



*Distinguished Lecture Series
School of Accountancy
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Bradley Blaylock
of
Foster School of Business
University of Washington
will present

“Is Tax Avoidance Associated with Managerial
Rent Extraction from Shareholders Among
Poorly Governed US Firms?”

on

January 25, 2011

3:00pm in BA 286

Is Tax Avoidance Associated with Managerial Rent Extraction from Shareholders Among Poorly Governed US Firms?

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Version: January 11, 2011

Abstract

Two influential papers in the tax avoidance literature (Desai and Dharmapala 2006 and Desai et al. 2007) argue that tax avoidance can be used to facilitate managerial rent extraction from shareholders. The most direct large sample empirical evidence in support of this theory comes from Russia, which has a much different regulatory and corporate governance environment than the United States, but subsequent studies on this theory focus on US firms. I test for large sample evidence that tax avoidance is associated with managerial rent extraction from shareholders in the US using three proxies for managerial rent extraction that represent the three types of decisions managers make: operating, investing and financing. I find no support for the contention that tax avoidance is associated with lower future performance or overinvestment. In contrast, I find a negative association between tax avoidance and payouts to common shareholders. I conclude that researchers should exercise more care when making predictions that assume a relation between rent extraction and tax avoidance without carefully considering the firms in their sample and the type of rent extraction that they expect to find.

I am grateful to my committee members Terry Shevlin (chair), Weili Ge, and Jake Thornock for helpful comments and guidance. This paper has also benefited from helpful comments by Bob Bowen, Alex Edwards, Jared Jennings, Allison Koester, Dawn Matsumoto, D Shores, Lloyd Tanlu, and Ryan Wilson and participants at the University of Washington workshop. I also thank Brad Lindsey and Scott Dyreng for sharing data with me on firms' subsidiaries. All errors that remain are my own.

I. Introduction

I test whether high levels of tax avoidance are indicative of managerial rent extraction from shareholders¹ by examining the relation between tax avoidance and three proxies for rent extraction: low future earnings and cash flows, over- or underinvestment and lower payouts to common shareholders. These tests are motivated by the corporate governance view of tax avoidance² as proposed by Desai and Dharmapala (2006) and Desai and Dharmapala (2009a). Consistent with Desai and Dharmapala (2009a), I define rent extraction as managerial opportunism.³ Desai and Dharmapala (2006) propose that rent extraction and more aggressive forms of tax avoidance both require complex transaction structuring to hide the real purpose of the transaction. If managers extract rents in obvious ways, they risk having their other pay and benefits reduced and possibly losing their jobs. Similarly if firms are too obvious about structuring transactions with the sole purpose of avoiding taxes, the IRS will use the economic substance doctrine to disallow any tax benefits of the transaction and to assess interest and penalties on the disallowed tax benefits. However, the fact that both tax avoidance and rent extraction require managers to obfuscate what they are doing does not necessarily mean that rent extraction will be related to tax avoidance. What makes tax avoidance unique as a means to facilitate rent extraction is that it provides managers with a plausible explanation for entering into obscure transactions or for making investments that have no direct relation

¹ All references to rent extraction refer to managers extracting rents from shareholders.

² This terminology is taken from Desai and Dharmapala (2009a).

³ This definition does not assume that all rent extraction is “bad” in the sense that the cost of the rent extraction exceeds the tax benefits to shareholders from the subsidiary or transaction that facilitates the rent extraction. The most important assumption of the Desai and Dharmapala (2006) theory as it relates to my tests is that more rent extraction will take place in poorly governed firms than in well governed firms. Consequently, I interpret a more positive or a less negative relation between tax avoidance and my proxies for rent extraction among poorly governed firms relative to well governed firms as evidence that tax avoidance is associated with rent extraction in poorly governed firms.

to the firm's normal operations (e.g., opening a subsidiary for the purpose of holding intangible assets or to engage in a transfer pricing scheme). For example, the managers of a firm could open a subsidiary in a tax haven for the purpose of extracting rents and avoiding taxes. If the board, investors, or other stakeholders ask about the purpose of the subsidiary, the managers will answer that the subsidiary was opened for the purpose of avoiding taxes and that giving too many details about the subsidiary would put some of the tax benefits at risk.⁴ If the tax benefits of the subsidiary are real and are not overwhelmed by the managerial rent extraction that is facilitated by the subsidiary, any such managerial rent extraction has a reasonable chance of going undetected.⁵

This theory has received considerable attention in recent literature and several papers use this theory in developing some of their predictions and in interpreting at least some of their results (e.g., Hanlon and Slemrod 2009, Wilson 2009, Chen et. al., 2009, Donohoe and McGill 2010, and Kim et al. 2010). However, the evidence in support of a relation between tax avoidance and rent extraction is primarily anecdotal. Prior literature generally does not attempt to empirically link tax avoidance to rent extraction in large samples. Desai et al. (2007) provide compelling evidence that tax avoidance was used as an excuse to facilitate rent extraction among Russian oil firms in the late 1990s and early 2000s. However, such evidence may not generalize to a U.S. setting where the Securities

⁴ In this example, simply opening the subsidiary in a tax haven does not explain what specifically the managers do to extract rents. Desai and Dharmapala (2006) and subsequent literature are generally silent on the exact mechanisms for rent extraction. The theory says only that some forms of tax avoidance lower the cost of extracting rents and that managers of poorly governed firms will extract more rents than managers of well governed firms.

⁵ The existence of tax benefits is not a necessary condition for this theory to hold. The key assumption of this theory is that managers can say they are avoiding taxes when asked about obscure transactions or investments whether or not there are actual tax benefits to the transaction or investment. This is likely easier for managers to argue if the transaction or investment in question provides actual tax benefits but as long as managers are able to convince other stakeholders of the firm that the transaction or investment serves a legitimate tax avoidance purpose, it does not matter if tax benefits actually exist.

and Exchange Commission is tasked with monitoring firms' financial reports and where shareholder protections, including the threat of class action lawsuits, likely act as deterrents to managerial rent extraction and where the tax enforcement agency has greater resources. In fact, the possibility of increased IRS scrutiny for a particular tax motivated transaction or set of transactions may actually make managers more hesitant, not more aggressive, in extracting rents through tax motivated transactions. For example, Erickson, Hanlon and Maydew (2004) find that some firms pay actual taxes on earnings that did not exist to mitigate the possibility that the IRS would investigate and discover their financial reporting fraud. I argue that it is premature to conclude that managers use tax avoidance to facilitate rent extraction in samples of U.S. firms or to interpret evidence in light of this theory without providing more direct evidence of a link between tax avoidance and rent extraction in the U.S.

I empirically test for large scale evidence supporting the notion that rent extraction is associated with tax avoidance. If this association exists, then I expect to find a relation between tax avoidance and three proxies for managerial opportunism: lower future performance, over- or under-investment and lower payouts to common stockholders.^{6,7} These tests are designed to consider all three aspects of managerial decision-making – operating decisions, investment decisions, and financing decisions. If managers are using tax motivated transactions to steal from the firm or to otherwise waste

⁶ In designing my tests, I focus on the research question: is tax avoidance associated with rent extraction? A related question would be: how specifically do managers use outwardly tax motivated transactions to extract rents? I do not attempt to answer the second question because the literature has not provided a clear answer to the first question. This literature is generally silent on the exact mechanisms that managers use to extract rents beyond arguing that more aggressive forms of tax avoidance such as tax sheltering lower the costs of rent extraction.

⁷ I use 4 proxies for tax avoidance: the shelter measure of Wilson (2009), the adjusted book-tax difference measure of Desai and Dharmapala (2006), the discretionary permanent differences measure of Frank et al. (2009) and the current effective tax rate. The calculation of these variables is described in Appendix A.

firm resources for their benefit, I expect tax avoidance to be associated with low relative future performance.⁸ If managers are using tax avoidance as an excuse to make investments in projects that improve their personal utility or increasing their power and pay, I expect to find a relation between tax avoidance and overinvestment. Finally, if managers use taxes as an excuse to retain cash within the firm rather than paying it out to shareholders (e.g., by saying that the cash is trapped overseas and would be too expensive to bring home) to increase their job security or to waste on future investments that will enhance managers personal utility (Jensen 1986), I expect to observe a negative relation between tax avoidance and payout ratios to common stockholders. As I argue below, all of these forms of rent extraction could, in theory, be facilitated by tax avoidance.

The form of my tests follows prior literature on the corporate governance view of tax avoidance, which uses governance to partition firms into groups where the tax avoidance is most likely to indicate actions by managers to benefit shareholders (strong governance), and where tax avoidance is most likely to facilitate rent extraction (weak governance). I find little evidence of a less positive or more negative relation between tax avoidance and future performance among firms with high entrenchment index (Bebchuk et al. 2009) or governance index (Gompers et al. 2003) scores (i.e., poorly governed firms). I also find no evidence that tax avoidance among poorly governed firms is associated with overinvestment.

⁸ I focus on future performance rather than current performance because one form of managerial rent extraction could be to artificially inflate earnings in the current period. Finding an association between tax avoidance and either high or low current performance could be indicative of rent extraction. My tests assume that any managerial waste of resources will continue to impact future performance and that artificially inflated current performance will reverse due to the nature of accrual accounting. To the extent that these assumptions are not true, it is possible that I will not detect rent extraction that exists in the current period with my primary tests. Consequently, I also perform untabulated analyses that use current performance rather than future performance as my dependent variable and I obtain similar results.

In contrast, consistent with tax avoidance facilitating managerial opportunism, I find a negative and significant relation between payouts to common shareholders and the interaction of tax avoidance and weak corporate governance. These results are consistent whether I use a payout yield that include both dividends and share repurchases as the dependent variable or whether I use dividend yields and share repurchase yields separately as dependent variables, although the strongest results are obtained when my payout measure is simply a firm's dividend yield. These findings are consistent with tax avoidance being related to rent extraction in poorly governed firms via lower payouts to shareholders.

I contribute to the tax avoidance literature by testing whether tax avoidance is broadly related to rent extraction as proposed by Desai and Dharmapala (2006) and Desai et al. (2007) in a large sample of U.S. firms. My findings provide only limited support for the contention that tax avoidance is associated with managerial rent extraction on average and suggest that researchers should exercise care in making predictions that assume a relation between tax avoidance and rent extraction without considering the type of firms in the sample (e.g., Russian versus US firms) or the type of rent extraction taking place (e.g., wasting firm resources versus paying out less to shareholders).

The remainder of the paper is organized as follows: section 2 reviews related literature and presents my hypotheses, section 3 discusses empirical proxies and research design, section 4 describes sample selection, section 5 presents the results of the empirical analysis, and section 6 concludes.

