in general we expect that tax avoidance as measured using cash tax payments will be similar to our other measures, there is also considerable doubt. Specifically, the results in Figure 2 imply that the effect of governance reform may be strongest around the actual reform. Therefore, to the extent that the effect of governance reform occurred in and around 2000, the unavailability of data until 2007 for cash taxes paid may hinder us observing significant results.

Regardless, we test the association between *Governance Index* and cash ETRSpr and show

the results in Table 8. As seen there, we find no association between *Governance Index* and the

cash ETRSpr. We attribute this result to the time frame which is almost entirely covered by the

tax reform in 2007 and the reduced sample size because of the shortened time frame. Regardless,

though, the results also could indicate that governance reform works best at limiting accrual-

based tax avoidance and the presentation of those items to investors on the financial statements

while having little effect on the actual amount of taxes paid to the taxing authority.

5.3 Tests of Hypothesis 3

As our sample period contains both governance reform as well as tax reform, we next turn

to testing the incremental effect that tax reform had on tax avoidance in light of previous

governance reform. Similar to testing the effect of governance reform, we begin with a test of

the difference in means using windows around the adoption of the tax reforms in 2008. Similar

to the tests in Table 2, we use 1-, 2-, and 5-year windows centered around 2008, as well as a full

sample window which covers the post-governance reform period of 2000 to 2013.

The results in Table 9 show that the tax reform of 2008 appears to have little, if any effect,

on tax avoidance. Specifically, only the current ETRSpr appears to have changed between the

pre- and post-tax reform period and only over the two, longer windows. This implies that,

similar to the pre- and post-governance reform periods, that the current ETRSpr may be slower

to respond to changes due to reforms. Interestingly, though, the ETRSpr shows no change due to

tax reform.

We next test the effect of tax reform using a multivariate analysis. Specifically, we use a

new variable, *Tax Reform*, set equal to 1 for the year 2008 and thereafter, and zero otherwise. As

the use of *Governance Reform* in this regression would completely subsume *Tax Reform*, we are

limited to only including *Governance Index* here. Thus, the interaction between *Tax Reform* and

Governance Index shows the additional effect that *Governance Index* has on tax avoidance during the post-tax reform period.

The results of this test are shown in Table 10. As seen there, *Governance Index* continues to be significantly and positively associated with decreased tax avoidance as the coefficient is significant at the 1 percent level and positive across all specifications. The effect of *Tax Reform*, however, appears to be weaker as it is significant in only three of the five specifications and then only at either the 10 percent or 5 percent levels. Of particular note, however, is the statistically strong and negative coefficient on the interaction term between *Tax Reform* and *Governance Index*. This negative coefficient implies that, rather than acting as complements to each other, tax reform and governance may actually act as substitutes and that the joint effect of both is diminished compared to their separate effects.

5.4 Additional Tests on Value Implications of Tax Avoidance

As a final test, we examine the value implications of tax avoidance. While we have shown that both exogenous governance reform and increased adherence to that reform reduce tax avoidance, the effect that this has on firm value remains understudied. For this test we use changes in Tobin's Q, where Tobin's Q is calculated as the ratio of the book value of shareholders' equity to the market value of equity and is a proxy for value. Using this measure as the dependent variable, we perform multivariate regressions which include ETRSpr, Size, Lev, SalesGrowth, and RoA as independent variables. Size and Lev are defined above, while Sales Growth is measured as the change in sales from the previous year to the current year, and RoA is measured as pre-tax income scaled by lagged total assets.

The results of this test are seen in Table 11. We divide the sample period into 5 different periods to determine in what situations ETRSpr is more or less associated with value. As seen in Table 11, we find that increased tax avoidance appears to be positively associated with value

during the post-governance reform period. This implies that increased governance may help the market to view tax avoidance as adding value.

6. Conclusion

Evidence in prior research is mixed on whether firms with stronger corporate governance are less likely to engage in tax avoidance. Desai and Dharmapala (2006) show that firms with high-powered equity incentives are less likely to engage in tax avoidance. Armstrong et al. (2015) only find evidence in the extreme ends of the distribution, while Seidman and Stomberg (2011) attribute this relation to the tax benefits of stock-based compensation. Using a unique research setting, we explore the implications of governance and tax reform on tax avoidance. In 2000, Mexico initiated governance reform in an effort to improve transparency and attract foreign capital. We collect detailed governance compliance data along with financial statement and stock market data to explore the effects of this governance reform on tax avoidance.

We show that there is a large increase in the effective tax rate after governance reform was initiated in 2000. In multivariate tests, we show that these results hold for effective rates and current effective rates (albeit somewhat weaker). Because there is cross-sectional variation in compliance with the governance code, we next explore whether tax avoidance is mitigated for firms with better governance. Our findings show strong and robust evidence that firms with better corporate governance exhibit less tax avoidance both in effective tax rates and current effective tax rates. In a reduced sample, we do not find evidence that this extends to cash effective tax rates.

Our unique research setting allows for stronger inferences of the role of governance on tax avoidance because of the dramatic changes observed in governance quality over the sample period compared with the relatively stable governance quality of U.S. firms, which have been the focus of similar research. In addition, extant research almost exclusively uses governance

measures based on equity incentives, which is a subset of many governance mechanisms. Our measure of governance is a much broader measure that is minimally affected by equity incentives. Overall, we document that governance reform and better firm-level corporate governance both lead to lower levels of tax avoidance.