II. Related Literature and Hypothesis Development

The corporate governance view of tax avoidance of Desai and Dharmapala (2006) comes out of a stream of literature that tries to explain cross-sectional variation in the extent to which firms avoid taxes. Some firms appear to be much more active in avoiding taxes than others. For example, Dyreng, Hanlon and Maydew (2008) find that even over very long periods of time (up to 10 years), some firms are able to pay less than 10% of their pre-tax income in taxes despite the fact that the statutory tax rate in the US was over 30% over their entire sample period. Most firms paid 25-35% of their pre-tax income in taxes over this period. Even within individual industries where firms are likely to be more similar and have more similar costs and benefits of avoiding taxes, they find considerable variation in the amount of taxes paid relative to pre-tax income across firms.

Most prior literature explaining cross-sectional variation in tax avoidance uses the Scholes et al. (2008) framework for predicting which firms avoid more or less tax than others. Under this framework, firms avoid taxes until the marginal costs of tax avoidance to the firm (including implicit taxes, all non-tax costs, and tax costs to other parties) are equal to the marginal benefits of tax avoidance to the firm. A major relatively unanswered question in this literature is why some firms are not more aggressive in avoiding taxes given low perceived costs of tax avoidance: for tax avoidance not to be profitable from a purely tax perspective, the tax authority first has to detect it and then has to successfully challenge the claimed tax benefits in court. The cost of avoiding taxes is further reduced by the possibility that the tax authority will be willing to settle for an amount less than the tax savings from a particular transaction for the sake of avoiding a lengthy court fight, even if the tax authority is able to detect the transaction.

The most obvious answer to this question is that a manager's job is to maximize after-tax returns to shareholders, which is not the same as minimizing taxes. Tax avoidance is constrained by non-tax costs of avoiding taxes. Several prior studies document that financial reporting costs (i.e., one type of non-tax cost) constrain firms' tax avoidance (see Shackelford and Shevlin 2001 for a review of this literature). Desai and Dharmapala (2006) and Desai et al. (2007) extend the literature on non-tax costs of tax avoidance by considering tax avoidance in an agency framework and including agency costs as another potential non-tax cost.

Decisions about tax avoidance are made by managers rather than firms (which are just a legal entity). Managers are only expected to avoid taxes to the extent that they are given incentives to do so. Furthermore, these papers argue that tax avoidance lowers the costs of managerial rent extraction by giving managers an excuse to be vague about how they structure transactions and to make investments that are not directly related to firm operations. To the extent that tax avoidance facilitates rent extraction, shareholders may not want managers to avoid taxes as aggressively as possible. I note, however, that Desai and Dharmapala (2006) do not directly test for an association between managerial rent extraction and tax avoidance. Their primary test focuses on how managers respond to increased equity incentives. They find that managers at poorly governed firms (defined as firms with high governance index scores) engage in less tax avoidance when equity compensation is higher. They interpret this relation as managers in poorly governed firms engaging in less tax avoidance (and therefore rent extraction) when given more equity

incentives, but this interpretation assumes a relation between tax avoidance and rent extraction rather than testing for it directly.⁹

The most direct evidence in support of this theory is found in Russian oil firms (Desai et al. 2007). Desai et al. (2007) argue that the government, as the largest external stakeholder in most corporations, plays an important role in monitoring management. The government and investors would both like to limit managerial rent extraction because managerial consumption of firm resources reduces the amount of resources available to be collected by the tax authority or to be paid out to shareholders. Consequently, Desai et al. (2007) argue that shareholders may want more effective or aggressive enforcement of tax laws if it reduces rent extraction and other monitoring costs sufficiently to offset the higher tax costs of more tax enforcement. They find that Russian oil firms had a positive stock market reaction in 5 narrow windows around the announcement of more aggressive tax enforcement following the election of Vladimir Putin in 2000. The authors interpret this as evidence that outside investors expected less rent extraction by managers/controlling shareholders due to the increased monitoring provided by the government. Despite the fact that these Russian oil firms would likely have to pay higher taxes in the future resulting in lower cash flows for the firm as a whole, investors reacted positively to the announcement of the crackdown, since more of the firms' cash flows would be returned to minority shareholders rather than extracted by controlling shareholder/managers. In fact, shortly after the crackdown took place, one of the targeted firms, Sibneft, paid a dividend to common shareholders that equaled roughly two-thirds

⁹ I also note that Edwards (2005) finds evidence consistent with higher equity incentives encouraging managers to engage in more tax sheltering, not less, using a sample of actual tax shelter firms rather than a more general proxy for tax avoidance.

of the entire market capitalization of the firm just prior to Putin's announcement of the crackdown on tax shelters.

While this study provides an interesting setting to consider how tax avoidance could be used to facilitate rent extraction and why shareholders may not always want managers to avoid more taxes, the findings may not generalize to a US setting where the theory has been used in subsequent research (e.g., Kim et al. 2010, Donohoe and McGill 2010, Chen et al. 2009). The opportunities for managers to extract rents in the United States likely differ significantly from the opportunities for managers to extract rents in Russia due to differences in the regulatory environment between the US and Russia. The Securities and Exchange Commission (SEC) was established to monitor financial reporting and in this role as monitor of firms, the SEC may also discover and reveal managerial rent extraction. Furthermore, the threat of shareholder lawsuits against managers likely deter managers from engaging in rent extraction due to the risk of being sued if their rent extraction comes to light. Finally, in recent years, the Sarbanes-Oxley Act of 2002 requires SEC registrants to have controls in place to protect firm assets or they risk having to report a material weakness in their internal controls. These internal controls make the costs of rent extraction higher for managers. There are some well-known instances of tax avoidance being used to facilitate rent extraction in US firms (Dynergy, Enron, etc.) but it remains unclear whether this type of behavior is limited to a small set of anecdotes or whether this relation between tax avoidance and rent extraction generalizes to the population of firms at large.

There have been some attempts in the literature to link tax avoidance to less transparent financial reporting. Hanlon et al. (2010) find evidence consistent with firms

that are more likely to face IRS audits having higher accrual quality and lower absolute discretionary accruals. These findings are consistent with IRS monitoring improving the transparency of firms' financial reports. Frank et al. (2009) find that tax avoidance is associated with more aggressive financial reporting (higher discretionary accruals). These findings provide support for the theory that tax avoidance is associated with more obscure financial reporting which is the proposed link between tax avoidance and managerial rent extraction but these authors do not directly test for evidence that tax avoidance facilitates rent extraction (except to the extent that higher reported earnings is a form of rent extraction). I also note that other recent papers (Lisowsky et al. 2010 and Blaylock, Shevlin and Wilson 2010) find no relation between tax avoidance and financial reporting aggressiveness using different tax avoidance and financial reporting aggressiveness measures. Finding that tax avoidance is associated with low future performance, overinvestment, or low payouts to common shareholders would provide more direct evidence that tax avoidance is associated with managerial rent extraction. Failing to find that tax avoidance is associated with these proxies for rent extraction on average does not rule out that managers of some firms use tax avoidance to facilitate rent extraction, but it does raise the question of whether it is appropriate to make predictions that assume that tax avoidance is used to facilitate rent extraction among large samples of U.S. firms.

Desai and Dharmapala (2009a) provide a summary of research on the corporate governance view of taxation. They define rent extraction broadly as managerial opportunism. I follow this definition in developing my hypotheses. The rent extraction

envisioned by this theory could take many forms, such as higher compensation,¹⁰ more consumption of perquisites, making potentially value destroying investments that benefit managers but not shareholders, or simply retaining too much cash within the firm (Jensen 1986). I do not attempt to directly measure every form of managerial opportunism in this paper. Rather, I consider broad indicators of managerial opportunism representing the three types of decisions that managers make: operations, investments, and financing. My first hypothesis and test relate to operating performance. Any waste of firm resources by managers should ultimately result in lower cash flows and earnings for the firm. Consequently, if managers among poorly governed firms use tax avoidance to facilitate rent extraction, I expect the following to occur:

H1: Tax avoidance has a less positive or more negative relation with future performance among poorly governed firms.

My second and third hypotheses are motivated by Jensen (1986). Jensen (1986) argues that managers have strong incentives to grow the size of their firms and to retain cash within the firm rather than paying it out. Consequently high levels of investment and low payouts to shareholders relative to firm fundamentals indicate managerial opportunism. For example, managers may make large investments that increase their power and pay but that do not immediately lead to lower operating performance. Managers may also keep cash within the firm rather than paying it out to shareholders to

¹⁰ I do not directly examine the relation between compensation and tax avoidance because it is not clear that higher compensation is clear evidence of rent extraction. If I found a positive relation between tax avoidance and executive pay, it is unclear whether managers are using taxes as a means to extract rents from the firm or whether firms pay managers to engage in behavior (i.e., avoiding taxes) that is seen as value increasing for shareholders. Rego and Wilson (2010) examine this relation and find a generally positive relation between tax avoidance and compensation incentives but they interpret their findings as evidence that firms pay executives more to engage in a potentially risky, but value creating activity.

reduce the risk of firm distress and improve their own job security, or to avoid the scrutiny of capital markets from having to raise capital.

Managers can use tax avoidance as an excuse to facilitate both overinvestment and lower payouts to shareholders. As argued previously, tax avoidance gives managers a plausible explanation for making investments not directly related to firm operations. If asked about obscure subsidiaries by investors or even by the Board of Directors, they can simply reply that the subsidiaries were opened for tax purposes and that giving too many details about their purpose or operations might risk losing those tax benefits.

Furthermore, many multinationals have significant earnings in foreign subsidiaries. To the extent that these earnings are concentrated in low tax jurisdictions, managers can argue that repatriating those earnings would be costly both in terms of the additional taxes the firm must pay to repatriate the earnings and in the sense of lowering reported earnings to the extent that the earnings are designated as permanently reinvested for financial reporting purposes. Consequently, they argue that shareholders are better served by leaving the earnings overseas.¹¹ My second and third hypotheses are as follows:

H2: Tax avoidance in poorly governed firms is associated with more overinvestment relative to well governed firms.

H3: Tax avoidance in poorly governed firms is associated with lower payouts to shareholders relative to well governed firms.

¹¹ Both of these explanations could be legitimate reasons for managerial behavior. I note that I am not making a prediction about the tax avoidance main effect in my regressions below. My hypothesis is a joint hypothesis that tax avoidance facilitates opportunistic behavior by managers and that managers in poorly governed firms will act more opportunistically than managers in well governed firms. The legitimate tax explanation for making investments unrelated to normal firm operations or for not paying out cash to shareholders does not differ between well- and poorly-governed firms.

Consistent with prior literature on the corporate governance view of taxation, all of my hypotheses focus on the interaction between tax avoidance and corporate governance. I assume that managers of poorly governed firms have greater opportunities to extract rents or lower costs of extracting rents than managers at well-governed firms. In making these predictions, I am not predicting that tax avoidance itself lowers future performance, leads to overinvestment, or causes lower payouts to shareholders. Rather I am predicting that tax avoidance lowers the costs of managerial rent extraction by providing managers with a reason for engaging in obscure transactions, for making obscure investments or for not paying out cash to shareholders.