References

Anton, A. 2005. Average effective tax rates in México. *Economía Mexicana, Centro de Investigación y Docéncias Económicas* 14 (2), 185-215.

Armstrong, C., J. Blouin, A. Jagolinzer, D. Larcker. 2015. Corporate governance, incentives, and tax avoidance. *Journal of Accounting and Economics* 60, 1-17.

Bergman, M., V. Carreón and F. Hernández. 2005. Evasión fiscal del impuesto sobre la renta de personas morales. *Unpublished working paper*. Centro de Investigación y Docéncias Económicas (México).

Blaylock, B. 2016. Is tax avoidance associated with economically significant rent extraction among U.S. firms? *Contemporary Accounting Research* Vol. 20, 1–30.

Chen, S., X. Chen, Q. Cheng, and T. Shevlin. 2010. Are family firms more tax aggressive than non-family firms? *Journal of Financial Economics* 95, 41–61.

Desai, M., and D. Dharmapala. 2006. Corporate tax avoidance and high-powered incentives. *Journal of Financial Economics* 79 (1), 145-179.

Desai, M., A. Dyck, and L. Zingales. 2007. Theft and taxes. *Journal of Financial Economics* 84, 591–623.

Desai, M., and D. Dharmapala. 2008. Tax and corporate governance: An economic approach. *Tax and Corporate Governance*, W. Schön (ed.), Springer, 13-30.

Código de Mejores Prácticas Corporativas, 1999. Bolsa Mexicana de Valores. México.

Código de Mejores Prácticas Corporativas, 2014. Consejo Coordinador Empresarial. April 14. Mexico.

Congreso de la Union. 2001. "Ley de Sociedades de Inversión", *Diario Oficial de la Federación*, June 4. México. http://www.diputados.gob.mx/LeyesBiblio/pdf/69_130614.pdf

Congreso de la Union. 2003. "Disposiciones de Carácter General Aplicables a las Emisoras de Valores y a Otros Participantes del Mercado de Valores", *Diario Oficial de la Federación*, March 19. México.

Congreso de la Union. 2005. "Nueva Ley del Mercado de Valores (NLMV)", *Diario Oficial de la Federación*, December 30. México.

Congreso de la Union. 2007. "Ley del Impuesto Empresarial a Tasa Única", *Diario Oficial de la Federación*, October 1. México.

Congreso de la Union. 2007. "Ley de Impuestos a los Depósitos en Efectivo", *Diario Oficial de la Federación*, October 1. México.

Gallemore, J. and E. Labro. 2015. The Importance of the Internal Information Environment for Tax Avoidance. *Journal of Accounting and Economics* 60, 149-167.

Gompers, P., J. Ishii, and A. Metrick.2003. Corporate governance and equity prices. *Quarterly Journal of Economics* 116, 229-259.

Lemmon, M., and K. Lins. 2003. Ownership structure, corporate governance, and firm value: evidence from the East Asian financial crisis. *Journal of Finance* 58, 1445-1468. 2003.

Macias, A. and F. J. Román. 2014. Economic consequences of corporate governance reform in an emerging market: Evidence from México. *Trimestre Económico* 322 (2), 357-412.

Minnick, K., and T.J. Noga. 2010. Do Corporate Governance Characteristics Influence Tax Management? *Journal of Corporate Finance*, 16 (5), 703-718.

Price, R., F. J. Román, and B. Rountree.2011. The impact of governance reform on performance and transparency. *Journal of Financial Economics* 99 (1), 76-96.

Rego, S.O., and R. Wilson. 2012. Equity risk incentives and corporate tax aggressiveness. *Journal of Accounting Research* 50, 775–810.

Robinson, J.R., Y. Xue, and M.H. Zhang. 2012. Tax planning and financial expertise in the audit committee. *Unpublished working paper*.

Rodriguez A., and C. Ruiz. 2013. Contribución efectiva al impuesto sobre la renta en personas morales del régimen general. *Economia: Teoría y Práctica* 38, 9-49.

Rubin, R. and L. Hoffman. 2016. U.S. sets tougher rules on tax deals. *Wall Street Journal*, April 5, p.1.

Ruiz Alvarez, J.C. 2014. El impuesto a los depósitos en efectivo (IDE): un incentivo a la informalidad? *Unpublished working paper*. Instituto Tecnológico Autónoma de México.

Samaniego, R., E. Martinez, A. Mitsuko, V. Mendoza, and F. Zorrila. 2006. Medición de la evasión fiscal en México. *Unpublished working paper*. Centro de Economía Aplicada y Políticas Públicas. Instituto Tecnológico Autónoma de México.

Seidman, J., and B. Stomberg. 2011. Why are option compensation and tax sheltering negatively related? *Unpublished working paper*.