III. Empirical Proxies and Research Design

There are many measures in the literature of both tax avoidance and corporate governance. In choosing empirical proxies for my tests, I do not attempt to capture all aspects of corporate governance or of tax avoidance. Rather, I focus on the level of managerial entrenchment as an important indicator of the ability of managers to extract rents.¹² A manager whose firing would be very costly or who has control of the board is more likely to be able to extract rents without fear of negative personal consequences for such conduct. Thus, I use the entrenchment index from Bebchuk, Cohen and Ferrell

¹² It could be argued that the ability of managers to extract rents depends largely on the extent and strength of monitoring mechanisms in place at a firm. I do not use governance proxies that focus on monitoring because monitoring is a vague term and in its broadest sense encompasses all efforts by other stakeholders in a firm to influence managerial behavior. Measuring and proxying for such a broad construct is difficult (Armstrong et al. 2010) and not much is known about the interactions between different monitoring mechanisms, so any individual proxy for monitoring is unlikely to capture “monitoring” very well. From a practical standpoint, it is hard to understand how some of the common proxies for monitoring, such as institutional ownership, would keep managers from entering into complex transactions outwardly motivated for tax avoidance reasons but that are also entered into to extract rents from the firm. Institutions and any other outsiders are unlikely to be able to unravel the rent extraction that is facilitated by the opaque transactions because the only information they have about these transactions is the information they receive from management. Consequently, I focus on managerial entrenchment as the most relevant aspect of corporate governance in my setting.

(2009) and the Gompers et al. (2003) governance index to proxy for corporate governance.

The types of complex tax-motivated transactions that could facilitate managerial opportunism are more aggressive types of tax avoidance (e.g., I would not expect investing in municipal bonds to facilitate managerial rent extraction). Consequently, I focus on measures that attempt to capture more aggressive forms of tax avoidance: the tax shelter measure developed Wilson (2009), the adjusted book-tax differences measure of Desai and Dharmapala (2006), and the DTAX measure from Frank et al. (2009). I also include the current effective tax rate (adjusted so that higher values reflect more tax avoidance to make interpretation of the results comparable to the other measures I use) since variations of effective tax rates are the most common tax avoidance measures used in the literature.^{13, 14} Each of these measures is described in more detail in appendix A.

To test my first hypothesis I use the following model:

$$\text{PERFORM}_{t+1} = \beta_0 + \beta_1 \text{GOV}_t + \beta_2 \text{TAXAVOID}_t + \beta_3 \text{TAXAVOID}_t * \text{GOV}_t + \beta_4 \text{LOGASSETS}_t + \beta_5 \text{R\&D}_t + \beta_6 \text{AGE}_t + \sum_i \beta_i \text{YEAR}_i + \varepsilon_t \quad (1)$$

I define PERFORM_{t+1} as earnings before extraordinary items (or cash from operations) divided by lag total assets (for cross-sectional comparability). These two proxies for

¹³ The disclosure of uncertain tax benefits (UTBs) under FIN 48 would also seem to be a good proxy for tax avoidance in my setting because it measures the effect of tax positions that are most likely to be overturned if caught and litigated by the tax enforcement agency (i.e., on the more aggressive end of the tax avoidance spectrum). I do not use UTBs as a tax avoidance proxy because of the period for which the disclosures are available. UTBs are only available for reporting years 2007 and later. The considerable economic distress experienced throughout most of the world over this time period makes it difficult to make generalizable inferences about the relation between tax avoidance and performance using UTBs because of the difficulty in controlling for the macroeconomic environment and the short-time series of data available.

¹⁴ One limitation of these proxies for tax avoidance is that the theory of Desai and Dharmapala (2006) does not rely on the existence of actual tax benefits. Their key argument is that managers can say that they are avoiding taxes to hide rent extraction whether or not they actually receive tax benefits from the transaction. Consequently, measures of actual levels of tax avoidance may not capture the behavior described by Desai and Dharmapala (2006). For this reason, I focus on measures designed to capture more aggressive types of tax avoidance such as the Wilson (2009) shelter measure, which is not meant to be a measure of overall firm tax avoidance.

performance have different strengths and weaknesses. Prior literature (Dechow 1994) shows that earnings on average do a better job of capturing the information that goes into stock prices than cash flows. Furthermore, operating cash flows are generally “lumpier” than earnings and earnings are likely to be a more timely measure of performance. On the other hand, cash from operations is likely subject to less managerial discretion than earnings which requires more estimation by management and opportunistic managers can more easily inflate reported earnings than cash flows though manipulating their estimates of bad debt expense, lives of long-lived assets, et cetera. I may find not find a negative relation between tax avoidance and earnings because the form of the rent extraction is artificially inflated earnings, which increase bonuses, and enhances job security and managerial reputation. Using cash from operations as my performance proxy will provide a more powerful test of hypothesis 1 if tax avoidance is used specifically to boost reported earnings.¹⁵ My primary tests use one-year ahead earnings (cash flows) as the dependent variable, but results are similar when I use future 3- and 5- year averages instead. I add controls for size (since more mature firms may have fewer investments available that are sufficiently large and profitable to boost overall firm performance), research and development (since firms with significant amounts of R&D likely have large intangible assets not on the balance sheet), firm age (as an additional size proxy, and a control for undervaluation of older firms’ asset values on the balance sheet).

My primary tests do not control for current earnings (cash flows). If tax avoidance facilitates ongoing rent extraction, controlling for current earnings (cash flows) would

¹⁵ It is possible that tax shelters are also used to boost cash from operations and not just reported earnings. This is one reason why I use future performance rather than current performance as my dependent variable, and why I perform additional tests of rent extraction that consider investing and financing decisions in addition to operating performance.

likely remove the effect I am trying to capture. A firm that has low earnings (cash flows) due to managerial rent extraction will continue to perform poorly in the future as long as that rent extraction continues. Controlling for current performance would change the research question to whether or not current tax avoidance is associated with an increased amount of rent extraction in the following year relative to the current year.¹⁶

My prediction is on the interaction term between tax avoidance and governance. If managers use tax avoidance to facilitate rent extraction, I expect a less positive or more negative relation between tax avoidance and future performance among poorly governed firms than among well governed firms. I report results including governance as an indicator variable for firms with above average entrenchment index (3 or greater) or governance index (10 or greater) scores and including raw entrenchment index and governance index scores.¹⁷

To test my second hypothesis, I use a two-step procedure that loosely follows Richardson (2006). In the first stage, I predict optimal levels of investment given firm fundamentals using the following regression model:

$$INVEST_t = \beta_0 + \beta_1 MB_{t-1} + \beta_2 ROA_{t-1} + \beta_3 CASH_{t-1} + \beta_4 AGE_{t-1} + \beta_5 LEV_{t-1} + \beta_6 LOGASSETS_{t-1} + \beta_7 INVEST_{t-1} + \sum_i \beta_i YEAR_i + \sum_j \beta_j IND_j + \varepsilon_t \quad (2)$$

INVEST is defined as (capital expenditures + research and development expense + acquisitions – proceeds from sale of fixed assets - depreciation) / lagged total assets. The invest measure is designed to capture new investment. Proceeds from the sale of fixed assets are subtracted from investment so that replacing one asset with another of similar

¹⁶ In untabulated tests, I add current performance to regression equation 1. The generally positive and significant relation between tax avoidance and future performance becomes insignificant and sometimes negative but inferences for the interaction between governance and tax avoidance are unchanged.

¹⁷ All major inferences are unchanged if I only label firms in the top quintile of the governance indices as poorly governed firms.

value is not counted as new investment. Depreciation expense is subtracted from investment because it proxies for the amount of investment necessary to maintain the firm's current stock of assets. MB is market value of equity divided by book value of equity and is included to control for growth opportunities; ROA is earnings before extraordinary items divided by lagged total assets and is included to control for profitability; CASH is cash and cash equivalents scaled by beginning of year assets to control for cash available to invest; AGE is the current fiscal year less the first year the firm appears on the Compustat database and is included to control for the firm's stage in its lifecycle; LEV is the long-term debt divided by lagged total assets and is included to control for firm leverage; and LOGASSETS is the natural log of firm assets to control for size. I use lagged values of each of these variables to predict current year investments. The residual from this regression is the measure of firm over-investment (positive) or under-investment (negative) during the year. In the second stage, I regress the residual from the first stage regression on tax avoidance, governance, the interaction between tax avoidance and governance, and a control for current year free cash flow:

$$INVEST_t^e = \beta_0 + \beta_1 TAXAVOID_t + \beta_2 GOV_t + \beta_3 TAXAVOID_t * GOV_t + \beta_4 FCF_t + \varepsilon_t \quad (3)$$

FCF_t is calculated as (cash from operations + research and development expense)/lagged total assets – depreciation expense/lagged total assets – the predicted value of INVEST from the first stage regression (which is already scaled by lagged total assets). Hypothesis 2 predicts a positive coefficient for β_3 , which would be consistent with tax avoidance facilitating overinvestment among poorly governed firms. Since my hypothesis focuses on tax avoidance as a means to justify overinvestment, I limit the firms in the second

stage regression to firms with positive residuals in the first stage (i.e., firms with higher than predicted levels of investment in the current year).

To test my third hypothesis, I use the following model:

$$\text{PAYOUT}_t = \beta_0 + \beta_1 \text{GOV}_t + \beta_2 \text{TAXAVOID}_t + \beta_3 \text{TAXAVOID}_t * \text{GOV}_t + \beta_4 \text{RE/TE}_{t-1} + \beta_5 \text{MB}_t + \beta_6 \text{SDCFO}_t + \beta_7 \text{LOGASSETS}_t + \beta_8 \text{CFO}_t + \beta_9 \text{CASH}_{t-1} + \varepsilon_t \quad (4)$$

PAYOUT is defined as (dividend paid on common shares + repurchases of common shares – proceeds from issuance of common shares)/earnings before extraordinary items.

I note that this definition makes it possible for firms to have negative payout ratios if they issue common stock during the year, but empirically I find very few of these firms in my sample. RE/TE_{t-1} is the lagged ratio of retained earnings to total stockholders equity (DeAngelo et al. 2006) to control for the fact that firms pay out more dividends in later stages of their life cycle; MB is the market-to-book ratio (calculated as market capitalization divided by total stockholders' equity) to control for growth opportunities; SDCFO_t is the standard deviation of cash from operations calculated over the years t-6 through t-1 to control for the need to hold larger cash balances to mitigate the likelihood and costs of financial distress; LOGASSETS_t is the natural log of firm assets and is included to control for size; CFO_t is cash from operations divided by lag total assets and is included to control for cash generated in the current year which is available to pay out to common stockholders; CASH is cash and cash equivalents divided by total assets and is included (as a lagged variable) to control for the amount of cash available to be paid out at the start of the year. Hypothesis 3 predicts a negative coefficient for β₃ in this regression, which would indicate a less positive or more negative relation between tax avoidance and payouts to common shareholders among poorly governed firms relative to well governed firms.

IV. Sample Selection and Descriptive Statistics

I begin my sample in 1994 to ensure consistent tax accounting across all years (which makes the tax avoidance measures more comparable from year to year). I delete observations with missing regression variables or variables needed to calculate the various measures of tax avoidance. I do not expect loss firms to have strong incentives to avoid taxes so I delete firm-year observations with negative pre-tax accounting earnings, negative current tax expense or net operating loss carryforwards.¹⁸ Some firms may have financial reporting losses because of book-tax conforming tax avoidance but interpreting “book-tax differences” for loss firms is more difficult so I remove them from the sample. These data restrictions leave me with a sample of 7,998 firm year observations for tests involving the entrenchment index and 9,064 firm-year observations for tests involving the governance index. The entrenchment index is obtained from Bebchuk’s faculty website. All other variables are obtained from Compustat. Since the E-Index and G-Index data are only available every other year, missing observations for these variables are set equal to the value from the prior year.

I provide descriptive statistics for my main regression variables in table 1. My sample firms are relatively large firms with mean assets are approximately \$6 billion. My firms are also relatively profitable with mean return on assets of 8.6%. The median firm has been in the Compustat database for about 16 years.

V.A. Primary Results

¹⁸ Removing loss firms from my sample subjects my results to the common caveats about generalizability to loss firms. My tests can only provide evidence about the interactions between tax avoidance and rent extraction among poorly governed firms among relatively well-performing firms. I think this is a reasonable tradeoff given the weaker incentives loss firms have to avoid taxes and the difficulty in interpreting book-tax differences as tax avoidance for loss firms.

The results of estimating equation 1 are reported in Table 2. Results for control variables are generally consistent with expectations – larger and older firms have lower relative future performance and research intensive firms have higher relative performance. I also find in general that weakly governed firms have lower relative future performance, although the coefficients are not always statistically significant. I find positive and significant coefficients on the TAXAVOID_t main effect in several specifications (in particular specifications that use the Wilson 2009 or Frank et al. 2009 measure), consistent with more profitable firms engaging in more tax avoidance and/or with tax avoidance being a positive signal in general about managerial talent. I find only weak evidence of a negative and significant coefficient on the GOV*TAXAVOID interaction term. I find a negative and significant coefficient in both specifications that use the Wilson (2009) shelter variable as the tax avoidance proxy and the continuous Gompers et al. (2003) governance index. Given the large number of tests that I perform, finding two negative and significant coefficients on the interaction between tax avoidance and governance is very weak evidence of a relation between tax avoidance and rent extraction. This evidence begs the question of why Desai and Dharmapala (2009b) find that tax avoidance among well-governed firms is positively associated with Tobin's Q, but tax avoidance among poorly governed firms is not associated with Tobin's Q if poor governance does not mitigate the generally positive relation between tax avoidance and future performance.^{19, 20}

¹⁹ One difference between my study and Desai and Dharmapala (2009b) is that they use institutional ownership to proxy for governance. It is possible that the governance and entrenchment indices do not capture the relevant aspects of governance that allow managers to use tax avoidance as a shield to extract rents and institutional ownership does capture the relevant aspects of governance. I find this explanation unlikely since the information that institutions have about a firm's operations are provided by management which has strong incentives to hide rent extraction if it exists, but I acknowledge that these measures are

Table 3 reports the results of estimating equation 2 and 3 (investment policy). The results of the first stage regression are shown in panel A. Most of the variables used to predict investment are significant in the predicted direction with the exception of the market-to-book ratio which is insignificant. Overall explanatory power is reasonably high with R^2 around 20%. Panel B presents the results of second stage regression on firms with positive investment residuals from the first stage. As expected, I find a positive and significant coefficient on free cash flow in this regression, consistent with Richardson (2006). I also find a positive and significant coefficient on the governance main effect in several specifications, consistent with poorly governed firms overinvesting more. The results on the interaction term between tax avoidance and governance are inconsistent with tax avoidance being used an excuse to overinvest in poorly governed firms. None of the coefficient estimates on the interaction of tax avoidance and governance are significantly positive but several are significantly negative. These findings are inconsistent with hypothesis 2.

Table 4 reports the results of estimating equation 4 (payout policy) to test my third hypothesis. Estimated coefficients for control variables are again generally consistent with expectations except for cash from operations which is sometimes negatively associated with the payout ratio.²¹ Results are generally consistent with hypothesis 3. In 10 out of 16 specifications, I find a negative and significant estimate on the interaction term between tax avoidance and governance.

imperfect measures of firm governance and that my lack of significant results could be due to using proxies for governance that do not capture all relevant aspects of corporate governance.

²⁰ I only tabulate results of regressions that use 1-year ahead performance, but I find similar results using 3- and 5-year ahead performance rather than 1-year ahead performance as dependent variables.

²¹ The most likely explanation for the finding that cash from operations is negatively related to payouts is that cash from operations is highly correlated with earnings before extraordinary items which is used in the denominator of the payout variable. Ceteris paribus, increasing cash from operations (and likely also earnings) decreases the amount of cash paid out relative to earnings.

In an effort to better understand the relation between tax avoidance and payouts, I replace firms' payouts with separate dividend and share repurchase components. The results are reported in Table 5. For brevity, I omit estimated coefficients for control variables from the table, but the results for control variables are consistent with those reported in table 4. I also omit results for continuous governance measures, but find qualitatively similar results as those reported in table 5 using continuous governance variables.

Panel A reports the results of estimating equation 4, replacing total payouts to shareholders with dividends on common stock. I continue to find a negative and significant coefficient in all but one specification on the interaction of tax avoidance and governance. Panel B reports the results of estimating equation 4, replacing total payouts with share repurchases. I continue to find a negative and significant coefficient in three out of eight specifications. Overall, these findings are consistent with tax avoidance being used as a reason to retain cash within the firm rather than paying it out.

However, all of my tests related to hypothesis 3 (payout) are subject to the caveat that I find that poorly governed firms pay out more cash to shareholders, not less. This finding is consistent with the alternative interpretation that investors demand higher payouts from poorly governed firms than from well-governed firms due to their belief that managers of well governed firms will not waste the cash. Consequently, the maintained assumption underlying all of my tests that more managerial rent extraction happens in poorly governed firms than in well governed firms may not apply in the case of payouts.

V.B. Additional Analysis

The tests so far are designed to provide evidence on whether tax avoidance is indicative of rent extraction among broad samples of U.S. firms. Given the lack of significant results for my first two hypotheses, I perform two types of additional analyses for these hypotheses. First, I consider whether the lack of significant results for my performance and investment tests is due to a lack of power. Second, I use more limited subsamples of firms that have either high complex operations (measured by the number of subsidiaries the firm has) or financial reporting opacity (measured using the absolute value of discretionary accruals). I perform this second set of tests because the proposed link between tax avoidance and rent extraction in Desai and Dharmapala (2006) is the ability to use tax avoidance to enter into complex transactions designed to hide the purpose of the transaction. Consequently, focusing on firms with more complex operations should result in higher power tests of these hypotheses.

Power

It is possible that I do not find results consistent with my first two hypotheses because my tests are not sufficiently powerful. To assess the power of my performance tests, I first convert each tax avoidance measure to an indicator variable equal to 1 for high tax avoiding firms²² for each tax avoidance measure, and focus on regressions that include weak governance as an indicator variable. I do this for ease of interpretation, since my primary test variable is an interaction term. I find in all cases that my standard errors are sufficiently small to detect a 0.5%-0.6% effect on performance at the 5% significance level. In other words, my tests are all sufficiently powerful to detect a roughly 50 basis point difference between future performance of well governed, high tax

²² My conclusions are the same whether I label firms in the top half, top tercile, or top quintile of each tax avoidance measure as high tax avoiders.

avoiding firms and poorly governed, high tax avoiding firms, holding other regression variables constant. I note that this is approximately one-tenth of the sample standard deviation for each of my performance measures, so lack of power does not seem to be a serious concern. I also note that I find a generally negative relation between tax avoidance and overinvestment and this relation is more negative among poorly governed firms in most specifications, so the lack of evidence in support of hypothesis 2 is not due to large standard errors.

High complexity subsample

I next test for evidence that tax avoidance facilitates rent extraction among firms with higher than average complexity of operations. These tests are meant to more directly address the proposed link between tax avoidance and rent extraction: both require complexity and obfuscation.²³ I use the number of material subsidiaries a firm has as a proxy for the complexity of firm operations.²⁴ Because larger firms may naturally have more subsidiaries, I scale firm sales by the number of firm subsidiaries to calculate a measure of sales per subsidiary. A smaller number of sales per subsidiary reflects higher complexity of operations. Consequently, I focus on a sample of below median sales per subsidiary as my high complexity subsample. I draw similar conclusions in untabulated results if I instead use a sample of firms with tax haven operations, if I use a sample of firms in the bottom quartile of sales per subsidiary as my high complexity subsample or if I use the raw number of subsidiaries to proxy for complexity. Since I do not find support

²³ One might ask why I do not originally focus on high complexity and high opacity firms given that I argue that these subsamples provide a higher power test of the theory that tax avoidance is used to facilitate managerial rent extraction. My primary tests are meant to speak to the generalizability of the Desai and Dharmapala (2006) theory to broad samples of US firms because subsequent literature that uses this theory (e.g., Kim et al. 2010) uses similarly broad samples of US firms.

²⁴ I thank Scott Dyreng and Brad Lindsay for sharing this data with me.

for hypotheses 1 and 2 in my large sample tests, I focus my analysis on trying to find evidence consistent with these hypotheses. To simplify the analysis, I only report results using a weak governance indicator variable for firms with entrenchment index scores of three or higher, but obtain similar results using a continuous entrenchment index or using the governance index instead.

The results are reported in Table 6. Panel A reports the results of testing my first hypothesis (performance) on my high complexity subsample. I continue to find no evidence that the interaction between tax avoidance and corporate governance is associated with poor relative future performance in any specification. Even among firms with above average complexity of operations, tax avoidance among poorly governed firms is not indicative of poor relative future performance.

Panel B shows the results of second-stage regressions of investment residuals on tax avoidance, governance and free cash flow. I again find no support for the hypothesis that tax avoidance among poorly governed firms is associated with overinvestment. In fact, in 3 out of 4 specifications, the estimated coefficient on the interaction between tax avoidance and governance is negative and significant, contrary to hypothesis 2. These results, together with the results reported above suggest that future research that implies or assumes an association between tax avoidance and rent extraction should more carefully define what type of rent extraction is facilitated by tax avoidance and perform tests on carefully identified samples of firms where such rent extraction is more likely to exist and demonstrate that such rent extraction actually exists (e.g., Desai et al. 2007) rather than assuming that the findings from limited samples such as Desai et al. (2007) generalize to a broad U.S. setting.