APPENDIX A

Variable Definitions

Variable	Definition
ETRSpr	Effective tax rate spread, calculated as a firm's Effective Tax Rate (*ETR*) minus the Corporate Statutory Tax Rate (*CSTR*). *ETR* equals the Total Income Tax Expense scaled by Pre-Tax Income. *ETR* is limited to range between 0 and 1, following a common adjustment in the prior literature.
Current ETRSpr	Current effective tax rate spread, calculated as the Current Effective Tax Rate (*Current ETR*) less the Corporate Statutory Tax Rate (*CSTR*). *Current ETR* equals the Current Income Tax Expense scaled by Pre-Tax Income. *Current ETR* is limited to range between 0 and 1.
Cash ETRSpr	Cash effective tax rate spread, calculated as a firms Cash Effective Tax Rate (*Cash ETR*) less the Corporate Statutory Tax Rate (*CSTR*). *Cash ETR* is Cash Income Taxes Paid scaled by Pre-Tax Income. *Cash ETR* is limited to range between 0 and 1.
Governance Reform	A binary variable equal to 1 for years 2000 and thereafter, zero otherwise.
Governance Index	Measures each firm's strength in governance based on the extent of compliance with key provisions of the Code of best governance governance practices. It is calculated as the sum of the following subset of questions (coded as indicator variables) selected ex ante as important to governance, with higher values indicating better governance:

1. Do independent directors comprise at least 25% of the board of directors?
2. Do independent and non-manager shareholders comprise at least 60% of the board of directors?
3. Does each subcommittee have between 3 and 7 members?
4. Does each independent director participate in a subcommittee, including the compensation, auditing, and finance committees?
5. Is the audit committee chairman independent and qualified (experienced in accounting and finance)?
6. Does the auditor issuing the opinion rotate at least every five years (six years pre 2006)?
7. Is the person who signs the audit opinion different from the person acting as commisary (providing an independent review of financial statements and corporate practices)?

Lag Governance Index   The lagged value of *Governance Index*, measured in the prior year.

PPE   Property, Plant, and Equipment scaled by lagged Total Assets.

Intang   Intangibles scaled by lagged Total Assets.

Size   Natural logarithm of 1 plus Total Assets.

Lev   Long-term Debt plus Current Debt scaled by lagged Total Assets.

PriorLoss   A binary variable equal to 1 if Pre-tax Income is less than zero in both of the two prior years, zero otherwise.

ChgCash   Contemporaneous Cash less lagged Cash scaled by lagged Cash.

MVE   Natural logarithm of 1 plus the Market Value of Equity.

BE   Natural logarithm of 1 plus the Book Value of Shareholders' Equity.

SaleGrowth   Contemporaneous Total Sales less lagged Total Sales scaled by lagged Total Assets.

RoA   Pre-Tax Income scaled by lagged Total Assets.

ΔTobin's Q   Contemporaneous Tobin's Q less lagged Tobin's Q, where Tobin's Q is calculated as the Book Value of Shareholders' Equity scaled by the Market Value of Equity.

Data sources: Financials and price data is gathered from Economatica and Datastream; governance data was hand-collected from each firm's annual report submitted to capital market regulators, which account the extent of compliance with the governance provisions in the Code of Best Governance Practices; ownership data comes from each firm's annual report when available, or was hand-collected from each firm's Corporate Charter (Acta Constitutiva).

Figure 1
Chronology of Mexico's Implementation of Tax and Corporate Governance Reforms under the Study's Examination

Tax Reform - 2007
Enacted by Congress on Sept. 17, 2007. Introduced two new taxes:
(1) 2% tax on all cash bank deposits (IDE). Became effective on July 1, 2008.
(2) Corporate flat tax rate of 16.5% based on cash income and eliminates various deductions (IETU).

New Taxes are effectual in 2008
The corporate flat tax (IETU) takes effect on Jan. 1 2008. Tax on cash deposits (IDE) on July 1, 2008 and thereafter. Notice that both taxes were abolished with subsequent tax reforms, which were enacted on October 31, 2013.

Tax Revisions 2009-2010
Subsequent amendments raised the tax on cash deposits to 3% on Jan. 2009. Also, it raised the IETU tax to 17% in 2009 and 17.5% in 2010. Further, the corporate tax rate is raised from 29% to 30% in 2010.

Tax Reform -2013 (ignored in our study)
Enacted by Congress on Oct. 31, 2013; became effective on Jan. 1, 2014. Instituted a major tax overhauls as follows:
(1) Raise the Value Added Tax (IVA) from 11% to 16% on goods and services across the nation.
(2) Imposes an excise tax on 'junk' food, alcohol, tobacco, fuel ad gas, and pesticides (IEPS).
(3) Imposes a new tax corporate dividends of 10% and on capital gains on the sale of stock.
(4) Eliminates special tax regimes for manufacturing, mining, & REIT's.
(5) Repeals the cash deposit tax (IDE) and the flat tax (IETU).
(6) Eliminates numerous business deductions and required companies to use straight-line depreciation and the absorption costing method.
(7) Imposes limits in the exempted deductions for employees' fringe benefits

1999 — Sept. 1999 | June 2000 | June 2000 | March 2003 | Dec. 2005 | Sept. 2007 | Jan. 2009-10 | Oct. 2013 — 2015

Adoption of Code of Best Governance Practices
Mexico adopts *code of 'best' corporate governance practices* for publicly traded firms in September 1999. The code comprises 55 internal governance provisions aim to improve board oversight and financial reporting. Adherence to this code is voluntary, however, firms are required to report their level of compliance with each provision in the code.

Start Date of Reporting Compliance
Firms listed on the Mexican stock exchange began reporting to market regulators and investors the extent of compliance to each provision in the *code* via a standard questionnaire filed annually to Mexican the Exchange Commission.

Securities Market Law 2001
Require Firms must comply with important provisions in the code:
(1) 33 percent of board members must be independent; (2) limits the size of boards to 5 and 15 directors; (3) establishment of board audit committees presided by independent directors.