VI. Conclusion

The corporate governance view of tax avoidance as proposed by Desai and Dharmapala (2006) and Desai et al. (2007) has received considerable attention in recent years but little work has been done to directly correlate tax avoidance with rent extraction in poorly governed firms. I find little evidence that tax avoidance among poorly governed firms is more negatively associated with future performance relative to tax avoidance among well governed firms. In general, these findings are consistent with tax avoidance having lower costs or higher benefits for relatively profitable firms or 2) more talented managers avoiding more taxes than less talented managers. I also find no consistent evidence that tax avoidance is associated with overinvestment. As in any empirical research, my tests are joint tests of the theory that tax avoidance is related to rent extraction among poorly governed firms and my empirical proxies for tax avoidance, corporate governance, and rent extraction. My inability to find significant results in these tests on the interaction term could be due to poor empirical proxies rather than poor theory. I note that all of my measures are commonly used in the literature so my evidence can speak to authors that use similar sets of empirical proxies, but no measure of tax avoidance, corporate governance or rent extraction is a perfect measure. I also note that my tests are meant to speak primarily to the broad cross-section of firms. There are known cases in which managers used tax avoidance as an excuse to engage in transactions that allowed managers to extract rents from the firm, even in the U.S. (e.g., Dynegy, Worldcom, Adelphia). I do not attempt rule out that tax avoidance is ever used as a shield for rent extraction. My research question is whether this anecdotal evidence generalizes to a broad set of US firms.

In contrast, I consistently find that tax avoidance is negatively associated with payouts to common stockholders after controlling for other determinants of payouts to shareholders. I further find that this negative relation between tax avoidance and payouts exists when I separately measure dividends and share repurchases. These findings are consistent with managers of poorly governed firms using taxes as a reason to pay out less of a firm's earnings to shareholders. Overall, only one of my three hypotheses is supported. I find weak evidence overall that tax avoidance is associated with rent extraction among poorly governed firms in general. This evidence provides a caution for research that assumes a relation between tax avoidance and rent extraction without considering the type of rent extraction (e.g., directly wasting firm resources versus paying out less to shareholders) or the specific circumstances that facilitate the existence of this relation (e.g., the evidence in support of this theory is much stronger in Russia where corporate governance mechanisms are much weaker than in the US).

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Appendix A: Definition of tax avoidance measures

1) SHELTER: (Wilson 2009) is the estimated likelihood that a firm is currently engaged in a tax shelter. It is calculated as follows:

$$\text{SHELTER} = e^z / (1 + e^z)$$

$$z = -0.67 + 11.11 * (\text{Pre-tax income}_t - \text{Current tax expense}_t / .35 - \Delta\text{NOL}_t) - 0.32 * (\text{Long-term Debt}_t / \text{Assets}_t) + 0.22 * \text{Log}(\text{Assets}_t) + 0.48 * (\text{Pre-tax income}_t / \text{assets}_{t-1}) + 0.55 * \text{Foreign Ops. Indicator}_t - 0.81 * (\text{Research and development expense}_t / \text{assets}_{t-1})$$

2) DDBTD: (Desai and Dharmapala 2006) is a measure of book-tax differences adjusted for earnings management. It is measured as the residual from the following regression:

$$\text{MPBTD} = \beta_0 + \beta_1 * \text{Accruals} + \text{Firm Fixed Effects} + \varepsilon$$

$$\text{MPBTD} = (\text{US pretax income} - (\text{US income tax} - \text{US deferred tax}) / .35 - \text{state income tax} - \text{Other tax}) / \text{assets}_{t-1} - \text{equity in earnings} / \text{assets}_{t-1}$$

$$\text{Accruals} = (\text{Earnings before extraordinary items} - \text{cash from operations}) / \text{assets}_{t-1}$$

3) DTAX: (Frank et al. 2009) is a measure of discretionary non-temporary book-tax differences. It is measured as the residual from the following regression performed by 2-digit SIC industry and year:

$$\text{PERMDIF}_t = \beta_0 + \beta_1 \text{INTAN}_t + \beta_2 \text{MININT}_t + \beta_3 \text{STATETAX}_t + \beta_4 \Delta\text{NOL}_t + \beta_5 \text{PERMDIF}_{t-1} + \beta_6 \text{EQEARN} + \varepsilon$$

$$\text{PERMDIF}_t = (\text{Pre-tax income}_t - \text{current tax expense}_t / .35 - \text{deferred tax expense}_t / .35) / \text{assets}_{t-1}$$

$$\text{INTAN}_t = \text{Intangible assets}_t / \text{assets}_{t-1}$$

$$\text{MININT}_t = \text{Minority interest income}_t / \text{assets}_{t-1}$$

$$\text{STATETAX}_t = (\text{State income tax}_t - \text{deferred state income tax}_t) / \text{assets}_{t-1}$$

$$\Delta\text{NOL}_t = (\text{Net operating loss}_t - \text{net operating loss}_{t-1}) / \text{assets}_{t-1}$$

$$4) \text{ADJCURETR}_t = 0.35 - \text{Current tax expense}_t / \text{pre-tax income}_t$$

The second term is a traditional current effective tax rate. I subtract current ETR from .35 so that higher values represent more tax avoidance to be consistent with the other tax avoidance measures. This measure represents how far the firm's current ETR is below (positive) or above (negative) the statutory tax rate.

Measures 2-4 are winsorized at the 1st and 99th percentiles to reduce the effects of outliers on regression coefficients. I do not winsorize the Wilson (2009) measure because it is already bound between 0 and 1.

Table 1: Descriptive Statistics – Selected Variables (N=7,998)

	Mean	Std. Dev.	Min	25th Perc.	Median	75th Perc.	Max
Earnings _t	414.7	1258	-388.0	36.51	94.10	281.0	23931
Assets _t	6052	26201	37.18	611.7	1473	4201	797769
EIndex _t	2.569	1.344	0.000	2.000	3.000	3.000	6.000
Gindex _t	9.376	2.696	2.000	7.000	9.000	11.00	19.00
ROA _t	0.086	0.056	0.005	0.046	0.076	0.115	0.244
ROA _{t+1}	0.083	0.055	0.005	0.043	0.073	0.112	0.244
CFO _{t+1}	0.133	0.076	-0.045	0.082	0.125	0.177	0.317
INVEST _t	0.000	0.087	-0.147	-0.048	-0.019	0.022	0.381
PAYOUT _t	0.620	0.605	-0.137	0.116	0.454	0.935	2.000
SHELTER _t	0.475	0.217	0.038	0.353	0.499	0.626	0.930
DDBTD _t	-0.041	0.094	-0.189	-0.099	-0.018	0.017	0.215
DTAX _t	0.001	0.024	-0.172	-0.008	-0.002	0.007	0.105
ADJCURETR _t	0.100	0.240	-0.286	-0.031	0.041	0.161	0.707
LOGASSETS _t	7.448	1.432	3.616	6.416	7.295	8.343	13.59
RE/TE _t	0.703	0.639	-2.786	0.459	0.743	0.976	2.000
MB _t	1.682	3.778	-4.532	1.021	2.105	3.534	10.00
SDCFO _t	0.045	0.028	0.000	0.024	0.039	0.060	0.256
CASH _t	0.084	0.094	0.000	0.019	0.050	0.117	0.677
AGE _t	28.635	15.749	2.000	14.00	28.00	43.00	58.00
LEV _t	0.177	0.157	0.000	0.041	0.159	0.268	1.607
FCF _t	0.034	0.082	-0.163	-0.015	0.027	0.073	0.323

Variable Definitions:

Earnings_t = Income before extraordinary itemsAssets_t = Total assetsEIndex_t = Index of restrictions on shareholder rights as defined by Bebchuk et al. (2009)Gindex_t = Index of restrictions on shareholder rights as defined by Gompers et al. (2003)ROA_t = Income before extraordinary items/ lag total assetsCFO_t = Cash from operations/ lag total assetsINVEST_t = (Capital expenditures + research and development expense + acquisitions – proceeds from sale of fixed assets + depreciation) / lagged total assetsPAYOUT_t = (Dividends to common stockholders + repurchases of common stock – proceeds from sales of common stock) / income before extraordinary itemsSHELTER_t = Likelihood that a firm is currently engaged in a tax shelter (Wilson 2009)DDBTD_t = Adjusted book-tax differences (Desai and Dharmapala 2006)DTAX_t = Adjusted permanent book-tax differences (Frank et al. 2009)ADJCURETR_t = 0.35 – current tax expense / pre-tax book incomeLOGASSETS_t = Ln (total assets)RE/TE_t = Retained earnings/total stockholder's equityMB_t = Market capitalization/total stockholders equitySDCFO_t = Standard deviation of cash from operations/total assets measured over the years t-6 through t-1CASH_t = Cash and cash equivalents/lagged total assetsAGE_t = Fiscal year – first year appearing on Compustat databaseLEV_t = Long-term debt/total assetsFCF_t = (cash from operations + research and development expense)/lagged total assets – depreciation expense/lagged total assets – the predicted value of INVEST_t from equation 2All continuous regression variables are winsorized at the 1st and 99th percentiles.

Table 2: Tax Avoidance and Future Performance

Panel A: Entrenchment Index (Bebchuk et al 2009) N=7,998

$$\text{PERFORM}_{t+1} = \beta_0 + \beta_1 \text{GOV}_t + \beta_2 \text{TAXAVOID}_t + \beta_3 \text{TAXAVOID}_t * \text{GOV}_t + \beta_4 \text{LOGASSETS}_t + \beta_5 \text{R\&D}_t + \beta_6 \text{AGE}_t + \sum_i \beta_i \text{YEAR}_i + \sum_j \beta_j \text{IND}_j + \varepsilon_t \quad (1)$$