Securities Market Law 2003
Recognizes the *code* as part of Mexico's securities law, making its filling of the extent of compliance mandatory. This law also provides stricter guidelines for the dissemination of financial information to investors—e.g., it requites firms to disclose relevant and material events.

Securities Market Law - 2005
Imposed similar guidelines to the Sarbanes-Oxley Act (i.e., CEO and directors legally responsible for the validity of the financial information). Provides more rights to minority investors allowing them to nominate at least 10 percent of the board of directors.

The timeline is constructed using the following sources: Codigo de Mejores Practicas Corporativas, September 1999; Diario Oficial de la Federación, *"Ley de Sociedades de Inversión"*, June 4, 2001; Diario Oficial de la Federación, *"Disposiciones de Carácter General Aplicables a las Emisoras de Valores y a Otros Participantes del Mercado de Valores"*, March 19, 2003; Diario Oficial de la Federación *"Nueva Ley del Mercado de Valores (NLMV)"*, December 30, 2005. Diario Oficial de la Federación, *"Ley del Impuesto Empresarial a Tasa Única"*, *"Ley de Impuestos a los Depósitos en Efectivo"*, October 1, 2007. Diario Oficial de la Federación, *"Ley del Impuesto Sobre la Renta"*, *"Ley del Impuesto Especial Sobre Producción y Servicios"*, *"Ley del Impuesto al Valor Agregado"*, November 12, 2013.

35

Figure 2: ETRSpr over Time
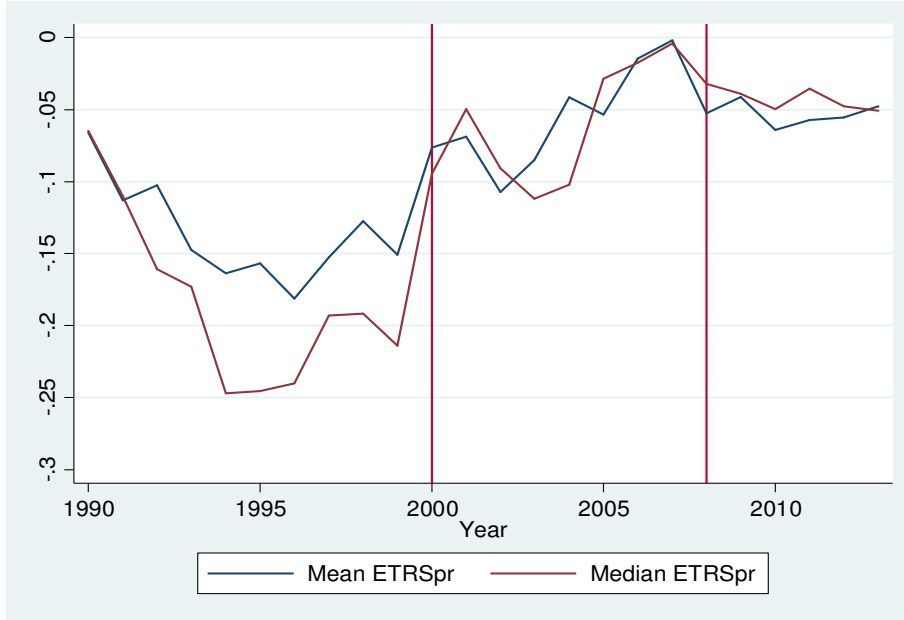
This graph charts the mean and median ETRSpr of the full sample over the full sample period. Vertical reference lines are shown on the years of governance reform (2000) and tax reform (2008.

Figure 3: Current ETRSpr over Time
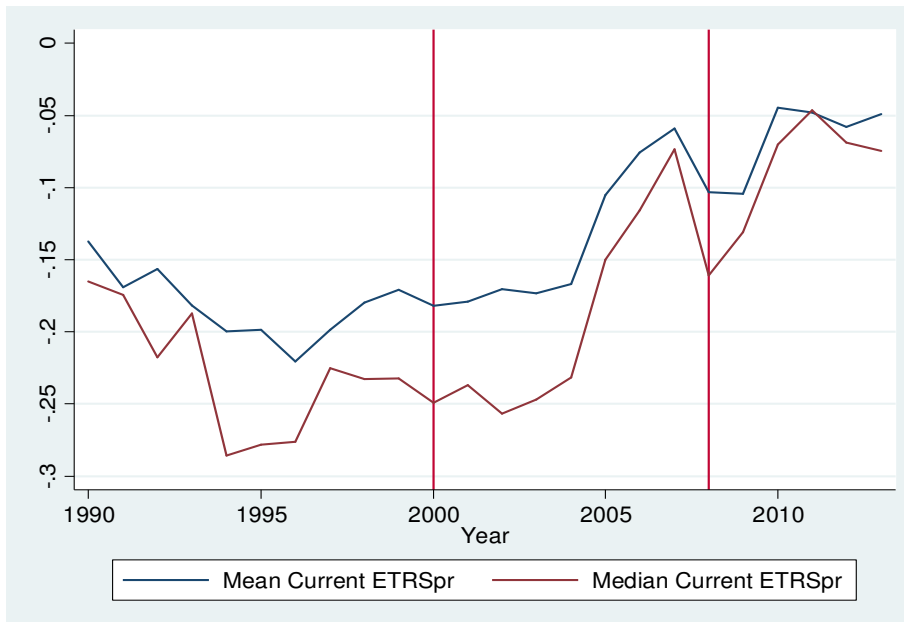
This graph charts the mean and median ETRSpr of the full sample over the full sample period. Vertical reference lines are shown on the years of governance reform (2000) and tax reform (2008).

Table 1: Sample Construction

Panel A: Sample Selection

	Number of firm-years
Total number of firm-years for active and delisted firms on Economatica for years 1990 to 2013	2,954
Less: pre-governance reform firm-years (years 1990 to 1999)	-1,075
Less: firm-years with missing financial data	-631
Less: firm-years with missing industry data	-287
Less: firm-years with missing governance data	-366
Total number of firm-years for most restrictive multivariate regression model with ETR	595
Less: firm-years with missing cash taxes paid data (data unavailable prior to 2007)	-223
Total number of firm-years for most restrictive multivariate regression model with cash ETR	372

Panel B: Industry Composition for ETR Sample

Industry	Number of firm-years
Accommodation and Food Services	18
Administrative and Support and Waste Management and Remediation Services	17
Agriculture, Forestry, and Fishing and Hunting	10
Arts, Entertainment, and Recreation	12
Construction	84
Finance and Insurance	9
Health Care and Social Assistance	7
Information	44
Management of Companies and Enterprises	10
Manufacturing	232
Mining	32
Professional, Scientific, and Technical Services	6
Real Estate and Rental and Leasing	4
Retail Trade	87
Transportation and Warehousing	3
Utilities	1
Wholesale Trade	19
Total	595

Table 2: Governance Reform and Tax Avoidance

	Full Sample Period ETRSpr			One-Year Window (1999-2000) ETRSpr			Two-Year Window (1998-2001) ETRSpr			Seven-Year Window (1992-2007) ETRSpr	
	N	**Mean**		**N**	**Mean**		**N**	**Mean**		**N**	**Mean**
Pre-Reform Period (2000)	1064	-0.143		158	-0.151		310	-0.139		958	-0.149
Post-Reform Period (2000)	1873	-0.056		154	-0.076		304	-0.072		1086	-0.058
Difference		0.087			0.074			0.067			0.091
t-stat		10.276	***		2.747	***		3.362	***		8.842	***
Prob (Difference < 0)		0.000			0.003			0.000			0.000
	Current ETRSpr			*Current ETRSpr*			*Current ETRSpr*			*Current ETRSpr*	
	N	**Mean**		**N**	**Mean**		**N**	**Mean**		**N**	**Mean**
Pre-Reform Period (2000)	1022	-0.186		140	-0.171		278	-0.175		916	-0.190
Post-Reform Period (2000)	1646	-0.112		136	-0.182		268	-0.181		980	-0.142
Difference		0.074			-0.011			-0.005			0.048
t-stat		9.009	***		-0.440			1.027			5.062	***
Prob (Difference != 0)		0.000			0.670			0.617			0.000

This table presents tests of differences in means before and after the initial governance reform of 2000. Significance levels are based upon one-sided t-tests and are indicated as follows:
* p<0.1, ** p<0.05, *** p<0.01.

Table 3: Governance Reform Indicator and Tax Avoidance

Panel A: Effective Tax Rate

	(1) ETRSpr	(2) ETRSpr	(3) ETRSpr
Governance Reform	0.109***	0.106***	0.143*
	[0.023]	[0.025]	[0.074]
PPE	0.042	0.046	0.057
	[0.036]	[0.063]	[0.064]
Intang	-0.050	-0.023	-0.030
	[0.044]	[0.071]	[0.071]
Size	-0.014	-0.028	-0.025
	[0.017]	[0.020]	[0.021]
Lev	0.050	0.083	0.076
	[0.050]	[0.055]	[0.057]
PriorLoss	-0.102***	-0.101***	-0.111***
	[0.028]	[0.031]	[0.032]
ChgCash	-0.001	-0.001	-0.000
	[0.003]	[0.003]	[0.003]
MVE	-0.003	0.006	0.005
	[0.007]	[0.007]	[0.008]
BE	0.026	0.029	0.025
	[0.017]	[0.020]	[0.020]
Fixed Effects		I	I Y
Observations	1248	961	961
Adjusted R-squared	0.077	0.119	0.137

Table 3 *continued*

	Panel B: Current Effective Tax Rate		
	(1) **ETRSpr**	**(2)** **ETRSpr**	**(3)** **ETRSpr**
Governance Reform	0.076***	0.069***	0.059
	[0.024]	[0.026]	[0.066]
PPE	-0.020	-0.020	-0.014
	[0.041]	[0.054]	[0.054]
Intang	0.062	0.056	0.055
	[0.061]	[0.090]	[0.089]
Size	-0.004	-0.012	-0.008
	[0.017]	[0.021]	[0.022]
Lev	-0.031	-0.003	-0.010
	[0.057]	[0.058]	[0.060]
PriorLoss	-0.117***	-0.108***	-0.113***
	[0.024]	[0.029]	[0.030]
ChgCash	-0.004*	-0.001	-0.002
	[0.002]	[0.002]	[0.002]
MVE	0.011	0.020**	0.016*
	[0.008]	[0.009]	[0.009]
BE	0.008	0.011	0.008
	[0.016]	[0.020]	[0.022]
Fixed Effects		I	I Y
Observations	1248	961	961
Adjusted R-squared	0.112	0.175	0.192

This table presents OLS regression estimations of tax avoidance measures and an indicator variable for governance reform. Standard errors are clustered at the firm level and are reported in brackets below the coefficients. Additionally, industry and year fixed effects are included where indicated, though the coefficients are not reported. Significance levels are based upon two-sided t-tests and are indicated as follows: * $p<0.1$, ** $p<0.05$, *** $p<0.01$.