Dependent Variable	ROA						CFO						
	Gov. Indicator			Continous Gov.			Gov. Indicator			Continous Gov.			
	Estimate	T-Stat	P-Value	Estimate	T-Stat	P-Value	Estimate	T-Stat	P-Value	Estimate	T-Stat	P-Value	
Governance													
GOV _t	-	-0.008	-1.420	0.079	-0.002	-0.990	0.160	-0.003	-0.390	0.347	0.001	0.480	0.316
SHELTER _t	?	0.025	2.860	0.004	0.034	2.680	0.008	0.031	2.880	0.004	0.045	2.880	0.004
GOV _t *SHELTER _t	-	0.002	0.240	0.405	-0.003	-0.720	0.237	-0.001	-0.050	0.480	-0.006	-1.150	0.125
LOGASSETS _t	-	-0.004	-3.340	0.001	-0.004	-3.480	0.001	-0.003	-1.710	0.044	-0.003	-1.800	0.036
R&D _t	+	0.124	2.700	0.004	0.123	2.670	0.004	0.173	3.040	0.001	0.172	3.020	0.001
AGE _t	?	0.000	-1.890	0.059	0.000	-1.840	0.067	0.000	-3.490	0.001	0.000	-3.500	0.001
GOV _t	-	-0.007	-2.610	0.005	-0.004	-3.500	0.000	-0.003	-0.890	0.188	-0.001	-1.080	0.141
DDBTD _t	?	0.001	0.070	0.942	0.009	0.410	0.681	0.011	0.540	0.588	0.019	0.620	0.535
GOV _t *DDBTD _t	-	-0.002	-0.120	0.454	-0.004	-0.450	0.326	0.004	0.160	0.436	-0.002	-0.220	0.413
LOGASSETS _t	-	-0.003	-2.450	0.007	-0.003	-2.530	0.006	-0.001	-0.860	0.195	-0.001	-0.880	0.190
R&D _t	+	0.126	2.620	0.005	0.125	2.600	0.005	0.176	2.980	0.001	0.175	2.970	0.002
AGE _t	?	0.000	-1.700	0.090	0.000	-1.650	0.099	0.000	-3.310	0.001	0.000	-3.330	0.001
GOV _t	-	-0.007	-2.480	0.013	-0.004	-3.260	0.001	-0.005	-1.440	0.075	-0.002	-1.530	0.063
DTAX _t	?	0.201	3.300	0.001	0.212	2.270	0.024	0.157	2.370	0.018	0.183	1.810	0.070
GOV _t *DTAX _t	-	0.007	0.100	0.924	-0.004	-0.120	0.451	0.025	0.280	0.389	-0.006	-0.170	0.431
LOGASSETS _t	-	-0.003	-2.250	0.025	-0.003	-2.370	0.009	-0.001	-0.780	0.219	-0.001	-0.810	0.208
R&D _t	+	0.200	5.300	<0.001	0.199	5.270	<0.001	0.258	5.290	<0.001	0.258	5.260	<0.001
AGE _t	?	0.000	-1.270	0.204	0.000	-1.230	0.218	0.000	-2.940	0.002	0.000	-2.950	0.003
GOV _t	-	-0.007	-2.470	0.007	-0.004	-3.450	<0.001	-0.004	-1.010	0.156	-0.002	-1.250	0.106
ADJCURETR _t	?	-0.011	-1.610	0.108	-0.014	-1.500	0.135	-0.012	-1.290	0.197	-0.018	-1.420	0.157
GOV _t *ADJCURETR _t	-	-0.004	-0.450	0.327	0.000	0.160	0.436	0.002	0.150	0.439	0.003	0.700	0.242
LOGASSETS _t	-	-0.003	-2.500	0.006	-0.003	-2.590	0.005	-0.001	-0.850	0.198	-0.001	-0.870	0.192
R&D _t	+	0.122	2.550	0.005	0.121	2.540	0.006	0.172	2.920	0.002	0.171	2.910	0.002
AGE _t	?	0.000	-1.560	0.120	0.000	-1.520	0.129	0.000	-3.220	0.001	0.000	-3.240	0.001

Panel B: Governance Index (Gompers et al 2003) N = 9,064

Dependent Variable	Governance	ROA						CFO					
		Gov. Indicator			Continous Gov.			Gov. Indicator			Continous Gov.		
		Estimate	T-Stat	P-Value	Estimate	T-Stat	P-Value	Estimate	T-Stat	P-Value	Estimate	T-Stat	P-Value
GOV _t	-	-0.005	-0.820	0.206	0.000	0.430	0.336	0.000	0.050	0.479	0.001	1.120	0.132
SHELTER _t	?	0.029	3.960	<0.001	0.044	5.180	<0.001	0.035	3.870	<0.001	0.045	4.140	<0.001
GOV _t *SHELTER _t	-	0.001	0.070	0.471	-0.007	-3.220	0.001	-0.002	-0.150	0.442	-0.006	-1.970	0.024
LOGASSETS _t	-	-0.005	-4.100	<0.001	-0.004	-3.560	<0.001	-0.003	-2.440	0.007	-0.003	-1.940	0.027
R&D _t	+	0.125	2.990	0.002	0.124	2.670	0.004	0.169	3.360	<0.001	0.172	3.030	0.002
AGE _t	?	0.000	-1.680	0.094	0.000	-1.870	0.062	0.000	-3.270	0.001	0.000	-3.570	<0.001
GOV _t	-	-0.004	-1.490	0.068	-0.001	-1.560	0.059	0.000	0.030	0.488	0.000	0.170	0.434
DDBTD _t	?	-0.012	-0.890	0.375	-0.016	-0.720	0.472	0.001	0.040	0.968	0.003	0.090	0.926
GOV _t *DDBTD _t	-	0.012	0.570	0.286	0.006	0.800	0.212	0.019	0.700	0.242	0.004	0.400	0.344
LOGASSETS _t	-	-0.003	-3.040	0.002	-0.003	-2.320	0.011	-0.002	-1.450	0.073	-0.001	-0.880	0.190
R&D _t	+	0.128	2.900	0.002	0.127	2.620	0.005	0.172	3.290	0.001	0.176	2.980	0.002
AGE _t	?	0.000	-1.390	0.164	0.000	-1.460	0.144	0.000	-3.020	0.003	0.000	-3.280	0.001
GOV _t	-	-0.005	-1.820	0.035	-0.001	-2.410	0.008	-0.002	-0.690	0.244	-0.001	-0.930	0.175
DTAX _t	?	0.223	4.260	<0.001	0.220	2.340	0.019	0.159	2.770	0.006	0.191	1.900	0.058
GOV _t *DTAX _t	-	-0.024	-0.320	0.375	-0.007	-0.230	0.408	0.036	0.390	0.348	-0.011	-0.330	0.370
LOGASSETS _t	-	-0.003	-2.710	0.004	-0.003	-2.150	0.016	-0.002	-1.390	0.083	-0.001	-0.810	0.210
R&D _t	+	0.204	5.590	<0.001	0.198	5.280	<0.001	0.268	5.800	<0.001	0.260	5.340	<0.001
AGE _t	?	0.000	-0.900	0.369	0.000	-0.880	0.378	0.000	-2.350	0.019	0.000	-2.650	0.008
GOV _t	-	-0.005	-1.750	0.040	-0.001	-1.690	0.045	-0.002	-0.570	0.283	0.000	0.010	0.497
ADJCURETR _t	?	-0.013	-2.410	0.016	-0.006	-0.660	0.509	-0.015	-2.060	0.039	-0.012	-0.980	0.326
GOV _t *ADJCURETR _t	-	0.003	0.380	0.350	-0.003	-0.890	0.186	0.013	1.210	0.114	0.001	0.180	0.428
LOGASSETS _t	-	-0.003	-3.090	0.001	-0.003	-2.360	0.009	-0.002	-1.440	0.075	-0.001	-0.860	0.195
R&D _t	+	0.125	2.850	0.002	0.123	2.550	0.005	0.169	3.250	<0.001	0.173	2.920	0.002
AGE _t	?	0.000	-1.310	0.190	0.000	-1.310	0.190	0.000	-2.960	0.001	0.000	-3.170	0.002

Variables Definitions:

ROA_{t+1} = Income before extraordinary items/total assets – mean income before extraordinary items/total assets for all firms in the same 2-digit SIC industry in year $t + 1$

CFO_{t+1} = Cash from operations/total assets – mean cash from operations/total assets for all firms in the same 2-digit SIC industry in year $t + 1$

GOV_t = Indicator variables equal to 1 for firms with EIndex (GIndex) scores of 3 (10) or higher, zero otherwise. Continuous GOV_t variables are the raw EIndex and GIndex scores. Missing values for EIndex and GIndex are replaced with the prior year's value.

$LOGASSETS_t$ = $\ln(\text{Total Assets})$ in year t

$R\&D_t$ = Research and development expense/sales in year t

AGE_t = Fiscal year – First year on Compustat database

P-values are one-sided if a directional prediction is made, two-sided otherwise. Continuous variables are winsorized at the 1st and 99th percentiles. Standard errors are clustered by firm.

Table 3: Tax Avoidance and Investment

Panel A: First-stage Regression: $INVEST_t = \beta_0 + \beta_1 MB_{t-1} + \beta_2 ROA_{t-1} + \beta_3 CASH_{t-1} + \beta_4 AGE_{t-1} + \beta_5 LEV_{t-1} + \beta_6 LOGASSETS_{t-1} + \beta_7 INVEST_{t-1} + \sum_i \beta_i YEAR_i + \sum_j \beta_j IND_j + \varepsilon_t$ (2)

		E Index N=7,998 $R^2 = 0.209$			G Index N=9,064 $R^2 = 0.199$		
		Estimate	T-Stat	P-Value	Estimate	T-Stat	P-Value
Intercept	?	0.012	0.780	0.434	0.014	0.900	0.369
MB_{t-1}	+	0.000	-0.230	0.412	0.000	0.610	0.271
ROA_{t-1}	+	0.237	10.810	<0.001	0.223	10.540	<0.001
$CASH_{t-1}$	+	0.061	4.400	<0.001	0.060	4.660	<0.001
AGE_{t-1}	-	-0.001	-8.980	<0.001	-0.001	-9.190	<0.001
LEV_{t-1}	-	-0.045	-5.920	<0.001	-0.044	-6.000	<0.001
$LOGASSETS_{t-1}$	+	0.006	6.600	<0.001	0.006	6.750	<0.001
$INVEST_{t-1}$	+	0.200	17.600	<0.001	0.194	18.170	<0.001

$INVEST_t = (\text{Capital expenditures} + \text{research and development expense} + \text{acquisitions} - \text{proceeds from sale of fixed assets} - \text{depreciation}) / \text{lagged total assets}$

$MB_{t-1} = \text{Lagged market-to-book value calculated as market value over total shareholders equity}$

$ROA_{t-1} = \text{Lagged value of earnings before extraordinary items/assets}$

$CASH_{t-1} = \text{Lagged cash and cash equivalents/total assets}$

$AGE_{t-1} = \text{Lagged Fiscal year} - \text{First year on Compustat database}$

$LEV_{t-1} = \text{Lagged value of long-term debt/Total Assets}$

$LOGASSETS_{t-1} = \text{Lagged ln(Total Assets)}$

Panel B: Second-stage Regression: $INVEST_t^e = \beta_0 + \beta_1 TAXAVOID_t + \beta_2 GOV_t + \beta_3 TAXAVOID_t * GOV_t + \beta_4 FCF_t + \varepsilon_t$ (3)