Table 4: Post-Governance Reform Period Descriptive Statistics

Variable	N	Mean	Std Dev	Q25	Q50	Q75
ETRSpr	647	-0.041	0.203	-0.165	-0.023	0.034
Current ETRSpr	647	-0.081	0.233	-0.280	-0.099	0.014
Cash ETRSpr	408	-0.095	0.237	-0.280	-0.160	0.016
Governance Index	647	0.812	0.165	0.714	0.857	0.875
PPE	647	0.385	0.233	0.187	0.410	0.560
Intang	647	0.076	0.149	0.000	0.010	0.074
Size	647	15.976	1.762	14.928	16.115	17.244
Lev	647	0.160	0.163	0.016	0.128	0.243
PriorLoss	647	0.131	0.338	0.000	0.000	0.000
ChgCash	647	0.566	2.492	-0.289	0.040	0.499
MVE	647	15.433	2.208	14.067	15.676	17.003
BE	647	15.221	1.785	14.130	15.386	16.409

This table presents descriptive statistics for corporate tax avoidance, governance, and all controls as included in regression analyses. Variable definitions follow those as detailed in the Appendix.

Table 5: Post-Governance Reform Correlation Matrix

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
ETRSpr	(1)	1										
Current ETRSpr	(2)	**0.337**	1									
Governance	(3)	**0.131**	**0.139**	1								
PPE	(4)	0.058	-0.039	**0.119**	1							
Intang	(5)	-0.014	**0.120**	**0.089**	**-0.179**	1						
Size	(6)	**0.185**	**0.241**	**0.193**	0.028	**0.226**	1					
Lev	(7)	0.068	-0.018	0.072	**0.085**	**0.271**	0.039	1				
PriorLoss	(8)	**-0.241**	**-0.286**	-0.001	0.055	**-0.125**	**-0.350**	0.027	1			
ChgCash	(9)	**0.124**	**0.257**	**0.170**	-0.052	**0.273**	**0.836**	**-0.160**	**-0.361**	1		
MVE	(10)	-0.003	-0.037	**-0.125**	-0.032	0.014	**-0.098**	0.039	0.030	-0.024	1	
BE	(11)	**0.206**	**0.257**	**0.161**	0.042	**0.203**	**0.962**	-0.076	**-0.400**	**0.855**	**-0.081**	1

This table tables presents Pearson correlation coefficients for variables used in primary analyses of the relationship between the governance index and tax avoidance. Correlations that are significant at the 5 percent level are in bold.

Table 6: Governance Index and Tax Avoidance

Panel A: Effective Tax Rate

	(1) ETRSpr	(2) ETRSpr	(3) ETRSpr
Governance Index	0.254***	0.256***	0.255**
	[0.079]	[0.084]	[0.098]
PPE	0.008	0.043	0.047
	[0.032]	[0.063]	[0.064]
Intang	-0.112**	-0.122**	-0.132**
	[0.051]	[0.058]	[0.059]
Size	-0.028	-0.049**	-0.050**
	[0.018]	[0.020]	[0.020]
Lev	0.135**	0.215***	0.218***
	[0.066]	[0.058]	[0.061]
PriorLoss	-0.118***	-0.100***	-0.100***
	[0.033]	[0.035]	[0.036]
ChgCash	0.002	0.002	0.002
	[0.004]	[0.004]	[0.004]
MVE	-0.013	0.003	0.005
	[0.011]	[0.010]	[0.009]
BE	0.056***	0.061***	0.060***
	[0.016]	[0.020]	[0.019]
Fixed Effects		I	I Y
Observations	647	595	595
Adjusted R-squared	0.111	0.173	0.187

Table 6 *continued*

Panel B: Current Effective Tax Rate

	(1) Current ETRSpr	(2) Current ETRSpr	(3) Current ETRSpr
Governance Index	0.268***	0.263**	0.205*
	[0.096]	[0.104]	[0.113]
PPE	-0.033	0.026	0.025
	[0.051]	[0.072]	[0.072]
Intang	0.065	0.003	0.005
	[0.106]	[0.112]	[0.110]
Size	-0.013	-0.033	-0.032
	[0.024]	[0.028]	[0.028]
Lev	0.003	0.107	0.116
	[0.078]	[0.074]	[0.074]
PriorLoss	-0.149***	-0.128***	-0.129***
	[0.031]	[0.034]	[0.036]
ChgCash	-0.001	-0.000	-0.001
	[0.002]	[0.003]	[0.003]
MVE	0.009	0.033***	0.033***
	[0.011]	[0.010]	[0.011]
BE	0.021	0.020	0.019
	[0.024]	[0.030]	[0.031]
Fixed Effects		I	I Y
Observations	647	595	595
Adjusted R-squared	0.126	0.213	0.223

This table presents OLS regression estimations of tax avoidance measures and the contemporaneous governance index. Standard errors are clustered at the firm level and are reported in brackets below the coefficients. Additionally, industry and year fixed effects are included where indicated, though the coefficients are not reported. Significance levels are based upon two-sided t-tests and are indicated as follows: * p<0.1, ** p<0.05, *** p<0.01.