Gov. Proxy		N=2,613						N=2,922					
		E Index			G Index			E Index			G Index		
		Gov. Indicator			Continous Gov.			Gov. Indicator			Continous Gov.		
Governance		Estimate	T-Stat	P-Value	Estimate	T-Stat	P-Value	Estimate	T-Stat	P-Value	Estimate	T-Stat	P-Value
Intercept	+	0.089	13.510	<0.001	0.089	9.130	<0.001	0.096	16.390	<0.001	0.089	9.700	<0.001
GOV _t	+	0.019	2.170	0.015	0.004	1.230	0.108	0.017	2.000	0.023	0.001	1.380	0.084
SHELTER _t	?	-0.031	-2.420	0.016	-0.035	-1.890	0.059	-0.037	-3.220	0.001	-0.050	-4.140	<0.001
GOV _t *SHELTER _t	+	-0.030	-1.740	0.041	-0.005	-0.700	0.241	-0.032	-1.920	0.028	0.000	-0.010	0.496
FCF _t	+	0.095	4.540	<0.001	0.096	4.560	<0.001	0.093	4.550	<0.001	0.106	5.100	<0.001
Intercept	+	0.074	22.140	<0.001	0.070	14.510	<0.001	0.079	27.090	<0.001	0.066	8.740	<0.001
GOV _t	+	0.005	1.280	0.100	0.003	1.720	0.042	0.002	0.410	0.340	0.001	1.540	0.062
DDBTD _t	?	-0.022	-0.820	0.414	-0.068	-1.650	0.100	-0.027	-1.050	0.292	-0.054	-1.390	0.166
GOV _t *DDBTD _t	+	-0.001	-0.030	0.488	0.018	1.230	0.110	0.021	0.550	0.291	0.012	0.910	0.181
FCF _t	+	0.079	3.790	<0.001	0.080	3.820	<0.001	0.073	3.600	<0.001	0.089	4.300	<0.001
Intercept	+	0.077	21.740	<0.001	0.074	14.710	<0.001	0.081	26.630	<0.001	0.071	8.770	<0.001
GOV _t	+	0.003	0.680	0.249	0.002	0.990	0.161	-0.001	-0.340	0.367	0.001	0.950	0.173
DTAX _t	?	-0.170	-1.400	0.162	0.012	0.070	0.946	-0.277	-2.640	0.008	0.022	0.120	0.901
GOV _t *DTAX _t	+	-0.431	-2.610	0.005	-0.167	-2.570	0.005	-0.270	-1.640	0.051	-0.169	-2.640	0.005
FCF _t	+	0.066	2.730	0.003	0.068	2.790	0.002	0.062	2.650	0.004	0.073	3.030	0.002
Intercept	+	0.075	22.970	<0.001	0.073	15.670	<0.001	0.079	27.220	<0.001	0.069	9.300	<0.001
GOV _t	+	0.005	1.180	0.119	0.002	1.350	0.089	0.002	0.520	0.303	0.001	1.310	0.096
ADJURETR _t	?	-0.002	-0.140	0.890	0.006	0.360	0.716	0.007	0.660	0.508	0.003	0.210	0.836
GOV _t *ADJURETR _t	+	0.000	0.000	0.499	-0.003	-0.530	0.299	-0.014	-0.900	0.184	-0.002	-0.350	0.362
FCF _t	+	0.079	3.780	<0.001	0.079	3.780	<0.001	0.074	3.640	<0.001	0.089	4.280	<0.001

Variables Definitions:

$INVEST_t^e$ = Residual from first stage regression

GOV_t = Indicator variables equal to 1 for firms with EIndex (GIndex) scores of 3 (10) or higher, zero otherwise. Continuous GOV_t variables are the raw EIndex and GIndex scores. Missing values for EIndex and GIndex are replaced with the prior year's value.

FCF_t = (cash from operations + research and development expense)/lagged total assets – depreciation expense/lagged total assets – the predicted value of $INVEST_t$ from equation 2

P-values are one-sided if a directional prediction is made, two-sided otherwise. Continuous variables are winsorized at the 1st and 99th percentiles.

Table 4: Tax Avoidance and Payout Policy

$$\text{PAYOUT}_t = \beta_0 + \beta_1 \text{GOV}_t + \beta_2 \text{TAXAVOID}_t + \beta_3 \text{TAXAVOID}_t * \text{GOV}_t + \beta_4 \text{RE/TE}_{t-1} + \beta_5 \text{MB}_{t-1} + \beta_6 \text{SDCFO}_t + \beta_7 \text{LOGASSETS}_t + \beta_8 \text{ROA}_t + \beta_9 \text{CASH}_{t-1} + \varepsilon_t \quad (4)$$

Gov. Proxy	Governance	Eindex						Gindex					
		Gov. Indicator			Continous Gov.			Gov. Indicator			Continous Gov.		
		Estimate	T-Stat	P-Value	Estimate	T-Stat	P-Value	Estimate	T-Stat	P-Value	Estimate	T-Stat	P-Value
Intercept	?	0.126	2.730	0.006	0.033	0.640	0.521	0.202	4.730	<0.001	0.170	3.410	<0.001
GOV _t	-	0.125	3.940	<0.001	0.061	5.160	<0.001	0.127	4.120	<0.001	0.001	0.420	0.372
SHELTER _t	?	-0.083	-1.870	0.062	0.002	0.030	0.977	-0.091	-2.190	0.028	-0.247	-5.570	<0.001
GOV _t *SHELTER _t	-	-0.158	-2.610	0.005	-0.067	-3.010	0.002	-0.167	-2.830	0.003	0.034	2.900	0.002
RE/TE _t	+	0.176	16.810	<0.001	0.176	16.790	<0.001	0.167	16.860	<0.001	0.176	16.680	<0.001
MB _t	-	0.009	5.070	<0.001	0.009	4.850	<0.001	0.010	5.820	<0.001	0.010	5.120	<0.001
SDCFO _t	-	-1.600	-6.350	<0.001	-1.537	-6.100	<0.001	-1.489	-6.300	<0.001	-1.568	-6.210	<0.001
LOGASSETS _t	+	0.054	10.350	<0.001	0.054	10.350	<0.001	0.047	9.380	<0.001	0.055	10.410	<0.001
CFO _t	+	-0.085	-0.960	0.169	-0.073	-0.830	0.203	-0.122	-1.450	0.073	-0.091	-1.030	0.152
CASH _{t-1}	+	0.600	7.890	<0.001	0.607	8.010	<0.001	0.506	7.070	<0.001	0.578	7.610	<0.001
Intercept _t	?	0.139	3.100	0.002	0.095	2.020	0.043	0.220	5.270	<0.001	0.141	2.860	0.004
GOV _t	-	0.041	2.840	0.003	0.023	4.210	<0.001	0.032	2.310	0.011	0.004	1.350	0.089
DDBTD _t	?	-0.173	-1.790	0.074	0.031	0.210	0.835	-0.075	-0.840	0.398	0.222	1.590	0.113
GOV _t *DDBTD _t	-	-0.268	-1.920	0.028	-0.139	-2.650	0.004	-0.367	-2.730	0.003	-0.211	-4.240	<0.001
RE/TE _t	+	0.173	16.520	<0.001	0.172	16.490	<0.001	0.164	16.570	<0.001	0.173	16.390	<0.001
MB _t	-	0.009	4.920	<0.001	0.009	4.680	<0.001	0.010	5.720	<0.001	0.009	5.030	<0.001
SDCFO _t	-	-1.616	-6.410	<0.001	-1.542	-6.120	<0.001	-1.494	-6.320	<0.001	-1.608	-6.380	<0.001
LOGASSETS _t	+	0.047	9.620	<0.001	0.048	9.690	<0.001	0.040	8.420	<0.001	0.046	9.360	<0.001
CFO _t	+	-0.113	-1.280	0.100	-0.099	-1.120	0.131	-0.154	-1.840	0.033	-0.131	-1.480	0.069
CASH _{t-1}	+	0.536	7.110	<0.001	0.540	7.190	<0.001	0.445	6.280	<0.001	0.516	6.870	<0.001

Table 4 Continued

Gov. Proxy	Governance	Eindex						Gindex					
		Gov. Indicator			Continous Gov.			Gov. Indicator			Continous Gov.		
		Estimate	T-Stat	P-Value	Estimate	T-Stat	P-Value	Estimate	T-Stat	P-Value	Estimate	T-Stat	P-Value
Intercept	?	0.191	3.680	<0.001	0.145	2.670	0.008	0.270	5.590	<0.001	0.230	4.010	<0.001
GOV _t	-	0.039	2.490	0.007	0.022	3.850	<0.001	0.017	1.160	0.123	0.000	-0.070	0.473
DTAX _t	?	-1.522	-3.410	0.001	-1.030	-1.510	0.132	-1.948	-4.870	<0.001	-1.362	-2.010	0.045
GOV _t *DTAX _t	-	-0.931	-1.470	0.071	-0.381	-1.560	0.060	-0.546	-0.880	0.190	-0.238	-0.990	0.161
RE/TE _t	+	0.159	12.890	<0.001	0.159	12.910	<0.001	0.146	12.620	<0.001	0.159	12.860	<0.001
MB _t	-	0.012	5.490	<0.001	0.012	5.340	<0.001	0.014	6.570	<0.001	0.013	5.830	<0.001
SDCFO _t	-	-1.715	-5.730	<0.001	-1.644	-5.480	<0.001	-1.580	-5.610	<0.001	-1.778	-5.950	<0.001
LOGASSETS _t	+	0.041	7.220	<0.001	0.041	7.320	<0.001	0.035	6.470	<0.001	0.040	7.070	<0.001
CFO _t	+	0.109	1.050	0.148	0.120	1.150	0.126	0.042	0.420	0.337	0.074	0.710	0.239
CASH _{t-1}	+	0.612	6.740	<0.001	0.614	6.770	<0.001	0.527	6.160	<0.001	0.591	6.530	<0.001
Intercept _t	?	0.173	3.880	<0.001	0.117	2.530	0.012	0.249	6.010	<0.001	0.158	3.230	0.001
GOV _t	-	0.056	3.860	<0.001	0.030	5.630	<0.001	0.049	3.550	<0.001	0.007	2.530	0.006
ADJCURETR _t	?	-0.135	-3.480	0.001	-0.120	-2.090	0.036	-0.204	-5.720	<0.001	-0.196	-3.510	<0.001
GOV _t *ADJCURETR _t	-	-0.095	-1.740	0.041	-0.025	-1.260	0.104	-0.004	-0.070	0.471	0.004	0.180	0.429
RE/TE _t	+	0.167	15.950	<0.001	0.167	15.970	<0.001	0.159	15.970	<0.001	0.167	15.830	<0.001
MB _t	-	0.010	5.220	<0.001	0.009	5.010	<0.001	0.011	6.120	<0.001	0.010	5.480	<0.001
SDCFO _t	-	-1.555	-6.180	<0.001	-1.479	-5.870	<0.001	-1.435	-6.080	<0.001	-1.562	-6.200	<0.001
LOGASSETS _t	+	0.047	9.510	<0.001	0.047	9.590	<0.001	0.040	8.370	<0.001	0.045	9.100	<0.001
CFO _t	+	-0.143	-1.630	0.051	-0.128	-1.450	0.073	-0.184	-2.190	0.014	-0.163	-1.850	0.032
CASH _{t-1}	+	0.524	6.960	<0.001	0.531	7.070	<0.001	0.442	6.240	<0.001	0.510	6.790	<0.001

Variables Definitions:

$PAYOUT_t = (\text{Dividends to common stockholders} + \text{repurchases of common stock} - \text{proceeds from sales of common stock}) / \text{income before extraordinary items}$

$RE/TE_{t-1} = \text{Lagged value of retained earnings} / \text{total stockholder's equity}$

$MB_{t-1} = \text{Market value of equity} / \text{total stockholder's equity at beginning of year}$

$SDCFO_t = \text{Standard deviation of cash from operations calculated over years } t-6 \text{ through } t-1$

$LOGASSETS_t = \ln(\text{total assets})$

$ROA_t = \text{Earnings before extraordinary items} / \text{lagged total assets}$

$Cash_{t-1} = \text{Lagged Cash and cash equivalents} / \text{total assets}$

P-values are one-sided if a directional prediction is made, two-sided otherwise. Continuous variables are winsorized at the 1st and 99th percentiles.

Table 5: Tax Avoidance and Payout Policy – Dividends and Buybacks

Panel A: $\text{DIVYIELD}_t = \beta_0 + \beta_1 \text{GOV}_t + \beta_2 \text{TAXAVOID}_t + \beta_3 \text{TAXAVOID}_t * \text{GOV}_t + \beta_4 \text{RE/TE}_{t-1} + \beta_5 \text{MB}_{t-1} + \beta_6 \text{SDCFO}_t + \beta_7 \text{LOGASSETS}_t + \beta_8 \text{ROA}_t + \beta_9 \text{CASH}_{t-1} + \varepsilon_t$ (4)

	Predicted Sign	N=7,998 E Index			N=9,064 G Index		
		Estimate	T-Stat	P-Value	Estimate	T-Stat	P-Value
Intercept	?	0.107	4.240	<0.001	0.141	5.880	<0.001
GOV _t	-	0.059	3.370	0.001	0.118	6.870	<0.001
SHELTER _t	?	-0.109	-4.470	<0.001	-0.076	-3.310	0.001
GOV _t *SHELTER _t	-	-0.046	-1.380	0.084	-0.109	-3.300	<0.001
Intercept	?	0.107	4.350	<0.001	0.156	6.690	<0.001
GOV _t	-	0.030	3.790	<0.001	0.055	7.060	<0.001
DDBTD _t	?	-0.072	-1.350	0.177	0.020	0.400	0.686
GOV _t *DDBTD _t	-	-0.181	-2.360	0.009	-0.273	-3.630	<0.001
Intercept	?	0.130	4.560	<0.001	0.195	7.140	<0.001
GOV _t	-	0.039	4.570	<0.001	0.057	6.870	<0.001
DTAX _t	?	-0.253	-1.030	0.302	-0.502	-2.220	0.026
GOV _t *DTAX _t	-	-1.063	-3.070	0.001	-0.824	-2.350	0.001
Intercept	?	0.117	4.770	<0.001	0.164	7.020	<0.001
GOV _t	-	0.043	5.410	<0.001	0.068	8.850	<0.001
ADJCURETR _t	?	-0.012	-0.570	0.566	-0.058	-2.880	0.004
GOV _t *ADJCURETR _t	-	-0.079	-2.640	0.004	-0.018	-0.620	0.269

Table 5 continued

Panel B: $BBYIELD_t = \beta_0 + \beta_1 GOV_t + \beta_2 TAXAVOID_t + \beta_3 TAXAVOID_t * GOV_t + \beta_4 RE/TE_{t-1} + \beta_5 MB_{t-1} + \beta_6 SDCFO_t + \beta_7 LOGASSETS_t + \beta_8 ROA_t + \beta_9 CASH_{t-1} + \varepsilon_t$ (4)

	Predicted Sign	N=7,998 E Index			N=9,064 G Index		
		Estimate	T-Stat	P-Value	Estimate	T-Stat	P-Value
Intercept	?	0.042	0.920	0.359	0.202	4.730	<0.001
GOV _t	-	0.092	3.040	0.001	0.126	4.090	<0.001
SHELTER _t	?	-0.066	-1.320	0.186	-0.091	-2.210	0.027
GOV _t *SHELTER _t	-	-0.145	-2.520	0.006	-0.166	-2.810	0.002
Intercept	?	0.040	0.920	0.357	0.220	5.270	<0.001
GOV _t	-	0.019	1.370	0.086	0.032	2.280	0.011
DDBTD _t	?	-0.168	-1.780	0.076	-0.073	-0.830	0.409
GOV _t *DDBTD _t	-	-0.146	-1.100	0.136	-0.369	-2.740	0.003
Intercept	?	0.054	1.050	0.296	0.269	5.560	<0.001
GOV _t	-	0.008	0.570	0.254	0.016	1.130	0.125
DTAX _t	?	-1.430	-3.300	0.001	-1.955	-4.880	<.0001
GOV _t *DTAX _t	-	-0.369	-0.610	0.271	-0.540	-0.870	0.192
Intercept	?	0.051	1.190	0.236	0.250	6.010	<0.001
GOV _t	-	0.024	1.750	0.040	0.048	3.520	<0.001
ADJCURETR _t	?	-0.162	-4.330	<0.001	-0.204	-5.720	<0.001
GOV _t *ADJCURETR _t	-	-0.049	-0.940	0.175	-0.004	-0.070	0.470

Variables Definitions:

$DIVYIELD_t$ = Dividends to common stockholders / income before extraordinary items

$BBYIELD_t$ = Buybacks of common shares / income before extraordinary items

RE/TE_{t-1} = Lagged value of retained earnings/total stockholder's equity

MB_{t-1} = Market value of equity/total stockholder's equity at beginning of year

$SDCFO_t$ = Standard deviation of cash from operations calculated over years t-6 through t-1

$LOGASSETS_t$ = \ln (total assets)

ROA_t = Earnings before extraordinary items/lagged total assets

$Cash_{t-1}$ = Lagged Cash and cash equivalents/total assets

P-values are one-sided if a directional prediction is made, two-sided otherwise. Continuous variables are winsorized at the 1st and 99th percentiles.

Table 6: High Complexity Subsample

Panel A: Tax Avoidance and Future Performance (N=3,999)

$$\text{PERFORM}_{t+1} = \beta_0 + \beta_1 \text{GOV}_t + \beta_2 \text{TAXAVOID}_t + \beta_3 \text{TAXAVOID}_t * \text{GOV}_t + \beta_4 \text{LOGASSETS}_t + \beta_5 \text{R\&D}_t + \beta_6 \text{AGE}_t + \sum_i \beta_i \text{YEAR}_i + \sum_j \beta_j \text{IND}_j + \varepsilon_t \quad (1)$$

Dependent Variable	ROA				CFO				ROA				CFO			
		Estimate	T-Stat		Estimate	T-Stat			Estimate	T-Stat		Estimate	T-Stat		Estimate	T-Stat
GOV _t	-	0.001	0.23		0.003	0.36		GOV _t	-	-0.007	-2.48**		-0.004	-3.26***		
SHELTER _t	?	0.022	2.81***		0.029	2.54***		DTAX _t	?	0.201	3.30***		0.212	2.27**		
GOV _t *SHELTER _t	-	-0.001	-0.07		0.000	-0.02		GOV _t *DTAX _t	-	0.007	0.10		-0.004	-0.12		
LOGASSETS _t	-	-0.005	-3.89***		-0.004	-2.09**		LOGASSETS _t	-	-0.003	-2.25**		-0.003	-2.37***		
R&D _t	+	0.078	1.87**		0.115	2.27**		R&D _t	+	0.200	5.30***		0.199	5.27***		
AGE _t	?	-0.000	-1.85*		-0.000	-2.74***		AGE _t	?	-0.000	-1.27		-0.000	-1.23		
GOV _t	-	0.001	0.29		0.004	0.88		GOV _t	-	-0.007	-2.47***		-0.004	-3.45***		
DDBTD _t	?	0.001	0.03		-0.012	-0.44		ADJCURETR _t	?	-0.011	-1.61		-0.014	-1.50		
GOV _t *DDBTD _t	-	-0.003	-0.14		0.026	0.73		GOV _t *ADJCURETR _t	-	-0.004	-0.45		0.000	0.16		
LOGASSETS _t	-	-0.005	-3.35***		-0.003	-2.53***		LOGASSETS _t	-	-0.003	-2.50***		-0.003	-2.59***		
R&D _t	+	0.078	1.80**		0.125	2.60***		R&D _t	+	0.122	2.55***		0.121	2.54***		
AGE _t	?	-0.000	-1.78*		-0.000	-1.65*		AGE _t	?	-0.000	-1.56		-0.000	-1.52		

ROA_{t+1} = Income before extraordinary items/total assets – mean income before extraordinary items/total assets for all firms in the same 2-digit SIC industry in year t + 1

CFO_{t+1} = Cash from operations/total assets – mean cash from operations/total assets for all firms in the same 2-digit SIC industry in year t + 1

GOV_t = Indicator variables equal to 1 for firms with EIndex (GIndex) scores of 3 (10) or higher, zero otherwise. Continuous GOV_t variables are the raw EIndex and GIndex scores. Missing values for EIndex and GIndex are replaced with the prior year's value.

LOGASSETS_t = Ln(Total Assets) in year t

R&D_t = Research and development expense/sales in year t

AGE_t = Fiscal year – First year on Compustat database

*, **, *** represent statistical significance at the 10%, 5%, and 1% levels respectively. P-values are one-sided if a directional prediction is made, two-sided otherwise. Continuous variables are winsorized at the 1st and 99th percentiles.

Panel B: Tax Avoidance and Investment (N=1,332)

$$\text{INVEST}_t^c = \beta_0 + \beta_1 \text{TAXAVOID}_t + \beta_2 \text{GOV}_t + \beta_3 \text{TAXAVOID}_t * \text{GOV}_t + \beta_4 \text{FCF}_t + \varepsilon_t \quad (3)$$

		Estimate	T-Stat	P-Value			Estimate	T-Stat	P-Value
Intercept	+	0.100	10.26	<0.001	Intercept	+	0.093	16.79	<0.001
GOV _t	+	0.029	2.25	0.012	GOV _t	+	-0.002	-0.38	0.648
SHELTER _t	?	-0.027	-1.39	0.165	DTAX _t	?	-0.398	-2.24	0.025
GOV _t *SHELTER _t	+	-0.054	-2.12	0.983	GOV _t *DTAX _t	+	-0.402	-1.72	0.957
FCF _t	+	0.085	2.78	0.003	FCF _t	+	0.057	1.63	0.05
Intercept	+	0.091	17.04	<0.001	Intercept	+	0.09	17.12	<0.001
GOV _t	+	-0.002	-0.29	0.614	GOV _t	+	0.002	0.34	0.631
DDBTD _t	?	0.038	0.89	0.376	ADJCURETR _t	?	-0.013	-0.77	0.44
GOV _t *DDBTD _t	+	-0.115	-2.01	0.973	GOV _t *ADJCURETR _t	+	0.002	0.10	0.461
FCF _t	+	0.067	2.20	0.014	FCF _t	+	0.064	2.07	0.019

Variables Definitions:

INVEST_t^c = Residual from first stage regression of investment on economic predictors of investment (see equation 2)

GOV_t = Indicator variables equal to 1 for firms with EIndex (GIndex) scores of 3 (10) or higher, zero otherwise. Continuous GOV_t variables are the raw EIndex and GIndex scores; Missing values for EIndex and GIndex are replaced with the prior year's value

FCF_t = (cash from operations + research and development expense)/lagged total assets – depreciation expense/lagged total assets – the predicted value of INVEST_t from equation 2

P-values are one-sided if a directional prediction is made, two-sided otherwise. Continuous variables are winsorized at the 1st and 99th percentiles.

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