Table 7: Lag Governance Index and Tax Avoidance

Panel A: Effective Tax Rate

	(1) ETRSpr	(2) ETRSpr	(3) ETRSpr
Lag Governance Index	0.269***	0.372***	0.356***
	[0.096]	[0.093]	[0.111]
PPE	0.032	-0.006	0.003
	[0.043]	[0.087]	[0.089]
Intang	-0.043	-0.030	-0.051
	[0.068]	[0.076]	[0.074]
Size	-0.020	-0.034	-0.034
	[0.022]	[0.030]	[0.031]
Lev	0.083	0.106	0.109
	[0.077]	[0.078]	[0.080]
PriorLoss	-0.109***	-0.079*	-0.086**
	[0.039]	[0.041]	[0.042]
ChgCash	0.001	0.002	0.001
	[0.003]	[0.003]	[0.003]
MVE	-0.019*	-0.005	-0.004
	[0.011]	[0.011]	[0.011]
BE	0.046**	0.047	0.045
	[0.019]	[0.028]	[0.028]
Fixed Effects		I	I Y
Observations	553	512	512
Adjusted R-squared	0.083	0.148	0.163

Table 7 *continued*

	(1)	(2)	(3)
	Current ETRSpr	**Current ETRSpr**	**Current ETRSpr**
Lag Governance Index	0.220*	0.279**	0.290**
	[0.121]	[0.124]	[0.129]
PPE	-0.075	-0.057	-0.053
	[0.057]	[0.080]	[0.080]
Intang	0.048	0.026	0.025
	[0.118]	[0.129]	[0.131]
Size	-0.003	-0.007	-0.010
	[0.028]	[0.036]	[0.037]
Lev	0.057	0.120	0.126
	[0.105]	[0.107]	[0.108]
PriorLoss	-0.159***	-0.134***	-0.135***
	[0.035]	[0.038]	[0.041]
ChgCash	-0.001	0.001	0.001
	[0.003]	[0.003]	[0.003]
MVE	0.018	0.036***	0.039***
	[0.012]	[0.012]	[0.015]
BE	0.002	-0.012	-0.013
	[0.029]	[0.037]	[0.037]
Fixed Effects		I	I Y
Observations	553	512	512
Adjusted R-squared	0.135	0.238	0.247

Panel B: Current Effective Tax Rate

This table presents OLS regression estimations of tax avoidance measures and the lagged governance index. Standard errors are clustered at the firm level and are reported in brackets below the coefficients. Additionally, industry and year fixed effects are included where indicated, though the coefficients are not reported. Significance levels are based upon two-sided t-tests and are indicated as follows: * p<0.1, ** p<0.05, *** p<0.01.

Table 8: Governance Index and Cash Tax Payments

	(1) Cash ETRSpr	(2) Cash ETRSpr	(3) Cash ETRSpr	(4) Cash ETRSpr	(5) Cash ETRSpr	(6) Cash ETRSpr
Governance Index	0.108	0.128	0.138			
	[0.233]	[0.244]	[0.237]			
Lag Governance Index				0.066	0.058	0.020
				[0.241]	[0.255]	[0.259]
PPE	0.008	0.064	0.119	-0.021	0.003	-0.003
	[0.069]	[0.145]	[0.147]	[0.070]	[0.164]	[0.167]
Intang	-0.025	-0.001	0.002	-0.030	0.018	0.013
	[0.106]	[0.115]	[0.114]	[0.121]	[0.140]	[0.139]
Size	-0.019	-0.060	-0.076	-0.025	-0.062	-0.063
	[0.035]	[0.048]	[0.050]	[0.035]	[0.058]	[0.060]
Lev	0.053	0.138	0.163	0.102	0.209	0.200
	[0.108]	[0.145]	[0.145]	[0.139]	[0.177]	[0.176]
PriorLoss	-0.108**	-0.109**	-0.124**	-0.131***	-0.140**	-0.134**
	[0.047]	[0.054]	[0.055]	[0.047]	[0.055]	[0.059]
ChgCash	-0.003	-0.003	-0.002	0.000	0.001	0.000
	[0.004]	[0.005]	[0.004]	[0.004]	[0.005]	[0.006]
MVE	0.011	0.026	0.034**	0.014	0.025	0.029
	[0.018]	[0.017]	[0.017]	[0.021]	[0.022]	[0.023]
BE	0.027	0.042	0.046	0.026	0.041	0.038
	[0.029]	[0.051]	[0.052]	[0.029]	[0.056]	[0.058]
Fixed Effects		I	I Y		I	I Y
Observations	408	372	372	416	381	381
Adjusted R-squared	0.056	0.109	0.169	0.056	0.118	0.133

This table presents OLS regression estimations of cash tax payments and both the contemporaneous and lagged governance index. Standard errors are clustered at the firm level and are reported in brackets below the coefficients. Additionally, industry and year fixed effects are included where indicated, though the coefficients are not reported. Significance levels are based upon two-sided t-tests and are indicated as follows: * $p<0.1$, ** $p<0.05$, *** $p<0.01$.

Table 9: Tax Reform and Tax Avoidance

| | *Full Post-Governance Reform Period (2000 - 2013)* | | *One-Year Window (2007-2008)* | | *Two-Year Window (2006-2009)* | | *Five-Year Window (2003-2012)* | |
| | *ETRSpr* | | *ETRSpr* | | *ETRSpr* | | *ETRSpr* | |
	N	**Mean**	**N**	**Mean**	**N**	**Mean**	**N**	**Mean**
Pre-Reform Period (2008)	1086	-0.058	120	-0.002	245	-0.008	640	-0.040
Post-Reform Period (2008)	787	-0.053	119	-0.053	247	-0.047	646	-0.054
Difference		0.005		-0.051		-0.038		-0.014
t-stat		0.479		-1.861		-1.895		-1.124
Prob (Difference < 0)		0.316		0.968		0.971		0.869
	Current ETRSpr		*Current ETRSpr*		*Current ETRSpr*		*Current ETRSpr*	
	N	**Mean**	**N**	**Mean**	**N**	**Mean**	**N**	**Mean**
Pre-Reform Period (2008)	980	-0.142	109	-0.059	224	-0.068	584	-0.118
Post-Reform Period (2008)	666	-0.068	107	-0.103	218	-0.104	548	-0.072
Difference		0.074		-0.043		-0.036		0.046
t-stat		6.442 ***		-1.538		-1.713		3.463 ***
Prob (Difference != 0)		0.000		0.937		0.956		0.000

This table presents tests of differences in means around the tax reform of 2008. Significance levels are based upon one-sided t-tests and are indicated as follows: * p<0.1, ** p<0.05, *** p<0.01.

Table 10: The Effect of Governance and Tax Reforms on Tax Avoidance

	(1) ETRSpr	(2) ETRSpr	(3) ETRSpr	(4) ETRSpr	(5) ETRSpr
Governance Index		0.256***	0.339***	0.349***	0.362***
		[0.081]	[0.100]	[0.096]	[0.112]
Tax Reform	0.022	-0.003	0.178*	0.172*	0.241**
	[0.017]	[0.019]	[0.094]	[0.089]	[0.117]
*Tax Reform * Governance Index*			-0.302*	-0.323**	-0.353**
			[0.159]	[0.152]	[0.163]
PPE	0.031	0.007	0.007	0.038	0.046
	[0.037]	[0.033]	[0.032]	[0.063]	[0.062]
Intang	-0.043	-0.112**	-0.108**	-0.112*	-0.125**
	[0.044]	[0.051]	[0.051]	[0.061]	[0.060]
Size	-0.001	-0.028	-0.027	-0.049**	-0.050**
	[0.017]	[0.018]	[0.018]	[0.020]	[0.020]
Lev	-0.006	0.134**	0.128*	0.208***	0.208***
	[0.054]	[0.066]	[0.065]	[0.057]	[0.059]
PriorLoss	-0.090***	-0.118***	-0.121***	-0.100***	-0.104***
	[0.029]	[0.034]	[0.034]	[0.036]	[0.036]
ChgCash	-0.001	0.002	0.002	0.002	0.002
	[0.003]	[0.004]	[0.004]	[0.004]	[0.004]
MVE	-0.001	-0.013	-0.014	0.004	0.004
	[0.008]	[0.011]	[0.012]	[0.009]	[0.009]
BE	0.016	0.056***	0.054***	0.060***	0.060***
	[0.017]	[0.016]	[0.016]	[0.020]	[0.019]
Fixed Effects				I	I Y
Observations	1248	647	647	595	595
Adjusted R-squared	0.050	0.111	0.115	0.179	0.192

This table presents OLS regression estimations of the effect of both governance and tax reform on tax avoidance. Standard errors are clustered at the firm level and are reported in brackets below the coefficients. Additionally, industry and year fixed effects are included where indicated, though the coefficients are not reported. Significance levels are based upon two-sided t-tests and are indicated as follows: * $p<0.1$, ** $p<0.05$, *** $p<0.01$.

Table 11: Tax Avoidance and Firm Value

	Full Sample Period (1990 - 2013)	Pre-Governance Reform Period (1990 - 1999)	Post-Governance Reform Period (2000-2013)	Post-Governance, Pre-Tax Reform Period (2000 - 2007)	Post Tax-Reform Period (2008 - 2013)
	(1)	(2)	(3)	(4)	(5)
	ΔTobin's Q	ΔTobin's Q	ΔTobin's Q	ΔTobin's Q	ΔTobin's Q
ETRSpr	-.962***	-1.062	-1.002***	-1.646**	-0.005
	[0.319]	[0.731]	[0.297]	[0.715]	[0.169]
Size	0.058	-0.129	0.051	0.065	0.006
	[0.046]	[0.143]	[0.043]	[0.058]	[0.022]
Lev	0.513	0.496	0.756*	1.143**	0.296**
	[0.386]	[0.807]	[0.399]	[0.538]	[0.146]
SaleGrowth	0.000	0.000**	0.000	-0.000**	0.000
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
RoA	-2.594***	-6.818***	0.330	-0.361	0.031
	[0.703]	[1.474]	[0.681]	[0.890]	[0.486]
Observations	1896	549	1347	720	627
Adjusted R-squared	0.013	0.034	0.009	0.016	0.000

This table presents OLS regression estimations of the relationship between tax avoidance and firm value for three distinct periods of time. Standard errors are clustered at the firm level and are reported in brackets below the coefficients. Significance levels are based upon two-sided t-tests and are indicated as follows: * p<0.1, ** p<0.05, *** p<0.01.